



Bulletin of Institute of Science & Technology, 2021

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विज्ञान तथा प्रविधि अध्ययन संस्थानको बुलेटिन २०७७



Thirteen
**Central
Departments
of
Institute of
Science &
Technology,
Tribhuvan
University**



Interview with



Prof. Dr. Shankar Raj Pant



Prof. Dr. Jeevan Shrestha

Introduction of IoST

The Institute of Science and Technology (IoST) is one of the oldest, largest & pioneering technical institutes in Tribhuvan University. It was established in January 2, 1989, as an Institute of Science and Technology. Before that it was as an "Institute of Science" and for some years it was also as Faculty of Science of Tribhuvan University. Previously it was situated at Sanathimi, Bhaktapur and now it is at Kirtipur, Kathmandu.

IoST has 13 Central Departments, 1 school, 25 constituent Campuses and 89 affiliated Campuses. Thirteen Central Departments run regular 16 Master's Degree Programs and PhD Programs in all subjects. Out of 25 constituent Campuses under IoST, nine Campuses run both the Bachelor's and Master's Degree programs, one Campus runs only Master's Degree Program and remaining all run Bachelor's Degree Programs. Some Campuses have given space for conducting PhD research programs for the candidates who enrolled in the respective Central Departments.

b) Vision and Objectives

IoST intends to promote the quality of its Departments and Campuses by setting up well equipped laboratories, libraries, infrastructures along with by employing skilled Human Resources and by providing advisory services in close collaboration with national and international agencies.

Its efforts are to improve teaching learning activities, enhancing research strength of the faculties and students within this institute and make all the Departments as a centre of excellence. Ultimately, it aims at creating a scientific values and culture in society and improving the quality of life of the people.

The main objectives of IoST are:

- Making efforts to make science and Technology valuable for human beings to satisfy many basic human needs and improve their living standards.
- To produce / develop highly skilled human resources.
- To introduce, promote and implement new subjects in the departments and colleges.
- To provide infrastructures / facilities for research and teaching.
- To mobilize resources for overall development of Science & Technology.
- To establish linkages with the national and international organizations for collaborative work in the areas of Science & Technology,
- To organize seminars, workshops, conferences, trainings, orientations and refresher courses at all levels.

Sections and Services of IoST

S.N.	Section	Location	Service
1	Exam	Dean Office Building, Balkhu	<ul style="list-style-type: none"> • All works related to semester examination • Yearly system back exams (MSc) related works • Grade sheet preparation, distribution and related works • Making connection with central examination office
2	Research	Central Office Building, T.U., Kirtipur	<ul style="list-style-type: none"> • All works related to Ph. D. Program • Research and Mini Research related works
3	Planning	Central Office Building, T.U., Kirtipur	<ul style="list-style-type: none"> • Academic program (old and new Syllabus) related works • Monitoring & Supervision of campuses • Organizing seminar, conferences, course refresher training related works • Degree equivalency service • Student transfer • Miscellaneous
4	Account	Central Office Building, T.U., Kirtipur	<ul style="list-style-type: none"> • Budgeting • Billing & Payment
5	Personnel Administration,	Central Office Building, T.U., Kirtipur	<ul style="list-style-type: none"> • Making relationships within organization • Personnel training and appraising • Maintaining Records (all information) of teacher and supporting staff • Attendance and regularity checking • works related to leave of teacher and supporting staff
6	General Administration	Central Office Building, T.U., Kirtipur	<ul style="list-style-type: none"> • Managing general Administration • Procurement plan and purchasing • Organizing company records • Making Relation to other institution • Registration and Dispatch of letter about all relations (using sub branch Darta Chalani)
7	Store	Central Office Building, T.U., Kirtipur	<ul style="list-style-type: none"> • Making entry of the purchaseing things and dispatch • Preparing the records of all asset
8	Dean's Work Room	Central Office Building, T.U., Kirtipur	<ul style="list-style-type: none"> • Reception service • Secretarial service • Personal assistance service to the Dean's work • Miscellaneous

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Editorial

This academic year will be considered as COVID-19 affected year in the higher education of Nepal. Both graduate (Masters' level) and undergraduate (Bachelor) programs of IoST are affected. Tribhuvan University attempted to run online classes through MS Team and Zoom platforms. IoST organized several meetings with the heads and campus chiefs of central departments and campuses for initiating online classes. A few trainings to the faculties and staffs were conducted by TU. Altogether, 34 semesters at the graduate level and 126 semesters at the undergraduate level have been successfully completed. In addition, a large number of students (about 23,000) were involved in taking online classes at the B.Sc. level in the large all of campuses throughout the nation.

We faced severe difficulties in running practical classes, field works and internship. Though, a few disciplines tried to introduce virtual platforms for the laboratory stuffs. It was insufficient and not at par. Doing science without experiments is not complete. Experiencing science without connecting society is also not complete. It is therefore IoST decided to hold face-to-face practical classes and off-line final examinations even in the difficult situation. A large number of examinations were conducted. Preliminarily results of those examinations showed a inconsistencies. This strongly suggests to revisit the 'online pedagogy' in teaching/learning Science & Technology.

IoST produce a large number (about 2000) of graduates in physical, biological and mathematical sciences every year. About 20-25% students go aboard (mostly USA) for their further study. A large number of IoST graduates are doing science in various high ranked Universities. A collaboration has been significantly increased in recent years for IoST's Ph.D. and masters' program. IoST need to work on the quality of research outcome of our central departments and campuses. We have more than 300 Ph.D. students now. Our research strength depends upon the outcome of these Ph.D works. To support this, we have implemented *iThenticate* software for plagiarism checking. We are working to upgrade our publications.

This year Nobel Prizes saw seven winners in science. *Ardem Patapoutian* and *David Julius* received the Nobel for *physiology* while *Giorgio Parisi*, *Syukuro Manabe* and *Klaus Hasselmann* together won the physics gong for their work deciphering chaotic climate. *Benjamin List* and *David MacMillan* received the chemistry accolade for developing a tool for molecule building. Out of seven, only David is American by born. Two are from Germany, one each Armenian-born, Japanese, Scottish and Italian. This reflects the facts that '*good science can be done everywhere*'. A deep dedication towards the work and sincerity is needed from all sides. In the coming year, IoST need to work on a few new programs on applied science at the undergraduate level and focus on the quality of Ph.D. program.

A) Research activities

Faculty Research: Institute of Science and Technology, Tribhuvan University provides mini research grant for the faculties who are working within this Institute. This scheme started from the year 2015 and every year the number of grant awardees are increasing. Each selected faculty gets an amount of Rs. 50,000. They have to complete their work within the

Relations:

IoST has given high priority to collaborative exchange programs for strengthening capacity of the faculty, researcher, student and staff. For this purpose, IoST and the Central Departments have established linkages and coordination with

B) Programs, Admission & Evaluation

IoST offers 35 academic programs in the semester system and 2 programs in the annual system at undergraduate and post graduate levels.

Programs

Bachelor's Level		Master's Level	M. Phil	Ph. D.
Yearly System (4 years)	Semester System (8 semesters)	Semester System (4 semesters)	Semester System (4 semesters)	(2 Semesters + Research)
<ul style="list-style-type: none"> B.Sc. General B. Tech. (Food) 	<ul style="list-style-type: none"> B.Sc. (CSIT) B. Math Sc. B.Sc.(Nutrition & Dietetics) BIT (Bachelor in Information Technology) 	<ul style="list-style-type: none"> M.Sc. CSIT M.Sc. Math M.Sc. Microbiology M.Sc. Environmental Science M.Sc. Statistics M.Sc. Biotechnology M.Sc. Biodiversity & Environmental Management M.Sc. Physics M.Sc. Chemistry M.Sc. Zoology M.Sc. Botany M.Sc. Geology M.Sc. Hydrology & Meteorology M.Sc. Engineering Geology M.Tech. Food Technology M. Sc. in Environmental Health in Disaster Master in Data science 	<ul style="list-style-type: none"> M. Phil. (Math). 	<ul style="list-style-type: none"> Biotechnology Botany Chemistry CSIT Environmental Science Food Technology Geology Hydrology & Meteorology Mathematics Microbiology Physics Statistics Zoology.

month of June, 2020. In the year 2020 this program is postponed caused of pandemic situation of corona virus.

Collaborative research: For the description of the collaborative (national and international) research of the faculties and Departments, please visit the *websites of Central Departments*.

different ministries, national and international organizations and Academic Institutions. IoST has more than 30 MoUs with different Institutions and Universities. Till date, IoST has produced about 174 PhDs in different subjects of Science. Also, IoST has provided facilities to many faculties for doing PhD and Post Docs going abroad.

Admission Policy

1. Bachelor's Level (Yearly System): Based on entrance exam (September) / Annual entry/ Class starts at November
2. Bachelor's Level (Semester System): Based on entrance exam (September) / Annual entry (only one entry in a year) / Class starts at November
3. Master's Level (Semester System): Based on entrance exam (January / February) / Annual entry (only one entry in a year) / Class starts at March/ April.
4. M. Phil. (Semester System): Based on entrance exam (January / February) / Annual entry (only one entry in a year) / Class starts at March/ April.

5. Ph D. (2 Semesters + Research) (at least 3 yrs):

Admission: Opens (July / August),

Basic needs: NOC or pre-agreement (from employer)

Enrollment steps:

1. Supervisor's & Department's consent
2. Proposal submission at concerned central departments (September)
3. Entrance exam (September)
4. Proposal defend and approval at concerned central departments (Each stages need to be completed within September to mid-November) Annual entry (only one entry in a year) / Admission on December / Class starts from February 1st week

Evaluation System

1. Bachelor's Level (Yearly System): Yearly Examination from the office of the controller of Examination (Theory + Practical), almost 50% practical in each year.
2. Bachelor's Level (Semester System): 40% internal evaluation + 60% external exam through Dean's Office
3. Master's Level (Semester System): 40% internal evaluation + 60% external exam through Dean's Office, results in grading system
4. M. Phil. (Semester System): 40% internal evaluation + 60% external exam through Dean's Office, results in grading system

5. Ph. D. Level (Semester System): For first two semesters (40% internal evaluation + 60% external exam, results in grade sheet), bi-annual evaluation of research progress in the Departments, Pre-viva at concerned Department after submission of thesis, evaluation of thesis by three external examiners, Viva-Voce exam.

Note: Internal exams for all levels are based on: Attendance / Assignment work / Oral test / Class test / Presentation / Class seminar / Project work/ Term exam etc.

Further Programs/ Courses (proposed)

The Academic Council of Tribhuvan University has already approved some new degree/ program / course to run within the Institute of Science and Technology. For the degree approved programs, IoST has developed the syllabus for launching the new programs in coming days. The statuses of such programs are given below.

<i>Degree</i>	<i>Full Name</i>	<i>Status</i>
M.S. IMS	M.S.in Integrated Mountain Study	Degree approved, course structure approved
MIT	Master in information Technology	Degree approved, Course structure approved
M.Sc. Virology	M.Sc. Virology	Degree approved
M. Math Sc.	Master in Mathematical Sciences	Degree approved
M. CS	Master in Cyber Security	Degree + course structure approval procedure
M.Sc. Material Science	M.Sc. in Material Science	Degree + course structure approval procedure
M.Sc. Biochem	M.Sc. in Biochemistry	Degree + course structure approval procedure

C) Publications:

- i) Institute of Science and Technology is publishing a peer-reviewed multidisciplinary science journal "Journal of Institute of Science & Technology (JIST)" biannually. The first volume of this journal was published in the year 1978 in the name of "Journal of Institute of Science (JIS)". The name of this journal was revised as "Journal of Institute of Science and Technology (JIST)" from the 7th volume published in 1984. From the year 1989 to 2001 its publication was interrupted and from 2002 to 2012 it was published in every two years' of interval. From 2013 and onwards it has been publishing biannually in 2 volumes. Initially it was only in the printed form and in the year 2017 it was published online only. From 2018 it is available online as well as printed form.

JIST publishes original research papers, review articles, short communications/reports, comments and letters to the editor on all topics of different subjects of Science and Technology. It covers the field of Botany, Chemistry, Computer Science, Environment, Geology, Hydrology/meteorology, Mathematics, Microbiology, Physics, Statistics, Zoology, Food Technology and contemporary subjects. To publish the article in this

journal, author(s) should declare that the submitted work has not been published elsewhere, and is not being considered for publication too.

JIST is indexed in Nepal Journals Online (NepJOL), which provides online publication. It is rated TWO-STARs by Journal Publishing Practices and Standards (JPPS) (assessed: 2019-01-14). Its ISSN number is 2467-9240 and from the volume 23 of the journal each articles have got DOI number. Till date, it has published 26 volumes and the current issue is volume 26 issue 1 (2020). Current issue of JIST can be found clicking <https://www.nepjol.info/index.php/jist/index>.

- ii) IoST yearly publishes a bulletin (Bulletin of Institute of Science and Technology) compiling the activities within the institute. It gives information regarding central departments and different campuses of IoST. It collects and presents the information of yearly activities and publications in periodicals by the faculties of IoST. It consists the information regarding mini-research, PhD works going on, publication during past year, collaborative works and other activities of the Departments and Campuses of IoST. This issue, which is on your hand is the Fourth issue of the bulletin.

Authorities and Supporting Staffs of IoST Dean's Office

Authorities

S.N.	Name	Position	Email address
1	Prof. Dr. Binil Aryal	Dean	dean@iost.tu.edu.np
2	Dr. Surendra Gautam	Assistant Dean	surendra.gautam@iost.tu.edu.np
3	Mr. Tej Bahadur BC	Assistant Dean	tej.bhandari@iost.tu.edu.np

Supporting Staffs

S.N.	Name	Position	Section
1	Dinesh Ghimire	Deputy Administrator	Head of Administration
2	Tank Dhungana	Co-Finance Controller	Head of Account
3	Krishna Hari Acharya	Section Officer	Planning
4	Kushu Ghale	Section Officer	Research
5	Hari Prasad Aryal	Section Officer	Exam
6	Indumaiya Rajopadhyaya	Head Office Assistant	Research
7	Mukunda Prasad Dulal	Head Office Assistant	Store
8	Binod Koirala	Head Office Assistant	Exam
9	Anju Dabadi	Head Account Assistant	Account
10	Ram Prasad Wagle	Head Office Assistant	Exam
11	Sangita Shrestha	Head Office Assistant	Exam
12	Nilu Shrestha	Head Office Assistant	Administration
13	Upendra Subedi	Head Office Assistant	Administration
14	Jayanti Phuyal	Head Office Assistant	Exam
15	Sabina Khadka	Head Technical Assistant (Computer)	Exam
16	Urmila Maharjan	Head Technical Assistant (Computer)	Exam
17	Sweta Tuladhar	Head Technical Assistant (Computer)	Account
18	Meena Shrestha	Office Assistant	Administration
19	Jaluram Chaudhary	Technical Assistant (Computer)	Exam
20	Asmita Dahal	Technical Assistant (Computer)	Exam
21	Sunita Koirala	Memograpar	Administration
22	Krishna Bahadur Tamang	Senior Office Helper	Exam
23	Maina Poda	Senior Office Helper	Administration
24	Binabati Tamang	Office Helper	Administration
25	Basu Dev Thapa	Office Helper	Administration
26	Mohan Maharjan	Office Helper	Administration
27	Krishna Khatri	Office Helper	Exam
28	Rita Lamichhane	Office Helper	Exam
29	Roshan Tamang	Driver	Administration
30	Mega Raj Shrestha	Driver	Exam
31	Buddha Maharjan	Driver	Administration

Main Activities of IoST

1. Ph.D. Orientation program

The Institute of Science and Technology, Tribhuvan University has completed the orientation program of 81 researchers enrolled for the doctorate studies for the academic year 2077/78 on 2077-11-05.

The objective of this program is making the doctoral program systematic, qualitative and international standard by giving detailed information about the research methods, subject areas, educational and administrative responsibilities for the benefit of the researchers enrolled in the doctorate. Inaugurating the program from the seat of the chief guest, Vice chancellor of T.U. Prof. Dr. Dharma Kanta Baskota said that he was trying to make T. U. a research-oriented university by giving maximum priority to research. Stating that the responsibility of the university is knowledge, skill, research and invention, he said that all the research done by the Government of Nepal and its subordinate ministries is being done through the university to enhance the quality research. He added that the best minds in the world are attracted to science and he also expected science researchers to make further contribution to the academic advancement of the university.

The Registrar of Tribhuvan University, Prof. Dr. Peshal Dahal, encouraged the researchers to follow the guidelines by conducting quality research at the international level and creating quality, reliable and effective research guidelines.

Prof. Shakar Prasad Bhandari, Member Secretary of the University Grants Commission, Nepal said that quality improvement and marketing of their products are the existing challenges of higher education. He said that there was a need to increase the enrollment rate in higher education and promote higher education in the technical field. He also said that there is a challenge to build a psychologically balanced, economically strong, socially committed and spiritually satisfied manpower for the country.

Prof. Dr. Binil Aryal, Dean, Institute of Science and Technology, said that the researchers need to work hard to improve the quality of research. He mentioned that the expected results can be achieved only from his institution, professors and researchers who are sensitive to the subject. In the inaugural session of the orientation program, Prof. Dr. Ram Narayan Jha, Assistant Dean of the Institute of Science and Technology, welcomed the participants and informed them about the objectives and expectations of the program.

In the first session, Prof. Dr. Khum Poudyal and Prof. Dr. Ram Narayan Jha presented the necessary informative worksheets for the researchers. In the second session, Prof. Dr. Raju Khanal, Prof. Dr. Binil Aryal and Prof. Dr. Shankar Prasad Khanal. Regarding analytical and creative writing, Prof. Dr. Rameshwar Adhikari presented the working paper Literature Review & Research Misconduct, Research Methodology, Critical & Creating Writing respectively.

In the Inauguration Program The Booklet 'Research Regulations of IoST, TU' was launched by chief guest, which is published by Institute of Science and Technology, Dean's Office.

2. Annual Program of IoST

Institute of Science and Technology, TU has organized its 33rd anniversary program in Poush, 19, 2077. It has been completed under the chairmanship of Dean, Prof. Dr. Binil Aryal.

Office Assistant Meena Shrestha and Office Assistant Basudev Thapa, who have served in this Institute for a long time, were honored with Doshala and Certificate. Former Dean, Prof. Dr. Ram Prasad Khatriwada was also given a gift by the chairman at the function.

Mukunda Prasad Dulal, president of the staff union of the study institute, spoke about the problems of the staff and the building. Speaking on the occasion, Assistant Dean Dr. Khageshwar Mandal said that everyone would appreciate the condition and work of the office. Former Dean Ram Prasad Khatriwada said that the main role in running the office would be played by the supporting staffs. Dean Prof. Dr. Binil Aryal said that he is working with the advice and support of everyone. Bottom of Form The program was conducted by Upendra Subedi, Head Office Assistant of the Institute.

3. BIT Program Expansion

IoST has started Bachelors in Information Technology (BIT) Program (eight semesters with 120 credits hours) from 2019 in five constituent campuses. Keeping in view the demand of this subject, this program has been expanded to following four constituent more campuses this year.

1. Amrit Campus, Lainchur,
2. Bhaktapur Campus, Bhaktapur,
3. Central Technology Campus, Dharan.
4. Bhairawaha Multiple Campus

4. New Degree Started

IoST has started a new degree, Master in Data Science (MDS) Program (four semesters with 60 credits hours) from 2021. MDS program focuses on the sets of core skills in numerous areas including programming, statistics, data analytics, machine learning, data wrangling, data visualization, communication, business foundations, and ethics that increase their marketability in the business, industry and multinational companies.

MDS is an interdisciplinary program and is the first of its kind in the Institute of Science and Technology, Tribhuvan University. After graduation, the students will be able to

- Collect, clean, store and query data from a variety of private and public data sources.
- Assess, evaluate and respond to decision-making needs and requirements.
- Apply appropriate analytic techniques to provide estimates that support decision-making and action.
- Communicate actionable information and findings in easy to understand written, oral and visual formats.

The following is the minimum requirements to be eligible to apply for the MDS program:

- A minimum of 15 years' formal education (12 years of schooling plus three years of graduation).

- Must have secured a minimum CGPA of 2.0 or second division or 45% in Bachelor's level with B Sc CSIT or equivalent, B Math Sc or equivalent, B Sc (Mathematics) or equivalent, B Sc (Statistics) or equivalent, B Sc/BA with Mathematics in the first 2 year, B Sc/BA with Statistics in the first 2 year, BE or equivalent, BIT or equivalent, BCA or equivalent, BIM (with one Mathematics and one Statistics) or equivalent, are eligible to appear in the entrance exam.

This program launched in the School of Mathematical Sciences (SMS) Kirtipur, Kathmandu.

5. Online Program

➤ IoST conducted Virtual meeting with 13 Central Department Head and School on 2078/01/19. In this program discussed about status of going online M.Sc., Class/Next semester classes, exam and needs of MS Team/moodle Training to the Faculties

➤ Campus Chiefs of 24 TU Constituent Colleges where IoST's program is running. Vice Chancellor Prof. Dr. Dharma Kanta Baskota, Rector Prof. Dr. Shiva Lal Bhusal and Registrar Prof. Dr. Peshal Dahal were present in the program. Dean of IoST presented 'crisis management scheme' to address educational lapses due to COVID-19 on 2078/01/21. Campus Chief sirs/madam expressed their attempts and difficulties. TU Authorities strongly suggested Campuses to initiate teaching-learning activities.

➤ Campus Chiefs of 31 affiliated colleges where IoST's general science program is running. Rector Prof. Dr. Shiva Lal Bhusal graced the meeting with the opinion on 2078/01/30. Dean of IoST presented 'crisis management scheme' to address educational lapses due to COVID-19. Campus Chief, Coordinator sirs/madam expressed their attempts, achievements and difficulties.

➤ Head of Central Departments to discuss 'Problems in Equivalence' at the undergraduate and graduate level on 2078/02/04. A check list has been finalized for the uniformity. Head of Central Departments and subject standing committee members to discuss 'Possibilities of Applied Science Courses at IoST' on 23 august 2021. Dean of IoST presented 'Possibilities of Applied Science Courses at the Undergraduate Level'. A fruitful discussion led to have discourse in the future.

➤ Virtual meetings with science faculties and B.Sc. Third- and Fourth-year students of Mechi Multiple Campus, Jhapa on 'Critical and Creative Thinking' on 26 May 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ Virtual meetings with science faculties and B.Sc. Third- and Fourth-year students of Tri Chandra Multiple College on 'Introducing IoST and Critical and Creative Thinking' on 19 May 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful and suggestive discussion with the students and faculties.

➤ Virtual meetings with science faculties and B.Sc. Third- and Fourth-year students of Central Campus of Technology, Dharan on 'Changing Trend in the Science Teaching Pedagogy'. Dean Prof. Dr. Binil Aryal presented a seminar on

that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ Virtual meetings with science faculties and B.Sc. Third- and Fourth-year students of Mahendra Morang Aadarsh Multiple College, Biratnagar entitled 'Changing Trend in the Science & Technology Teaching Pedagogy' on 23 May 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ Virtual meetings with science faculties and B.Sc. Third- and Fourth-year students of Mahendra Bindeshwari Multiple Campus, Rajbiraj entitled 'Critical Thinking: A Path to World Class University' on 28 May 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ Virtual meetings with science faculties and B.Sc. Third- and Fourth-year students of Birendra Multiple Campus, Bharatpur in the topics 'Ways of Motivation: Critical Thinking' on 31 May 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ Virtual meetings with science faculties of Ram Swaroop Ram Sagar Multiple Campus, Janakpur in the topics 'IOST and its Attempts to Minimize Pandemic in Higher Education' on 2 June 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ Virtual meetings with science faculties B.Sc. Third- and Fourth-year students of Thakur Ram Multiple Campus, Birgunj in the topics 'Online Initiatives of Tribhuvan University' on 7 June 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ Virtual meetings with science faculties B.Sc. Third- and Fourth-year students of Siddha Nath Science Campus, Mahendranagar in the topics 'Online Initiatives of IoST & Evolution of Modern Science' on 13 June 2021. Dean Prof. Dr. Binil Aryal presented a seminar on that occasion on the given topics. There was a fruitful discussion with the students and faculties.

➤ IoST organized Full Faculty Board Meeting virtually on Ashad 11, 2078. This was the first meeting on a newly formed committee. There were two agenda in the meeting, as follows: (a) B.Sc. Project Work Guideline, and (b) Formation of standing committee of the Faculty Board. The members of the faculty board are as follows:

➤ Science faculties of TU constituent colleges in three different groups to discuss on problems or lapses in the existing 'B.Sc. Project Work Guideline'. IoST has formed a committee led by Prof. Dr. Daman Raj Gautam (Amrit Campus) to suggest revised guideline. Members of this committee were Dr. Binod Bania (Patan Samyukta Campus) and Mr. Ishwar Koirala (Tri- Chandra Campus). The committee submitted the report to the Dean Office. It was approved by the full Faculty board meeting on 2078 Ashad 11.

B.Sc. Project Work Guideline Interaction Virtual program with the faculties and students of constituent colleges on different

date. Assistant Dean Dr. Surendra Kumar Gautam highlighted the B.Sc. Project Work Guideline. Dean Prof. Dr. Binil Aryal presented the topics about Project Work. There was a fruitful discussion with the faculties and students. Assistant Dean Dr. Khageshwar Mandal conducted the program. The date of program as follows:

- Jul 20, 2021 - Meechi M. Campus, Dhankuta M. Campus, Mahendra Morang A. M. Campus, Central Campus of Technology.
- Jul 22, 2021 - Mahendra Bindeshwori M. Campus, S.S.M. Yadav M. Campus, R. R. M. Campus, Thakur Ram M. Campus, Birendra M. Campus.
- Jul 25, 2021 - Siddhanath Science Campus, Mahendra M. Campus, Nepalgunj, Mahendra M. Campus, Dang, Bhairahawa M. Campus, Tribhuvan M. Campus, Butwal M. Campus, dhawalagiri M. Campus.
- Jul 27, 2021 - Bhaktapur M. Campus, Amrit Campus, Padmakanya Campus, Patan Samyukta Campus, Prithivi Narayan Campus.
- Jul 29, 2021 Trichandra M. Campus.

➔ Virtual program with the Heads and faculties of Central Departments on 'Use of Plagiarism Software: iThenticate' on 28 July 2021 Assistant Dean Dr. Surendra Kumar Gautam highlighted the theme of the program. Dean Prof. Dr. Binil Aryal presented the topics with a detailed description. There was a fruitful discussion with the faculties. Assistant Dean Dr. Khageshwar Mandal conducted the program.

➔ Virtual program with the Campus Chiefs and faculties of all TU Constituent Campuses in the topics of 'Use of Plagiarism Software in Tribhuvan University: iThenticate' on 2 August 2021. Assistant Dean Dr. Surendra Kumar Gautam highlighted the theme of the program. Dean Prof. Dr. Binil Aryal presented and discussed the given topics in detail. There was a fruitful discussion with the faculties. Assistant Dean Dr. Khageshwar Mandal conducted the program.

6. Online Form Filling

➔ **BIT Entrance Examination:** IoST initiated online form filling portal in the web-domain of the institute. There were about 1000 applicants who uploaded the required documents as well as Bank Voucher slip through online. Applicants get their Exam Admit Card at the Center of Examination. The Exam section of IoST successfully took care the responsibility of online-admin.

➔ **M.Sc. Entrance Examination:** As a second phase, IoST offered online form filling for all 17 masters' programs running at all central departments and colleges throughout the nation in a single web-portal. As a whole, about 2200 students filled the entrance application form through online. This time, software is made in such a way that students were able to download their admit card as well. Central departments and school handle the admin role. Dean Office acted a role of super-admin.

7. Authorities and Staffs Appointed

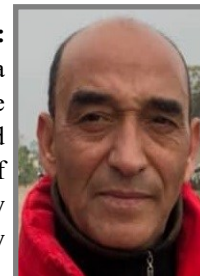
➔ **Dean Appointed:** Newly appointed Dean Prof. Dr. Binil Aryal was welcomed and assumed office on Poush 12, 2077. A new dean has been appointed after the four-year tenure of

former dean Prof. Dr. Ram Prasad Khatiwada. Prior to this, Prof. Dr. Binil Aryal had been working as the Head of Department in the Central Department of Physics under this Institute.

➔ **Assistant Dean Appointed:** Dr. Surendra Kumar Gautam, Associate Professor of Chemistry, Tri Chandra Multiple Campus appointed as a Assistant Dean of IoST on 20 ashad, 2078. IoST family congratulates our newly appointed family member.



➔ **Officials Appointed:** Mr. Tanka Prasad Dhungana and Mr. Dinesh Ghimire appointed as Account Head and Admin Head of IoST. IoST family congratulates our newly appointed family member.



8. Other Activity

➔ **'Learning Management System MOODLE':** Subject standing committee members of IoST participated in the program organized by ODEC, TU on 'Learning Management System MOODLE'. This program was 5 days training program conducted by ODEC, TU.

➔ **USAID IPMIL Project Highlights Sharing Meeting** was conducted at Indreni Complex, New Baneshwor on 27 October 2021. Vice Chancellor of Tribhuvan University Prof. Dr. Dharma Kanta Baskota addressed the program. Emeritus Professor Dr. P. K. Jha presented the highlights and the outcome of the project. Dr. R. Munniappan (USA), representative from USAID Mission, Rector of TU and Dean, IoST, TU, HoD of CDB, TU expressed importance of applicable research in Nepal.

➔ **PAN Number of IOST:** IoST have now own PAN number. It was long awaited. Its number is 2013721459

➔ **Sad Demise of Assistant Dean, Prof. Dr. Ram Narayan Jha**

भावपूर्ण श्रद्धाञ्जली



जन्मः
२०१७/११/०७





स्वर्गारोहणः
२०७८/०२/२६

स्व. प्रा.डा. रामनारायण झा

यस अध्ययन संस्थानका सहायक डीन प्रा.डा. रामनारायण झाको स्वर्गारोहण भएको आज १३ औं दिनको पुण्यतिथिमा दिवङ्गत आत्माको चिरशान्तिको कामना गर्दै भावपूर्ण श्रद्धाञ्जली अर्पण गर्दछौं । साथै यस दुःखद घडीमा शोकसन्तप्त परिवारजनमा धैर्यधारण गर्ने शक्ति प्राप्तहोस् भनी हार्दिक समवेदना प्रकट गर्दछौं ।

**त्रिभुवन विश्वविद्यालय
विज्ञान तथा प्रविधि अध्ययन संस्थान
डीनको कार्यालय परिवार**

अन्तर्वार्ता:

प्रा.डा. शङ्करराज पन्त

(विज्ञान तथा प्रविधि अध्ययन संस्थान अन्तर्गत गणित केन्द्रीय विभागका निवृत्त प्राध्यापक डा. शङ्करराज पन्तसँग यस अध्ययन संस्थानका डीन प्रा.डा. विनिल अर्याल तथा गणित केन्द्रीय विभागका विभागीय प्रमुख टङ्कनाथ धमलाको समुपस्थितिमा २०७८ असार १० गते यस अध्ययन संस्थानका कर्मचारी उपेन्द्र सुवेदीले अनलाइन मार्फत लिएको अन्तर्वार्ता ।)

⇒ तपाईंको आफ्नो अध्ययन सम्बन्धमा केही कुरा बताइदिनुहुन्छ कि ?

२००४ सालबाट मेरो स्कुले जीवन सुरु भएको हो । २०१२ सालमा एसएलसी पूरा गरेको थिएँ । त्यस वेला हामी हाम्रो स्कुलबाट एसएलसी दिनेमा तीसचालीस जना थियौँ । मैले १५ सालमा आइएससी र १७ सालमा बिएससी पूरा गरेको थिएँ । शिक्षा मन्त्रालयमार्फत छात्रवृत्तिमा

जियोलेजी पढ्न बाहिर जाने कुरा भएको थियो । यसका लागि प्रक्रिया पनि अगाडि बढेको थियो तर मैले गणितमा नै आवेदन दिने विचार गरेँ र नेपालमै रहेर यही त्रिभुवन विश्वविद्यालयमा नै पढेँ । त्यस वेला नेपालमा एमएससीमा गणित विषय मात्र पढ्न पाइन्थ्यो । २०१६ सालमा खुलेको पहिलो समूहको कक्षामा २८ जना विद्यार्थीले एमएससी पढ्न निवेदन दिएका थिए तर पछि चारपाँच जना बाहेक सबैले पढेनन् । दोस्रो व्याचमा एक जना मात्र भर्ना भएका थिए भने त्रिभुवन विश्वविद्यालय स्थापनापछिका हाम्रो तेस्रो व्याच थियौँ । एक जना लेडिजसहित नौ जनाले अध्ययन गरेका थियौँ । हामीले आठ पेपर पढ्नुपर्थ्यो । यसमा छ वटा अनिवार्य र दुई वटा ऐच्छिक थिए । ऐच्छिक पेपरमा चाहिँ फेल भए पनि केही फरक पर्दैनथ्यो तर राम्रो नम्बर ल्याएको खण्डमा प्रतिशत भने बढ्थ्यो । अनिवार्यमा भने पास हुनैपर्थ्यो । त्यस वेला त्रिपुरेश्वरमा कक्षा सञ्चालन भएको थियो । इतिहास, नेपाली, राजनीतिशास्त्र, अर्थशास्त्र, अङ्ग्रेजी जस्ता थोरै विषयको कक्षा सञ्चालन भएको थियो त्यस वेला । हामीलाई पढाउने शिक्षकमा प्रा.केशवदेव भट्टराई, प्रा.आशुतोष गाङ्गुली र गोविन्ददेव पन्त हुनुहुन्थ्यो । यस्तै पाटन क्याम्पसबाट आउनुभएका धूपरत्न बज्राचार्य तथा कोलम्बो प्लानबाट आउनुभएका यू.पी.भारतका डा. कृष्णमुरारी सक्सेना, प्रा. पी.सुखा राव, प्रा. के.एस.राव, प्रा.डा. भी.डी. थवानी सरहरूले पनि हामीलाई पढाउनुभएको थियो । आसुतोष गाङ्गुली त्रिचन्द्र र यहाँ दुवै ठाउँमा पढाउनुहुन्थ्यो । गणित विषयको विज्ञको खोजीको क्रममा कलकत्ता विश्वविद्यालयसँग सम्पर्क राखेर त्यस बेलाको राणा सरकारले केही शिक्षक बोलाएको थियो । यसै सन्दर्भमा गाङ्गुली सन् १९२४ मा नेपाल आउनुभएको हो । उहाँले गणितमा मात्र होइन कानूनमा पनि मास्टर गर्नुभएको थियो । रामराज पन्तको पहलमा ल क्याम्पस खोलिएको थियो र यसमा पनि गाङ्गुलीले पढाउनुभएको थियो । उहाँ केशवदेव भट्टराईको पनि गुरु हुनुहुन्थ्यो । उहाँ पछि नेपाली नागरिक नै भएर बस्नुभएको हो । स्वर्गवास पनि नेपालमा नै भयो । नारायणबहादुर मानन्धर गणितमा मास्टर गर्नेमा पहिलो नेपाली व्यक्ति हुनुहुन्छ । उहाँले संस्कृतमा पनि एमए गर्नुभएको थियो । मैले २०१९ सालमा गणितमा एमएससी पास गरेँ ।

त्यस वेला गणितमा स्नातकोत्तर गरेकालाई एमए भन्ने कि एमएससी भन्ने विवाद भएको थियो । किनभने यसमा स्नातकमा विज्ञान तथा कला दुवै धारका विद्यार्थी भर्ना हुन पाउँथे । यसमा राममान श्रेष्ठजीले पहल गर्नुभयो र हामी उपकुलपतिकहाँ डेलिगेसन पनि गयौँ । हामीले स्नातकमा साइन्स गरेकाले एमएससी नै हुनुपर्छ भनेका थियौँ । पछि

निर्णय पनि यस्तै भयो । अनि व्याचलरको प्राप्त डिग्री अनुसार एमएससी र एमए तोकिने भयो ।

मास्टर पास गरेपछि त्रिचन्द्र भौतिकशास्त्रमा डेमोस्ट्रेटरका रूपमा काम गरेँ । यसपछि कोलम्बो प्लानबाट पिपेचडीको सिट आयो मैले आवेदन दिएँ र पाएँ पनि । मेरो विद्यावारिधि बनारस विश्वविद्यालय तोकिएको थियो तर मेरो सुपरभाइजर डा. कृष्णमुरारी सक्सेना लखनउमा पढाउनुहुन्थ्यो । उहाँले राँची सरुवा हुँदै छु भनेपछि मैले नेपाल सरकार शिक्षा मन्त्रालय र कोलम्बो प्लान लाई भनेर राँची विश्वविद्यालयमा नै मिलाएँ । यही अनुसार १९६३ मा भर्ना भएर विद्यावारिधि अनुसन्धान सुरु गरेँ । त्यस वेलामा जर्मनी भाषामा लेप्लेस ट्रान्सफर्म सम्बन्धमा एउटा नयाँ किताब निस्केको थियो । मलाई सुपरभाइजरले पनि जर्मनी भाषा पढ्न अह्वाउनुभयो । मैले पनि त्यही किताब पढ्न जर्मन भाषा पनि सिक्ने । उहाँको पहिलो विद्यार्थी

त्यसवेला उपकुलपति सरदार रुद्रराज पाण्डेले पिपेचडी गरेर आएका लाई दुई ग्रेड बढी दिनुपर्छ भनेको हुँदा मैले सोही अनुसारको सुविधा पाएँ ।

सुरेशचन्द्र आर्य हुनुहुन्थ्यो । उहाँले पनि त्यही मिनमा नै अनुसन्धान काम गर्नुभएको थियो । मैले अनुसन्धानबाट

जनरलाइज्ड फर्मको मिन सम्बन्धी काम गरेँ । मेरो पिपेचडी थिसिस मूल्याङ्कनका लागि अमेरिका र दिल्लीमा पठाइएछ । मूल्याङ्कन र भाइभापछि मैले सन् १९६७ मा विद्यावारिधि उपाधि प्राप्त गरेँ ।

⇒ त्रिभुवन विश्वविद्यालय सेवा कहिले सुरु गर्नुभयो त्यसको अनुभव बताइदिनु न ?

विद्यावारिधि सकेर काठमाडौँ आइसकेपछि केशवदेव सरले “अब यहाँ पढाऊ ?” भन्नुभयो । मैले विद्यावारिधि अध्ययन गरेको वेलामा पनि विज्ञापन भएको थियो । यस समयमा मैले राँचीबाट नै आवेदन फाराम भरेर पठाएको थिएँ विद्यावारिधि गर्दै छु भनेर । २०२४ सालमा विश्वविद्यालयले फेरि आवेदन माग्यो र हामीले आवेदन दियौँ । त्यसवेला उपकुलपति सरदार रुद्रराज पाण्डेले पिपेचडी गरेर आएका लाई दुई ग्रेड बढी दिनुपर्छ भनेको हुँदा मैले सोही अनुसारको सुविधा पाएँ । २०२४ चैत्रमा हाम्रो अन्तर्वार्ता भयो र २५ साल वैशाखबाट नियुक्ति पाएर अध्यापन सुरु गरेँ । मैले गणितभित्रै तथ्याङ्क विषय पनि पढाएको थिएँ । पछि गएर दुईतीन वर्षपछि छुट्टै रूपमा तथ्याङ्क विभाग नै खुल्यो ।

नयाँ शिक्षा योजनामा सरकारी शिक्षकहरू पनि एमएससीमा पढाउन आउन ढोका खुल्यो । त्यस वेला डा. शङ्करप्रसाद प्रधान साइन्सको डीन हुनुहुन्थ्यो । धूपरत्न बज्राचार्यलाई पाटन क्याम्पसबाट कीर्तिपुरमा बोलाउनुभयो । उहाँलाई विभागीय प्रमुख नै बनाइयो । उहाँले झन्डै १८ वर्ष विभागीय प्रमुखका रूपमा काम गर्नुभयो । त्यस समयमा गणित विषयमा विभिन्न सेमिनार आदि हुन्थ्यो । २०२० सालतिर एकपटक टपोलोजीको कन्फरेन्सका लागि बम्बईमा प्रतिनिधि बोलाइयो । यसबेला नेपालमा टपोलोजीका सम्बन्धमा अध्ययन गरेको व्यक्ति नै थिएनन्; हामीकहाँ नयाँ भनेको एनलाइसिस मात्र थियो । यही कन्फरेन्समा केशवदेव सर बम्बई पुग्नुभयो । उहाँ त त्यहाँ अक्क न बक्क पर्नुभयो रे अनि “यो पुरानो कोर्स भएन” भनेर कोर्स परिमार्जन गर्न थालियो । यही समयमा नयाँनयाँ विषयवस्तुहरू राखियो । हामीले यी नयाँ विषयवस्तुहरू पढाउन यस विषयमा आएका नयाँनयाँ किताब पढेर पाठ्यसामग्री तयार गर्नुपर्ने हुन्थ्यो । यसरी पहिले नामै नुसुनेका विषयहरू निकै अध्ययन गरेर पढायौँ । अहिले आएर अझ नयाँनयाँ विषयहरू समावेश भइरहेको छ ।

सुरेशराज चालिसे साइन्सको डीन भएका वेलामा पैतीस सालमा अमृत क्याम्पसमा तीन दिने सेमिनार गरिएको थियो । यसमा पाठ्यक्रमको परिमार्जन पनि गरिएको थियो ।

सेमिनारमा सबै एकै ठाउँमा भएको अवसरमा नेपाल गणित समाजको गठन पनि भयो । अनि यसको रजिस्ट्रेशन गर्ने काम सुरु भयो । म

विभागीय प्रमुख भएको कार्यकाल (२०५९-२०६२)मा नै वि.सं. २०५९ वैशाखमा सरकारबाट गणित समाजले दर्ता प्रमाणपत्र पायो । यस समयमा दर्ता भए पनि यसबारे छलफल १९ सालमा नै भएको थियो । त्यस वेला गोकर्णमा पिकनिकको आयोजना गरिएको थियो र यसमा कोलम्बो प्लानका अध्यापकहरू पनि संलग्न हुनुहुन्थ्यो । बेलायतमा तीन विषयमा एमएससी गरेकालाई ट्राइपस भनिंदो रहेछ । यस्तै ट्राइपस पाउनुभएको प्रो.भी.डी. थवानी वल्ड फुड अर्गनाइजेसन (WFO) बाट आउनुभएको थियो । उहाँले गणित विभागमा पढाउनुभयो । उहाँ पनि पिकनिकमा सहभागी हुनुभएको थियो ।

२०३५ सालमा म रिडर भएँ । यसवेला दिल्लीबाट बाह्यपरीक्षक आउनुभएको थियो । २०४६ सालमा म गणितमा प्राध्यापक भएँ । त्यस वेला भने ढाका युनिभर्सिटीको प्रोफेसर बाह्य परीक्षकका रूपमा आउनुभयो । उहाँले हिँड्ने बेलामा “ए ! डा. पन्त, म खुसी छु तपाईं प्रोफेसर हुनुभयो” भनेर खुसी भएर बधाई दिई जानुभएको थियो । त्यो बेला त्रि.वि. र ढाकाबीच खुब राम्रो सम्बन्ध थियो ।

अध्ययन अध्यापनबाहेक विषय समिति, एजुकेटिभ कमिटी, त्रिवि सभा, सेवा आयोग, सिलेबस कमिटी लगायत विभिन्न समितिमा नियुक्त भएर काम गर्ने अवसर पाएको थिएँ । धुपरत्न सर बाहिर जाँदा म एक्टिड हेड पनि भएको थिएँ ।

प्राध्यापनमा नै रहँदा मेरो सुपरिवेक्षणमा छ जनाले विद्यावारिधि उपाधि हाँसिल गरे । यसमध्ये कमलमणि बराल मेरो पहिलो विद्यावारिधि स्कुलर हुन् । यस्तै नेपाल संस्कृत विश्वविद्यालयका एकरत्नले पनि मेरै सुपरिवेक्षणमा विद्यावारिधि उपाधि प्राप्त गरे ।

⇒ गणितमा विद्यावारिधि कोबाट सुरु भयो यसका बारेमा बताइदिनुहुन्छ कि ?

गणितमा यस विश्वविद्यालयबाट विद्यावारिधि गर्ने एस.एन.सुबानी हुनुहुन्छ । उहाँलाई कोलम्बो प्लानबाट आउनुभएका त्यस समयका विभागीय प्रमुख प्रा.डा. रामचन्द्र चौधरीले विद्यावारिधि गराउनुभएको हो । गणित विभागबाट पहिलो विद्यावारिधि गर्ने निजामुद्दिन सुवानीले सायद २०२७/०२८ तिर उपाधि हासिल गरे ।

⇒ डीन अफिससँग तपाईंको सम्बन्ध कस्तो थियो ? साथै गणित विभागको अन्य विभागसँगको सम्बन्ध कस्तो थियो ? भनिदिनुहुन्छ कि ?

म विभागीय प्रमुख हुँदा धेरै विज्ञानको डीन तथा विभागीय प्रमुखहरूसँग जाउआउ निकै हुन्थ्यो । गणितका छात्रा प्रा.डा. विनारञ्जन घिमिरे डीन हुँदा बधाई दिन गएको अझै सम्झना छ । डीन कार्यालयबाट निस्कने जर्नलमा सुरुमै मेरो आर्टिकल प्रकाशित भएको थियो । जति पनि डीन आउँथे उनीहरूसँग मेरो राम्रै सम्बन्ध थियो ।

विभागहरू डीन अफिसको अन्तर्गत नै थिए । पिएचडी पनि डीन कार्यालयबाटै सञ्चालित थियो । हरेक कार्यक्रममा प्रमुख अतिथिका रूपमा डीनलाई बोलाउँथ्यौँ । डीन र विभाग अभिन्न अङ्गका रूपमा रहेका थिए । पछि सेमेस्टरको जाँच लिने सन्दर्भमा कसले गर्ने भन्ने विषयमा केही केही तनाव भएको थियो ।

विभागीय प्रमुखको कार्यकाल चार वर्षको हुन्छ तर म अनिवार्य अवकाशले गर्दा तीन वर्षभन्दा बढी काम गर्न पाइँन । म विभागीय प्रमुख हुँदा नै संसारका म्याथ सोसाइटीहरूसँग आपसीसम्बन्ध बनाउनुपथ्यो भनी हरेक वर्ष विभागको वार्षिक दिवसको दिन विभिन्न विभागसँग मिलेर पेपर प्रस्तुत गर्न थालियो । यसमा विशेष गरी अरु विभागको प्रमुखलाई नै बोलाइन्थ्यो । म भएको वेलामा रसायनशास्त्र,

जुलोजी, बोटनी र जल तथा मौसम विज्ञानबाट विभागीय प्रमुखहरू बोलाएर कार्यपत्रहरू प्रस्तुत गरिए । यसपछि यो क्रम जारी नै थियो । यसै गरी सबै विभागका सरहरूसँग बारम्बार भेट र आवश्यक छलफल र सल्लाह हुने गर्थो । यसवेला गणित विभागको सबै विभागसँग राम्रै सम्बन्ध थियो । सबै विषयका प्राध्यापकहरू गणित विभागका सेमिनारहरूमा सम्मिलित हुन्थे ।

⇒ तपाईंका प्राज्ञिक यात्राका क्रममा कहाँ कहाँ पुग्नुभयो ? यसका बारेमा केही बताइदिनुहोस् न ।

मैले विभिन्न ठाउँमा विभिन्न राष्ट्रिय तथा अन्तराष्ट्रिय कार्यक्रमहरूमा सहभागी हुने अवसर पाएको छु । कलकत्तामा म्याथमेटिकल सोसाइटीको सयौँ वार्षिक दिवसको अवसरमा बोलाइएको थियो र नेपाल गणित समाजको सचिव भएकाले म त्यहाँ पुगेको थिएँ । यस्तै ढाका युनिभर्सिटीमा पनि गएँ । पाकिस्तानमा ICTP (International Centre for Theoretical Physics) को एक महिने Physics र Math सम्बन्धी कोष

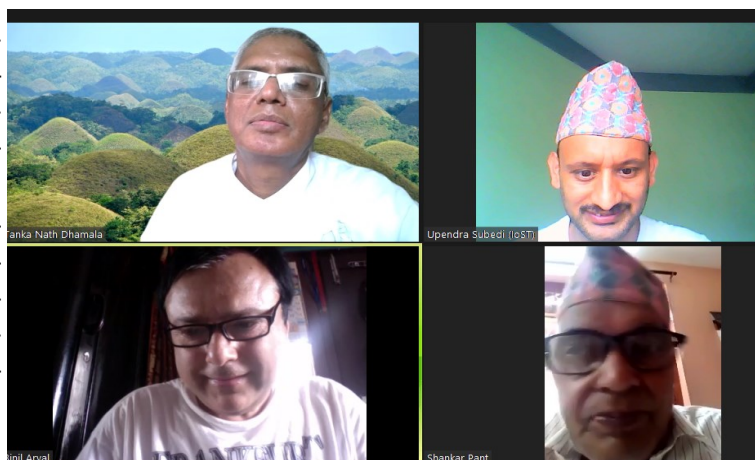
सञ्चालनमा भाग लिन २००५ को समरमा एक जना विद्यार्थी (Physics) बाट र मैले प्रतिनिधित्व गरेका थियौँ । त्यस वेला पाकिस्तानका राष्ट्रपतिसँग भेटघाट गर्ने मौका मिलेको थियो । सन् १९६९ इटलीमा पनि गएको थिएँ ।

बनारसमा जापानका एक जना टोकियो युनिभर्सिटीका साथी भेट हुनुभएको थियो । उहाँले ४७ सालमा जापानमा एक जना कोरियन विद्यार्थीलाई रिसर्च गाइडको सहयोग गर्न, अनुसन्धानमा सघाउन बोलाउनुभयो र उहाँ गएर ६ महिना बसे । यस्तै हरिद्वार ऋषिकेश, दिल्ली, मेरठ, अहमद नगर, पन्ननगर, कुमाउ, अण्डिस्थानमा गणितका सेमिनार मा कार्यपत्रहरू प्रस्तुत गरेको थिएँ । साथमा मेरा विद्यावारिधिका शोधछात्राहरू पनि हुन्थे ।

⇒ अन्तमा तपाईंको केही भन्नु छ कि ?

कम्प्युटरको कोर्स बढाउने विचार गरेको थिएँ तर पर्याप्त रूपमा भएन । लेटेक्सको तालिमका लागि पनि मेरो प्रयास भएको थियो । विभागीय खोजे । पुस्तकालयमा २०० किताब जति नयाँ पुस्तकहरू जम्मा गराइयो । पुस्तकालयलाई मैले सोचेजति विकास गर्न गर्न अवसर भएन । मैले आफूले सङ्कलन गरेका शोधविधि पुस्तकहरू करिब १०० थान विभागलाई प्रदान गरेँ । विभागीय प्रमुख हुँदा विभागमा पूरै समय रहेर त्यहाँको प्राज्ञिक तथा प्रशासनिक कामहरू गर्नुपरेको थियो ।

अन्त्यमा ४० वर्षको अनुभव यति रूपमा अट्दैन तैपनि यहाँहरूको जिज्ञासाअनुसार केही बोलेको हुँ । विज्ञान डीन अफिस प्रा.डा. विनिल अर्यालसहित सबैलाई गणित विषयमा रुचि राखिदिएर गणितको विषयमा मैले अनुभव गरेका सम्बन्धमा रुचि राखिदिनुभएको हुँदा सबैलाई हार्दिक धन्यवाद छ ।



(विज्ञान तथा प्रविधि अध्ययन संस्थानबाट विद्यावारिधि अनुसन्धान गर्नेमध्ये शोधार्थी प्रा.डा. जीवन श्रेष्ठसँग यस अध्ययन संस्थानका डीन प्रा.डा.विनिल अर्याल तथा प्राणीशास्त्र केन्द्रीय विभागका विभागीय प्रमुख तेजबहादुर थापाको समुपस्थितिमा यस अध्ययन संस्थानका कर्मचारी उपेन्द्र सुवेदीले २०७८ असार १८ गते लिएको अन्तर्वाता ।)

⇒ तपाईंको आफ्नो अध्ययन सम्बन्धमा केही कुरा भनिदिनुहुन्छ कि ?

नेपालको विकट जिल्ला तेह्रथुमको जलजलेको सन्यासीछापको सामान्य कृषक परिवारमा नौ सन्तानमध्ये कान्छी छोरीका रूपमा म जन्मेकी हुँ। २००७ सालको देशको क्रान्तिसँगै हाम्रो परिवारमा पनि क्रान्ति नै आयो त्यस वेला म धेरै साना थिएँ । एक रात हाम्रा अभिभावकले हाम्रो घरको मूल ढोकामा दियो बालेर हामी लालाबालालाई काँधमा बोकी धरानतिर लाग्नुभयो । धरानको शारदा बालिका विद्यालयमा मेरो अध्ययन सुरु भयो । अगज दाजु, दिदीहरू तथा बाबुआमाका प्रेरणा र आशीर्वादले गर्दा मैले खुब मेहनत गरी पढ्थेँ र कक्षामा सधैं प्रथम हुन्थेँ । २०१६ सालको एसएलसी बोर्डमा मेरो उमेर केही थपेर भए पनि परीक्षा दिन लगाइयो र मैले राम्रैसँग उत्तीर्ण गरेँ । त्यसताका मेरा दाजुहरू भारतको लखनउमा अध्ययनरत हुनुभएकाले मलाई पनि उतै विज्ञान पढाउने निर्णयानुसार लखनउ कलेजमा भर्ना गरियो । यस वेलासम्म मैले विज्ञान पढ्ने अवसर पाएकै थिइनँ । २०१८ सालमा मैले यस कलेजबाट आइएससी उत्तीर्ण गरेँ। यसपछि काठमाडौँको त्रिचन्द्र कलेजमा बायोलेजी समूहमा भर्ना भई स्नातक तह २०२० सालमा उत्तीर्ण गरेँ । यसताका नेपालमा प्राणीशास्त्रको स्नातकोत्तर तहको पढाइ नभएकाले कोलम्बो प्लानअन्तर्गत छात्रवृत्ति पाई भारतको मध्यप्रदेश उज्जैन स्थित विक्रम विश्वविद्यालयमा स्नातकोत्तर तह पढ्ने मौका पाएँ । दोस्रो वर्षमा माछा विषय लिएर अध्ययन गरेँ । यसले मलाई धेरै ज्ञान र अनुभवका साथै माछामा गहिरिएर अध्ययन गर्न प्रेरणा दियो । सानो छँदा पहाड घर जाने आउने क्रममा बाटामा बास बस्नुपर्थ्यो । बाटोघाटो नभएकाले गाडी चल्ने कुरै भएन । बाटामा बास बस्दा खोलाको असला माछाको स्वाद सानैदेखि जिब्रोमा टासिइरह्यो। २०२२ सालतिर मैले प्रथम श्रेणी (चौथो पोजिसन) मा स्नातकोत्तर पास गरेँ । मेरा गुरुहरू मसँग धेरै प्रभावित हुनुहुन्थ्यो र मलाई उतै काम गर्ने तथा अगाडि पढ्ने अफर पनि गर्नुभयो । तर मलाई नेपालमा नै फर्केर तत्कालीन श्री ५ को सरकारको कृषि विभागअन्तर्गत मत्स्यशाखामा काम गर्ने रहर थियो र फर्केँ पनि ।

⇒ त्रिभुवन विश्वविद्यालय सेवा कहिले सुरु गर्नुभयो त्यसको अनुभव बताइदिनोस् न ?

एमएससी सकेपछि अब जागिर खोज्ने क्रम सुरु भयो । धरानबाट काठमाडौँ आई नाचघरको नजिकै डेरा लिइयो । नजिकैको आफू बिएससी पढेको त्रिचन्द्र कलेजको प्राणीशास्त्र विभागमा म पुगेँ । मेरा गुरु आदरणीय गुरु शिवशङ्कर सिंहसँग भेट भयो । उहाँले सेवा आयोग खुलेपछि आवेदन दिनका लागि सुझाव दिनुभयो र त्यतिन्जेलसम्म भोलेन्टर रूपमा बिएससीको कक्षा लिइदिन अनुरोध गर्नुभयो । यसको करिब १४/१५ दिनपछि एक बिहानी मेरा दाजुले मलाई त्रिभुवन विश्वविद्यालयका तत्कालीन उपकुलपति श्री रुद्रराज पाण्डेज्यूको निवासस्थान लैजानुभयो । सामान्य कुरा र मेरो अध्ययनबारे जानकारी गराएपछि उहाँ मदेखि निकै प्रभावित हुनुभयो र एउटा निवेदन लेख्न भनी आफूले कागजकलम दिनुभयो । छोटो निवेदन लेखी उहाँलाई नै सुम्पिएर बिदा भई डेरामा फर्कियोँ ।

भोलिपल्ट कक्षा लिन त्रिचन्द्र कलेज जाँदा शिवशङ्कर सरले अफिसमा बोलाउनुभयो र मेरो हातमा एउटा खाम थमाइदिनुभयो । खोलेर हेर्दा नियुक्तिपत्र रहेछ । सरले “तपाईंको त माथिसम्म मान्छे रहेछ” भन्नुभएको अहिले पनि झझल्को आउँछ । नियुक्तिपत्रमा मलाई लेक्चरर पदमा त्रि.वि. प्राणीशास्त्र विभाग (स्नातकोत्तर तह) को नियुक्ति दिइएको रहेछ । यो २०२३ सालको कुरा हो । निवेदन लेख्दा यस बारेमा केही चर्चा परिचर्चा भएको थिएन । प्राणी विषयको स्नातकोत्तर तहको पढाइ त्रिचन्द्र कलेजको जुलोजी विभागको म्युजियमको एउटा कुनामा कक्षा सुरु गर्ने तयारी गरिएको रहेछ किनकि कीर्तिपुरका भवनहरू त्यस वेलासम्म तयार भइसकेका थिएनन्।

नियुक्ति पाएपछि म कक्षाकोठामा प्रवेश गरेँ । म्युजियमको कुनामा ३ जना विद्यार्थीहरू हुनुहुन्थ्यो । त्यसमध्ये दुई जना मेरा बिएससीका सहपाठी हुनुहुँदो रहेछ । छोटो औपचारिकता पछि मैले उहाँहरूसँग “हामी शिक्षक विद्यार्थीभन्दा साथीकै रूपमा सिकने सिकाउने गरौँ” भनी अनुरोध गरेँ । यसले गर्दा हामी बीचमा एक सुमधुर सम्बन्ध र आत्मियता बढेको अनुभव भयो । केही समयपछि स्नातकोत्तर तहका सम्पूर्ण कक्षाहरू हालको कीर्तिपुर कम्प्लेक्समा सारियो । यातयातको राम्रो सुविधा नभएकाले रत्नपाकेबाट बसमा कीर्तिपुर जान साह्रै गाह्रो थियो । कहिलेकाहीँ त झाडभरको झ्यालबाट पनि बसभित्र ठेलमठेल गरी चढेको सम्झना आउँछ । दुई बर्से शैक्षिक सत्रमा पहिलो वर्षमा पाठ्यक्रमका जनरल विषयहरू र दोस्रो वर्षमा एक ऐच्छिक विषय

यसरी म्युजियममा जम्मा भएका माछाहरू देख्दा मलाई यसको अझ राम्रो सदुपयोग गरी यसबारे राष्ट्रिय तथा अन्तराष्ट्रिय क्षेत्रमा नेपालका माछाहरूको पहिचान गराउने उद्देश्यले नेपालका माछाहरूमा विद्यावारिधि गर्ने सोच बनाएँ ।

लिने प्रावधान थियो । दुई ब्याचसम्ममा ऐच्छिक विषय किटविज्ञान (Entomology) नै चलि रह्यो । विद्यार्थी सङ्ख्या पनि न्युन थियो; पहिलो ब्याचमा ३, दोस्रोमा १ जना मात्रै । यस्तो अवस्थामा अर्को ऐच्छिक विषय खोल्ने कुरा पनि भएन । माछा विषयलाई कसरी स्थापना गर्ने भन्ने मेरो सोचाइ यतैतिर रहिरह्यो र भाग्यवश तेस्रो ब्याचको प्रथम सत्रमा विद्यार्थीको सङ्ख्या अचानक बढ्यो र यसै सत्रदेखि अब माछा विषयलाई पनि ऐच्छिक विषयमा प्रवेश गराउनुपर्छ भन्ने प्रस्ताव विभाग, डीन अफिस मा मैले राख्न थालेँ र विद्यार्थीहरूले पनि खुब साथ दिए र तेस्रो ब्याचको दोस्रो वर्ष देखि माछा विषयले प्रवेश पायो । नेपालका विभिन्न क्षेत्रबाट विद्यार्थीहरू आउने भएकाले प्रायोगात्मक परीक्षामा प्रत्येक विद्यार्थीले कम्तीमा ३० प्रजातिका माछाहरूको सङ्कलन बुझाउनुपर्ने अनिवार्यता भएको नियम पाठ्यक्रममा तर्जुमा भएपछि माछा सङ्कलनको सुरुवात भयो । र यसरी सङ्कलन गरिएका माछाहरूको प्रजातिहरूको वर्गीकरण गरी म्युजियममा राख्न थालियो । जसले गर्दा नेपालमा स्वदेशी माछाहरूले म्युजिम भरिन थाल्यो । डिजिटसनको प्रावधान सुरु भएसँगै यसको अनुसन्धानमा थप टेवा पुग्न थाल्यो । यसरी म्युजियममा जम्मा भएका माछाहरू देख्दा मलाई यसको अझ राम्रो सदुपयोग गरी यसबारे राष्ट्रिय तथा अन्तराष्ट्रिय क्षेत्रमा नेपालका माछाहरूको पहिचान गराउने उद्देश्यले नेपालका माछाहरूमा विद्यावारिधि गर्ने सोच बनाएँ । यस समयसम्म केही विदेशी राष्ट्रका वैज्ञानिकहरूले नेपालका माछा सङ्कलन गरी प्रकाशन गरेका छन्, तर नेपालमा भने यसप्रकारको काम भएको पाइएको छैन ।

मलाई हरेक सत्रको सुरुवातीको पहिलो दिन नवआगन्तुक विद्यार्थीहरूसँग रमाइलो गर्न मन लाग्थ्यो । First impression is last impression भन्ने झैं त्यो दिन एक आपसमा परिचय, विषयवस्तुको महत्त्व, प्रभावकारी, उपयोगिताबारे बताउने गर्थ्यौँ । विद्यार्थी भाइबहिनीहरू पनि बहुत उत्सुकतासाथ भाग लिनुहुन्थ्यो । पढेका कुरा व्यवहारमा कसरी ल्याउन सकिन्छ यो नै मेरो प्राथमिकताको कुरा हो । यसै सन्दर्भमा मेरो सुपरीवेक्षणमा थेसिस गर्नुभएका एक विद्यार्थी

भाइले थेसिस डिफेन्स गर्दा आफूले भाडामा लिएको पोखरीबाट माछा उत्पादन गरी ल्याएको माछा खाजामा खुवाउनुभएको थियो र अहिले यसैमा आफूलाई व्यस्त राख्नुभएको छ । यो एक उदाहरण मात्र हो । त्रि.वि.मा स्थायी हुँदाको पनि एउटा अविस्मरणीय क्षण बनेको छ । म साँझमा रत्नपार्कतिर हिँडिरहेको बेला एक समकालीन शिक्षकले “तपाईंको नाम अन्तर्वाताका लागि बोलाएको थियो, किन नआउनुभएको ?” भन्नुभयो । म त अचम्ममा परें । मलाई त्यो दिन अन्तर्वाता भन्ने ज्ञान नै भएन । त्यस ताका त्रैलोक्यनाथ उप्रेतीज्यू त्रि.वि.को रजिस्ट्रार हुनुहुन्थ्यो । अनि मैले उहाँसँग सम्पर्क राखें र मेरो अन्तर्वाता भोलिपल्ट राखिएको थाहा भयो । भोलिपल्ट गएर अन्तर्वाता दिएँ सफल पनि भएँ ।

सुरुका एक दिन मलाई सिंहदरबारबाट बोलाइयो । केही कुरो खुलाइएको थिएन बडो असमजसताका साथ सिंहदरबारको त्यो कक्षमा पुगेँ । छसात जना महानुभावहरू हुनुहुन्थ्यो । उहाँहरूले मलाई “तपाईंले कतै जागिर खान थाल्नुभयो ? आफ्नो कार्यालय र कामप्रति तपाईं खुसी हुनुहुन्छ ?” भन्ने प्रश्नहरू राख्नुभयो । म आफू त्रि.वि.मा कार्यरत र कामप्रति सन्तुष्ट रहेको बताएँ । त्यसपछि उहाँहरूले मलाई जाने अनुमति दिएपछि मेरो सङ्कोच निवारण गर्न “मलाई किन बोलाउनुभयो त ?” भन्दा “तपाईंले काम पाए नपाएको माथिबाट सोधिएकाले” भन्ने जबाफ पाएँ । यो ‘माथि’ भन्ने शब्द फेरि जीवनमा दोहोरियो तर माथि कता हो अझै अतोपतो छैन । म आफ्नो अध्यापन अनुसन्धानमा यति मग्न थिएँ कि श्री ५ को सरकारको मत्स्यशाखामा जागिर खाने कुरो याद नै भएन । यसपछि अध्यापन र अनुसन्धान कार्यमा माछा विषयलाई नै मुख्य विषय बनाई जीवनलाई अगाडि बढाएँ ।

विद्यावारिधिको अनुसन्धान गर्दाका आफ्ना अनुभव बताइदिनुहोस् न ।

त्रि.वि. प्राणीशास्त्र केन्द्रीय विभागमा नेपालका माछाहरूको सङ्कलन बढ्न थालेपछि मलाई यही विषयमा पिएचडी गर्ने हुडहुडी चल्न थालेको कुरा पहिले पनि बताइसकेँ । यसै शिलशिलामा डीन अफिसमा गएर छलफल तथा सरसल्लाह गर्न थालें । त्यस वेला खास नियम बनिसकेको पनि थिएन । सुपरभाइजर, कोसुपराभाइजरको पनि धेरै कमी थियो । त्यसैले आफ्नै विभागका सहकर्मी श्री त्रिलोकचन्द्र मजुपुरियाको सुपरीवेक्षकत्वमा अनुसन्धान गर्न नाम दर्ता भयो र यसै अनुरूप नेपालका विभिन्न नदीनाला, तालतलैयाबाट माछा सङ्कलन गरी शोधकार्यलाई पूर्णता दिएर सन् १९७५ (नारीवर्षको उपलक्ष्य पारेर) मा थेसिस डीन अफिसमा बुझाएँ । मेरो थेसिसको शीर्षक “Studies on Fresh Water Fishes of Nepal” हो । त्यस ताका आधुनिक प्रविधिबाट वञ्चित आफ्नै मौलिकतामा दाचिएकाले यसको रूप, आकारका कारण यसलाई धेरै मत्स्यविद्हरूले ‘मत्स्य पुराण’ पनि भन्दछन् । यो थेसिस मूल्याङ्कनका लागि अमेरिकाको युनिभर्सिटी अफ मिसिसिगनका प्रोफेसर कार्ल एफ ल्यागलर कहाँ हवाईमार्गबाट नभई अन्य माध्यमबाट पठाइएकाले रिपोर्ट आउन ढिलो भएर सन् १९७७ मा मात्रै मैले विद्यावारिधिको उपाधि प्राप्त गर्न सकेँ ।

⇒ तपाईंका प्राज्ञिक यात्राका क्रममा कहाँ कहाँ पुग्नुभयो ? यसका बारेमा केही बताइदिनुहोस् न ।

विभिन्न अध्ययन अनुसन्धाका क्रममा म विभिन्न राष्ट्रहरूमा जाने अवसर प्राप्त गरेँ । सन् १९७९ मा United Nation Environmental fellowship (UNEP) अन्तर्गत International Training Course on Surface Water Management with Special Revive to Eutrophication विषयमा जर्मनीको Dresdenमा तथा त्यस वेलाको पूर्व जर्मनीको विभिन्न भागहरूमा गई अध्ययन गर्ने अवसर प्राप्त गरेँ । सन् १९९४ मा Environtal Protection Agency (EPA) US अन्तर्गत Environmental

fellowship पाएर Region 4 मा Inland Water Monitoring programs with Emphasis on Wetlands an Aquatic Ecosystems विषयमा अमेरिका विभिन्न states मा अध्ययन गर्ने मौका पाएँ ।

यस्तै विभिन्न सन्दर्भममा अमेरिका, जर्मनी, जापान, चिन, ताइपेयी थाइल्यान्ड, पाकिस्तान, भारत, बङ्गलादेश भिजिट गर्ने मौका पाएकी छु ।

यसै विचमा भारतको विश्वविद्यालय अनुदान आयोगको छात्रवृत्ति पाई डी.एससी. गर्न दिल्ली जवाहरलाल नेहरू विश्वविद्यालयमा अनुसन्धान गर्ने मौका पाएकी थिएँ । तर घरको परिस्थितिका कारण बिचैमा छोड्नुपर्दा साह्रै दुःख लागेको छ ।

⇒ अध्ययन अध्यापनबाहेक तपाईंले कुनै पदमा रहेर काम गर्नुभयो कि ?

त्रिभुवन विश्वविद्यालयअन्तर्गत प्राणीशास्त्र विभागमा सन् १९६७मा उपप्राध्यापक (lecturer) १९७७ मा रिडर (Associate Professor) र १९९७ मा प्राध्यापक (Professor) पदमा नियुक्त भई काम गरेँ । सन् १९९८ मा विभागीय प्रमुखको जिम्मेवारी सम्हाल्ने मौका पाएँ । विभिन्न पदमा रही अध्ययन, अध्यापन र शोधकार्य भारबाहेक त्रि.वि.का विभिन्न निकाय, विषय समिति, अनुसन्धान समिति, एजुकेसन काउन्सिलमा रहेर काम गर्ने मौका पाएँ । विश्वविद्यालय अनुदान आयोग (UGC)मा सदस्य (१९८७-१९८९)का हैसियतले काम गर्ने मौका पाएँ । त्रि.वि. कान्तीईश्वरी होस्टलको बोर्डमा सदस्यको रूपमा रही १९७६-१९७९सम्म दुई कार्यकालका लागि होस्टल वार्डनको रूपमा काम गरेँ । म आफैँ विद्यार्थी जीवनमा होस्टलमा बसेकाले वार्डनको यो

समय निकै रमाइलो र यादगार रहेको छ । घरेलु वातावरणमा विद्यार्थी बहिनीहरूलाई राखेर पढ्ने वातावरण मिलाउँदा खुसी लाग्दथ्यो ।

त्रि.वि. सेवा आयोगमा विज्ञको रूपमा काम गरेको लामो अनुभव पनि छ । त्रि.वि. प्राणीशास्त्र विभागबाहेक केन्द्रीय वातावरण

विभाग कीर्तिपुरमा स्नातकोत्तर तहका विद्यार्थीहरूलाई अध्यापन तथा शोधकार्य गर्ने मौका पाएको थिएँ । यस्तै Nepal Zoological Society को प्रेसिडेन्टका रूपमा काम गर्ने मौका पाएँ । विभिन्न NGO र INGO मा विभिन्न पदमा रही सक्रिय भूमिका निभाउने मौका पाएकी थिएँ । सन् १९८२ मा Nepal National Commission for UNESCO मा सदस्यको रूपमा काम गर्ने मौका पाएको थिएँ । त्यस्तै १९९२देखि १९९५ सम्म Environment Protection Council HMG/ Nepalमा सदस्यको रूपमा काम गरेँ । सन् २००३ जुलाई अर्थात् २०६० श्रावणदेखि नेपाल विज्ञान तथा प्रविधि प्रतिष्ठान (नास्ट) मा प्राज्ञको रूपमा हालसम्म काम गरिरहेकी छु ।

⇒ तपाईंको समयमा विश्वविद्यालय तथा विभागमा अध्ययन अनुसन्धानको वातावरण कस्तो थियो ?

भरखरै स्नातकोत्तर तहको अध्यापन सुरु भएको अवस्थामा दक्ष शिक्षक जनशक्ति, उच्चकोटीको पाठ्यांशको अभाव, गुणस्तर पुस्तकालय, फिल्ड सुविधा, फन्डिङ समस्याको अभाव हुनु स्वाभाविकै हो । केही समय भारतको पटना विश्वविद्यालयको पाठ्यक्रम अनुसार नै पठनपाठन चल्थो । समयानुसार नयाँनयाँ पाठ्यक्रमको तर्जुमा, विज्ञहरूको उपस्थितिमा यसको परिमार्जन, विषय समिति अनुसन्धान समितिहरू गठन हुन थाले । Higher Education Project अन्तर्गत Lab Equipment भित्र्याइयो । ऐच्छिक विषयहरू पनि थपिए । सुरुमा अनुसन्धानका लागि यथेष्ट वातावरण, पूर्वाधार, आर्थिक स्रोत, छात्रवृत्ति, फेलोसिप, फन्डिङ आदिको व्यवस्थाको कमीका साथै यसको महत्त्व तथा अनिवार्यताको पनि महसुस भएन । त्यसैले विद्यावारिधि गर्ने गराउने परिपाटी बस्न सकेन । आफ्ना समकालीन शिक्षकहरूलाई

विद्यावारिधि गर्ने बारे प्रोत्साहन दिने काम मैले नगरेकी होइन तर यसलाई कार्यान्वयन गर्न सकिएन । पद बढ्दा र प्रतिस्पर्धी मूल्याङ्कनमा विद्यावारिधिको ठूलो महत्व निर्धारित भएपछि मात्रै अहिले भीड लाग्न थालेको छ । अझै पनि माछा विषय जस्ता अरु विषयका लागि अति आवश्यक Experimental पोखरीहरू आफ्नै शिक्षण क्षेत्रमा नहुनुले परनिर्भरता रहेको छ ।

⇒ जुलोजी डिपार्टमा रहँदा तपाईंको डीन अफिसँग कस्तो सम्बन्ध थियो ?

म जुलोजी विभागमा विभागीय प्रमुख लगायत विभिन्न पदहरूमा रहँदा डीनज्यूहरू, कर्मचारीहरूसँग मेरो धेरै राम्रो सम्बन्ध थियो । सधैं नै एउटा सौहार्दपूर्ण वातावरणमा समस्याको छलफल र समाधानका प्रक्रिया हुन्थे । मलाई मेरो कार्यकाल भरी डीन अफिसका डीनज्यूहरू र कर्मचारीबाट राम्रो सद्व्यवहार रहेको मैत्रीपूर्ण वातावरण र सहयोग प्राप्त भयो ।

⇒ विद्यावारिधि गरिसकेपछि तपाईंको छिमेकी, परिवार आदिबाट कस्तो प्रतिक्रिया पाउनुभएको थियो ?

मैले विद्यावारिधि गरेको व्यहोरा मेरा छरछिमेकी, म जन्मेका ठाउँका इष्टमित्र, म पढेको स्कूल कलेजका गुरुहरू, साथीहरू तथा मेरा परिवारका सम्पूर्ण सदस्यहरूमा खुसियालीको माहोल आयो । मलाई बधाई दिने तथा पठाउनेहरूको ओहोरो लाग्यो । मलाई जन्म दिने मेरा वृद्ध मातापिता, मलाई शैक्षिक क्षेत्रमा डोर्‍याउने मेरा अग्रज दाजुदिदीहरूको हर्षको ठेगान थिएन । केही हदसम्म भए पनि मैले उहाँहरूको ऋण चुकाउन सकें । माइती तथा घरतर्फ त्यस वेला विद्यावारिधि गर्ने म पहिलो व्यक्ति भएकाले कुलको नाम राख्यौं स्याबास भन्थे । अन्तमा नोपलको विकट क्षेत्रमा नारी भई जन्म लिई आफ्नो शैक्षिक योग्यतालाई यहाँसम्म पुर्‍याएर नेपालका माछाहरूमा विद्यावारिधि हासिल गर्न सकेकोमा आफूलाई भाग्यमानी ठानेकी छु । आफू जन्मेको देशको माछाहरूलाई पहिचान गरी मेरो विद्यावारिधिमा आधारित पहिलो पुस्तक Fishes of Nepal तथा त्यसपछिका अन्य पुस्तकहरू राष्ट्रिय तथा अन्तराष्ट्रिय क्षेत्रमा पुर्‍याउन पाउँदा मलाई धेरै खुसी लागेको छ ।

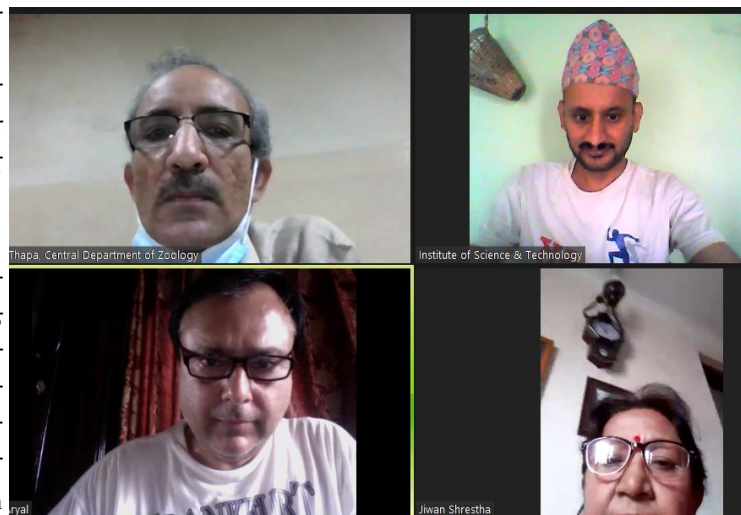
⇒ अन्तमा तपाईंको केही भन्नु छ कि ?

विश्वविद्यालयलाई व्यावहारिक शिक्षा पद्धतिमा लैजान अनुसन्धानमा नै बढी प्राथमिकता दिनुपर्दछ । सैद्धान्तिकका साथै व्यावहारिक शिक्षामा जोड दिँदै त्यही अनुरूप पठनपाठन हुनु आवश्यक छ । राष्ट्रले पनि विश्वविद्यालयसँग समन्वय गरी देशमा कस्तो किसिमको जनशक्ति र कस्तो किसिमको कामले आत्मनिर्भरता बढाउँछ भन्ने बारे छलफल हुनपर्छ । एक उदाहरणको रूपमा मैले भ्रमण गरेको अमेरिकाको अलाहवामा प्रान्तको अयुब्रुन विश्वविद्यालय, (Auburn

University)मा कुन प्रजातिको माछा उत्पादन गर्ने र कुन प्रविधि अपनाउने बारे आफूले गरेको अनुसन्धानको आधारमा निर्णय गरेपछि मात्रै राष्ट्रले त्यसलाई लागु गर्न चलन रहेछ । विश्वविद्यालयले गरेको यसप्रकारको अनुसन्धान सोझै सामुदायिक तहमा उपयोगी हुन्छ । यसले समय र पैसोका पनि वचत हुन्छ ।

माछाकै कुरा गरौं । हाम्रो देशमा २५२ जति जातका स्वदेशी र यसमा पनि १६/१७ प्रजातिका माछाहरू (अरु देशमा नपाइने) Endemic Species हरू छन् । मेरो विचारमा यी माछाहरू नेपालका धरोहर हुन् । अमूल्य सम्पति हुन् । भावी सन्ततिका लागि यी माछाहरूको संरक्षण र प्रवर्धन गर्नु राष्ट्रको दायित्व हो । तर यस अनुरूप केही काम भएको छैन । नेपालको क्षेत्रफलको हिसाबले सानो भए तापनि यसको भौगोलिक संरचना, altitudinal variation, विभिन्न हावापानीले गर्दा जैविध विविधतामा धनी मानिएको देश हो । त्यसमा माछा एक प्रमुख अङ्ग हो तर यी स्वदेशी प्रजातिहरूमा गर्व गर्ने, अनुसन्धान गर्ने, संरक्षण गर्ने निकाय, चासो राख्ने व्यक्ति, सङ्घसंस्थाहरूको कमी भएको महसुस गर्दछु । यसले गर्दा यी निर्दोष जीवहरूको लोप हुने हो कि यो चिन्तनको विषय बनेको छ । विदेशीभन्दा स्वदेशी माछाको उत्पादन बढाउन भुरा उत्पादन दानापानी, रोगब्याधी नियन्त्रण, Post harvesting, Endemic माछाहरूको अध्ययन तथा Patent right, माछा एक्युरियम म्युजियम आदि क्षेत्रमा अनुसन्धान अगाडि बढाउन ढिला भइसकेको महसुस गर्दछु ।

अन्तमा त्रिभुवन विश्वविद्यालय डीन अफिसले यसमा अग्रिम भूमिका खेल्नेछ भन्ने आत्मविश्वास राख्दै मलाई दुई शब्द अन्तर्वार्ता मार्फत राख्ने मौका दिनुभएकोमा म हृदयदेखि आभार व्यक्त गर्न चाहन्छु ।



Mini Researches Completed in IOST (till 2020 October)

Mini research projects completed till 2020 October are as follows:

S.N	Name	Campus/Depart.	Title
1	Yogesh Singh Maharjan	Amrit Campus	Fabrication of ZnO thin film using dip coating for gas sensing application
2	Jyoti K.C.	Tri-chandra M. Campus.	Assessing allelopathic potentials of <i>parthenium hysterophours</i> in seed Germination and seeding growth of some crops through multiple approaches
3	Karan Giri	Tri-chandra M. Campus.	Study of damage profiles and calculation of energy loss during boron iron implantation on silicon substrate
4	Anita Tuitui	Cent.Dept.of Hydroogy and Meterology	Flood hazard mapping and vulnerability analysis of Balkhu Khola, Nepal
5	Rachana Ghimire	Tri-chandra M. Campus.	Kinetic monte carlo simulation of island formation in the presence of impurity with inclusion of detachment process.
6	Bimala Shakya	Natural History Museum	A study on some fungal diseases of Tomato and its management
7	Dipesh Raj Pant	Tri-chandra M. Campus.	Impact of climate change and integrated approach to adaptation strategies (A case study of Nuwakot Districst, Nepal)

8	Mohan Bahadur Kshetri	Amrit Campus	Synthesis of Thin Film of metal (Cu, Fe and Mn) doped ZnO using spin Coating and its utilization for fabrication of gas sensors.
9	Kusum Maiya Dhoubhadel	Amrit Campus	Phytochemical analysis, Antioxidant, and antibacterial activity of <i>Madhuca longifolia</i>
10	Ganesh Dahal	Tri-chandra M. Campus.	Phytoconstituent analysis and antibacterial study of orange (<i>Citrous aurantium</i>) and Lemons (<i>Citrous lemon</i>)
11	Sony Bajracharya	Amrit Campus	Assessment of physicochemical and microbial parameters of well water from Latitpur Metropolitan City in Pre-Monsoon season
12	Manisha K.C.	Central Campus of Technology.	Butterfly diversity in Vijaypur Area of Dharan, Sunsari, Nepal
13	Eliza Acharya Siwakoti	Mahendra Morang A. M. Campus.	Feasibility study for extraction of natural surfactants from different plants extract and their use in industries
14	Gopal Prasad Sedhai	Prithvi Narayan Campus.	Impact of social security allowance on satisfaction of elderly people between urban and rural area of Lamjung
15	Milan Kharel	Central Campus of Technology.	Species Distribution and Threats to Chinese Pangolin (<i>Manis pentadactyla</i>) in Jalthal Forest, Jhapa, Province No.1, Eastern Nepal
16	Saugat Shrestha	Dhankuta M.Campus	Diversity of ferns and fern-allies in Dhankuta District, East Nepal
17	Durga Upadhaya	Siddhanath S.Campus Mahendranagar	Comparative assessment of water quality: A case study from Ramaroshan and Jhilmal Lakes, Mid-hill and Lowland, Sudurpaschim province, Nepal
18	Menuka Gautam	BirendraM. Campus	Delineation of Groundwater Potential Zone in the Sedimentary Terrain of Sub-Himalaya, Central Nepal
19	Dipak Baral	Mahendra Morang A.M. Campus	The physicochemical analysis study on the influence of a biocompatible amino acid with the mixed surfactants

Number of Ph.D. awarded and ongoing Ph.D. scholars in IOST (till Dec. 2020)

Number of Ph.D. awarded in IOST

SN	Department	Male	Female	Total
1	Biotechnology	3	2	5
2	Botany	21	25	46
3	Chemistry	16	15	31
4	CSIT	0	0	0
5	Environmental Science	4	1	5
6	Food Technology	2	0	2
7	Geology	6	0	6
8	Hydrology and Meteorology	4	0	4
9	Mathematics	9	3	12
10	Microbiology	10	1	11
11	Physics	20	2	22
12	Statistics	12	2	14
13	Zoology	13	3	16
	Total	120	54	174

Number of Ongoing PhD (Subject wise)

S.N.	Department	Old (Not course based)		Semester System (Course based)		Total Ongoing PhD		
		Male	Female	Male	Female	Male	Female	All Total
1	Biotechnology	6	1	4	2	10	3	13
2	Botany	19	14	13	5	32	19	51
3	Chemistry	12	1	34	10	46	11	57
4	CSIT	0	0	3	1	3	1	4
5	Environmental Sc.	7	1	9	7	16	8	24
6	Food Technology	0	0	2	1	2	1	3
7	Geology	2	1	17	2	19	3	22
8	Hydrology & Meteorology	2	0	6	0	8	0	8
9	Mathematics	7	0	18	2	25	2	27
10	Microbiology	4	2	8	5	12	7	19
11	Physics	18	2	53	4	71	6	77
12	Statistics	2	0	5	0	7	0	7
13	Zoology	12	1	17	4	29	5	34
	Total	91	23	189	43	280	66	346

Ph.D. Degree Awarded in 2020

S.N.	Name	Subject	Research Title
1	Jarina Joshi	Biotechnology	Production of Bioethanol by Electrochemical Redox Coupled with Microbial Cells Using ignocellulosic Biomass.
2	Suresh Prasad Gupta	Physics	Study of Cross Sections for Ionization and Electron Capture Process
3	Subha Ratna Shakya	Zoology	Effect of Choerospondias Axillaris (Roxb.) B.L. Burt & A.W. Hill (lasi fruit) on growth, biochemical, and immune-haematological performance in fishes
4	Dibya Shree Shrestha	Chemistry	Preparation, Characterization and Application of Nanoporous Activated Charcoal from Plant Resources
5.	Bhesha Raj Adhikari	Physics	Kinetic Trajectory Simulation Model for Magnetized Plasma Sheath
6	Bishnu Prasad Upadhyay	Microbiology	Molecular Epidemiology and Antigenic Characterization of Influenza viruses Circulating in Nepal
7	Kirtika Gautam	Microbiology	Studies on extended- Spectrum Beta-Lactamase (ESBL _s) producing Salmonella and E. Coli Isolates from Clinical Samples of Nepal.
8	Sudhir Rajaure	Geology	Seismic Hazard Analysis of Nepal
9	Gaj Ram Damai	Mathematics	Nearest Points and proximity
10	Bindu Pokharel Bhattarai	Botany	Ecophysiology of Spirodela polyrhiza (L.) Scheiden (Greater Duckweed)
11	Richa Kukmari Gupta	Chemistry	Isolation and Characterization of Secondary Metabolites from Rheum Species Growing in Nepal and their Target Oriented Synthesis
12	Jyoti Giri	Chemistry	Wheat Stalk Micro and Nanocellulose Based Degradable Polymer Composites: Morphological, Mechanical and Degradation Behaviour
13	Binod Lekhak	Microbiology	Screening and characterization of bioactive actinomycetes and their products from Nepal against multidrug resistant bacteria and fungi

Ph.D. Scholars Enrolled in the year 2020

S.N	Name	Subject	Research Title
1	Indu Bikram Joshi	Env. Science	Antibiotic residue and antibiotic resistance bacteria in sanitation and pharmaceutical industrial effluent systems
2	Anushta Shrestha	Env. Science	Conserving traditional water system of the Kathmandu Valley: Linking spout water quality and quantity with urbanization and society
3	Shakti Gurung	Env.Science	Ecosystem and community resilience towards climate induced disasters in Annapurna Region, Gandaki Province, Nepal
4	Hasana Shrestha	Env. Science	Use of low cost sensors couple with remote sensing for PM _{2.5} estimation in the urban and rural settings of Nepal.
5	Rakesh Kumar Yadav	Env. Science	Effectiveness of fish ladders for migratory fish in Nepal as a mitigation of hydropower impacts on aquatic biodiversity
6	Prativa Kaspal	Env.Science	Habitat resilience and conservation threats to Pangolin (Manis spp.) in Nepal
7	Prakash Timilsina	Env. Science	Disturbance and restoration in adjoining forests of lowland protected Area in Nepal
8	Ishwar Kumar Shrestha	Statistics	Statistical modeling on factors associated with age at marriage and time to first birth after marriage among Nepalese females
9	Madhav Kumar Bhusal	Statistics	Statistical modeling to identify the factors associated with Childhood mortality in Nepal
10	Yogesh Man Shrestha	Statistics	Statistical modeling on contribution of remittance in education as a part of Human capital development in Nepal
11	Dharmendra Prakash Rajbhandari	Hydro & Meteorology	Impact of climate on Water availability in Arun River basin
12	Narayan Gopal Ghimire	Geology	Deep-seated Gravitational Slope Deformation and Impacts on High-dam Reservoirs in Mid Hill Fregion, Nepal
13	Basanta Devkota	Geology	Geological Study of Carbonate Rocks of West-Central Nepal Lesser Himalaya
14	Krishna Kumar Shrestha	Geology	Characterization and Evaluation of Cut-slope Stability in Central and Western Lesser Himalayan Zone, Nepal
15	Bikash Phuyal	Geology	Evaluating Failure Characteristics and Mechanism of Large-scale Landslides in Central Nepal Himalaya
16	Sanjeev Regmi	Geology	Slope Stability Analysis in Hydropower Projects of Nepal Using Numerical Modelling
17	Suman Maharjan	Geology	Detrital Modes, Texture and Maturity Status of Fluvial Sands from Major Rivers of the Nepal Himalayas
18	Dinesh Raj Sharma	Geology	Study on Strength and Durability Characteristics of Crushed and Uncrushed Quartzites for Railroad Ballasts from Central Nepal Himalaya
19	Menuka Gautam	Geology	Hydrogeomorphic and Tectonic Approach for Groundwater Assessment in Chitwan Dun Valley
20	Bharat Raj Pant	Geology	Lithostratigraphy and Structural Evolution of Lesser Himalayan Rocks in Baitadi-Dadeldhura Area, Far-western Nepal

21	Sunil Lamsal	Geology	Geological and Petrological Evolution of Tamghas-Libang Section of Western Nepal, Lesser Himalaya
22	Shantos Subedee	Microbiology	Molecular characterization of antimicrobial resistance in bacterial isolates from poultry, human and environment
23	Suprina Sharma	Micro.	Biocontrol potential of bacillus species against food contaminating aspergillus flavus and aflatoxin detoxification
24	Hemanta Khanal	Micro.	Comparative characterization and differentiation of enteroinvasive E.coli and Shigella species
25	Archana Katuwal Chhetri	Micro.	Molecular characterization of Drug - resistant bacterial isolates in Cancer patients of tertiary care Hospital
26	Indira Sharma Bhandari	Zoology	Functional diversity and assemblage structure of freshwater Fishes in Madi River, Nepal
27	Kul Prasad Limbu	Zoology	Taxonomy, distribution and feeding ecology of venomous snakes in Eastern Nepal
28	Buddhi Ram Oli	Zoology	Habitat ecology of Aedes aegypti (L.) and Aedes albopictus (Skuse) along an altitudinal transect in Mid-Western Nepal
29	Manoj Sharma	Zoology	Composition and distribution of odonata and its relationship with biophysical variables in Karnali River basin of Nepal
30	Sanu Raja Maharjan	Botany	Soil characteristics and soil respiration in forests of Phulchoki Hill, Central Nepal
31	Eliza Acharya Siwakoti	Botany	Limnological study of Lakes along elevational gradient in Eastern Nepal
32	Krishna Prasad Sigdel	Botany	Geospatial analysis of wetland dynamics and vulnerability assessment of major wetlands of Pokhara Valley, Nepal
33	Mohan Chandra Adhikari	Mathematics	Discrete time dynamic flow problems with intermediate storage
34	Chet Nath Tiwari	Math	Modeling multiphase debris flows and floods down a meandering channel: Dynamics and obstacle-interactions with different sinuosities and curvatures
35	Chuda Mani Pokharel	Math	A Proposal on wolff ideal theorem on besov types, spaces and their multipliers in Algebra
36	Tek Bahadur Budhathoki	Mathematics	Coupling of two dimensional and depth- averaged models for mixture mass flows
37	Bekha Ratna Dangol	Mathematics	Interaction of different geophysical mass flows with fluid reservoirs: Dynamics of submarine mass and fluid waves
38	Ram Datt Joshi	Chemistry	Medicinal Plant Extracts Incorporated Biocomposite Film/membrane for Food Packaging and Biomedical Applications
39	Khim Prasad Panthi	Chemistry	Synthesis and Characterization of Biodegradable Active Film for Edible Coating and Intelligence Food Packaging
40	Gayatri Maiya Kaju	Chemistry	Study of Corrosion Inhibition Efficacy of Isolated Compounds from Natural Product of Nepal as Green Corrosion Inhibitor
41	Neeta Singh	Chemistry	Evaluation of Anti Bacterial Activity of Bis-formamide Thiosemicarbazones and their Copper (II) and Zinc (II) Complexes
42	Samjhana Bharati	Chemistry	Chemical Analysis and Biological Studies of Ziziphus budhensis Bhattarai and M.L. Pathak
43	Pawan Kumar Mishra	Chemistry	Nanoarchitectonics of Acacia catechu (L.F.) Willd Seed and Bark Derived Nanoporous Carbon Materials for Supercapacitor Applications
44	Anand Kumar Yadav	Chemistry	Exploration and Anti-cancer Potency of Coumarin Based Thiosemicarbazones and Schiff's Bases
45	Netra Prasad Subedi	Chemistry	Synthesis, Characterizations and Applications of Different Layered Double Hydroxides (LDHs) for Removal of Oxyanion from Aqueous Solution
46	Prabin Basnet	Chemistry	Development of Natural Anion Exchanger from Agro Waste Based Biopolymer for the Separation of Hazardous Oxoanions from Water
47	Ananda Bahadur chand	Chemistry	Synthesis, Characterization of Phytoconstituents Incorporated Biodegradable Film for Food Packaging and Biomedical Applications
48	Asmita Shrestha	Chemistry	COVID-19 Global Pandemic: Analysis of Secondary Metabolites from Natural Products to Aid the Engineering of Drugs
49	Deepak Gyawali	Chemistry	Study on the Investigation of Chelating Biopolymer for the Complexation of Heavy Metal Polutants from Aqueous Solution
50	Ganga Bir Rai	Chemistry	Bioprospecting Phytopathogenic Fungi of Large Cardamom (Amomum subulatum Roxb.) from Panchthar District, Nepal
51	Ram Prabodh Yadav	Chemistry	Metabolic Reprogramming on Antibiotic Production in Actinomycetes Induced in Co-culturing System
52	Rajendra Bahadur G.C.	Chemistry	Synthesis and Characterization of Biomass Based Hydrogel Film for Smart Food Packaging, Biomedical Applications and Environmental Remediation
53	Nabin Basnet	Chemistry	Effect of Aggregation Behavior of Mixed Surfactant on Its Corrosion Behavior in Alcohol-water Binary Solvents Containing Salts
54	Chandradip Kumar Yadav	Chemistry	Study of Mixed Surfactants Interaction with Dyes in Mixed Solvent Media and Corrosion Protection Behavior of Mixed Surfactants
55	Ram Prasad Baral	Chemistry	Chemical Profiling and Bioassays of Essential Oil of Some Aromatic and Medicinal Plants from Karnali Region of Nepal
56	Madan Khanal	Physics	Spectroscopic and radioactive analysis of selected herbal products
57	Sanjay Lal Karna	Physics	Performance, evaluation and modification of solar PV mini grid system in Nepal
58	Nepal Rama Devi	Physics	Synthesis and characterization of nanophosphors for solid state lighting application
59	Peshal Pokharel	Physics	Electronic, optical, mechanical and magnetic properties of perovskites, double perovskites and their derivatives
60	Dipendra Kumar Sah	Physics	Thermo-physical properties of quaternary liquid alloys

61	Bidhya Thapa	Physics	Molecular interactions of zinc finger protein kaiso with its binding partners
62	Bishnu Prasad Neupane	Physics	Study of physico-chemical properties of some plants
63	Subodh Kumar Yadav (Nepali)	Physics	Study of fluxon dynamics in a stack of long josephson junction based on hetero-gap superconductors
64	Dipak Bhattarai	Physics	Magnetic doping in Bi ₂ YI (where χ Ö 1,2 and 3 and YÖ Se and Te) to study quantum anomalous hall effect
65	Suresh Poudel	Physics	A study of ionospheric perturbation in association with thunderstorm
66	Deergh Bahadur Shahi	Physics	Topological phase transition in Jactingaite Family: M ₂ N X _{3-n} Y _n
67	Nilkantha Dahal	Physics	Study of mixing properties of multi-component liquid alloys
68	Ravi Karki	Physics	A hybrid density functional theory study on encapsulation of active pharmaceutical ingredients on M-MOF-74 (MÖMg,Co, Cu, Ni, Zn) as possible candidates for nanodrug delivery
69	Santosh Kumar Pandit	Physics	Study on resistive random access memory (ReRAM) devices
70	Dipak Adhikari	Physics	First principles study on selective separation of Toxic Gases by metal-organic framework M-MOF- 74 (MÖZn, Cu, Mg)
71	Ram Sharan Karki	Physics	Uncertainties in dose calculation of medical devices
72	Roshan Chalise	Physics	Enhancing agricultural productivity by using cold atmospheric pressure plasma
73	Bidyapati Jha	Physics	Hoton based dosimetric study of innovative hybrid intensity modulated radiation therapy (h-IMRT) over three - dimensional conformal radiation therapy (3-DCRT) treatment planning techniques for carcinoma of breast
74	Bed Prasad Pandey	Physics	Study on low - imensional semiconductors nanomaterials
75	Arun Kumar Shrestha	Physics	Study of radiological hazards of construction materials in Nepal
76	Mithilesh Kumar Jha	Physics	Theoretical and computational study on thermodynamical and electrical properties of ternary alloys
77	Prabhakar Oli	Physics	Gas sensing behaviors of transition metal dichalcogenides (TMDCs)
78	Pradip Karki	Physics	A study of impact of aerosol and lightning on Himalayas
79	Devendra Raj Upadhyay	Physics	Radioactivity and radiation transport phenomena in construction materials and natural rocks
80	Bhim Singh Thagunna	Physics	Structural properties of prazosin hydrochloride and nateglinide by using vibrational spectroscopy and quantum chemical methods
81	Rishi Kanta Maraseni	CSIT	Emotional Communication: An improvement in the usefulness of Facial Expression Recognition System to understand the Human Emotion

A Brief Profile of Central Departments under IoST

SN	Central Department of	Location	Phone	Academic Program	Name of HOD/ Director	email of HOD/ Director
1	Biotechnology	Kirtipur	4336221	M. Sc., Ph. D.	Prof. Dr. Krishna Das Manandhar	head@cdbt.tu.edu.np
2	Botany	Kirtipur	4331322 4333515	M. Sc. Botany M. Sc. BEM Ph. D.	Prof. Dr. Ram Kailash Yadav	head@cdb.tu.edu.np
3	Chemistry	Kirtipur	4332034 4330537	M. Sc., Ph. D.	Prof. Dr. Ram Chandra Basnyat	head@cdc.tu.edu.np
4	Computer Science & IT	Kirtipur	4333010 4332619	M. Sc., Ph. D.	Mr. Nawaraj Paudel	head@cdcsit.tu.edu.np
5	Environmental Science	Kirtipur	4332147 4332711	M. Sc., Ph. D. M. EHD	Prof. Dr. Rejina Maskey	head@cdes.tu.edu.np
6	Food Technology	Dharan	025-526726	M. Tech. Ph. D.	Prof. Geeta Bhattarai	head@cdf.tu.edu.np
7	Geology	Kirtipur	4332449	M. Sc. Geology M.Sc. Eng.Geo Ph. D.	Prof. Dr. Khum Narayan Paudyal	head@cdgl.tu.edu.np
8	Hydrology & Meteorology	Kirtipur	4333887	M. Sc., Ph. D.	Prof. Dr. Deepak Aryal	head@cdhm.tu.edu.np
9	Mathematics	Kirtipur	4331977	M. Sc. M Phil, Ph. D.	Prof. Dr. Tank Nath Dhamala	head@cdmath.tu.edu.np
10	Microbiology	Kirtipur	4331869	M. Sc., Ph. D	Dr. Komal Raj Rijal	head@cdmi.tu.edu.np
11	Physics	Kirtipur	4331054	M. Sc., Ph. D.	Prof. Dr . Om Prakash Niraula	head@cdp.tu.edu.np
12	Statistics	Kirtipur	4331710	M. Sc., Ph. D.	Prof. Dr. Gauri Shrestha	head@cds.tu.edu.np
13	Zoology	Kirtipur	4331896	M. Sc., Ph. D.	Prof. Dr. Tej Bahadur Thapa	head@cdz.tu.edu.np
14	School of Math Science	Balkhu	6200207	B. Math. Sc. M. Data Science	Prof. Dr. Narayan Prasad Pahari	director@sms.tu.edu.np

Brief Profile and Programs of Constituent Campuses associated to IoST

S.N	Name of the Campuses	Address	Telephone	B.Sc.	M.Sc.
1	Mechi Multiple Campus	Bhadrapur, Jhapa	023520044	General + (Env. Science, Tea Science, CSIT),	—
2	Dhankuta Multiple Campus,	Dhankuta	026520297	General + (Env. Science)	—
3	Central Campus of Technology	Dharan	025520228	General + (Microbiology, Nutrition & Dietetics, Geology) B. Tech. (Food), BIT	Microbiology M. Tech. (Food)
4	Mahendra Morang Adarsha Multiple Campus	Biratnagar	021526791	General + (Microbiology, Meteorology), CSIT, BIT	Physics, Chemistry
5	Post Graduate Campus	Biratnagar	021526327	—	Botany, Zoology, Math
6	Mahendra Bindeshwori Multiple Campus	Rajbiraj	031520092	General + (Microbiology)	—
7	Surya Narayan Satya Na. Mo. Yadav Campus	Siraha	033520387	General + (Env. Science)	—
8	Ramsorup Ramsagar Multiple Campus	Janakpur	041520174	General + (Microbiology, Env. Sc., CSIT)	Math
9	Thakur Ram Multiple Campus	Birgunj	051522187	General	—
10	Birendra Multiple Campus	Bharatpur	056520253	General + (Microbiology, Geology, Meteorology), CSIT, BIT	Physics, Chemistry
11	Prithivi Narayan Multiple Campus	Pokhara	061526837	General + (Microbiology, Geology, CSIT)	Physics, Math, Chemistry
12	Sidha Nath Science Campus	Mahendranagar	099521220	General + (Env. Sc, Microbiology), CSIT, BIT	Physics, Math
13	Mahendra Multiple Campus	Nepalgunj	081520278	General + CSIT, BIT	—
14	Butwal Multiple Campus	Butwal	071542834	General + CSIT	—
15	Tribhuvan Multiple Campus	Palpa	075520090	General	—
16	Tri- Chandra Multiple Campus	Ghantaghar	014244047	General + (Env. Science, Geology, Microbiology, Meteorology)	Chemistry, Eng. Geology,
17	Amrit Science Campus	Lainchour	014411637	General + (Env. Science, Microbiology), CSIT, BIT	Physics, Math, Botany, Chemistry,
18	Patan Multiple Campus	Patan	05547710	General + (Env. Science), CSIT, BIT	Physics
19	Bhaktapur Multiple	Bhaktapur	016610200	General, CSIT, BIT	—
20	Padma Kanya Multiple	Bagbazar	014224149	General + (Env. Science, Microbiology),	—
21	Mahendra Multiple Campus	Dang	082560035	General	—
22	Dhaulagari Campus	Baglung	068521344	General	—
23	Bhairawaha Multiple	Bhairawa	071520205	General, CSIT, BIT	—
24	Gorkha Campus	Gorkha	064421398	General (program not running)	—

General B.Sc. includes: Chemistry, Botany, Zoology, Statistics, Physics and Mathematics

Recent Activities of Central Departments and Campuses

Recent Activities of Central Department of Biotechnology

1. Ongoing faculty research grants (2020 onwards)

Year	Title	Funding body	Grants	Status
2020-2025	Emerging Infections: Epidemiology, Surveillance and Pathogenesis. Consortium PI: Prof. David Wang, Washington University, USA Nepal Chapter PI: Prof. Krishna Das Manandhar	NIH, USA	268000.00 USD	Ongoing
2020 – 2022	A Molecular and Immunological Investigation of leishmaniasis from an unusual foci of cutaneous and visceral disease in India and Nepal. Leishmaniasis – ICGEB Project, PI – Dr. Manju Jain, Central University of Punjab and Co-PI: Prof. Greg Matlewinski, Cananda Co-PI (Nepal Chapter): Prof. Krishna Das Manandhar,	International Center for Genetic Engineering and Biotechnology (ICGEB), Trieste, Italy	39000 Euro	Ongoing
2019-2022 (2075 – 2078 B.S.)	Profiling Cellular Immune Responses in Dengue Virus Infected Nepalese Population., Dengue – UGC collaborative Project. PI – Prof. Krishna Das Manandhar.	UGC Institutional Grant.	NRs. 2,000,000.00	Ongoing

2020-2022 (2076- 2078)	Design of Microbial fuel Cell to Manage Household Organic Wastes Using Mixed Culture of Microbes., PI- Dr. Jarina Joshi.	Faculty Research Grant by UGC	NRs. 400,000.00	Ongoing
2020-2021 (2076-2077)	Screening of Novel Genes Involved in Biofilm-mediated Carbapenem Resistance in <i>Pseudomonas aeruginosa</i> . PI – Dr. Suresh Subedi	Small Research Development and Innovation Grant by UGC	NRs. 200,000.00	Ongoing
2020-2021 (2076-2077)	Application of Bacteriophage to treat the multidrug resistant bacteria infection in mouse model PI – Ms. Pragati Pradhan.	Small Research Development and Innovation Grant by UGC	200,000.00	Ongoing
2021-2022 (2077-2078)	Purification of antimicrobial constituent(s) from modified media for <i>Streptomyces coelicolor</i> and internally isolated putative <i>Streptomyces violaceolatus</i> : CobA protein inhibition the mechanism? PI – Ms. Alina Shri Sapkota	Small Research Development and Innovation Grant by UGC	150,000.00	Soon to begin
2018 - 2020 (2074 - 2076 B.S.)	Biodiversity of <i>Streptomyces</i> from soil collected from various parts of Nepal and screening for potent bioactive compounds. <i>Streptomyces</i> – UGC collaborative Project. PI – Prof. Rajani Malla.	UGC Institutional Grant	NRs. 2,000,000.00	At the end of project (report submission to be done)

2. Projects completed

Year	Title	Funding body	Grants	Status
Dec 2016- Dec 2020.	Dengue – CDBT-LJI-KARIUS Project. PI – Prof. Krishna Das Manandhar, International Collaborator: Dr. Sujana Shrestha, USA Dengue fever and Dengue like illness in Nepal.	La Jolla Institute for Allergy & Immunology and KARIUS Inc. USA	25000 USD	Completed
2019-2020	Epstein Barr virus- Switzerland Pilot Project, PI- Prof. Krishna Das Manandhar and Prof. Cristian Munz. Screening of Epstein Barr virus and Kaposi Sarcoma antiserum in Nepalese healthy population and molecular diagnosis	Prof. Cristian Lab, Immunology Department, University of Zurich and Tropical Infectious Disease and Virology lab, CDBT -TU	Kinds only	Completed
2019-2020	Ayurved Drug – National collaboration. PI- Prof. Krishna Das Manandhar Cytotoxicity and Anti-cancer activities of “HeerakBhasma” (Diamond Particles) on different cell lines.	National Ayurveda Training and Research Center, Gov. of Nepal.	NRs. 200,000.00	completed

3. M.Sc. thesis research grant awardees (2020)

Human Herpes virus , Epstein Barr virus and Kaposi's Sarcoma Bandana Thakur UGC (2020)
Riboswitch mediated antimicrobial inhibition Bisheshta Nepal UGC (2020)
Enhanced phage host range by phage cocktails Indu Gyanwali UGC (2020)
Bacteriophage for treatment of Salmonella in broiler chicken Yujee Chapagain UGC (2020)
Characterization of Myxobacteria Surendra Kumar Subedi UGC (2020)

4. Leadership of the Department has provisioned the Central Department of Biotechnology as a Center of Excellence with its academic and research functionality. For which Department is developing strengthening its experimental capability adding highly advanced sophisticated research equipment since 2017. Department envisioned to give its premises a best working place for the scientists. On the way forward, the Department has received approval from Higher Education Reform Project (HERP) for Resource Management Program to enhance its academic excellence. So, with the budget of NRs. 45 million it planned to construct boundary wall in its new building premises. Department moved ahead to equip its laboratory with highly advanced equipment mentioned below as well as other regular instruments required for M.Sc. laboratory.

5. New Major Instruments Arrivals

Instruments	Brand	Cost Range (Approx)
Next Generation Sequencer	Illumina MiSeq	2,00,00,000.00
-80°C Freezer	ThermoFisher.	20,00,000.00
HPLC (RI and PDA Detector)	Agilent	70,00,000.00
Ultra Centrifuge (10 ⁵ XRMP)	Beckman Coulter	1,00,00,000.00
BSL2 Laminar Hood	ESCO	12,00,000.00
Microscope (High Resolution)	Olympus	6,00,000.00
Total		4,00,00,000.00+
Agilent - HPLC at Lab	Illumina MiSeq NGS at Lab	

6. The new building has only the central section ground floor in this first phase of construction. Construction is at the end of completion. The plumbing, electrical and painting works are almost completed with partial aluminum doors. In the new building, department is planning to shift the entire infrastructure required for M.Sc. Biotechnology course. The existing space will be used as research laboratory and the Ph.D course work.

7. Grand Achievements: Covid Diagnosis Lab run by Biotechnologist of Central Department of Biotechnology Lab work commenced after the First Wave of Covid19 pandemic

8. Commendable achievement: Kirtipur Municipality TU Biotechnology Corona Laboratory was established to support the Covid19 pandemic crises arose in Nepal. At the time of crises country neither had enough Real Time PCR machine nor skilled graduate to run the machine for diagnosis of Covid-19. Our Department came front and established a diagnosis with joint effort of local government, Kirtipur Municipality. The lab is completely run by biotechnologist of Central Department of Biotechnology, Institute of Science and Technology, Tribhuvan University. We had fore vision of second wave so we did not close the lab even after the end of first wave. The lab is being run as a Government Covid19 Laboratory.

9. At the climax of the second Covid19 wave, country is looking for the tests of new variant SARS CoV2 and our Department is the one which is capable of doing the test. It has initiated all necessary preparatory work for reagents purchase with the help of the National Institute of Health Science (NIH)- USA on going project under Prof. Krishna Das Manandhar, Head of the Department. It is expecting for the identification of variant by May/June. .

Recent Activities of Central Department of Botany

1. Selection/Appointment

- Prof. Dr. Ram Kailash P Yadav, Head of the Central Department of Botany, has been appointed as member of Biology Subject Committee of Kathmandu University, Dhulikhel, Kabhre.
- Prof. Sangeeta Rajbhandary has been appointed as Member for Nepal National Commission for UNESCO (NNCU), Science Committee, Ministry of Education, 2020-2022.
- Dr. Bharat Babu Shrestha has been appointed as a member of Expert Panel on Invasive Alien Plant for Forest Health Helpline established by Forest Research and Training Center (FRTC), Ministry of Forest and Environment, Government of Nepal on 30 January 2020.
- Dr. Bharat Babu Shrestha has been appointed as a member of the Editorial Board of the Journal of Natural History Museum being published by Natural History Museum, Tribhuvan University, Kathmandu.
- Kerala Forest Research Institute (KFRI), India appointed Dr. Sanjay Kumar Jha and Dr. Bharat Babu Shrestha as Resource Persons (National expert) of forest pathogen and invasive alien plant species, respectively, for a Technical Cooperation Programme (TCP/NEP/3702) of the Food and Agriculture Organization of the United Nations (FAO) entitled 'Building capacities to improve and sustain forest health to enhance the resilience of forests and livelihoods of forest-dependent communities in Nepal' for the period between Oct 2019 and Dec 2020.
- Prof. Bijaya Pant has been appointed as an Academician of Nepal Academy of Science and technology (NAST).
- Prof Bijaya Pant has been appointed as a member of the Editorial Board of the Nepal Journal of Science and Technology being published by Nepal Academy of Science and Technology (NAST).

2. Participation and paper presentation in Seminar/Conference

- Prof. Bijaya Pant presented a paper entitled 'Evaluation of anti-cancer properties of some medicinal orchids of Nepal, mass scale propagation of identified species for commercial cultivation' on workshop, *Medicinal Orchids and Their Values* on November 27, 2019, CDB, TU.
- Prof. Sangeeta Rajbhandary ("Bioeconomic development in Nepal: Opportunities and challenges"), Prof. Hari Datta Bhattarai, ("Chemical safety of herbal medicines"), Dr. Anjana Devkota, ("Assessment of air pollution impact on micro-morphological and biochemical properties of *Callistemon citrinus* (Curtis) Skeels and *Lagerstroemia indica* L."), Dr. Bharat Babu Shrestha ("Publishing occurrence data of endemic and alien plant species of Nepal in Global Biodiversity Information Facility (GBIF)"), Dr. Hari Prasad Aryal ("Optimization of cultural media for mycelia growth of *Termitomyces robustus* (Beeli) Heim"), Dr. Lal Bahadur Thapa ("How an invasive *Ageratina adenophora* affects native vegetations of Nepal?"), Dr. Achyut Tiwari ("Climate sensitivity Pine Forests (*Pinus roxburghii*, *Pinus wallichiana*) in the mid hills of central Himalaya"), Dr. Narayan Prasad Ghimire attended the *National Conference on Integrating Biological Resources for Prosperity* from February 6-7, 2020, at Biratnagar, Nepal which was organized by Botanical Society of Nepal (Kathmandu) Nepal Biological Society (Biratnagar) and Ministry of Industry, Tourism, Forest and Environment Province 1, Biratnagar, Nepal. All presented the papers respectively:
- Dr. Bharat Babu Shrestha presented a paper entitled 'COVID-19 and other Pandemics in a Framework of Biological Invasions' during a webinar organized by Global Institute for Interdisciplinary Studies (GIIS), Kathmandu on 18 May 2020.
- Dr. Bharat Babu Shrestha also presented a paper entitled 'Who is publishing biodiversity data of Nepal in Global Biodiversity Information Facility?' during a webinar organized by MSc Biodiversity and Environmental Management (BEM) students on

the occasion of International Day for Biological Diversity, 22 May 2020.

- Dr. Anjana Devkota presented a paper entitled 'Using plants bio-monitoring of air pollution' during a webinar organized by MSc Biodiversity and Environmental Management (BEM) students on the occasion of World Environment Day, June 5, 2020.
- Dr. Lal Bahadur Thapa participated as resource person in the field survey of FAO Technical Cooperation Programme in Nepal (TCP/NEP), Building capacities to improve and sustain forest health to enhance the resilience of forest and livelihood of forest-dependent communities in Nepal (September 28 to October 22, 2020). Ministry of Forest and Environment, Nepal and Kerala Forest Research Institute (KFRI), India.
- Prof. Bijaya Pant presented a paper entitled "*Ex situ* conservation: a potential means for environmental management" during a webinar organized by M.Sc Biodiversity and Environmental Management (BEM) students on the occasion of World Environment Day, June 5, 2020.
- Prof Bijaya Pant also presented a paper entitled "*In vitro* technology for medicinal plants, their products and beyond", organized by 1st NRN Asia Pacific Knowledge Convention: Applied Science and Biotechnology on September 27, 2020
- Prof. Bijaya Pant was a Panelist in: "Research, Innovation and Commercialization" 2nd NRN Global Knowledge Convention. Diaspora for Innovation and Prosperity in Nepal: Post COVID-19 Scenario, Oct 9-11, 2020. Online Event.
- Dr Sanjay Kumar Jha presented a paper entitled "Growth and yield performance of oyster mushroom (*Pleurotus ostreatus*) on water hyacinth as a substrate" in *International Conference* from February 8-10, 2020 organized by Bangladesh Association for Plant Tissue Culture, Biotechnology (BAPTC and B) and University of Dhaka, Bangladesh.
- Dr Sanjay Kumar Jha presented a paper entitled "Cultivation of button mushroom in biodegradation of water hyacinth compost with Lignocellulolytic fungi" in *International Conference* from February 25-27, 2020 organized by University Dept. of Botany, T.M. Bhagalpur University, Bhagalpur, India.
- Dr Sanjay Kumar Jha presented a paper entitled "Antifungal activities of some plant essential oils against Post-Harvest Pathogens of *Carica papaya*" on June 21-22, 2020 at Jitsi meet video conferencing app. In *International Web-Conference* organized by Agro Environmental Development Society Majhra Ghat, UP, India
- Dr. Mukti Ram.Paudel presented a paper entitled "*Dendrobium*: Tissue culture and promising source of biologically active secondary metabolites" in *International Webinar on Plant Science and Biosecurity* (ACPB-2020), from October 12-13, 2020, Santa Clara, California, USA .
- Dr Narayan Prasad Ghimire presented a paper entitled "Response of climate changes to high mountain plant diversity in Nepal" in *International Conference on Climate Change and Its effect on Biodiversity, Commerce and Economics* (ICCCBCE-2020) held in Sonai, Ahmednagar from February 28-29, 2020. The conference was organized by Department of Commerce and Life Sciences, Arts, Commerce and Science College, Sonai, Maharashtra, India.
- Dr Hari Prasad Aryal presented a paper entitled "Optimization of cultural media for mycelia growth of *Termitomyces microcarpus* (Berk. and Broome) R. Heim" in *International Conference on Climate Change, Precision Agriculture and Innovative Disease Control Strategies for Sustainable Agriculture*, organized by University Department of Botany, TM Bhagalpur University, Bhagalpur-812007, India, February 25-27, 2020.
- Dr Hari Prasad Aryal presented a paper entitled "Optimization of cultural media for mycelia growth of *Termitomyces mammiformis*

R. Heim” in *National Seminar on Recent Advances in Fungal Diversity, Plant-Microbes Interaction and Disease Management*, organized by Centre of Advanced Study in Botany, Institute of Science, Banaras Hindu University, Varanasi-221005, India, February 28-29, 2020.

- Dr Achyut Tiwari participated as Invited speaker in 3rd Conference of the *Arabian Journal of Geosciences* (CAJG 2020, Virtual) which was held in Sousse, Tunisia from November 2-5, 2020 and gave a presentation on the paper entitled “Shifting treeline in high mountains in Asia”.
- Dr. Achyut Tiwari participated in a fieldwork Asoj 12-17, 2077 for a project “Impact of invasive species on native species” in CHAL region of Nepal including Tanahun, Kaski, Chitwan and Makawanpur districts.
- 3. Research Grants Received by Faculty Members
 - The Department has received a research grant (No. 20-269 RG/BIO/AS_G – FR3240314162) from The World Academy of Science (TWAS), Italy to implement a project entitled ‘Germination Ecology and Invasion Success of Alien Plants’ in two years duration. The Grant will be utilized to establish a Germination Ecology lab, support dissertation research of four MSc students, and cover article processing charge of an open access journal article that will be produced from the research. Nisha Kharel, Hemanti Airi and Ashmita Shrestha of M.Sc. Botany III semester and Mr. Anuj Dangol of M.Sc. BEM III semester have been selected to receive financial support for their dissertation research under this TWAS grant. Dr. Bharat Babu Shrestha is a Principal Investigator and Dr. Anjana Devkota and Dr. Lal Bahadur Thapa are team members of this research project.
 - Principal Investigator Prof. Hari Dutta Bhattarai received a grant for the project entitled ‘Isolation and characterization of bioactive compounds from ethno medicinally used *Urticadioica* L. from Nepal.’ Funding was received from TU-PIO, TU, Kirtipur from March 2019-November 30, 2020.
 - Principal Investigator Prof. Hari Dutta Bhattarai received a grant for the project entitled Bioprospecting of medicinal plants’. Funding was received from Department of Plant Resources, Thapathali, Kathmandu, Nepal from July 2020-June, 2021.

- Principal Investigator: SK Jha received a grant for the project entitled Post-Harvest Pathogens in Commonly Grown Mushroom of Nepal and their Management Option (*Small Research, Development and Innovation Grant*). Funding was received from University Grants Commission Nepal (*Small Research, Development and Innovation Grant*), from November 2020-October 2021.
- A grant has been received for the project ‘Integrating Demographic Modelling and Ethnecological Research to Support Sustainable Management of Non-Timber Forest Products in Nepal’ Prof. Alistair Jump as Primary Applicant and Co-Applicant: SK Ghimire. Funding was received from Royal Society International Exchange Grant, The Royal Society, UK from March 18, 2020 – February 17, 2022.
- 4. Symposia organized: Dr CB Baniya organized a Symposium on Frontiers in Quantitative Ecology and Conservation in an International Conference on Mountains in the Changing World October 8-9, 2020.
- 5. Research Grant obtained by thesis student
 - Muna Baral, Thesis title: Impacts of the worst invasive *Chromolaena odorata* on natural regeneration, seedling development and mycorrhizae of native plants in Central Nepal, Grant: President Chure Terai-Madhes Conservation Development Board, Nepal (2020-2021). (Supervisor: Dr L.B. Thapa)
 - Dinesh Binadi, Thesis title: Impacts of invasive *Ageratina adenophora* on aboveground native plant and belowground fungal communities in Chure region, Kailali. Grant: Ministry of Industry, Tourism, Forest and Environment, Sudurpaschim Province, Nepal (2020-2021) (Supervisor: Dr. L.B. Thapa)
 - Aaditya Dhital, Thesis Title: Physiological response of invasive plant towards heavy metal stress. Grant: University Grants Commission (2020-2021). (Supervisor: Dr. A. Devota)
 - Rabindra Thapa, Thesis Title: Assessment of diseases on *Swertia chirayita* of Dolakha District, central Nepal Grant: Department of Plant Resource (Supervisor: Dr. S.K Jha)
 - Manisha Dhakal: Identification of fungal diseases on *Swertia chirayita* of Sankhuwasabha District, eastern Nepal Grant: Department of Plant Resource (Supervisor: Dr. S.K. Jha)

Recent Activities of Central Department of Chemistry

1. New Academic Program of Biochemistry: Master of Science and Doctor of Philosophy (Ph.D.) degree in biochemistry has been approved by the Academic Council of Tribhuvan University in 2019 and is going to take admission from the following academic session. The admission will be taken in thirty seats.
2. Renovation of Research Laboratories:
 - Renovation of biological screening laboratory (BSL 2): The biological screening laboratory has been renovated and running the UGC funded collaborative grant, Higher Education Research Project (HERP), International Foundation of Sciences (Sweden) and for Ph.D. and M.Sc. thesis research under Prof. Dr. Nirajan Parajuli.
 - Renovation of Material Science Laboratory (MSL 1): The material science laboratory has been renovated and running for UGC funded faculty grants and Ph.D. scholar thesis research under the Assistant Prof. Dr. Bhanu Bhakta Neupane.
 - Renovation of Antigen Antibody Research Laboratory (AARL-3): The laboratory has been renovated for the preparation of Antigen and Antibody and natural drugs candidates to control COVID-19 pandemic disease and running the UGC funded collaborative research grant of

2020 under the supervision of Prof. and Dr. Ram Chandra Basnyat Head of the Department and his collaborative research team.

3. Research Grants:

1 Faculty Research grants:.

S. N.	Name of Faculty	UGC/HERP	Amount (NPR)
01	Prof. Dr. Ram Chandra Basnyat, Head of the Department	Collaborative research grant	1 Crore
02	Prof. Dr. Paras Nath Yadav	Faculty research grant	400000
03	Prof. Dr. Armila-Rajbhandari	Faculty research grant	400000
04	Prof. Dr. Amar Prasad Yadav	Faculty research grant	400000
05	Prof. Dr. Nirajan Parajuli	Collaborative research grant HERP research grant	2000000 1000000
06	Assoc. Prof. Dr. Susan Joshi	Faculty research grant	400000
07	Assist. Prof. Dr. Mandira Adhikari	Faculty research grant	400000
08	Assist. Prof. Dr. Bhanu Bhakta Neupane	Faculty research grant	400000

PhD Student Research grants:

S. N.	Name of PhD student	UGC / IFS/ NAST grants	Amount (NPR/\$)
01	Mr. Komal P. Malla	PhD fellowship	800000
02	Mr. Narayan Bhattarai	PhD fellowship	800000
03	Ms. JanakiBaral Ms. Janaki Baral	PhD fellowship IFS research grant	800000 \$11000
04	Ms. AnjuKumari Das	PhD fellowship	800000
05	Mr. Prakash Gautam	PhD fellowship	800000
06	Mr. Sanjay Singh	PhD fellowship	800000
07	Ms. NilamShahi	PhD fellowship	800000
08	Ms. Binita Maharjan	PhD fellowship	800000
09	Mr. Ram Darash Pandey	PhD fellowship	800000
10	Ms. Nirmala Sharma	PhD fellowship	800000
11	Mr. Upendra Chaudhary	NAST research grants	

M.Sc. Student Research grants amount (Rs. 50,000):

S. N.	Name of Student	Grant	S. No.	Name of Student	Grant
1.	Sushma Thapa	UGC	12.	Ajaya Giri	UGC
2.	Shreesti Shrestha	UGC	13.	Manisha Aryal	UGC
3.	Thakur Sedai	UGC	14.	Bindu Gurung	UGC
4.	Bikash Adhikari	UGC	15.	Ramesh Giri	UGC
5.	Deepti Bhusal	UGC	16.	Bidhya Bhattarai	UGC
6.	Babita Aryal	UGC	17.	Prabhash Kumar Jha	UGC
7.	Amit Lama	UGC	18.	Baburam Chalise	NYC
8.	Rona Darshandhari	UGC	19.	Dirgha Raj Karki	NYC
9.	Sunil Bhandari	UGC	20.	Gunakhar Devkota	NYC
10	Kusum Basnet	UGC	21.	Indira Pandey	NYC
11	Mitra Bahadur Somai	UGC			

Note: University Grants commission (UGC); National Youth council

3. New Equipment Purchased financial support of the Higher Education Research Project (HERP) with one the amount of seed money expended from the Central Department of Chemistry, and research grants of University Grants Commission (UGC) Nepal.

S. N.	Equipment	S. N.	Equipment
01	Double bean UV-Spectrophotometer	18	Plate Incubator
02	Mini Centrifuge	19	Adapter for RB tubes
03	Biosafety cabinet	20	Rotary evaporator
04	Incubator	21	Four digit balance
05	Multimode Plate Reader	22	Hot Air Oven
06	Water bath	23	Magnetic Stirrer
07	Vortex mixture	24	Water Distillation
08	Refrigerated centrifuge	25	Sonicator
09	Mini centrifuge	26	Laptops
10	Micropipette	27	Printers
11	Deep freeze	28	HorizontalElectrophoresis
12	Refrigerator	29	Vertical Electrophoresis
13	Autoclave	30	PCR Machine
14	Shaking incubator with heating	31	Projectors
15	Shaking incubator with cooling	32	Gel Dock equipment
16	Angle rotor 6*50 ml, max-speed 12000 rpm	33	Projectors
17	High Performance Liquid Chromatography (Preparative HPLC)	34	Angle rotor 24*1.5/20 ml, max-speed: 15000 rpm, RCF 21379.

Recent Activities of Central Department of Computer Science and Information Technology

Guest Lecture: Two hours guest lecture by Dr. Ramhari Subedi (ECPI University, Virginia, USA) on “Cyber Security” on May 17, 2020.

Recent Activities of Central Department of Environmental Science

1. Conferences, Workshops & Seminars:
 - “Seminar on SARS-COV-2: Its Virology and Current Developments for Control” (08 May, 2020)
 - “Impact of COVID-19 lockdown on air quality (PM2.5) in Kathmandu”. webinar (23May, 2020)
 - Workshop on “Green Economy in Practice” organized within the project EGEA-Enhancing Green Economy in three countries of Asia. (2-5 June, 2020)
 - Sixth Graduate Conference on Environment & Sustainable Development, Himalayan Knowledge Conclave (5 – 6 August, 2020)
 - Workshop on Vehicular Emissions & Policy Implications for Nepal (10 September, 2020).
2. Trainings:
 - Seminar on Environmental Health in Disaster (24 September, 2020)
 - 5th International Conference “ Mountains in the Changing World” (8 – 9 October, 2020)
 - International symposium 2020: Reimagining mountain in the context of pandemic organized on Mountain Day 2020 (11 December 2020)
3. Review Paper Writing Training for PhD students (19 – 22 May 2020)
4. Learning Management System (MOODLE) (27 July – 1 August, 2020)

3. Memorandum of Understanding (MOU):

- MOU signed between Government of Nepal, Ministry of Forest & Environment, Department of Environment and Central Department of Environmental Science (CDES) on 25 February, 2020.
- MOU signed between Birgunj Metropolitan City and Central Department of Environmental Science (CDES), Tribhuvan University (TU) on 21 September 2020.
- MOU signed between Institute for Social and Environmental Transition Nepal (ISET-N) and Central Department of Environmental Science (CDES), Tribhuvan University (TU) on 15 October 2020.

3. Guest Lectures:

- Mr.Sagar Adhikari, ICIMOD (5 July, 2020).

- Mr.Prakash Aryal, Former Inspector General of Nepal Police (10 July, 2020)
- Mr.KyriakosEvdoras Georgiou, University of Nicosia, Cyprus (11 July, 2020)
- Dr.ParthSarathi Mahapatra, ICIMOD (12 July, 2020)
- Dr.Guna Niddhi Sharma, MOHP (15 July, 2020)
- Mr. Ganesh Prasad Bhatta, LMTC (16 July, 2020)
- Mr.Ratindra Khatri, World Food Program (17 July, 2020)
- Dr. Ganesh Raj Joshi, United Nations (18 July, 2020)
- Mr.Santosh Gyawali, USAID (31 July, 2020)
- Dr. Chandra Hada (4 September, 2020)
- Mr.Ashok Baniya, PhD Scholar, CDES (30 September, 2020)

Recent Activities of Central Department of Food Technology

- Webinar on “Research Proposal and Scientific Paper Writing” by Prof. Dr. Anil Shrestha, California State University, Fresno United States on June 9, 2020.
- Webinar on “Hazard Analysis and Critical Control Point” by Mr. Harihar Guragain, Quality Assurance Manager, Canada on June 17, 2020.
- Webinar on “Emerging Trends in Food Science Research” by Food Scientist/Food Safety Auditor Yakindra Prasad Timilsena, PhD, MAIFST on June 22, 2020.
- Virtual Workshop on “Mendeley and R Training” by Assoc. Prof. Chitra Bahadur Baniya, Central Department of Botany, Tribhuvan University on June 25-28, 2020.
- Webinar on “Foundation of Statistical Analysis” by Mr. Kishor Khanal, Asst. Prof. of Statistics, Kathmandu University School of Medical Sciences, Dhulikhel, Kavre, Nepal on July 18, 2020.
- Virtual Workshop on “Experiment Design in Scientific Research” by Prof. Dr. Anil Shrestha, California State University, Fresno United States on July 19-21, 2020.
- Webinar on “A Guide to M. Tech. (Food) Dissertation” by Prof. Dr. Dilip Subba, Academician, Nepal Academy of Science and Technology on August 6, 2020.
- Webinar on “Kinetics of Chemical Reactions in Foods” by Assoc. Prof. Dr. Prasanta Kumar Biswas, Jadavpur University, Kolkata, India on October 15, 2020.

Recent Activities of Central Department of Geology

1. International collaboration

- Senckenberg Forschungsinstitut und Naturmuseum Frankfurt, Senckenberganlage 25, 60325 Frankfurt am Main, Germany
- Faculty of Engineering, Graduate School of Engineering, Kagawa University, 2217-20 Hayashi-cho, Takamatsu, Kagawa 761-0396, Japan
- Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Beijing, China
- Birbal Sahni Institute of Palaeosciences, 53 University Road, Lucknow 226 007, India
- Interdisciplinary Centre for River Basin Environment (ICRE), University of Yamanashi, 4-4-37 Takeda, Kofu, Yamanashi 400-8511, Japan
- Association Paléovergne, Musée de Menat, Mairie de Menat,, 63560 Menat, France

- Department of Geology, Faculty of Science, Mansoura University, 35516 Mansoura, Egypt
- School of Environment, Earth and Ecosystem Sciences, The Open University, Milton Keynes MK7 6AA, UK
- CAS Key Laboratory of Tropical Forest Ecology, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Mengla 666303, PR China

1. Seminar
2. Covid-19 Pandemic: Experience Sharing from Australia & Nepal and Way Around. Talk program organized by Nepal Center for Disaster Management (NCDM), Central Department of Geology Tribhuvan University (CDGLTU), Nepal Academy of Science and Technology (NAST), Disaster Preparedness Network Nepal (DPNet) on 5th of May 2020 (at Zoom Platform).

Recent Activities of Central Department of Hydrology and Meteorology

1. Online webinar series:

- Response of Canadian Rockies Glacier Hydrology to Changing Climate, 4th May 2020, Dr. Dhiraj Pradhananga, Tribhuvan University and University of Saskatchewan, Canada

- Aerosol climatology over mainland China before and after lockdown 25th May 2020, Dr. Pradeep Khatri, Center for Atmospheric and Oceanic Studies, Tohoku University, Japan

- Taking Everest meteorology to new heights: initial insights from the world's highest weather data" (4th June 2020), Prof. Baker Perry (Appalachian State University, USA) Dr. Tom Mathews (Loughborough University, UK)
 - Cloud seeding to enhance precipitation and weather modification research current status, 19th June 2020, Dr. Binod Pokharel, Utah State University, USA
 - Innovative water pollutants treatment: Floating wetlands islands and their benefit, 9th July 2020, Dr. Soni M. Pradhanang, University of Rhode Island, USA
 - Mountain Snow Hydrology, 3rd September 2020, Prof. John Pomeroy, University of Saskatchewan, Canada
 - Groundwater Governance and Water Security under Changing Environment, 16th October 2020, Prof. Sangam Shrestha, Asian Institute of Technology, Thailand
 - The state and fate of glaciers in high mountain Asia, 25th November 2020, Prof. Walter W. Immerzeel, Utrecht University, Netherlands
 - Application of Global Navigation Satellite System (GNSS) radio occultation in weather and climate studies, 1st Jan 2021, Dr. Lok Nath Adhikari, University of Maryland, USA
 - Cryospheric Models useful in the High Mountain Asia (HMA), 26 Feb 2021, Prof. Rijan Bhakta Kayastha, KU
 - Radar observations of convection near complex terrain, 29th April 2021, Prof. Courtney Schumacher, Texas A&M University, USA
 - Challenges in predicting severe weather over the Himalayas. 17 June 2021, Prof. Someshwor Das, Central University of Rajasthan, India.
2. Invited talk by CDHM faculty: Sigdel M: Impacts of Climate Change on South Asian Monsoon, Regional Webinar hosted by COMSATS Centre for Climate and Sustainability (CCCS), Islamabad, Pakistan, 28th July 2020
 3. National Webinar (Invited talk): Sigdel M: Physical Aspects of Climate Change, webinar organized by Nepal Physical Society, Bagmati Province Chapter, Nepal, August 2020
 4. Publications of CDHM's own Journal JALAWAAYU was published in March 2021

5. Collaborative research programs

• International

SN	Partner institutes	Country	Research Collaboration	Commence date	Target date
2	Institute of Research for Development, IRD	France	Understanding high mountain cryospheric processes and glaciers hazards in the Everest Region	2017	Long-term
3	International Centre for Integrated Mountain Development (ICIMOD)	Nepal	Cryosphere Monitoring Program	2011	Long-term
6	National Geographic Society	USA	Life in the extreme Everest expedition	2019	Long-term

• National Collaboration

SN	Partner institutes	Country	Research Collaboration	Commence date	Target date
1	Department of Hydrology Meteorology (DHM)	Nepal	Upper Air Observation Station	2016	Long-term

Recent Activities of Central Department of Microbiology

1. Participation of Faculties in International Activities, 2020
 - Prof. Dr. Prakash Ghimire participated in a meeting Research collaboration between IVI and Nepal- Seoul-Korea, 11-15 Jan 2020.
 - Prof. Dr. Anjana Singh participated in an International conference "Bio-engineering and life sciences" organized by New Arts, Commerce and Science College, Ahmednagar, India on 11-12 February 2020.
 - Prof. Dr. Prakash Ghimire participated in a meeting "Global Research and Innovation Forum: Towards a roadmap for the 2019-novel coronavirus" organized by Emergency Working Group, World Health Organization, Geneva, Switzerland, on February 11-12, 2020.
2. Journal: Tribhuvan University Journal of Microbiology (TUJM)-Volume 7 (1) published on the occasion of Microbiology day on 29 Kartik, 2077 (14 November, 2020).
3. News/Activities
 - Faculties of Central Department of Microbiology, Tribhuvan University actively participated in Southeast Asian Regional Symposium in Microbial Ecology (SARSME 2020) in Pokhara on 10-14 February, 2020.
 - Central Department of Microbiology, Tribhuvan University organized "Training on Bioinformatics and Data Management" on 16-20 February, 2020 for PhD students of the department. Twenty-four participants got benefitted from the training. The participants of the training program were Ph.D. Microbiology students and teachers from constituent campuses of Tribhuvan University in Kathmandu valley. The training was organized with the financial support from University Grants Commission, Nepal.

Recent Activities of Central Department of Physics

Seminars:

- Prof. Dr. Deepak Pd Subedi, Atmospheric Pressure Plasma: Research Establishment & Future Plan at KU, 9 April 2020.
- Dr. Madhav Pd Ghimire, Dirac Fermions and Flat Bands in the Ideal Kagome Metal FeSn, 10 April 2020.
- Prof. Dr. Binil Aryal, Star Formation Rate in the Hickson Compact Group Galaxies, 11 April 2020.
- Dr. Tek Prasad Adhikari, Active Galactic Nuclei (AGN): Some Highlights, 15 April 2020.
- Dr. Kapil Adhikari, Mechanochemistry of Nanotubes using First Principle 16 April 2020.
- Prof. Dr. Binil Aryal, Research Documentation: Literature Review & Publication Process, 21 April 2020.
- Dr. Mim Lal Nakarmi, USA, Development of Semiconductor materials for Photonics Applications, 24 April 2020.
- Prof. Dr. Harihar Paudyal, Seismicity of Nepal and Adjoining Region, 27 April 2020.
- Dr. Meg Mahat, USA, An Overview of Learning Management System for online classes, 27 April 2020.
- Dr. Dibakar Sigdel, USA, Future of Scientific Computing, 28 April 2020.
- Dr. Bhanu B. Neupane, Current Understanding on the Filtering Performance of Facemasks and Respirations: Role of Filter Media, 4 May 2020.
- Dr. Krishna Bd Rai, Synthesis, Characterization and hydrophobicity on the chemical treatment of Graphene, 5 May 2020.
- Dr. Megh Raj Banjara, SARS-CoV-2: Its Virology & Content Developments, 6 May 2020.
- Dr. Achyut Adhikari, Nature & Medicine, 12 May 2020.
- Mr. Suman Sharma, Career: Development & Opportunity, 13 May 2020.
- Prof. Dr. Rameshwar Adhikari हालको महामारी द्वारा सिर्जित शिक्षा तथा अनुसन्धानका नवीन अवसरहरू 14 May 2020
- Dr. Rudra Aryal, USA, Aerosol Optical Properties and Identification of Aerosol Sources Based on the Air mass trajectory, 14 May 2020.
- Dr. Ghanshyam Bhatt, USA, Expansion in Herbert Spaces: My Perspective. 15 May 2020.
- Prof. Dr. Bhadra Pokhrel, Demonstration of Antiferroelectric Based (Pb_{1-x}Bax)ZrO₃ (0<x<0.15) Perovskite Ceramics for Energy Devices, 21 May 2020.
- Prof. Dr. Madan Koirala, Green Economy, 21 May 2020.
- Prof. Dr. Indra Bd Karki, Online Education at Nepal Open University, 22 May 2020.
- Dr. Dibakar Sigdel, USA, Quantum Computing, 22 May 2020.
- Dr. Rudra Kafle, USA, Teaching Innovation with Technology, 23 May 2020.
- Dr. Dinesh Pathak, Role of Hydrogeology in Sustainable Water Resources Management, 26 May 2020.
- Dr. Dip Narayan Mahato, USA, An Overview of Nanofabrication, 27 May 2020.
- Dr. Mukesh Dhamala, USA, Delayed Interaction in Brain Networks, 29 May 2020.
- Dr. Madhab Neupane, USA, Experimental Realization of Topological Insulator and Beyond, 30 May 2020.
- Prof. Dr. Basu Dev Kafle, The interface of content and pedagogy in Teaching / Instruction, 3 June 2020.
- Prof. Dr. Binil Aryal, Prof. Dr. Raju Khanal, and Dr. Madhav Pd Ghimire, TU's Initiatives towards Online Education, 5 June 2020.
- Dr. Medani Sangraula, Interactive Teaching Methodology for Quality Education in Nepal, 7 June 2020.
- Prof. Dr. Binil Aryal, Tomorrow's Higher Education and Our Universities, 9 June 2020.
- Prof. Dr. Binil Aryal, MSO 365 A1 License Handover Program, 11 June 2020.
- Dr. Maheshwar Rupakheti, Germany, Climate Impact of Atmospheric Aerosols in the Himalayan Region, 17 June 2020.
- Prof. Dr. Binil Aryal, Modality of Online Exam: Covid-19 Crisis Management, 21 June 2020.
- Dr. Rudra Gnawali, USA, Optical Waves and Beam Propagation in Anisotropic & Hyperbolic Metamaterials, 25 June 2020.
- Dr. Kamal Dhakal, USA, Restoring Vision to the Blind using Optogenesis, 27 June 2020.
- Dr. Jagat Shakya, USA, Silicon Photonics: An Overview, 28 June 2020.
- Dr. Nirmal J. Ghimire, USA, New Quantum Magnet: Design and Discovery, 5 July 2020.
- Dr. Pashupati Dhakal, USA, Superconducting Radio Frequency Cavities and their Applications in Modern Particle Accelerators, 11 July 2020.
- Prof. Dr. Narayan Pd Adhikari, Understanding Dynamical Properties: Moving with Simple to Complex Systems, 14 July 2020.
- Prof. Dr. Raju Khanal, Kinetic Simulation of Plasma-Wall Transition Regions in Magnetic Fusion Devices, 18 July 2020
- Prof. Dr. Binay K Jha, Present Scenario of Geopolymer Technology and its Future, 22 July 2020.
- Dr. Ajay Mishra, USA, Probing the role of Cosmic Dust in the Galactic Environment, 31 July 2020.
- Prof. Dr. Binil Aryal, Times Higher Education University Ranking & TU, 1 August 2020.
- Dr. Prajwal Kafle, Australia, Bayesian Statistics, Machine Learning & AI-Power-Tools Driving Modern-day Physics, 7 August 2020.
- Prof. Dr. Leela Pradhan Joshi, A Brief Overview on Materials, Methods and Devices, 11 August 2020.

Recent Activities of Central Department of Statistics

1. Special Talks:

- Professor Dr. Srijan Lal Shrestha, an online talk program on "Some important issues on sample size estimation" on 15 May, 2020 through Zoom video conferencing organized by Central Department of Statistics, TU.
- Professor Dr. Shankar Prasad Khanal, an online talk program on "Statistical aspects of measuring agreement with special reference to clinical data" on 29 May, 2020 through Zoom

video conferencing organized by Central Department of Statistics, TU.

2. Publication from CDS:

Nepalese Journal of Statistics, A peer reviewed annually published journal, Vol. 4, Indexed in NepJOL with Two Star status and Google Scholar, December 2020. URL: <https://www.nepjol.info/index.php/NJS>

Recent Activities of Central Department of Zoology

1. International Collaboration

- Dr. Prem Bahadur Budha has collaboration with Kerala Forest Research Institute (KFRI), India and Forest Research and Training Center, Ministry of Forest and Environment, Nepal to carry out forest insect pest survey under the project "Forest health and livelihood of forest dependent communities in Nepal".
- Dr. Rajendra Prasad Parajuli has collaboration with Health Canada, Healthy Environments and Consumer Safety Branch, HC ((2019 June-March 2020) for the project entitled "Evaluation of Biological sex difference in the adverse health impacts of air pollution on Canadian Population".

2. National Seminar Conference/Workshop

- Central Department of Zoology, TU and Alumni Association of the Central Department of Zoology (AACDZ) has organized "First National Conference on Zoology: Biodiversity in a Changing World" on November 28- 30, 2020 with the support of IUCN Nepal, National Trust for Nature Conservation, WWF Nepal and Zoological Society of London- Nepal office. A total of 151 researchers/scientists orally delivered their research reports including five keynote speeches by distinguished scientists and many invited speakers.

Keynote and Distinguished Invited Speakers

- * Keynote 1: Dr. Jeffrey A. McNeely (UNEP International Resource Panel Member; Former Chief Scientist of the IUCN). Title: Biodiversity, Prosperity, and Sustainable Development.
- * Keynote 2: Prof. Dr. Fuwen Wei (Institute of Zoology, Chinese Academy of Sciences), China. Title: Conservation genomics and metagenomics of the giant panda.
- * Keynote 3: Dr Eric Dinerstein (Director of WildTech and the Biodiversity and Wildlife Solutions program at RESOLVE, USA, Former Chief Scientist at the WWF). Title: Conservation practices/approaches.
- * Keynote 4: Prof. Dr. Richard Cock (University of London, UK). Title: The one health approach helping people, domestic animals, wildlife and environment in Nepal.
- * Keynote 5: Dr. Valerie Kapos (Head of Climate Change and Biodiversity at UNEP World Conservation Monitoring Centre). Title: Climate Change and Biodiversity: Beyond Direct Impacts.

Foreign Invited Speakers

- * Invited 1: Prof. Dr. Michael E. Douglas (Department of Biological Sciences, University of Arkansas, USA). Title:

The Himalayan uplift and the evolution of aquatic biodiversity across Asia: Snow trout (Cyprininae: Schizothorax) as a test case.

- * Invited 2: Dr. Himender Bharti (Punjabi University Patiala, India). Title: The Himalayan mountain system: Impact on biogeography and evolution.

- * Invited 3: Dr. LeeAnne E. Alonso (Global Wildlife Conservation, Austin, USA). Title: Of ants and fish: Enhancing biodiversity surveys for conservation and ESAs.

- * Invited 4: Dr. Peter Uetz (Reptile Database, Virginia Commonwealth University, USA). Title: Describing the reptiles of Nepal

- * Invited 5: Prof. Dr. David R. Edds (Department of Biological Sciences, Emporia State University, USA). Title: Fishes in Nepal's nature reserves.

- * Invited 6: Dr. Mahendra Shrestha (Smithsonian National Zoo and Conservation Biology Institute, USA). Title: Landscape conservation in Nepal: Opportunities and challenges.

- * Invited 7: Dr. Neil Carter (University of Michigan, USA). Title: Road development hampers tiger recovery: toward smart infrastructure planning.

- * Invited 8: Dr. Som B. Ale (University of Illinois Chicago, USA). Title: Can we use prey's vigilance behavior and habitat use to understand predator's whereabouts? Can these ecological concepts be applied to wildlife management?

- * Invited 9: Steve Lockett (Mahseer Trust, UK). Title: Wild-release, vital conservation tool or biodiversity threat?

- * Invited 10: Prof. Dr. David P. Gillette (University of North Carolina, USA). Title: Fish assemblages in the Kaligandaki-Narayani River: Warming temperatures and range reductions indicate potential for future extirpations.

- * Invited 11: Dr. Kailash Chandra (Zoological Survey of India, India). Title: Lepidoptera as potential indicator taxa for climate change in the Indian Himalayan region.

- Interaction on the theme of "Locust Issues: Potential Crisis and Preparedness in Nepal" on June 1, 2020. Dr. Samundra Lal Joshi, former Principle Scientist, NARC, Dr. Prem Bahadur Budha, Associate Professor, CDZ, TU. Dr. Sunil Aryal, NARC has shared their knowledge on the locust.

- Interaction program on theme of "Reconciling Human and Nature". Prof Dr Madan Koirala, CDES, TU and Dr Hem Sagar Baral, ZSL Nepal office delivered lectures on the occasion of Environment day on June 5, 2020.

- CDZ, TU in collaboration with Alumni Association of Central Department of Zoology; Agriculture and Forestry University, Nepal, and Kaligandaki Spiritual Foundation

(KSF), Syangja, Nepal has organized two webinar with the theme of “Snake-Human Interaction, Conservation and Snakebite Management”. The first session was organized on the occasion of World Snake Day (July 16, 2020) and Naagpanchami 2020 (July, 25, 2020). Different papers included spirituality, biology, ecology and conservation of snakes and snake bite management were presented.

3. National and International MoU: A Memorandum of Understanding on the Research Collaboration was signed between College of Forestry, Gansu Agricultural University, Lanzhou, China and Central Department of Zoology, Tribhuvan University, Kathmandu, Nepal, 2020/03/20.
4. Guest Lectures: CDZ organized many guest lecturers from national and foreign experts during 2020 on virtual platform.
 - Dr. Buddi Sagar Paudel, Chief, RED Implementation Center, Ministry of Forest and Environment. Title: "REDD+, Carbon trading and biodiversity conservation" on May 6, 2020.
 - Dr. Narendra Man Babu Pradhan, IUCN Nepal. Title: "Effect of linear infrastructure (Road) in Tiger population in Chitwan National Park on May 10, 2020.
 - Dr. Chiran Pokharel, Central Zoo/NTNC. Title: “Zoo Management during the Covid 19 Pandemic” on May 13, 2020.
 - Dr. Bipin Kumar Acharya, Sun Yat Sen University, China. Title: “Geospatial analysis concepts and tools for infectious diseases outbreak investigations on the context of global COVID-19 Pandemic” on 18th May 2020.
 - Dr. Maheshwar Dhakal, Chief, Climate Change Management Division, Ministry of Forests and Environment. Title: “Our Solutions are in Nature: COVID-19, Climate Change and Biodiversity of Nepal” May 22, 2020 on the occasion of International Day for Biological Diversity, 2020.
 - Dr. Mahavev Bista, Siddhant Science Campus, TU. Title: “The Role of Ladybird Beetles in Biological Control” on May 29, 2020.
 - Dr. Janak Khatriwada, Post Doctoral Researcher, Chinese Academy of Sciences. Title: “Integrated Taxonomy and Distribution patterns of amphibians in Nepal Himalayas” on June 03, 2020.
 - Dr. Babu Ram Lamichhane, BCC/NTNC. Title: “Living

with the Large Carnivores: Conflict to Coexistence” on June 12, 2020

- Prof. Dr. Shyam N. Labh, Amrit Science Campus, TU. Title: “Expression Analysis of some Immune related Genes in Rainbow Trout (*O. mykiss* Walbaum) fed Black Soldier Fly (*Hermetia illucens*) Larvae” on June 14, 2020.
 - Dr. Ramesh Devkota, Assistant Professor, Navajo Technical University, US. Title: “Schistosomes of Nepal” on June 17, 2020.
 - Dr. Chet Prasad Bhatta, Assistant Professor, Radford University Carilion, Canada. Title: “Consequences of Introduced Western Honey Bees (*Apis mellifera* L.) on the Native Bees and its Ecological System” on June 22, 2020.
 - Prof. Dr. Kalu Ram Rai, Mechi Multiple Campus, TU. Title: “Herpetofauna of Nepal and their Conservation Challenges” on June 24, 2020.
 - Dr. Binay Chakraborty, Fisheries Scientist & Guest Professor, Bangladesh Agricultural University, Bangladesh. Title: “Fisheries Sector of Bangladesh and Impact of COVID 19” on June 26, 2020.
 - Dr. Ratna Thapa, Director, Honey Bee Science Center, Nepal and Visiting Prof. Incheon National University, Rep. of Korea. Title: “Bee Venom: A Promising Anti-viral Agent” on the July 3, 2020.
 - Dr. Pradeep Adhikari, Research Specialist, National Institute of Ecology, Republic of Korea. Title: “Potential impact of climate change on species” on the July 9, 2020.
 - Dr. Bharat Raj Subba, Associate Professor, PG Campus Biratnagar. Title: “Molluscan Diversity and Prospects of Mollusca Culture in Nepal” on the July 14, 2020.
 - Prof. Dr. Arvind Kesari, Professor, Patan Multiple Campus, TU. Title: “Plant Nematodes - the Silent Enemies to Farmers” on July 20, 2020.
 - Dr. Subha Pandit, Lead Research Scientist at Yakama Nation Fisheries Program in Washington, USA. Title: “Dam and mitigation measures: lesson learned from Columbia River basin of the USA”. This program was organized on the occasion of the "World Rivers Day 2020" with theme Day of Action for River on September 27, 2020.
5. Journal Publication:
 - Nepalese Journal of Zoology: Volume 4 (Issue 1) May 2020
 - Nepalese Journal of Zoology: Volume 4 (Issue 2) December 2020

Recent Activities of Central Department of Central Campus of Technology

1. Participation in seminar, conference, workshop, training

S. N.	Participant	Program name	Organizer	Remarks
1	Dr. Dil Kumar Limbu, Basanta Kumar Rai, Arjun Ghimire, Dhan Bahadur Karki, Sanju Parajuli, Sabitri Shrestha, Amrit Maya Lawati	National Conference on Integrating Biological Resources for Prosperity (NCIBRP 2020)	Ministry of Industry, Tourism, Forest and Environment, Province 1; Botanical Society of Nepal; and Nepal Biological Society,	National
2	Dambar Bahadur Khadka (Resource person)	Functional Food and its Health Benefits	Down Town University, Assam	International Webinar
3	Kamana Sahani, Dhiren Subba Limbu	Southeast Asian Regional Symposium on Microbial Ecology	International Society for Microbial Ecology; Prithvi Narayan Campus	Symposium

2. Projects awarded

S.N.	Awardee	Awarder	Project title	Year	Remarks
1	Netra Prasad Subedi	UGC	<u>Synthesis and biological evaluation of Silver Nanoparticles from Endophytic Fungus Isolated from <i>Tinospora cordifolia</i> along with:</u> their Molecular Sequencing through ITS/5.8SrRNA	2020	Faculty
2	Suraj Giri	IRG	Hydrogeological Assessment with the Discharge Function for the 'Gadhaa Khola' Spring of Dharan-4, Sunsari, Nepal	2020	Faculty
3	Kabita Dhakal	Province 1	Detection and Characterization of Diarrhogenic E. coli Isolated from Rivers of Terai Belt of Province No. 1	2020	Student
4	Ayastha Chaudhary	Province 1	Prevalence and Characterization of Livestock-Associated Multidrug-Resistant <i>Staphylococcus aureus</i> (LA-MRSA) Isolated from Domestic Livestock of Dharan, Nepal	2020	Student
5	Radha Pandit	Province 1	Effects of bioactive compounds on the antibacterial activity of green tea mixed with nettle leaves	2020	Student
6	Namita Phuyal	Province 1	of <i>Salmonella</i> from natural surface water of Province No 1 Nepal	2020	Student
7	Dinesh Subedi	Province 1	Drying modeling and quality evaluation of dried buffalo meat (<i>sukuti</i>) under different drying conditions and pretreatments	2020	Student
8	Dikshya Shrestha	Province 1	Application of hurdle technology and controlled fermentation in preparing Nepali indigenous food ready-to-eat <i>sinki</i>	2020	Student
9	Tanka Bhattarai	Province 1	Optimization of vegetable proportion in emulsion type chicken sausage and its storage stability	2020	Student
10	Arjun Ghimire (Food)	CCT FRG	Modeling the kinetics of biomass and lactic acid production during fish pickle fermentation (Labeo rohita)	2020	Faculty
11	Arjun Ghimire (Micro)	CCT FRG	Antioxidant and Antibacterial Activity of Lichens collected from Province-1, Nepal	2020	Faculty
12	Sabin Bahadur Khatri	CCT FRG	Biofilms Production by drug resistant <i>Escherichia coli</i> isolated from street food samples sold in Dharan Submetropolitan city, Nepal	2020	Faculty
13	Dhiren Limbu	CCT FRG	Screening of biofilm producing and antibiotics resistance <i>Streptococcus mutans</i> from oral cavity of smokeless tobacco (<i>Gutkha</i>) chewers in Dharan	2020	Faculty
14	Kamana	CCT FRG	Intestinal parasites and Gastro-intestinal disorders in Autistic	2020	Faculty

Recent Activities of Natural History Museum

1. Participant at Seminar, Conference & Workshop

- Dr. Ganesh Bahadur Thapa, Presents paper Title: "EUS Infected Fishes and Isolated Bacteria from Them in Eastern Nepal" at National Conference on Integrating Biological Resources for Prosperity, Biratnagar, on February 6-7, 2020.
- Mr. Rajman Maharjan from the Museum of Natural Sciences was represented at the "Ninth Nepal Latocoser and Hoochill Festival" held in Syangja on February 7-8, 2020 organized by Friends of Nature, Kathmandu. Also, a poster of the research work of Alka Bhandari and Ishaan Gautam was presented on the occasion.
- Ganga Kafle & Ishan Gautam present paper title: "Seasonal variation of hornets in the Apiaries of Natural History Museum, Swayambhu, Kathmandu, Nepal" at First National Conference on Zoology-Biodiversity in Changing World

organized by Central Department of Zoology, Tribhuvan University, Kirtipur, Kathmandu on November 28-30, 2020.

- Suyatra Ghimire, Bishal Poudel, Ganesh Bahadur Thapa, Laxman Prasad Poudel & Ishan Gautam present paper title: "Anthropogenic impacts on fish diversity in Sudurpaschim Province, Nepal: a review", at First National Conference on Zoology-Biodiversity in Changing World organized by Central Department of Zoology, Tribhuvan University, Kirtipur, Kathmandu on November 28-30, 2020.
- Member of the "Hunting Management Committee" formed by the Government of Nepal, Department of National Parks and Wildlife Conservation, Babermahal, Kathmandu Dr. Ganesh Bahadur Thapa has presented a report.

2. Publication

- Journal of Natural History Museum, Vol. 30
- Brochure of Natural History Museum

Publications of the Faculties of IoST in the Year 2020

Biotechnology

- Bhandary, S., Shrestha, S. L., Khatiwada, R. P., Shah, D. N., Munankarmi, N. N., Banjara, M. R., Parajuli, R. T., Manandhar, K. D., Adhikari, R., & Tuladhar, R. (2020). Trend Analysis, Modelling and Impact Assessment of COVID-19 in Nepal. *Journal of Institute of Science and Technology*, 25(2), 1–8. <https://doi.org/10.3126/jist.v25i2.33715>
- Prajapati, S., Napit, R., Bastola, A., Rauniyar, R., Shrestha, S., Lamsal, M., Adhikari, A., Bhandari, P., Yadav, S. R., & Manandhar, K. D. (2020). Molecular phylogeny and distribution of dengue virus serotypes circulating in Nepal in 2017. *PLOS ONE*, 15(7), e0234929. <https://doi.org/10.1371/journal.pone.0234929>
- Mishra, S. K., Shrestha, L., Pandit, R., Khadka, S., Shrestha, B., Dhital, S., Sharma, S., Sharma, M., Mahato, R. K., Shakya, G., & Das Manandhar, K. (2020). Establishment of reference range of CD4 T-lymphocyte in healthy Nepalese adults. *BMC Research Notes*, 13(1). <https://doi.org/10.1186/s13104-020-05156-5>
- Jha, B. K., Pandit, R., Jha, R., & Manandhar, K. D. (2020). Overview of seasonal influenza and recommended vaccine during the 2016/2017 season in Nepal. *Heliyon*, 6(1), e03304. <https://doi.org/10.1016/j.heliyon.2020.e03304>
- Bastola, A., Shrestha, M., Lamsal, M., Shrestha, S., Prajapati, S., Adhikari, A., Gupta, B. P., Hide, M., Devkota, L., Chalise, B. S., Pandey, K., & Manandhar, K. D. (2020). A case of high altitude cutaneous leishmaniasis in a non-endemic region in Nepal. *Parasitology International*, 74, 101991. <https://doi.org/10.1016/j.parint.2019.101991>
- Dhungana, G., Malla, R., Rajaure, M., & Adhya, S. (2020). Complete Genome Sequence of Myophage Ec_Makalu_002, Which Infects Uropathogenic Escherichia coli. *Microbiology Resource Announcements*, 9(5). <https://doi.org/10.1128/mra.01530-19>

Botany

- Baniya, S., Thapa, L. B., & Pokhrel, C. P. (2020). Effect of Water-Deficit Stress on the Selected Landraces and Improved Varieties of Rice (*Oryza sativa* L.) in Nepal. *AGRIVITA Journal of Agricultural Science*, 42(2). <https://doi.org/10.17503/agrivita.v42i2.255>
- Bhatta, S., Joshi, L. R., & Shrestha, B. B. (2020). Distribution and impact of invasive alien plant species in Bardia National Park, western Nepal. *Environmental Conservation*, 47(3), 197–205. <https://doi.org/10.1017/s0376892920000223>
- Bhatta, S. P., & Devkota, A. (2020). Community structure and regeneration status of Sal (*Shorea robusta* Gaertn.) forests of Dadeldhura district, Western Nepal. *Community Ecology*, 21(2), 191–201. <https://doi.org/10.1007/s42974-020-00021-8>
- Bhatta, S. P., & Devkota, A. (2020). Carbon stock in the community managed Sal (*Shorea robusta*) forests of Dadeldhura district, western Nepal. *Southern Forests: A Journal of Forest Science*, 82(1), 47–55. <https://doi.org/10.2989/20702620.2019.1686690>
- Bhusal, A., & Devkota, A. (2020). Environmental variables and macrophytes of lakes of the Chitwan National Park, Central Nepal. *Limnological Review*, 20(3), 135–144. <https://doi.org/10.2478/limre-2020-0014>
- Bhusal, A. & Devkota, A. (2020). Physico-Chemical characteristics of lakes of Chitwan National Park, central Nepal. *Biological Forum – An International Journal*, 12(1): 33-39.
- Bista, U., Bista, D.B., Aryal, H.P., Amgain, L.P & Shrestha, A. (2020). Anti-fungal activities & responses of plant essential oils against post-harvest disease of mango (*Mangifera indica* L.) fruit. *International Journal of Innovative Studies in Sciences & Engineering Technology*, 6(7): 5-11. ISSN 2455-4863 (Online). www.ijisnet.org
- Bohara, M., Acharya, K., Perveen, S., Manevski, K., Hu, C., Yadav, R. K. P., Shrestha, K., & Li, X. (2020). In situ litter decomposition and nutrient release from forest trees along an elevation gradient in Central Himalaya. *CATENA*, 194, 104698. <https://doi.org/10.1016/j.catena.2020.104698>
- Borzée, A., McNeely, J., Magellan, K., Miller, J. R. B., Porter, L., Dutta, T., Kadinjappalli, K. P., Sharma, S., Shahabuddin, G., Aprilinayati, F., Ryan, G. E., Hughes, A., Abd Mutalib, A. H., Wahab, A. Z. A., Bista, D., Chavanich, S. A., Chong, J. L., Gale, G. A., Ghaffari, H., ... Zhang, L. (2020). COVID-19 Highlights the Need for More Effective Wildlife Trade Legislation. *Trends in Ecology & Evolution*, 35(12), 1052–1055. <https://doi.org/10.1016/j.tree.2020.10.001>
- Budha-Magar, S., Bhandari, P., & Kumar Ghimire, S. (2020). Ethno-medicinal survey of plants used by Magar (Kham) community, Rolpa district, Western Nepal. *Ethnobotany Research and Applications*, 19. <https://doi.org/10.32859/era.19.18.1-29>
- Chand, K., Shah, S., Sharma, J., Paudel, M. R., & Pant, B. (2020). Isolation, characterization, and plant growth-promoting activities of endophytic fungi from a wild orchid *Vanda cristata*. *Plant Signaling & Behavior*, 15(5), 1744294. <https://doi.org/10.1080/15592324.2020.1744294>
- Devkota, A. & Das, R. (2020). Activity test of crude extracts of invasive plants *Ageratina adenophora* and *Ipomoea carnea* ssp. *fistulosa* against human pathogenic bacteria. *Journal of Animal and Plant Sciences*. 9. 3699-3706.
- Jha, S.K. & Gotame, M. (2020). Growth & yield performance of Oyster Mushroom (*Pleurotus ostreatus*) on Water Hyacinth as a substrate, *Annals of Plant Sciences*, 9 (2):3713- 3724.
- Joshi, P. R., Paudel, M. R., Chand, M. B., Pradhan, S., Pant, K. K., Joshi, G. P., Bohara, M., Wagner, S. H., Pant, B., & Pant, B. (2020). Cytotoxic effect of selected wild orchids on two different human cancer cell lines. In *Heliyon* (Vol. 6, Issue 5, p. e03991). Elsevier BV. <https://doi.org/10.1016/j.heliyon.2020.e03991>
- Khadka, B. (2020). Traditional knowledge and use of wild mushrooms in Simbhanjyang, Makwanpur district, Central Nepal. *Studies in Fungi*, 5(1), 406–419. <https://doi.org/10.5943/sif/5/1/22>
- Khaniya, L., & Shrestha, B. B. (2020). Forest regrowth reduces richness and abundance of invasive alien plant species in community managed *Shorea robusta* forests of central Nepal. *Journal of Ecology and Environment*, 44(1). <https://doi.org/10.1186/s41610-020-00158-7>
- Luitel, D. R., Jha, P. K., Siwakoti, M., Shrestha, M. L., & Munniappan, R. (2020). Climatic Trends in Different Bioclimatic Zones in the Chitwan Annapurna Landscape, Nepal. *Climate*, 8(11), 136. <https://doi.org/10.3390/cli8110136>

- Luitel, D. R., Siwakoti, M., & Jha, P. K. (2020). Nutrients in finger millet and soil at different elevation gradients in Central Nepal. *CABI Agriculture and Bioscience*, 1(1). <https://doi.org/10.1186/s43170-020-00018-3>
- Luitel, D. R., Siwakoti, M., Joshi, M. D., Rangaswami, M., & Jha, P. K. (2020). Potential suitable habitat of *Eleusine coracana* (L) gaertn (Finger millet) under the climate change scenarios in Nepal. *BMC Ecology*, 20(1). <https://doi.org/10.1186/s12898-020-00287-6>
- Mainali, K., Shrestha, B. B., Sharma, R. K., Adhikari, A., Gurarie, E., Singer, M., & Parmesan, C. (2020). Contrasting responses to climate change at Himalayan treelines revealed by population demographics of two dominant species. *Ecology and Evolution*, 10(3), 1209–1222. <https://doi.org/10.1002/ece3.5968>
- Pant, B., & Swar, S. (2012). Micropropagation of *Cymbidium iridioides*. In *Nepal Journal of Science and Technology* (Vol. 12, pp. 91–96). Nepal Journals Online (JOL). <https://doi.org/10.3126/njst.v12i0.6485>
- Pandey, B., Khatriwada, J. R., Zhang, L., Pan, K., Dakhil, M. A., Xiong, Q., Yadav, R. K. P., Siwakoti, M., Tariq, A., Olatunji, O. A., Justine, M. F., Wu, X., Sun, X., Liao, Z., & Negesse, Z. T. (2020). Energy–water and seasonal variations in climate underlie the spatial distribution patterns of gymnosperm species richness in China. *Ecology and Evolution*, 10(17), 9474–9485. <https://doi.org/10.1002/ece3.6639>
- Pandey, S., Sundararajan, S., Ramalingam, S., Baniya, M. K., & Pant, B. (2020). Rapid clonal propagation and valepotriates accumulation in in vitro cultures of *Valeriana jatamansi* Jones, a high-value medicinal plant. *Journal of Applied Botany and Food Quality*, Vol. 93 (2020): *Journal of Applied Botany and Food Quality*. <https://doi.org/10.5073/JABFQ.2020.093.022>
- Pandey, S., Sundararajan, S., Ramalingam, S., & Pant, B. (2020). Effects of sodium nitroprusside and growth regulators on callus, multiple shoot induction and tissue browning in commercially important *Valeriana jatamansi* Jones. *Plant Cell, Tissue and Organ Culture (PCTOC)*, 142(3), 653–660. <https://doi.org/10.1007/s11240-020-01890-7>
- Paudel, A., Markwith, S. H., Konchar, K., Shrestha, M., & Ghimire, S. K. (2020). Anthropogenic fire, vegetation structure and ethnobotanical uses in an alpine shrubland of Nepal's Himalaya. *International Journal of Wildland Fire*, 29(3), 201. <https://doi.org/10.1071/wf19098>
- Paudel, M. R., Joshi, P. R., Chand, K., Sah, A. K., Acharya, S., Pant, B., & Pant, B. (2020). Antioxidant, anticancer and antimicrobial effects of In vitro developed protocorms of *Dendrobium longicornu*. *Biotechnology Reports*, 28, e00527. <https://doi.org/10.1016/j.btre.2020.e00527>
- Peron, G., Pant, D. R., Shrestha, S. S., Rajbhandary, S., & Dall'Acqua, S. (2020). An Integrated LC-ESI-MSn and High Resolution LC-ESI-QTOF Approach for the Identification of Phloroglucinols from Nepalese *Hypericum japonicum*. *Molecules*, 25(24), 5937. <https://doi.org/10.3390/molecules25245937>
- Phuyal, N., Jha, P. K., Raturi, P. P., & Rajbhandary, S. (2020). Comparison between essential oil compositions of *Zanthoxylum armatum* DC. fruits grown at different altitudes and populations in Nepal. *International Journal of Food Properties*, 23(1), 1971–1978. <https://doi.org/10.1080/10942912.2020.1833032>
- Phuyal, N., Jha, P. K., Raturi, P. P., & Rajbhandary, S. (2020). In Vitro Antibacterial Activities of Methanolic Extracts of Fruits, Seeds, and Bark of *Zanthoxylum armatum* DC. *Journal of Tropical Medicine*, 2020, 1–7. <https://doi.org/10.1155/2020/2803063>
- Phuyal, N., Jha, P. K., Raturi, P. P., & Rajbhandary, S. (2020). Total Phenolic, Flavonoid Contents, and Antioxidant Activities of Fruit, Seed, and Bark Extracts of *Zanthoxylum armatum* DC. *The Scientific World Journal*, 2020, 1–7. <https://doi.org/10.1155/2020/8780704>
- Sharma Poudel, A., Babu Shrestha, B., Kumar Jha, P., Bahadur Baniya, C., & Muniappan, R. (2020). Stem galling of *Ageratina adenophora* (Asterales: Asteraceae) by a biocontrol agent *Procecidochares utilis* (Diptera: Tephritidae) is elevation dependent in central Nepal. *Biocontrol Science and Technology*, 30(7), 611–627. <https://doi.org/10.1080/09583157.2020.1749991>
- Rana, S. K., Rana, H. K., Ranjitkar, S., Ghimire, S. K., Gurmachhan, C. M., O'Neill, A. R., & Sun, H. (2020). Climate-change threats to distribution, habitats, sustainability and conservation of highly traded medicinal and aromatic plants in Nepal. *Ecological Indicators*, 115, 106435. <https://doi.org/10.1016/j.ecolind.2020.106435>
- Rokaya, M. B., Khatri-Chettri, J., Ghimire, S. R., & Shrestha, B. B. (2020). Vegetation and soil seedbank dynamics in *Parthenium hysterophorus* L. invaded subtropical grassland in Nepal. *Tropical Ecology*, 61(2), 238–247. <https://doi.org/10.1007/s42965-020-00085-7>
- Sharma, K. P., Tiwari, A., & Shrestha, B. B. (2020). Changes in regeneration and leaf traits of *Rhododendron campanulatum* along a treeline ecotone in central Nepal. *Journal of Mountain Science*, 17(3), 602–613. <https://doi.org/10.1007/s11629-019-5386-y>
- Sharan Shrestha, S., Sut, S., Ferrarese, I., Barbon Di Marco, S., Zengin, G., De Franco, M., Pant, D. R., Mahomoodally, M. F., Ferri, N., Biancorosso, N., Maggi, F., Dall'Acqua, S., & Rajbhandary, S. (2020). Himalayan Nettle *Girardinia diversifolia* as a Candidate Ingredient for Pharmaceutical and Nutraceutical Applications—Phytochemical Analysis and In Vitro Bioassays. *Molecules*, 25(7), 1563. <https://doi.org/10.3390/molecules25071563>
- Subedi, C. K., Rokaya, M. B., Münzbergová, Z., Timsina, B., Gurung, J., Chettri, N., Baniya, C. B., Ghimire, S. K., & Chaudhary, R. P. (2020). Vascular plant diversity along an elevational gradient in the Central Himalayas, western Nepal. *Folia Geobotanica*, 55(2), 127–140. <https://doi.org/10.1007/s12224-020-09370-8>
- Thapa, L. B., Kaewchumngong, K., Sinkkonen, A., & Sridith, K. (2020). “Soaked in rainwater” effect of *Ageratina adenophora* on seedling growth and development of native tree species in Nepal. *Flora*, 263, 151554. <https://doi.org/10.1016/j.flora.2020.151554>
- Thapa, L. B., Kaewchumngong, K., Sinkkonen, A., & Sridith, K. (2020). Airborne and belowground phytotoxicity of invasive *Ageratina adenophora* on native species in Nepal. *Plant Ecology*, 221(10), 883–892. <https://doi.org/10.1007/s11258-020-01048-7>
- Timilsina, A., Bizimana, F., Pandey, B., Yadav, R. K. P., Dong, W., & Hu, C. (2020). Nitrous Oxide Emissions from Paddies: Understanding the Role of Rice Plants. *Plants*, 9(2), 180. <https://doi.org/10.3390/plants9020180>
- National
- Aryal, H.P. (2020). Mycelial growth of *Termitomyces albuminosus* (Berk.) R. Heim in vitro Culture. *Journal of Plant Resources*, 18(1):48-57. ISSN: 1995-8579.
- Bhusal, S., Pant, D. R., Joshi, G. P., Adhikari, M., Raut, J. K., Pandey, M. R., & Bhatt, L. R. (2020). Antioxidant Activity and Nutraceutical Potential of Selected Nepalese Wild Edible Fruits. *Scientific World*, 13(13), 8–13. <https://doi.org/10.3126/sw.v13i13.30482>
- Budha-Magar S., Bhandari, P. & Ghimire, S.K. (2020). A checklist of flowering plants of Jaljalâ mountain & adjoining areas, Rolpâ District, western Nepal. *Journal of Plant Resources*, 18: 82–101.

- Chapagain A., Chaudhary, R.P. & Ghimire, S.K. (2020). Population structure of *Juniperus indica* Bertol. along elevation gradient in Manang, Trans-Himalayas Nepal. *Journal of Plant Resources*, 18: 190–204
- Chaudhary, R., Shrestha, B. B., Thapa, H., & Siwakoti, M. (2020). Status and impacts of invasive alien plant species in Parsa National Park, central Nepal. *Banko Janakari*, 30(1), 21-31.
- Karki, S., & Ghimire, S. K. (2020). Diversity of Phorophytes Selected by Epiphytic Orchid *Vanda cristata* Wall. ex Lindl.(Orchidaceae) in Central Nepal. *Journal of Plant Resources*, 18, 157-162.
- Khakurel, D., Uprety, Y. & Rajbhandary, S. (2020). Floristic diversity of vascular plants in Sikles Region of Annapurna Conservation Area, Nepal. *Journal of Plant Resources*, 18 (1): 102-115.
- Luitel, D.R., Siwakoti, M. & Jha, P.K. (2020). *Eleusine coracana* (L) Gaertn (Finger millet): A crop with medicinal value. *Journal of Plant Resources*, 18(1): 267-275.
- Maharjan, S., Devkota, A., Shrestha, B. B., Baniya, C. B., Rangaswamy, M., & Jha, P. K. (2020). Prevalence of *Puccinia abrupta* var. *partheniicola* and its impact on *Parthenium hysterophorus* in Kathmandu Valley, Nepal. *Journal of Ecology and Environment*, 44(1). <https://doi.org/10.1186/s41610-020-00168-5>
- Maharjan, S., Thakuri, L. S., Thapa, B. B., Pradhan, S., Pant, K. K., Joshi, G. P., & Pant, B. (2020). In vitro propagation of the endangered orchid *Dendrobium chryseum* Rolfe from protocorms culture. *Nepal Journal of Science and Technology*, 19(1), 39–47. <https://doi.org/10.3126/njst.v19i1.29737>
- Nepali, B.R., Skartveit, J. & Baniya, C.B. (2020). Altitudinal pattern of pteridophytes in Arghakhanchi district, West Nepal. *Journal of Plant Resources*, 18 (1): 173-182.
- Pandey, N., & Ghimire, S. K. (2020). Floristic Diversity in a Community Managed Forest of Kanchanpur District, Western Nepal. *Journal of Plant Resource*, 18(1), 124-134.
- Sharma, L. N., Adhikari, B., Bist, M. R., & Shrestha, B. B. (2020). *Mimosa diplotricha* (Fabaceae): a new report of invasive weed from Eastern Tarai of Nepal. *Journal of Plant Resources*, 18, 1-5.
- Tiwari, A. (2020). Age-dependent growth responses to climate from trees in Himalayan treeline. *Nepalese Journal of Zoology*, 4(1), 16–22. <https://doi.org/10.3126/njz.v4i1.30669>

Chemistry

- Aryal, R. L., Bhurtel, K. P., Poudel, B. R., Pokhrel, M. R., Paudyal, H., & Ghimire, K. N. (2021). Sequestration of phosphate from water onto modified watermelon waste loaded with Zr (IV). *Separation Science and Technology*, 1-13.
- Poudel, B. R., Aryal, R. L., Bhattarai, S., Koirala, A. R., Gautam, S. K., Ghimire, K. N., ... & Pokhrel, M. R. (2020). Agro-Waste Derived Biomass Impregnated with TiO₂ as a Potential Adsorbent for Removal of As (III) from Water. *Catalysts*, 10(10), 1125.
- Poudel, B. R., Aryal, R. L., Khadka, L. B., Ghimire, K. N., Paudyal, H., & Pokhrel, M. R. (2020). Development of biomass-based anion exchanger for the removal of trace concentration of phosphate from Water. *Journal of Nepal Chemical Society*, 41(1), 56-63.
- Adhikari, R., Baidya, S., Das, G., Khatiwada, L. N., Khatiwada, S. P., Lama, T., Chhetri, G. K., Manandhar, S., Shrestha, S., Subedi, D. P., & Wagle, M. N. (2020). Innovating protective gears for frontline health professionals in the COVID-19 pandemic at a low resource setting. *Applied Science and Technology Annals*, 1(1), 48–50. <https://doi.org/10.3126/asta.v1i1.30272>
- Aryal, S., Neupane, L., Adhikari, R., Regmi, B., Koirala, N., & Joshi, D. R. (2020). Novel *Streptomyces* sp. reported in 2018: A meta-analysis. *Anti-Infective Agents*, 18. <https://doi.org/10.2174/2211352518666200423083354>
- Bhandari, N. L., Bist, K., Ghimire, J., Chaudhary, S., Pandey, D. P., & Adhikari, R. (2020). Feasibility Study of the *Euphorbia pulcherrima* Plant Extract as Natural Dye with Different Mordants for Fabric Dyeing. *Journal of Institute of Science and Technology*, 25(1), 30–36. <https://doi.org/10.3126/jist.v25i1.29421>
- Zhang, J. Y., Yan, Y. Y., Li, J. J., Adhikari, R., & Fu, L. W. (2020). PD-1/PD-L1 based combinational cancer therapy: Icing on the cake. *Frontiers in Pharmacology*, 11, 722.
- Giri, J., & Adhikari, R. (2020). Biodegradable Copolyester-Based Natural Fibers–Polymer Composites: Morphological, Mechanical, and Degradation Behavior. In *Materials Horizons: From Nature to Nanomaterials* (pp. 289–319). Springer Singapore. https://doi.org/10.1007/978-981-15-1251-3_13
- Giri, J., Lach, R., Le, H. H., Grellmann, W., Saiter, J.-M., Henning, S., Radusch, H.-J., & Adhikari, R. (2020). Structural, thermal and mechanical properties of composites of poly(butylene adipate-co-terephthalate) with wheat straw microcrystalline cellulose. *Polymer Bulletin*, 78(9), 4779–4795. <https://doi.org/10.1007/s00289-020-03339-5>
- Giri, J., & Adhikari, R. (2020). Urgency of Proper E-Waste Management Plan in Nepal: An Overview. *Nepal Journal of Science and Technology*, 19(1), 107–118. <https://doi.org/10.3126/njst.v19i1.29790>
- Guo, Q. R., Wang, H., Yan, Y. D., Liu, Y., Su, C. Y., Chen, H. B., Yan, Y., Adhikari, R. & Zhang, J. Y. (2020). The role of exosomal microRNA in cancer drug resistance. *Frontiers in oncology*, 10, 472.
- Lamsal, B., Bhandari, T. R., Panta, P., Saiter, J. M., Pokhrel, S., Katuwal, T. B., & Adhikari, R. (2020). Preparation and physicochemical characterization of ghee and *mūrcchita ghṛta*. *Journal of Ayurveda and Integrative Medicine*, 11(3), 256–260. <https://doi.org/10.1016/j.jaim.2020.06.004>
- Maharjan, B., Maharjan, A., Dhakal, S., Gadtaula, M., Shrestha, S. B., & Adhikari, R. (2020). Geospatial mapping of COVID-19 cases, risk and agriculture hotspots in decision-making of lockdown relaxation in Nepal. *Applied Science and Technology Annals*, 1(1), 1–8. <https://doi.org/10.3126/asta.v1i1.30263>
- Malla, K. P., Regmi, S., Nepal, A., Bhattarai, S., Yadav, R. J., Sakurai, S., & Adhikari, R. (2020). Extraction and Characterization of Novel Natural Hydroxyapatite Bioceramic by Thermal Decomposition of Waste Ostrich Bone. *International Journal of Biomaterials*, 2020, 1–10. <https://doi.org/10.1155/2020/1690178>

- Pandit, R., Lach, R., Grellmann, W., Michler, G. H., Henning, S., Saiter, J. M., Berkessel, A., & Adhikari, R. (2020). Chemical modification of SBS star block copolymer for templating nanostructures in epoxy resin blends. *Materials Today: Proceedings*, 29, 1156–1160. <https://doi.org/10.1016/j.matpr.2020.05.398>
- Pokhrel, S., Shrestha, M., Slouf, M., Sirc, J. & Adhikari, R. (2020). Eco-Friendly Urea-Formaldehyde Composites Based on Corn Husk Cellulose Fiber, *International Journal of Composite Materials* 10: 29-36
- Pandey, G., Dhakal, K. N., Singh, A. K., Dhungel, S. K., & Adhikari, R. (2021). Facile methods of preparing pure hydroxyapatite nanoparticles in ordinary laboratories. *BIBECHANA*, 18(1), 83–90. <https://doi.org/10.3126/bibechana.v18i1.29600>
- Peron, G., Hošek, J., Prasad Phuyal, G., Raj Kandel, D., Adhikari, R., & Dall'Acqua, S. (2020). Comprehensive Characterization of Secondary Metabolites from *Colebrookea oppositifolia* (Smith) Leaves from Nepal and Assessment of Cytotoxic Effect and Anti-Nf-κB and AP-1 Activities In Vitro. *International Journal of Molecular Sciences*, 21(14), 4897. <https://doi.org/10.3390/ijms21144897>
- Regmi, S., Malla, K. P., & Adhikari, R. (2020). Current scenario of COVID-19 pandemics in the top ten worst-affected countries based on total cases, recovery, and death cases. *Applied Science and Technology Annals*, 1(1), 92–97. <https://doi.org/10.3126/asta.v1i1.30278>
- Silwal, S. B., Adhikari, R., Lamichhane, P., & Bhandari, N. L. (2020). Natural dyes as photo-sensitizer in solar cells. *BIBECHANA*, 17, 28–33. <https://doi.org/10.3126/bibechana.v17i0.25599>
- Shrestha, K., Sah, A. K., Singh, N., Parajuli, P., & Adhikari, R. (2020). Molecular Characterization of *Streptococcus agalactiae* Isolates from Pregnant Women in Kathmandu City. *Journal of Tropical Medicine*, 2020, 1–9. <https://doi.org/10.1155/2020/4046703>
- Rajbhandari(Nyachhyon), A., & Acharya, S. (2020). Preparation, Electrochemical Characterization and Vapour Sensing Application of Nanoporous Activated Carbon derived from Lapsi. *Progress in Chemical and Biochemical Research*, 3(4). <https://doi.org/10.22034/pcbr.2020.113921>
- Khatri, B., & Rajbhandari (Nyachhyon), A. (2020). Preparation, Characterization and Photocatalytic Application of Novel Bismuth Vanadate/Hydroxyapatite Composite. *Advanced Journal of Chemistry-Section A*, 3(6). <https://doi.org/10.22034/ajca.2020.114779>
- KHAREL, R., & RAJ SHARMA, K. (2019). EVALUATION OF ANTIOXIDANT POTENTIAL AND QUANTITATIVE ESTIMATION OF PHENOLIC AND FLAVONOID CONTENT IN SOME SELECTED NEPALESE MEDICINAL PLANTS. *Asian Journal of Pharmaceutical and Clinical Research*, 124–128. <https://doi.org/10.22159/ajpcr.2020.v13i1.36182>
- Junita, R., Khaga, R. S., & Yuba, R. P. (2020). Antioxidant and alpha amylase inhibitory activity of Nepalese medicinal plants from Gorkha district. *Journal of Pharmacognosy and Phytotherapy*, 12(2), 28–35. <https://doi.org/10.5897/jpp2020.0571>
- SHARMA, K. R., & RANA, K. (2020). BIOLOGICAL ACTIVITIES OF SOME SELECTED NEPALESE MEDICINAL PLANTS AND ISOLATION OF CHEMICAL CONSTITUENTS FROM *CALLICARPA MACROPHYLLA*. *International Journal of Current Pharmaceutical Research*, 91–98. <https://doi.org/10.22159/ijcpr.2020v12i3.38314>
- AMIT, M., & RAJ SHARMA, K. (2020). IN VITRO BIOLOGICAL STUDY OF SEVEN NEPALESE MEDICINAL PLANTS AND ISOLATION OF CHEMICAL CONSTITUENTS FROM *CISSAMPELOS PAREIRA*. *Asian Journal of Pharmaceutical and Clinical Research*, 91–97. <https://doi.org/10.22159/ajpcr.2020.v13i9.38370>
- Poudel, B. R., Aryal, R. L., Bhattarai, S., Koirala, A. R., Gautam, S. K., Ghimire, K. N., Pant, B., Park, M., Paudyal, H., & Pokhrel, M. R. (2020). Agro-Waste Derived Biomass Impregnated with TiO₂ as a Potential Adsorbent for Removal of As(III) from Water. *Catalysts*, 10(10), 1125. <https://doi.org/10.3390/catal10101125>
- Paudyal, H., Ohto, K., Kawakita, H., & Inoue, K. (2020). Recovery of fluoride from water through adsorption using orange-waste gel, followed by desorption using saturated lime water. *Journal of Material Cycles and Waste Management*, 22(5), 1484–1491. <https://doi.org/10.1007/s10163-020-01042-1>
- Patrabansh, S., Parajuli, N., & Jha, V. K. (2020). Rapid Detection of Tetracycline Residues in Chicken. *International Journal of Applied Sciences and Biotechnology*, 8(1), 14–20. <https://doi.org/10.3126/ijasbt.v8i1.27201>
- Timilsina, H., Modi, B., & Basnyat, R. (2020). Phytochemical, Antimicrobial and Ethnobotanical Study of *Calotropis gigantea*. *Journal of Health and Allied Sciences*, 10(2), 23–27. <https://doi.org/10.37107/jhas.136>
- Karki, N., Neupane, S., Chaudhary, Y., Gupta, D. K., & Yadav, A. P. (2020). *Berberis Aristata*: A Highly Efficient and Thermally Stable Green Corrosion Inhibitor for Mild Steel in Acidic Medium. *Analytical and Bioanalytical Electrochemistry*, 12(7), 970-988.
- Wei, X., Dong, J., Chen, N., Yadav, A. P., Ren, Q., Wei, J., Wang, C., Ma, R., & Ke, W. (2021). Effects of bentonite content on the corrosion evolution of low carbon steel in simulated geological disposal environment. *Journal of Materials Science & Technology*, 66, 46–56. <https://doi.org/10.1016/j.jmst.2020.04.071>
- Etim, I.-I. N., Dong, J., Wei, J., Nan, C., Felix Daniel, E., Babu Subedi, D., Xu, D., Prasad Yadav, A., Su, M., & Ke, W. (2020). Mitigation of sulphate-reducing bacteria attack on the corrosion of 20SiMn steel rebar in sulphoaluminate concrete using organic silicon quaternary ammonium salt. *Construction and Building Materials*, 257, 119047. <https://doi.org/10.1016/j.conbuildmat.2020.119047>
- Pokharel, D. B., Wu, L., Dong, J., Yadav, A. P., Subedi, D. B., Dhakal, M., Zha, L., Mu, X., Umoh, A. J., & Ke, W. (2021). Effect of glycine addition on the in-vitro corrosion behavior of AZ31 magnesium alloy in Hank's solution. *Journal of Materials Science & Technology*, 81, 97–107. <https://doi.org/10.1016/j.jmst.2021.01.007>
- Neupane, S., Bhusal, S., Subedi, V., Nakarmi, K. B., Gupta, D. K., Yadav, R. J., & Yadav, A. P. (2021). Preparation of an Amperometric Glucose Biosensor on Polyaniline-Coated Graphite. *Journal of Sensors*, 2021, 1–7. <https://doi.org/10.1155/2021/8832748>
- Gupta, D. K., Kafle, K. A., Das, A. K., Neupane, S., Ghimire, A., Yadav, B. D., Chaudhari, Y., Karki, N., & Yadav, A. P. (2020). Study of *Jatropha Curcas* Extract as a Corrosion Inhibitor in Acidic Medium on Mild Steel by Weight Loss and Potentiodynamic Methods. *Journal of Nepal Chemical Society*, 41(1), 87–93. <https://doi.org/10.3126/jncs.v41i1.30493>
- Joshi, J., Dhungana, P., Prajapati, B., Maharjan, R., Poudyal, P., Yadav, M., Mainali, M., Yadav, A. P., Bhattarai, T., & Sreerama, L. (2019). Enhancement of Ethanol Production in Electrochemical Cell by *Saccharomyces cerevisiae* (CDBT2) and *Wickerhamomyces anomalus* (CDBT7). *Frontiers in Energy Research*, 7. <https://doi.org/10.3389/fenrg.2019.00070>

- Acharya, A., Sharma, M. L., Bishwakarma, K., Dahal, P., Chaudhari, S. K., Adhikari, B., Neupane, S., Pokhrel, B. N., & Pant, R. R. (2020). Chemical Characteristics of the Karmanasha River Water and Its Appropriateness for Irrigational Usage. *Journal of Nepal Chemical Society*, 41(1), 94–102. <https://doi.org/10.3126/jncs.v41i1.30494>
- Yadav, M. K., Pokhrel, S., & Yadav, P. N. (2020). Novel chitosan derivatives of 2-imidazolecarboxaldehyde and 2-thiophenecarboxaldehyde and their antibacterial activity. *Journal of Macromolecular Science, Part A*, 57(10), 703–710. <https://doi.org/10.1080/10601325.2020.1763809>
- Singh, N. K., Kumbhar, A. A., Pokharel, Y. R., & Yadav, P. N. (2020). Anticancer potency of copper(II) complexes of thiosemicarbazones. *Journal of Inorganic Biochemistry*, 210, 111134. <https://doi.org/10.1016/j.jinorgbio.2020.111134>
- Shakya, B., & Yadav, P. N. (2020). Thiosemicarbazones as Potent Anticancer Agents and their Modes of Action. *Mini-Reviews in Medicinal Chemistry*, 20(8), 638–661. <https://doi.org/10.2174/1389557519666191029130310>
- Adhikari, M. P., & Thapa, A. (2021). Mn (II) Adsorption on Activated Carbon Derived from Amaro (Spondias pinnata) Seed Stone. *Journal of Surface Science and Technology*, 36(3-4), 147-159.
- Adhikari, M. P., Rawal, N. B., & Adhikari, N. B. (2021). Real-Time Fine-Scale Measurement of Water Quality Parameters Along the Bagmati River in the Kathmandu Valley. *Nature Environment & Pollution Technology*, 20(3).
- Adhikari, M. P. (2020). Physicochemical Characterization of City Supply, Underground and River Water in Kathmandu, Nepal. *International Res. J. of Env. Sci*, 9(3), 35-43.
- Adhikari, N. B., Gautam, S., Devkota, A., Shikha, S., Pyakurel, A. & Adhikari, M. (2020). Near real-time mobile pro ling & modelling of fine-scale environmental proxies along major road line of Nepal, *Proceeding of International Conference on Mobile Computing & Sustainable Informatics*, 23-24 January 2020, Kathmandu, Springer.
- Poudel, B. R., Aryal, R. L., Bhattarai, S., Koirala, A. R., Gautam, S. K., Ghimire, K. N., Pant, B., Park, M., Paudyal, H., & Pokhrel, M. R. (2020). Agro-Waste Derived Biomass Impregnated with TiO₂ as a Potential Adsorbent for Removal of As(III) from Water. *Catalysts*, 10(10), 1125. <https://doi.org/10.3390/catal10101125>
- Chapagain, Y. P., Sapkota, S., Ghale, D. B., Bohara, N. B., Duwal, N., & Bhattarai, J. (2020). A case study on mineralogy and physico-mechanical properties of commercial bricks produced in Nepal. *SN Applied Sciences*, 2(11). <https://doi.org/10.1007/s42452-020-03535-y>
- Bohara, N., Ghale, D., Chapagain, Y., Duwal, N., & Bhattarai, J. (2020). Effect of firing temperature on physico-mechanical properties of contemporary clay brick productions in Lalitpur, Nepal. *Bangladesh Journal of Scientific and Industrial Research*, 55(1), 43–52. <https://doi.org/10.3329/bjsir.v55i1.46731>
- Poudel, A., Prasad Dahal, K., K. C., D., & Bhattarai, J. (2020). A Classification Approach for Corrosion Rating of Soil to Buried Water Pipelines: A Case Study in Budhanilkantha-Maharajganj Roadway Areas of Nepal. *World Journal of Applied Chemistry*, 5(3), 47. <https://doi.org/10.11648/j.wjac.20200503.12>
- Katuwal, P., Regmi, R., Joshi, S., & Bhattarai, J. (2020). Assessment on the Effective Green-Based Nepal Origin Plants Extract as Corrosion Inhibitor for Mild Steel in Bioethanol and its Blend. *European Journal of Advanced Chemistry Research*, 1(5). <https://doi.org/10.24018/ejchem.2020.1.5.16>
- Subedi, D. B., Pokharel, D. B., & Bhattarai, J. (2020). Assessment on the effects of sodium salts of tungstate and nitrite as green inhibitor for the corrosion of Cr–5Ni–53W alloy in 0.5 M NaCl solution. *International Journal of Metallurgy and Alloys*, 6(1), 25-26.
- Bhattarai, J. (2020). Review on In-depth Analysis of the Passive Films of W-xTi Alloys by Angle Resolved X-Ray Photoelectron Spectroscopy. *Science Journal of Chemistry*, 8(2), 28. <https://doi.org/10.11648/j.sjc.20200802.12>
- Dahal, K.P., Timilsena, J.N., Gautam, M., & Bhattarai, J. (2020). Assessment on the soil corrosivity to buried-metallic pipes in Kirtipur municipality (Nepal), In Satpati, A.K., Ghosh, S.K., Guin, S.K., & Dey, M.K. (Eds) *Proceedings of International Conference on Electrochemistry in Industry, Health & Environment (EIHE 2020)* (pp. 191). January 21-25, 2020, DAE Convention Centre, Anushaktinagar, BARC, Mumbai, India: Indian Society for Electroanalytical Chemistry. [http://iseac.org.in/pdf/Proceedings%20of%20EIHE%202020%20\(1\).pdf](http://iseac.org.in/pdf/Proceedings%20of%20EIHE%202020%20(1).pdf)
- Bhattarai, J. (2021). An overview on the non-destructive in-depth surface analysis of corrosion-resistant films: A case study of W-xCr deposits in 12 M HCl solution. *BIBECHANA*, 18(1), 201–213. <https://doi.org/10.3126/bibechana.v18i1.29222>
- Magrati, P., Subedi, D. B., Pokharel, D. B., & Bhattarai, J. (2020). Appraisal of Different Inorganic Inhibitors Action on the Corrosion Control Mechanism of Mild Steel in HNO₃ Solution. *Journal of Nepal Chemical Society*, 41(1), 64–73. <https://doi.org/10.3126/jncs.v41i1.30489>
- SJR Ranked Journals mentioned
- Adhikari, B., Marasini, B. P., Rayamajhee, B., Bhattarai, B. R., Lamichhane, G., Khadayat, K., Adhikari, A., Khanal, S., & Parajuli, N. (2020). Potential roles of medicinal plants for the treatment of viral diseases focusing on COVID -19: A review. *Phytotherapy Research*, 35(3), 1298–1312. <https://doi.org/10.1002/ptr.6893>
- Dawadi, S., Gupta, A., Khatri, M., Budhathoki, B., Lamichhane, G., & Parajuli, N. (2020). Manganese dioxide nanoparticles: synthesis, application and challenges. *Bulletin of Materials Science*, 43(1). <https://doi.org/10.1007/s12034-020-02247-8>
- Khadayat, K., Sherpa, D. D., Malla, K. P., Shrestha, S., Rana, N., Marasini, B. P., Khanal, S., Rayamajhee, B., Bhattarai, B. R., & Parajuli, N. (2020). Molecular Identification and Antimicrobial Potential of Streptomyces Species from Nepalese Soil. *International Journal of Microbiology*, 2020, 1–8. <https://doi.org/10.1155/2020/8817467>
- Khadayat, K., Marasini, B. P., Gautam, H., Ghaju, S., & Parajuli, N. (2020). Evaluation of the alpha-amylase inhibitory activity of Nepalese medicinal plants used in the treatment of diabetes mellitus. *Clinical Phytoscience*, 6(1). <https://doi.org/10.1186/s40816-020-00179-8>
- Joshi, B., Panda, S. K., Jouneghani, R. S., Liu, M., Parajuli, N., Leyssen, P., Neyts, J., & Luyten, W. (2020). Antibacterial, Antifungal, Antiviral, and Anthelmintic Activities of Medicinal Plants of Nepal Selected Based on Ethnobotanical Evidence. *Evidence-Based Complementary and Alternative Medicine*, 2020, 1–14. <https://doi.org/10.1155/2020/1043471>
- Dangi, S., Gupta, A., Gupta, D. K., Singh, S., & Parajuli, N. (2020). Green synthesis of silver nanoparticles using aqueous root extract of Berberis asiatica and evaluation of their antibacterial activity. *Chemical Data Collections*, 28, 100411. <https://doi.org/10.1016/j.cdc.2020.100411>

- Paudel, N., & Yogi, T.K. (2020). Comparative Study of Machine Learning Algorithms for Rainfall Prediction – A Case Study in Nepal, *International Journal of Advanced Research in Engineering and Technology*, 11(10), pp. 1582-1591
- Saud, A. S., & Shakya, S. (2020). Analysis of look back period for stock price prediction with RNN variants: A case study on banking sector of NEPSE. *Procedia Computer Science*, 167, 788–798. <https://doi.org/10.1016/j.procs.2020.03.419>
- Shahi, T. B., Shrestha, A., Neupane, A., & Guo, W. (2020). Stock Price Forecasting with Deep Learning: A Comparative Study. *Mathematics*, 8 (9), 1441. <https://doi.org/10.3390/math8091441>
- Bhatt, C., Shakya, S., & Shahi, T. B. (2020), Machine Learning Methods for the Prediction of Paddy Productivity in Nepal, *NU. International Journal of Science*, 17(2), 59-68.

Environmental Science

- Acharya, A., Sharma, M. L., Bishwakarma, K., Dahal, P., Chaudhari, S. K., Adhikari, B., Neupane, S., Pokhrel, B. N., & Pant, R. R. (2020). Chemical Characteristics of the Karmanasha River Water & Its Appropriateness for Irrigational Usage. *Journal of Nepal Chemical Society*, 41(1), 94-102. <https://doi.org/10.3126/jncs.v41i1.30494>
- Adhikari, B., Pant, R. R., Baral, U., Shrestha, S., Neupane, S., Khanal, B., Acharya, A., & Bhattarai, H. (2020). Geochemical & multivariate assessment of water quality in the Rajarani Lake, Dhankuta, Nepal. *Journal of Nepal Geological Society*, 60, 37-49. <https://doi.org/10.3126/jngs.v60i0.31264>
- Baniya, B., Tang, Q., Koirala, M., Rijal, K., & Kattel, G. (2020). Growing season vegetation dynamics based on NDVI & the driving forces in Nepal during 1982-2015. *Forestry: Journal of Institute of Forestry, Nepal*, 17, 1-22. <https://doi.org/10.3126/forestry.v17i0.33619>
- Bhandary, S., Shrestha, S. L., Khatiwada, R. P., Shah, D. N., Munankarmi, N. N., Banjara, M. R., Thapa-Parajuli, R., Manandhar, K. D., Adhikari, R., & Tuladhar, R. (2020). Trend analysis, modelling & impact assessment of COVID-19 in Nepal. *Journal of Institute of Science & Technology*, 25(2), 1-8. <https://doi.org/10.3126/jist.v25i2.33715>
- Bhattarai, H., Tripathi, L., Kang, S., Sharma, C.M., Chen, P., Guo, J., & Sharma Ghimire, P. (in press). Concentrations, sources & wet deposition of dissolved nitrogen & organic carbon in the northern Indo-Gangetic Plain during monsoon. *Journal of Environmental Sciences*, 102, 37-52. (DOI: 10.1016/j.jes.2020.09.011)
- Bhujel, K. B., Byanju, R. M., Gautam, A. P., Sapkota, R. P., & Khadka, U. R. (2020). Fire-induced carbon emission from the Tropical Mixed Broad-leaved Forest of Terai-Siwalik region, Central Nepal. *Journal of Forestry Research*. <https://doi.org/10.1007/s11676-020-01256-x>
- Dahal, B., KC, A., & Sapkota, R. P. (2020). Environmental impacts of community-based home stay ecotourism in Nepal. *The Gaze: Journal of Tourism & Hospitality*, 11(1), 60-80.
- Das, B., Bhawe, P. V., Puppala, S. P., Shakya, K., Maharjan, B., & Byanju, R. M. (2020). A model-ready emission inventory for crop residue open burning in the context of Nepal. *Environmental Pollution*, 266, 115069. (DOI: 10.1016/j.envpol.2020.115069)
- Ghimire, N.P., Adhikari, N., Pant, R.R., & Thakuri, S. (2020). Chemical characterizations of water quality in West-Seti & Tamor River basins, Nepal. *Scientific World Accepted*.
- Huang, J., Kang, S., Yin, R., Lin, M., Guo, J., Ram, K., Li, C., Sharma, C., Tripathi, L., Sun, S., & Wang, F. (2020). Decoupling natural & anthropogenic mercury & lead transport from South Asia to the Himalayas. *Environmental Science & Technology*, 54(9), 5429-5436. (DOI: 10.1021/acs.est.0c00429)
- Khadgi, J., Thapa, R., Joshi, T. P., & Byanju, R. M. (2020). Effectiveness of vehicle-free zone in reducing air pollution. *International Journal of Environmental Science & Technology*, 1-12. (DOI: 10.1007/s13762-020-02977-6)
- Khadka, N., Chen, X., Yong, N., Thakuri, S., Zheng, G., & Zhang, G. (2020). Evaluation of Glacial Lake Outburst Flood susceptibility using multi-criteria assessment framework in Mahalangur Himalaya. *Frontiers in Earth Science*, 8, 748. (DOI: 10.3389/feart.2020.601288)
- Khadka, N., Ghimire, S.K., Chen, X., Thakuri, S., Hamal, K., Shrestha, D., & Sharma S. (2020). Dynamics of maximum snow cover area & snow line altitude across Nepal (2003-2018) using improved MODIS data. *Journal of Institute of Science & Technology*, 25(2), 2467-9240. <https://doi.org/10.3126/jist.v25i2.33729>
- Mool, E., Bhawe, P.V., Khanal, N., Byanju, R. M., Adhikari, S., Das, B. & Puppala, S.P. (2020). Traffic condition & emission factor from diesel vehicles within the Kathmandu Valley. *Aerosol & Air Quality Research*, 20 (3), 395-409. <https://doi.org/10.4209/aaqr.2019.03.0159>
- Pandey, I. P., Shah, D. N., & Tachamo-Shah, R. D. (2020). Impact of invasive alien plant species on aquatic biodiversity of KoshiTappu Wetlands: Ramsar Site, Nepal. *BankoJankari* 30(2), 48-58. <https://doi.org/10.3126/banko.v30i2.33478>
- Pant, R. R., Bishwakarma, K., Pal, K. B., Thapa, L., Basnet, B. B., Dhami, N., Chaudhari, S. K., Galaju, R., Khanal, N. B., & Durdiev, K. (2020). Hydrochemical characteristics & macrophytes in the Betana Lake, Eastern Nepal. *Journal of Sustainable Agriculture*, 3(7), 44-51.
- Pant, R. R., Chalaune, T. B., Dangol, A., Dhital, Y. P., Sharma, M. L., Pal, K. B., Shah, S. T. H., Shrestha, A. K., & Thapa, L. B. (2020). Hydrochemical assessment of the Beeshazar & associated lakes in Central Nepal. *SN Applied Sciences*, 3 (38). (DOI: 10.1007/s42452-020-03983-6).
- Pant, R. R., Zhang, F., Rehman, F. U., & Maskey, R. (2020). Contrasting characteristics of water quality in Kali & Seti Rivers, Central Himalaya, Gandaki Province-Nepal. *International Lake Conference* (pp. 121-129). Retrieved from <https://www.researchgate.net/publication/338294197>
- Pathak, L., Pant, R. R., Khadka, U. R., Nepal, J., Poudel, S., Pathak, G., Khanal, S., Pant, S. R., Mishra, N., & Thapa, L. B. (2020). Spatial analysis of water stress & application of water poverty index in the Mahakali River Basin, Sudurpaschim Province, Nepal. *Nepalese Journal of Zoology*, 4(2), 85-94. <https://doi.org/10.3126/njz.v4i2.33887>
- Pradhan, P., & Shah, D. N. (2020). Ecological assessment of Mai Pokhari: A Ramsar site of Eastern Nepal. *Journal of Environmental Sciences*, 6, 67-74.

- Rawat, B., Zhang, Q., Sharma, C.M., Tripathi, L., Pandey, A., Kandel, K., Sun, X., Li, M., Li, S., & Kang, S. (*in press*). Glacial record of trace metal pollution over the central Himalayas & its surroundings: distribution, variation & anthropogenic signals. *Atmospheric Research*. (DOI: 10.1016/j.atmosres.2020.105428)
- Regmi, H. R., Rijal, K., Joshi, G. R., Sapkota, R. P., Thapa, S., & Thapa, G. (2020). Climate change perception among peasants: Role of road infrastructure & cooperatives. *Asian Journal of Science & Technology*, 11(08), 11070-11079.
- Sapkota, R., & Rijal, K. (2020). Options for teaching-learning & research in higher education: coping strategies for Environmental Science studies during COVID-19 pandemic. *Applied Science & Technology Annals*, 1(1), 142-148. <https://doi.org/10.3126/asta.v1i1.30292>
- Shah, D. N., Tachamo-Shah, R. D., Rijal, D., & Sharma, S. (2020). Impacts of COVID-19 & nationwide lockdown on river ecosystems in Nepal. *American Journal of Biomedical Science & Research*, 10(1), 56-58. <https://doi.org/10.34297/AJBSR.2020.10.001474>
- Shah, D.N., Poudyal, A., Sharma, G., Levine, S., Subedi, N., & Dhakal, M. (2020). Status, distribution, threats, & conservation of the Ganges River Dolphin *Platanistagangetica* (Mammalia: Artiodactyla: Cetacea) in Nepal. *Journal of Threatened Taxa*, 12(1), 15106–15113. <https://doi.org/10.11609/jott.4397.12.1.15106-15113>
- Sharma, C.M., Kang, S., Tripathi, L., Paudyal, R., & Sillanpää, M. (2020). Major ions & irrigation water quality assessment of the Nepalese Himalayan rivers. *Environment, Development & Sustainability*, 1-13. (DOI: 10.1007/s10668-020-00694-1).
- Shrestha, B., Shrestha, S., Shrestha, A., & Khadka, U. R. (2020). Ramsar sites in Nepal: Conservation, present scenario, biodiversity value & threats. *Journal of Wetland Ecology*, 2020. <https://doi.org/10.3126/jowe.v2020i0.24782>
- Sun, X., Zhang, Q., Li, M., Kandel, K., Rawat, B., Pandey, A., Guo, J., Kang, S., Pant, R. R., Cong, Z., & Zhang, F. (2020). Mercury variation & export in trans-Himalayan rivers: Insights from field observations in the Koshi River. *Science of The Total Environment*, 738, 139836. (DOI: 10.1016/j.scitotenv.2020.139836).
- Tachamo-Shah, R. D., Sharma, S., Shah, D. N., & Rijal, D. (2020). Structure of benthic macroinvertebrate communities in the rivers of Western Himalaya, Nepal. *Geosciences*, 10(4), 150. <https://doi.org/10.3390/geosciences10040150>
- Thakuri, S., Baskota, P., Khatri, S. B., Dhakal, A., Chaudhary, P., Rijal, K., & Byanju, R. M. (2020). Methane emission factors & carbon fluxes from enteric fermentation in cattle of Nepal Himalaya. *Science of The Total Environment*, 746, 141184. (DOI: 10.1016/j.scitotenv.2020.141184).
- Thakuri, S., Chauhan, R., & Baskota, P. (2020). Glacial hazards & avalanches in high mountains of Nepal Himalaya. *Journal of Tourism & Himalayan Adventures*, 2, 87-104.
- Thapa, B., Pant, R. R., Thakuri, S., & Pond, G. (2020). Assessment of spring water quality in Jhimruk River Watershed, Lesser Himalaya, Nepal. *Environmental Earth Sciences*, 79(22), 1-14. (DOI: 10.1007/s12665-020-09252-4)
- Tripathi, L., Guo, J., Kang, S., Paudyal, R., Sharma, C., Huang, J., Chen, P., Sharma Ghimire, P., Sigdel, M., & Sillanpää, M. (2020). Measurement of mercury, other trace elements & major ions in wet deposition at Jomsom: the semi-arid mountain valley of the Central Himalaya. *Atmospheric Research*, 234, 104691. (DOI: 10.1016/j.atmosres.2019.104691)
- Tripathi, L., Kang, S., Chen, P., Bhattarai, H., Guo, J., Shrestha, K.L., Sharma, C.M., Sharma Ghimire, P., & Huang, J. (2020). Water-soluble organic & inorganic nitrogen in ambient aerosols over the Himalayan middle hills: Seasonality, sources, & transport pathways. *Atmospheric Research*, 250, 105376. (DOI: 10.1016/j.atmosres.2020.105376).
- Bhatta, R., Tuladhar, S., Regmi, D., Gurung, S., Joshi, R., Dahal, B.M., Raut, N., Kafle, K.R., Kayastha, R., Prasad, A., Tripathi, L., & Sharma, C.M. (2020). Seasonal variation of major ions in Ghodaghodi Lake, a Ramsar site in western Nepal. *Sixth Graduate Conference on Environment & Sustainable Development, Forestry & Agriculture University* (5-6 August 2020), Chitwan, Nepal.
- Regmi, D., Bhatta, R., Gurung, S., Tuladhar, S., Dahal, B.M., Raut, N., Kafle, K.R., Kayastha, R., Prasad, A., Tripathi, L., Joshi, R., & Sharma, C.M. (2020). Heavy metal pollution: a case of Ghodaghodi Lake, western Nepal. *Sixth Graduate Conference on Environment & Sustainable Development, Forestry & Agriculture University* (5-6 August 2020), Chitwan, Nepal.
- Thakuri, S., & Rijal, K. (2020). Consumption & carbon emission reduction strategies to biomass energy use in Nepal. *1st International Conference on biomass utilization & sustainable energy 2020 (ICoBiomassSE2020)*, 15th -16th December, 2020.

Food Technology

- Maskey, B., & Shrestha, N. K. (2020). Optimization of Crude Papaya (*Carica papaya*) Protease in Soft-Unripened Cheese Preparation. *Journal of Food Science and Technology Nepal*, 12(12), 1–8. <https://doi.org/10.3126/jfstn.v12i12.30139>
- Maskey, B., Sangroula, P., & Shrestha, N. K. (2020). Utilization of Banana (*Musa acuminata*) Pseudostem for Biscuit Making. *Himalayan Journal of Science and Technology*, 74–80. <https://doi.org/10.3126/hijost.v4i0.33873>
- Ghimire, A., & Parajuli, P. (2020). Effect of Frozen Storage on the Water- Holding Capacity and pH of Broiler Chicken cut-up Parts (*Gallus gallus domesticus*). *Himalayan Journal of Science and Technology*, 8–15. <https://doi.org/10.3126/hijost.v4i0.33860>
- Ghimire, A., Kumar Sah, A., & Poudel, R. (2020). Kinetics and modeling of growth and lactic acid production in Gundruk , a Himalayan fermented vegetable dish. *Food Science & Nutrition*, 8(10), 5591–5600. <https://doi.org/10.1002/fsn3.1854>
- Bista, R., Ghimire, A., & Subedi, S. (2020). Phytochemicals and Antioxidant Activities of Aloe Vera (*Aloe Barbadensis*). *Journal of Nutritional Science and Healthy Diet*, 1(1). <https://doi.org/10.47890/jnshd/2020/rbista/10243803>
- Ghimire, A., Basnet, S., Poudel, R., & Ghimire, A. (2020). Mathematical modeling of thin layer microwave drying of Jaya fish (*Aspidoparia jaya*). *Food Science and Technology International*, 27(6), 508–516. <https://doi.org/10.1177/1082013220969353>
- Ghimire, A., & Sapkota, S. (2020). Modelling the kinetics of biomass and lactic acid production during Rohu fish pickle fermentation. *Malaysian Journal of Chemical Engineering and Technology (MJCET)*, 3(2), 51-59.
- Khanal, S., & Bhattarai, K. (2020). Study on Post Harvest Losses in Potato in Different Storage Conditions. *Journal of Food Science and Technology Nepal*, 12(12), 14–19. <https://doi.org/10.3126/jfstn.v12i12.25298>

- Adhikari, B., & Adhikari, P. (2020). Socio-demographic characteristics and Iodine status of the school-going children of Suryodaya Municipality, Ilam. *Journal of Food Science and Technology Nepal*, 12(12), 31–36. <https://doi.org/10.3126/jfstn.v12i12.23868>
- Adhikari, B., & Ale, S. (2020). Effect of Drying Temperature and Natural Fermentation on the Phytochemical Composition of Stinging Nettle Buds (*Urtica parviflora*). *Himalayan Journal of Science and Technology*, 1–7. <https://doi.org/10.3126/hijost.v4i0.33859>
- KC, Y., Rajbanshi, R., Bhattarai, P., Dhungana, P. K., & Subba, D. (2020). Process Optimization of Finger Millet Incorporated Extrudates. *Himalayan Journal of Science and Technology*, 60–67. <https://doi.org/10.3126/hijost.v4i0.33870>
- Bhattarai, K., Adhikari, B., & Ghimire, P. (2020). Moisture Sorption Characteristics of Weaning Food. *Himalayan Journal of Science and Technology*, 45–50. <https://doi.org/10.3126/hijost.v4i0.33865>
- Maskey, B., Subedi, S., & Shrestha, N. K. (2020). Effect of Incorporation of Jackfruit (*Artocarpus heterophyllus*) Seed Flour on the Quality of Cookies. *Dristikon: A Multidisciplinary Journal*, 10(1), 60–72. <https://doi.org/10.3126/dristikon.v10i1.34541>
- Khadka, D. B., & Lama, J. P. (2020). Traditional fermented food of Nepal and their nutritional and nutraceutical potential. In *Nutritional and Health Aspects of Food in South Asian Countries* (pp. 165–194). Elsevier. <https://doi.org/10.1016/b978-0-12-820011-7.00022-8>

Geology

- Acharya, R., Khanal, S., Kandel, S. P., Dhakal, R., Almeida, R., Hubbard, J., Sapkota, S. N., & Paudel, L. P. (2020). Balanced cross-section across the Siwaliks of the Trijuga Valley, eastern Nepal. *Journal of Nepal Geological Society*, 60, 51–58. <https://doi.org/10.3126/jngs.v60i0.31263>
- Adhikari, B. R., & Paudyal, K. N. (2020). Palynological evidence for the Neogene environment analysis of the Thakkhola Graben, Nepal. *Journal of Nepal Geological Society*, 60, 117–129. <https://doi.org/10.3126/jngs.v60i0.31260>
- B. C., R., Pathak, D., & Gautam, R. (2020). Hydrogeological Study in and around Birendranagar Municipality, Surkhet Valley, Mid-Western Nepal. *Bulletin of the Department of Geology*, 22, 41–48. <https://doi.org/10.3126/bdg.v22i0.33415>
- Bajracharya, R., Nakamura, T., Ghimire, S., Man Shakya, B., & Kazi Tamrakar, N. (2020). Identifying Groundwater and River Water Interconnections Using Hydrochemistry, Stable Isotopes, and Statistical Methods in Hanumante River, Kathmandu Valley, Central Nepal. *Water*, 12(6), 1524. <https://doi.org/10.3390/w12061524>
- Bhatia, H., Srivastava, G., Spicer, R. A., Farnsworth, A., Spicer, T. E. V., Mehrotra, R. C., Paudyal, K. N., & Valdes, P. (2021). Leaf physiognomy records the Miocene intensification of the South Asia Monsoon. *Global and Planetary Change*, 196, 103365. <https://doi.org/10.1016/j.gloplacha.2020.103365>
- Dhakal, S., Cui, P., Su, L., Mavrouli, O., Zou, Q., Zhang, J., Paudel, L., & Shrestha, N. (2020). Landslide susceptibility assessment at Kathmandu Kyirong Highway Corridor in pre-quake, co-seismic and post-quake situations. *Journal of Mountain Science*, 17(11), 2652–2673. <https://doi.org/10.1007/s11629-020-6314-x>
- Khadka, G., & Pathak, D. (2021). Groundwater potential as an indicator of water poverty index in drought-prone mid-hill region of Nepal Himalaya. *Groundwater for Sustainable Development*, 12, 100502. <https://doi.org/10.1016/j.gsd.2020.100502>
- Khadka, K., & Rijal, M. L. (2020). Hydrogeochemical assessment of spring water resources around Melamchi, Central Nepal. *Water Practice and Technology*, 15(3), 748–758. <https://doi.org/10.2166/wpt.2020.066>
- Khatiwada, D., & Dahal, R. K. (2020). Rockfall hazard in the Imja Glacial Lake, eastern Nepal. *Geoenvironmental Disasters*, 7(1). <https://doi.org/10.1186/s40677-020-00165-9>
- Lamsal, I., Ghimire, S., & Acharya, K. K. (2020). Geological and Geophysical Study in Udheri Khola Area, Nalgad Hydroelectric Project, Jajarkot District, Lesser Himalaya, Western Nepal. *Bulletin of the Department of Geology*, 22, 11–16. <https://doi.org/10.3126/bdg.v22i0.33409>
- Lü, X., Paudyal, K. N., Uhl, D., Zhu, L., Yao, T., & Mosbrugger, V. (2020). Phenology and Climatic Regime Inferred from Airborne Pollen on the Northern Slope of the Qomolangma (Everest) Region. *Journal of Geophysical Research: Atmospheres*, 125(24). <https://doi.org/10.1029/2020jd033405>
- Luitel, P., & Panthee, S. (2020). Geological study in Tal - Talekhu section of Manang District along the Besisahar – Chame Road. *Bulletin of the Department of Geology*, 22, 25–28. <https://doi.org/10.3126/bdg.v22i0.33411>
- Luitel, S., Pathak, D., Shrestha, S. R., (2020). Hydrogeological Assessment of Siraha District, Nepal. *Journal of Hydrogeology & Hydrologic Engineering*, 9(1).
- Malla, S. B., Dahal, R. K., & Hasegawa, S. (2020). Analyzing the disaster response competency of the local government official and the elected representative in Nepal. *Geoenvironmental Disasters*, 7(1). <https://doi.org/10.1186/s40677-020-00153-z>
- Malla, S. B., Hasegawa, S., & Dahal, R. K. (2020). Corrigendum to “Competency of the Infantry Troops of the Nepalese Army in Disaster Response” [Journal of Risk Analysis and Crisis Response 9(2), (2019), 62–73]. *Journal of Risk Analysis and Crisis Response*, 10(3), 119. <https://doi.org/10.2991/jracr.k.200522.001>
- Maharjan, S. S., & Tamrakar, N. K. (2020). Textural and mineralogical maturities and provenance of sands from the Budhi Gandaki-Narayani Nadi, central Nepal. *Bulletin of the Department of Geology*, 22, 1–9. <https://doi.org/10.3126/bdg.v22i0.33408>
- Pandeya, L., & Paudyal, K. R. (2020). Precise Location and Mapping of the Main Central Thrust Zone in Reference to Micro-Structures and Deformation along Khudi-Tal Area of Marsyangdi Valley. *Bulletin of the Department of Geology*, 22, 33–40. <https://doi.org/10.3126/bdg.v22i0.33414>
- Poudel, S., Oli, L. M., & Paudel, L. P. (2020). Structural and microtectonic analyses of Barpak of Gorkha district, west-central Nepal. *Journal of Nepal Geological Society*, 60, 163–179. <https://doi.org/10.3126/jngs.v60i0.31265>
- Paudyal, K. N. & Poudel A. (2020). Traces of past lives in Palaeozoic rocks of high mountains in the Nepal Himalaya: their importance as natural heritage & Geo-tourism sites. *Bulletin of Nepal Geological Society*, vol. 37, pp. 165-175.
- Pokhrel, G., & Rijal, M. L. (2020). Seasonal Variation of Springwater In-Situ Parameters in the Bhusundi Catchment, Gorkha, Nepal. *Journal of Institute of Science and Technology*, 25(1), 45–51. <https://doi.org/10.3126/jist.v25i1.29450>

- Sapkota, S., Gaire, P., & Paudyal, K. R. (2020). Geology of Shantipur-Wami Taksar Areas of Gulmi-Baglung Districts, Western Nepal. *Bulletin of the Department of Geology*, 22, 29–32. <https://doi.org/10.3126/bdg.v22i0.33412>
- Silwal, C. B., Pathak, D., Adhikari, D., & Adhikari, T. R. (2020). Climate Change and Its Possible Impact in Groundwater Resource of the Kankai River Basin, East Nepal Himalaya. *Climate*, 8(11), 137. <https://doi.org/10.3390/cli8110137>
- Subedi, M., & Tamrakar, N. K. (2020). Fluvial Geomorphology and Basin Development of Karra Khola Basin, Hetauda, Central Nepal. *Journal of Geological Research*, 2(4). <https://doi.org/10.30564/jgr.v2i4.2250>
- Tamrakar, N. K., & Maharjan, S. (2020). SEDIMENT DYNAMICS AND STABILITY STATUS OF THE KARRA KHOLA, HETAUDA DUN VALLEY, CENTRAL NEPAL SUB-HIMALAYA. *International Journal of Engineering Technologies and Management Research*, 7(11), 50–68. <https://doi.org/10.29121/ijetmr.v7.i11.2020.815>
- Thapa, N., Pandey, K., Ghimire, S., & Acharya, K. K. (2020). Frequency Dependent Damage Pattern in Kathmandu Valley Due to Mw 7.8 Gorkha Earthquake. *J Geol Geophys*, 9(471), 10-35248.
- Uhl, D., Paudyal, K. N., Hervet, S., & El Atfy, H. (2020). *Menanthus mosbruggeri* gen. nov. et sp. nov. – A flower with in situ pollen tetrads from the Paleocene maar lake of Menat (Puy-de-Dôme, France). *Palaeobiodiversity and Palaeoenvironments*, 101(1), 51–58. <https://doi.org/10.1007/s12549-020-00453-0>

Hydrology & Meteorology

International peer-reviewed journal (SCIMAGO Journal)

- Joshi, B. B., Ma, Y., Ma, W., Sigdel, M., Wang, B., & Subba, S. (2019). Seasonal and diurnal variations of carbon dioxide and energy fluxes over three land cover types of Nepal. *Theoretical and Applied Climatology*, 139(1–2), 415–430. <https://doi.org/10.1007/s00704-019-02986-7>
- Tripathi, L., J Guo, S Kang, Sigdel M. et al., (2020). Measurement of mercury, other trace elements and major ions in wet deposition at Jomsom: The semi-arid mountain valley of the Central Himalaya. *Atmospheric Research* 234, 104691
- Sigdel, S. R., Liang, E., Wang, Y., Dawadi, B., & Camarero, J. J. (2020). Tree-to-tree interactions slow down Himalayan treeline shifts as inferred from tree spatial patterns. *Journal of Biogeography*, 47(8), 1816–1826. <https://doi.org/10.1111/jbi.13840>
- Pandey, J., Sigdel, S. R., Lu, X., Salerno, F., Dawadi, B., Liang, E., & Camarero, J. J. (2020). Early growing-season precipitation drives radial growth of alpine juniper shrubs in the central Himalayas. *Geografiska Annaler: Series A, Physical Geography*, 102(3), 317–330. <https://doi.org/10.1080/04353676.2020.1761097>
- Dawadi, B., Acharya, R. H., Lamichhane, D., Pudasainee, S., & Shrestha, I. K. (2020). A Short note on Linkage of Climatic Records between Terai and Mid mountain of Central Nepal. *Journal of Geographical Research*, 3(4). <https://doi.org/10.30564/jgr.v3i4.2323>
- Shrestha, D., Sharma, S., Hamal, K., Khan Jadoon, U., & Dawadi, B. (2020). Spatial Distribution of Extreme Precipitation Events and Its Trend in Nepal. *Applied Ecology and Environmental Sciences*, 9(1), 58–66. <https://doi.org/10.12691/aees-9-1-8>
- Hamal, K., Sharma, S., Khadka, N., Haile, G. G., Joshi, B. B., Xu, T., & Dawadi, B. (2020). Assessment of drought impacts on crop yields across Nepal during 1987–2017. *Meteorological Applications*, 27(5). <https://doi.org/10.1002/met.1950>
- Pokharel, A. K., Xu, T., Liu, X., & Dawadi, B. (2020). Dynamics of Muddy Rain of 15 June 2018 in Nepal. *Atmosphere*, 11(5), 529. <https://doi.org/10.3390/atmos11050529>
- Pandey, J., Sigdel, S. R., Lu, X., Salerno, F., Dawadi, B., Liang, E., & Camarero, J. J. (2020). Early growing-season precipitation drives radial growth of alpine juniper shrubs in the central Himalayas. *Geografiska Annaler: Series A, Physical Geography*, 102(3), 317–330. <https://doi.org/10.1080/04353676.2020.1761097>
- Lamichhane, D., Dawadi, B., Acharya, R. H., Pudasainee, S., & Shrestha, I. K. (2020). Observed trends and spatial distribution in daily precipitation indices of extremes over the Narayani river basin, central Nepal. *Applied Ecology and Environmental Sciences*, 8(3), 106–118.
- Sigdel, S. R., Liang, E., Wang, Y., Dawadi, B., & Camarero, J. J. (2020). Tree-to-tree interactions slow down Himalayan treeline shifts as inferred from tree spatial patterns. *Journal of Biogeography*, 47(8), 1816–1826. <https://doi.org/10.1111/jbi.13840>
- Chhetri, T. B., Dhital, Y. P., Tandong, Y., Devkota, L. P., & Dawadi, B. (2020). Observations of heavy rainfall and extreme flood events over Banke-Bardiya districts of Nepal in 2016–2017. *Progress in Disaster Science*, 6, 100074. <https://doi.org/10.1016/j.pdisas.2020.100074>
- Rakhal, B., Adhikari, T. R., Sharma, S., & Ghimire, G. R. (2021). Assessment of channel shifting of Karnali Megafan in Nepal using remote sensing and GIS. *Annals of GIS*, 27(2), 177–188. <https://doi.org/10.1080/19475683.2021.1871950>
- Silwal, C. B., Pathak, D., Adhikari, D., & Adhikari, T. R. (2020). Climate Change and Its Possible Impact in Groundwater Resource of the Kankai River Basin, East Nepal Himalaya. *Climate*, 8(11), 137. <https://doi.org/10.3390/cli8110137>
- Aryal, D., Wang, L., Adhikari, T. R., Zhou, J., Li, X., Shrestha, M., Wang, Y., & Chen, D. (2020). A Model-Based Flood Hazard Mapping on the Southern Slope of Himalaya. *Water*, 12(2), 540. <https://doi.org/10.3390/w12020540>
- Lin, C., Yang, K., Chen, D., Guyennon, N., Balestrini, R., Yang, X., Acharya, S., Ou, T., Yao, T., Tartari, G., & Salerno, F. (2021). Summer afternoon precipitation associated with wind convergence near the Himalayan glacier fronts. *Atmospheric Research*, 259, 105658. <https://doi.org/10.1016/j.atmosres.2021.105658>
- Matthews, T., Perry, L. B., Lane, T. P., Elmore, A. C., Khadka, A., Aryal, D., Shrestha, D., Tuladhar, S., Baidya, S. K., Gajurel, A., Potocki, M., & Mayewski, P. A. (2020). Into Thick(er) Air? Oxygen Availability at Humans' Physiological Frontier on Mount Everest. *IScience*, 23(12), 101718. <https://doi.org/10.1016/j.isci.2020.101718>
- Perry, L. B., Matthews, T., Guy, H., Koch, I., Khadka, A., Elmore, A. C., Shrestha, D., Tuladhar, S., Baidya, S. K., Maharjan, S., Wagnon, P., Aryal, D., Seimon, A., Gajurel, A., & Mayewski, P. A. (2020). Precipitation Characteristics and Moisture Source Regions on Mt. Everest in the Khumbu, Nepal. *One Earth*, 3(5), 594–607. <https://doi.org/10.1016/j.oneear.2020.10.011>
- Perry, L. B., Yuter, S. E., Matthews, T., Wagnon, P., Khadka, A., Aryal, D., Shrestha, D., Tait, A., Miller, M. A., O'Neill, A., Rhodes, S. R., Koch, I., Sherpa, T. G., Tuladhar, S., Baidya, S. K., Elvin, S., Elmore, A. C., Gajurel, A., & Mayewski, P. A. (2020). Direct observations of a Mt Everest snowstorm from the world's highest surface-based radar observations. *Weather*, 76(2), 57–59. <https://doi.org/10.1002/wea.3854>

- Sharma, S., Khadka, N., Hamal, K., Shrestha, D., Talchabhadel, R., & Chen, Y. (2020). How Accurately Can Satellite Products (TMPA and IMERG) Detect Precipitation Patterns, Extremities, and Drought Across the Nepalese Himalaya? *Earth and Space Science*, 7(8). <https://doi.org/10.1029/2020ea001315>
- Hamal, K., Sharma, S., Khadka, N., Baniya, B., Ali, M., Shrestha, M. S., Xu, T., Shrestha, D., & Dawadi, B. (2020). Evaluation of MERRA-2 Precipitation Products Using Gauge Observation in Nepal. *Hydrology*, 7(3), 40. <https://doi.org/10.3390/hydrology7030040>
- Matthews, T., Perry, L. B., Koch, I., Aryal, D., Khadka, A., Shrestha, D., Abernathy, K., Elmore, A. C., Seimon, A., Tait, A., Elvin, S., Tuladhar, S., Baidya, S. K., Potocki, M., Birkel, S. D., Kang, S., Sherpa, T. C., Gajurel, A., & Mayewski, P. A. (2020). Going to Extremes: Installing the World's Highest Weather Stations on Mount Everest. *Bulletin of the American Meteorological Society*, 101(11), E1870–E1890. <https://doi.org/10.1175/bams-d-19-0198.1>
- National Publications by faculties**
- Hamal, K., Khadka, N., Rai, S., Joshi, B. B., Dotel, J., Khadka, L., Bag, N., Ghimire, S. K., & Shrestha, D. (2020). Evaluation of the TRMM Product for Spatio-temporal Characteristics of Precipitation over Nepal (1998-2018). *Journal of Institute of Science and Technology*, 25 (2), 39–48. <https://doi.org/10.3126/jist.v25i2.33733>
- Khadka, N., Khadka, N., Ghimire, S. K., Chen, X., Thakuri, S., Hamal, K., Shrestha, D., & Sharma, S. (2020). Dynamics of Maximum Snow Cover Area and Snow Line Altitude Across Nepal (2003-2018) Using Improved MODIS Data. *Journal of Institute of Science and Technology*, 25(2), 17–24. <https://doi.org/10.3126/jist.v25i2.33729>
- . Bajracharya, R., Nakamura, T., Ghimire, S., Shakya, B. M. & Tamrakar, N. K., (2020). Identifying groundwater & river water interconnections using hydrochemistry, stable isotopes & statistical methods in Hanumante River, Kathmandu Valley, Central Nepal. *Water* 12, 1524. <https://doi.org/10.3390/w12061524>.
- Bhatia, H., Srivastava, G., Spicer, R.A., Farnsworth, A., T.E.V., S., Mehrotra, R. C., Paudyal, K. N. & Valdes, P., (2020). Leaf physiognomy records the Miocene intensification of the South Asia Monsoon. *Global & Planetary Change*, v. 196. <https://doi.org/10.1016/j.gloplacha.2020.103365>
- Bokati, N., Dahal, R.K., Acharya, I.P. & Dahal, B. (2020). Evaluation of rock fall analysis & suitable protection measures in Siddhababa section along Siddhartha highway, *KEC Conference 2019 Proceedings*. http://kec.edu.np/wp-content/uploads/2020/01/Paper_32.pdf
- Dhakal, S., Cui, P., Su, Li-Jun, Mavrouli, O., Zhou, Q., Zhang, J.C., Paudel, L. & Shrestha, N. (2020). Landslide susceptibility assessment at Kathmandu Kyirong highway corridor in pre-quake, co-seismic & post-quake situations. *Journal of Mountain Science*, 17: 2652-2673. <https://doi.org/10.1007/s11629-020-6314-x>.
- Khadka, G., Pathak, D., (2020). Groundwater potential as an indicator of water poverty index in drought-prone mid-hill region of Nepal Himalaya, *Groundwater for Sustainable Development*, <https://doi.org/10.1016/j.gsd.2020.100502>
- Khadka, K. & Rijal, M. L. (2020). Hydrogeochemical assessment of spring water resources around Melamchi, Central Nepal, *Water Practice & Technology*, 15 (3). doi: 10.2166/wpt.2020.066
- Khatriwada, D & Dahal, R.K., (2020). Rockfall hazard in the Imja Glacial Lake, Eastern Nepal, *Geoenvironmental Disasters*, 7 (1):29. <https://doi.org/10.1186/s40677-020-00165-9>.
- Lamsal, I., Ghimire, S. & Acharya, K. K. (2020). Geological & geophysical study in Andheri Khola area, Nalgad Hydroelectric Project, Jajarkot district, Lesser Himalaya, western Nepal. *Bulletin of the Department of Geology*, v. 22. <https://doi.org/10.3126/bdg.v22i0.33409>.
- Xinmiao, L., Paudyal, K. N., Uhl, D., Zhu, L., Yao, T., & Mosbrugger, V. (2020). Phenology & climatic regime inferred from airborne pollen on the northern slope of the Qomolangma (Everest) region. *Journal of Geophysical Research Atmosphere*, <https://doi.org/10.1029/2020JD033405>
- Luitel, P. & Panthe, S. (2020). Geological study in Tal-Talekhu section of Manang district long the Besisahar-Chame road. *Bulletin of the Department of Geology*, v. 22. <https://doi.org/10.3126/bdg.v22i0.33411>.
- Luitel, S., Pathak, D., Shrestha, S. R., (2020). Hydrogeological Assessment of Siraha District, Nepal. *Journal of Hydrogeology & Hydrologic Engineering*, 9(1). [https://doi.org/10.37532/jhhe.2020.9\(1\).188](https://doi.org/10.37532/jhhe.2020.9(1).188)
- Malla, S.B., Dahal, R.K. & Hasegawa S. (2020). Analyzing the disaster response competency of the local government official & the elected representative in Nepal, *Geoenvironmental Disasters*, 7:15, <https://doi.org/10.1186/s40677-020-00153-z>.
- Malla, S.B., Hasegawa, S & Dahal, R.K. (2020). Corrigendum to Competency of the Infantry Troops of the Nepalese Army in Disaster Response, *Journal of Risk Analysis & Crisis Response*, 10-3: 119-120. <https://doi.org/10.2991/jracr.k.200522.001>.
- Maharjan, S. & Tamrakar, N.K. (2020). Textural & mineralogical maturities & provenance of sands from the Budhi Gandaki-Narayani Nadi, central Nepal. *Bulletin of the Department of Geology*, 22, pp. 1-9. DOI: <https://doi.org/10.3126/bdg.v22i0.33408>
- Pandey, L., & Paudyal, K. R., (2020). Precise location & mapping of the Main Central Thrust zone in reference to micro-structures & deformation along Khudi-Tal area of Marsyangdi valley: *Bulletin of Department of Geology, Tribhuvan University*, v. 22, pp. 33- 39. <https://doi.org/10.3126/bdg.v22i0.33414>
- Paudel, S., Oli, L. M. & Paudel, L. P. (2020). Structural & Microtectonic analysis of Barpak of Gorkha District, west central Nepal. *Bulletin of Department of Geology, Tribhuvan University*, v. 22, pp. 163-179. <https://doi.org/10.3126/jngs.v60i0.31265>
- Paudyal, K. N. & Poudel A. (2020). Traces of past lives in Palaeozoic rocks of high mountains in the Nepal Himalaya: their importance as natural heritage & Geo-tourism sites. *Bulletin of Nepal Geological Society*, vol. 37, pp. 165-175.
- Pokharel, G. & Rijal, M. L. (2020). Seasonal variation of springwater in-situ parameters in the Bhusundi Catchment, Gorkha, Nepal. *Journal of Institute of Science & Technology*, 25 (1) DOI: <https://doi.org/10.3126/jist.v25i1.29450>
- Sapkota, S., Gaire, P. & Paudyal, K.R. (2020). Geology of Shantipur-Wami Taksar areas of Gulmi-Baglung districts, western Nepal: *Bulletin of Department of Geology, Tribhuvan University*, v. 22, pp. 29-32. <https://doi.org/10.3126/bdg.v22i0.33412>
- Silwal, C.B., Pathak, D., Adhikari, D., Adhikari, T.R., (2020). Climate Change & Its Possible Impact in Groundwater Resource of the Kankai River Basin, East Nepal Himalaya. *Climate*, 8(11), 137 <https://doi.org/10.3390/cli8110137>
- Subedi, M. & Tamrakar, N.K. (2020). Fluvial Geomorphology & Basin Development of Karra Khola Basin, Hetauda, Central Nepal. *Journal of Geological Research*, v. 2 (4), pp.1–13. DOI: <https://doi.org/10.30564/jgr.v2i4.2250>

- Tamrakar, N.K. & Maharjan, S. (2020). Sediment dynamics & stability status of the Karra Khola, Hetauda Dun Valley, central Nepal Sub-himalaya. *International Journal of Engineering Technologies & Management Research*, v. 7(11), pp. 50–68. <https://doi.org/10.29121/ijetmr.v7.i11.2020.815>
- Thapa, N., Pandey, K., Ghimire, S. & Acharya, K. K. (2020). Frequency dependent damage pattern in Kathmandu Valley due to Mw 7.8 Gorkha Earthquake. *Journal of Geology & Geophysics* 9:471. <https://doi.org/10.35248/2381-8719.20.9.471>.
- Uhl, D., Paudyal, K. N., Hervet, S., Atfy, H. E. (2020). *Menatanthus mosbruggeri* gen. nov. et sp. nov. – A minute flower with *in situ* pollen tetrads of putative Ericacean affinity from the Paleocene maar lake of Menat (Puy-de-Dôme, France). *Palaeoenvironment & Palaeobiodiversity*. <https://doi.org/10.1007/s12549-020-00453-0>

Mathematics

- Pyakurel, U., & Dempe, S. (2020). Network Flow with Intermediate Storage: Models and Algorithms. *SN Operations Research Forum*, 1(4). <https://doi.org/10.1007/s43069-020-00033-0>
- Gupta, S. P., Khanal, D. P., Pyakurel, U., & Dhamala, T. N. (2020). Approximate Algorithms for Continuous-Time Quickest Multi-Commodity Contraflow Problem. *The Nepali Mathematical Sciences Report*, 37(1–2), 30–46. <https://doi.org/10.3126/nmsr.v37i1-2.34068>
- Pyakurel, U., Gupta, S. P., Khanal, D. P., & Dhamala, T. N. (2020). Efficient Algorithms on Multicommodity Flow over Time Problems with Partial Lane Reversals. *International Journal of Mathematics and Mathematical Sciences*, 2020, 1–13. <https://doi.org/10.1155/2020/2676378>
- Dhamala, T. N., Gupta, S. P., Khanal, D. P., & Pyakurel, U. (2020). Quickest Multi-Commodity Flow Over Time with Partial Lane Reversals. *Journal of Mathematics and Statistics*, 16(1), 198–211. <https://doi.org/10.3844/jmssp.2020.198.211>
- Pyakurel, U., Wagle, S. & Adhikari, M.C. (2020). Efficient lane reversals for prioritized maximum flow, *International Journal of Innovative Science Engineering & Technology (IJSET)*, 7(7) 354-363.
- Dhamala, T. N., Gupta, S. P., Khanal, D. P., & Pyakurel, U. (2020). Quickest Multi-Commodity Flow Over Time with Partial Lane Reversals. *Journal of Mathematics and Statistics*, 16(1), 198–211. <https://doi.org/10.3844/jmssp.2020.198.211>
- Nath, H. N., Pyakurel, U., Dhamala, T. N., & Dempe, S. (2021). Dynamic network flow location models and algorithms for quickest evacuation planning. *Journal of Industrial & Management Optimization*, 17(5), 2943. <https://doi.org/10.3934/jimo.2020102>
- Adhikari, I. M., & Dhamala, T. N. (2020). On the Transit-Based Evacuation Strategies in an Integrated Network Topology. *The Nepali Mathematical Sciences Report*, 37(1–2), 1–13. <https://doi.org/10.3126/nmsr.v37i1-2.34063>
- Adhikari, I. M., & Dhamala, T. N. (2020). Minimum clearance time on the prioritized integrated evacuation network. *American Journal of Applied Mathematics*, 8(4), 207-215.
- Dhungana, R. C., & Dhamala, T. N. (2020). Flow Improvement in Evacuation Planning with Budget Constrained Switching Costs. *International Journal of Mathematics and Mathematical Sciences*, 2020, 1–10. <https://doi.org/10.1155/2020/1605806>
- Khanal, D. P., Pyakurel, U., & Dhamala, T. N. (2020, December). Prioritized Multi-Commodity Flow Model and Algorithm. In *Presented on: International Symposium on Analytic Hierarchy Process* (Vol. 2020). http://www.isahp.org/uploads/060_001.pdf
- Bhandari, A. D., & Dhamala, T. N. (2020). On quickest flow problem using improved binary search algorithm. *International Journal of Innovative Science, Engineering & Technology*, 7(12), 136-145.
- Bhandari, P. P., & Khadka, S. R. (2020). Maximum Flow Evacuation Planning Problem with Non-Conservation Flow Constraint. *International Annals of Science*, 10(1), 25–32. <https://doi.org/10.21467/ias.10.1.25-32>
- Prasad Bhandari, P., & Ram Khadka, S. (2020). Evacuation Contraflow Problems with Not Necessarily Equal Transit Time on Anti-parallel Arcs. *American Journal of Applied Mathematics*, 8(4), 230. <https://doi.org/10.11648/j.ajam.20200804.18>
- Bhandari, P. P., & Khadka, S. R. (2020, August 8). Evacuation Planning Problems with Intermediate Storage. Proceedings of International Conference on Applied Mathematics & Computational Sciences. *International Conference on Applied Mathematics & Computational Sciences*. <https://doi.org/10.21467/proceedings.100.9>
- Bhandari, P. P., Khadka, S. R., Ruzika, S., & Schäfer, L. E. (2020). Lexicographically Maximum Dynamic Flow with Vertex Capacities. *Journal of Mathematics and Statistics*, 16(1), 142–147. <https://doi.org/10.3844/jmssp.2020.142.147>
- Khadka, S. R., & Bhandari, P. P. (2019). Model and Solution for Non-conservation Flow Evacuation Planning Problem. *The Nepali Mathematical Sciences Report*, 36(1–2), 11–16. <https://doi.org/10.3126/nmsr.v36i1-2.29966>
- Luitel, K., Gurung, D. B., Khanal, H., & Upreti, K. N. (2020). Role of Clothing Insulation for Thermal Comfort: A Numerical Study using Bio-Heat Transfer Model. *Journal of Mathematics and Statistics*, 16(1), 224–232. <https://doi.org/10.3844/jmssp.2020.224.232>
- Bajracharya, P. M., & Ojha, B. P. (2020). Birkhoff Orthogonality and Different Particular Cases of Carlsson's Orthogonality on Normed Linear Spaces. *Journal of Mathematics and Statistics*, 16(1), 133–141. <https://doi.org/10.3844/jmssp.2020.133.141>
- Ojha, B. P., Bajracharya, P. M., & Mishra, V. N. (2020). On Uniqueness of New Orthogonality via 2-HH Norm in Normed Linear Space. *Journal of Function Spaces*, 2020, 1–6. <https://doi.org/10.1155/2020/8835492>
- Bajracharya, B. P. O., & Ojha, P. M. B. (2020). A Glimpse on Birkhoff-James Orthogonality in Banach Spaces. *Methods of Functional Analysis and Topology*, 26(4), 373–383. https://doi.org/10.31392/mfat-npu26_4.2020.08
- B. P. Ojha, P. M. Bajracharya (2020). Birkhoff & new orthogonality in normed linear spaces via 2-HH norm, *International Journal of Scientific & Engineering Research*, volume 11, Issue 2, pp. 225-232

Microbiology

International Journal (SCIMAGO INDEX)

- Aryal, S. C., Upreti, M. K., Sah, A. K., Ansari, M., Nepal, K., Dhungel, B., Adhikari, N., Lekhak, B., & Rijal, K. R. (2020). Plasmid-Mediated AmpC β -Lactamase *CITM* and *DHAM* Genes Among Gram-Negative Clinical Isolates. *Infection and Drug Resistance*, Volume 13, 4249–4261. <https://doi.org/10.2147/idr.s284751>
- Bista, S., Thapa Shrestha, U., Dhungel, B., Koirala, P., Gompo, T. R., Shrestha, N., Adhikari, N., Joshi, D. R., Banjara, M. R., Adhikari, B., Rijal,

- K. R., & Ghimire, P. (2020). Detection of Plasmid-Mediated Colistin Resistant *mcr-1* Gene in *Escherichia coli* Isolated from Infected Chicken Livers in Nepal. *Animals*, 10(11), 2060. <https://doi.org/10.3390/ani10112060>
- Adhikari, B., Ozaki, A., Marahatta, S. B., Rijal, K. R., & Mishra, S. R. (2020). Earthquake rebuilding and response to COVID-19 in Nepal, a country nestled in multiple crises. *Journal of Global Health*, 10(2). <https://doi.org/10.7189/jogh.10.020367>
- Muktan, B., Thapa Shrestha, U., Dhungel, B., Mishra, B. C., Shrestha, N., Adhikari, N., Banjara, M. R., Adhikari, B., Rijal, K. R., & Ghimire, P. (2020). Plasmid mediated colistin resistant *mcr-1* and co-existence of OXA-48 among *Escherichia coli* from clinical and poultry isolates: first report from Nepal. *Gut Pathogens*, 12(1). <https://doi.org/10.1186/s13099-020-00382-5>
- Gurung, S., Kafle, S., Dhungel, B., Adhikari, N., Thapa Shrestha, U., Adhikari, B., Banjara, M. R., Rijal, K. R., & Ghimire, P. (2020). Detection of OXA-48 Gene in Carbapenem-Resistant *Escherichia coli* and *Klebsiella pneumoniae* from Urine Samples. *Infection and Drug Resistance*, Volume 13, 2311–2321. <https://doi.org/10.2147/idr.s259967>
- Thapa Shrestha, U., Shrestha, S., Adhikari, N., Rijal, K. R., Shrestha, B., Adhikari, B., Banjara, M. R., & Ghimire, P. (2020). Plasmid Profiling and Occurrence of β -Lactamase Enzymes in Multidrug-Resistant Uropathogenic *Escherichia coli* in Kathmandu, Nepal. *Infection and Drug Resistance*, Volume 13, 1905–1917. <https://doi.org/10.2147/idr.s250591>
- Lamichhane, K., Adhikari, N., Bastola, A., Devkota, L., Bhandari, P., Dhungel, B., Thapa Shrestha, U., Adhikari, B., Banjara, M. R., Rijal, K. R., & Ghimire, P. (2020). Biofilm-Producing *Candida* Species Causing Oropharyngeal Candidiasis in HIV Patients Attending Sukraraj Tropical and Infectious Diseases Hospital in Kathmandu, Nepal. *HIV/AIDS - Research and Palliative Care*, Volume 12, 211–220. <https://doi.org/10.2147/hiv.s255698>
- Raut, S., Rijal, K. R., Khatriwada, S., Karna, S., Khanal, R., Adhikari, J., & Adhikari, B. (2020). Trend and Characteristics of *Acinetobacter baumannii* Infections in Patients Attending Universal College of Medical Sciences, Bhairahawa, Western Nepal: A Longitudinal Study of 2018. *Infection and Drug Resistance*, Volume 13, 1631–1641. <https://doi.org/10.2147/idr.s257851>
- Pokharel, S., Raut, S., Rijal, K. R., & Adhikari, B. (2020). Coronavirus Disease 2019 Pandemic – Public Health Preparedness in Nepal and One Health Approach. *Disaster Medicine and Public Health Preparedness*, 1–2. <https://doi.org/10.1017/dmp.2020.172>
- Ghimire, P., Rijal, K. R., Adhikari, N., Thakur, G. D., Marasini, B., Thapa Shrestha, U., Banjara, M. R., Pant, S. K., Adhikari, B., Dumre, S. P., Singh, N., Pigeon, O., Chareonviriyaphap, T., Chavez, I., Ortega, L., & Hii, J. (2020). The durability of long-lasting insecticidal nets distributed to the households between 2009 and 2013 in Nepal. *Tropical Medicine and Health*, 48(1). <https://doi.org/10.1186/s41182-020-00223-w>
- Bhattarai, V., Sharma, S., Rijal, K. R., & Banjara, M. R. (2020). Co-infection with *Campylobacter* and rotavirus in less than 5 year old children with acute gastroenteritis in Nepal during 2017–2018. *BMC Pediatrics*, 20(1). <https://doi.org/10.1186/s12887-020-1966-9>
- Marahatta, S. B., Yadav, R. K., Giri, D., Lama, S., Rijal, K. R., Mishra, S. R., Shrestha, A., Bhattarai, P. R., Mahato, R. K., & Adhikari, B. (2020). Barriers in the access, diagnosis and treatment completion for tuberculosis patients in central and western Nepal: A qualitative study among patients, community members and health care workers. *PLOS ONE*, 15(1), e0227293. <https://doi.org/10.1371/journal.pone.0227293>
- Thapa Shrestha, U., Adhikari, N., Kafle, S., Shrestha, N., Banjara, M. R., Steneroden, K., Bowen, R., Rijal, K. R., Adhikari, B., & Ghimire, P. (2020). Effect of deworming on milk production in dairy cattle and buffaloes infected with gastrointestinal parasites in the Kavrepalanchowk district of central Nepal. *Veterinary Record Open*, 7(1). <https://doi.org/10.1136/vetreco-2019-000380>
- Basnyat, S., Banjara, M. R., Ghimire, P., Matlashewski, G., & Singh, A. (2021). Seropositivity of Visceral leishmaniasis on people of VL endemic three districts of Nepal. *Parasitology International*, 80, 102236. <https://doi.org/10.1016/j.parint.2020.102236>
- Aye, A. M. M., Bai, X., Borrow, R., Bory, S., Carlos, J., Caugant, D. A., Chiou, C.-S., Dai, V. T. T., Dinleyici, E. C., Ghimire, P., Handryastuti, S., Heo, J. Y., Jennison, A., Kamiya, H., Tonnii Sia, L., Lucidarme, J., Marshall, H., Putri, N. D., Saha, S., ... Zhu, B. (2020). Meningococcal disease surveillance in the Asia-Pacific region (2020): *The global meningococcal initiative*. *Journal of Infection*, 81(5), 698–711. <https://doi.org/10.1016/j.jinf.2020.07.025>
- Sharma, S., Acharya, J., Banjara, M. R., Ghimire, P., & Singh, A. (2020). Comparison of acridine orange fluorescent microscopy and gram stain light microscopy for the rapid detection of bacteria in cerebrospinal fluid. *BMC Research Notes*, 13(1). <https://doi.org/10.1186/s13104-020-4895-7>
- Timsina, R., Shrestha, U., Singh, A., & Timalisina, B. (2021). Inducible clindamycin resistance and *erm* genes in *Staphylococcus aureus* in school children in Kathmandu, Nepal. *Future Science OA*, 7(1), FSO361. <https://doi.org/10.2144/fsoa-2020-0092>
- Shrestha, D., Shrestha, R., Sherchand, S., Sherchan, S., Hendriksen, R., Bhatta-Sharma, L., & Bhatta, D. (2020). Identification of CCR5 Δ 32 Allele in Different Ethnic Groups of Nepal. *Nepal Medical College Journal*, 22(3), 153–157. <https://doi.org/10.3126/nmcj.v22i3.32643>
- Younis, L. G., Kroeger, A., Joshi, A. B., Das, M. L., Omer, M., Singh, V. K., Gurung, C. K., & Banjara, M. R. (2020). Housing structure including the surrounding environment as a risk factor for visceral leishmaniasis transmission in Nepal. *PLOS Neglected Tropical Diseases*, 14(3), e0008132. <https://doi.org/10.1371/journal.pntd.0008132>
- Omer, M., Kroeger, A., Joshi, A. B., Das, M. L., Younis, L. G., Singh, V. K., Gurung, C. K., & Banjara, M. R. (2020). Role of female community health volunteers for visceral leishmaniasis detection and vector surveillance in Nepal. *Health Promotion Perspectives*, 10(1), 50–58. <https://doi.org/10.15171/hpp.2020.09>
- Banjara, M. R., & Joshi, A. B. (2020). Evidence for visceral leishmaniasis elimination in Nepal. *The Lancet Global Health*, 8(2), e161–e162. [https://doi.org/10.1016/s2214-109x\(19\)30538-8](https://doi.org/10.1016/s2214-109x(19)30538-8)
- Koju, R., Miao, S., Liang, B., Joshi, D. R., Bai, Y., Liu, R., & Qu, J. (2020). Transcriptional and metabolic response against hydroxyethane-(1,1-bisphosphonic acid) on bacterial denitrification by a halophilic *Pannonibacter* sp. strain DN. *Chemosphere*, 252, 126478. <https://doi.org/10.1016/j.chemosphere.2020.126478>
- Koju, R., Miao, S., Luo, J., Wang, D., Raj Joshi, D., Bai, Y., Liu, R., Liu, H., & Qu, J. (2020). Effects of 1-hydroxyethane-(1,1-bisphosphonic acid) on heterotrophic denitrification performance: Impact of denitrifying microbial communities variation. *Chemical Engineering Journal*, 402, 126210. <https://doi.org/10.1016/j.cej.2020.126210>

- Aryal, S., Neupane, L., Adhikari, R., Regmi, B., Koirala, N., & Joshi, D. R. (2021). Novel Streptomyces Sp. Reported in 2018: A Meta-Analysis. *Anti-Infective Agents*, 19(5). <https://doi.org/10.2174/2211352518666200423083354>
- KC, S., Upadhyaya, J., Joshi, D. R., Lekhak, B., Kumar Chaudhary, D., Raj Pant, B., Raj Bajgai, T., Dhital, R., Khanal, S., Koirala, N., & Raghavan, V. (2020). Production, Characterization, and Industrial Application of Pectinase Enzyme Isolated from Fungal Strains. *Fermentation*, 6(2), 59. <https://doi.org/10.3390/fermentation6020059>
- National Journal (Nepjol link)
- Banjara, M. R., Rijal, K. R., & Joshi, D. R. (2020). COVID-19 pandemic: opportunities and challenges for microbiologists in Nepal. *Applied Science and Technology Annals*, 1(1), 194–196. <https://doi.org/10.3126/asta.v1i1.30306>
- Singh, V. K., Joshi, A. B., Gurung, C. K., & Banjara, M. R. (2020). Determination of Urinary Iodine Excretion to Assess Iodine Deficiency Disorder among Pregnant Women in District Hospital of Sindhupalchowk, Nepal. *Nepal Journal of Science and Technology*, 19(1), 119–123. <https://doi.org/10.3126/njst.v19i1.29791>
- Singh, V. K., Chaudhary, M. K., Banjara, M. R., & Tuladhar, R. (2020). Monitoring Antimicrobial Susceptibility in bacterial isolates causing Urinary Tract Infections in a Tertiary Hospital in Kathmandu. *Nepal Journal of Science and Technology*, 19(1), 133–141. <https://doi.org/10.3126/njst.v19i1.29794>
- Koju, R., Dhakal, A., Gwachha, S., Joshi, D. R., Joshi, T. P., & Shrestha, S. M. (2020). Adsorption of Inorganic As(III) from Aqueous Solutions by Iron-Manganese Oxide. *Scientific World*, 13(13), 46–50. <https://doi.org/10.3126/sw.v13i13.30538>
- Bhandary, S., Shrestha, S. L., Khatriwada, R. P., Shah, D. N., Munankarmi, N. N., Banjara, M. R., Parajuli, R. T., Manandhar, K. D., Adhikari, R., & Tuladhar, R. (2020). Trend Analysis, Modelling and Impact Assessment of COVID-19 in Nepal. *Journal of Institute of Science and Technology*, 25(2), 1–8. <https://doi.org/10.3126/jist.v25i2.33715>
- Tuladhar, R. (2020). Implication of Monoclonal Antibody for COVID-19 Treatment. *Journal of Institute of Science and Technology*, 25(2), 133–140. <https://doi.org/10.3126/jist.v25i2.33750>
- Shah, P., Dhungel, B., Bastola, A., Banjara, M. R., Rijal, K. R., & Ghimire, P. (2020). Methicillin Resistant Staphylococcus aureus in Health Care Workers of a Tertiary Care Infectious Disease Hospital in Nepal. *Tribhuvan University Journal of Microbiology*, 7, 19–30. <https://doi.org/10.3126/tujm.v7i0.33786>
- Niroula, D., Shrestha, J., Sharma, S., & Singh, A. (2020). Antibiotic Susceptibility Pattern of Salmonella Enterica serovars Typhi and Paratyphi A Isolated From Patients Suspected of Enteric Fever. *Tribhuvan University Journal of Microbiology*, 7, 31–36. <https://doi.org/10.3126/tujm.v7i0.33791>
- Maharjan, R., Shrestha, B., Shrestha, S., Angbuhang, K. B., Lekhak, B., Nepal, K., & Upreti, M. K. (2020). Detection of Metallo- β -Lactamases and Carbapenemase Production Pseudomonas aeruginosa Isolates from Burn Wound Infection. *Tribhuvan University Journal of Microbiology*, 7, 67–74. <https://doi.org/10.3126/tujm.v7i0.33800>
- Ghartimagar, S., Khatri, P., Neupane, S., Joshi, D. R., & Joshi, T. P. (2020). Evaluation of Ground Water Quality of Kathmandu Valley and Antibiotic Susceptibility test against Klebsiella pneumoniae. *Tribhuvan University Journal of Microbiology*, 7, 83–90. <https://doi.org/10.3126/tujm.v7i0.33850>
- Ghimire, G., RP, C., & Lekhak, B. (2020). Bacteriological Profile and Antibiotic Susceptibility Pattern of Isolates of Wound Infection In Children Visiting Kanti Children Hospital. *Tribhuvan University Journal of Microbiology*, 7, 123–132. <https://doi.org/10.3126/tujm.v7i0.33855>
- Dahal, B., Karki, S., Adhikari, N., & Shrestha, U. T. (2020). Characterization of β -Galactosidase from Lactose Utilizing Yeast Isolated from the Dairy Sample. *Tribhuvan University Journal of Microbiology*, 7, 133–141. <https://doi.org/10.3126/tujm.v7i0.33874>
- Articles Published in Open access article with DOI
- Kayastha, K., Dhungel, B., Karki, S., Adhikari, B., Banjara, M. R., Rijal, K. R., & Ghimire, P. (2020). Extended-Spectrum β -Lactamase-Producing Escherichia coli and Klebsiella Species in Pediatric Patients Visiting International Friendship Children's Hospital, Kathmandu, Nepal. *Infectious Diseases: Research and Treatment*, 13, 117863372090979. <https://doi.org/10.1177/1178633720909798>
- Kandel, S. N., Adhikari, N., Dhungel, B., Shrestha, U. T., Angbuhang, K. B., Karki, G., Adhikari, B., Banjara, M. R., Rijal, K. R., & Ghimire, P. (2020). Characteristics of Staphylococcus aureus Isolated From Clinical Specimens in a Tertiary Care Hospital, Kathmandu, Nepal. *Microbiology Insights*, 13, 117863612097269. <https://doi.org/10.1177/1178636120972695>
- Thapa, S., Adhikari, N., Dhungel, B., Thapa, M., Thapa Shrestha, U., Raj Banjara, M., Raj Rijal, K., & Ghimire, P. (2020). Etiology of Ocular Infections and Minimum Inhibitory Concentration of Multidrug- Resistant Staphylococcus aureus Isolates to Vancomycin, Ciprofloxacin and Chloramphenicol. *Acta Scientific Microbiology*, 3(6), 134–145. <https://doi.org/10.31080/asmi.2020.03.0621>

Physics

SJR Journals

- Gautam, S. P., Silwal, A., Acharya, S., & Aryal, B. (2020). Annual Effective Dose from Natural Background Radiation in Pokhara, Nepal. *Asian Journal of Research and Reviews in Physics*, 36–42. <https://doi.org/10.9734/ajr2p/2020/v3i230119>
- Basnet, S., & Khanal, R. Koirala, R. P., Bhusal, H. P., Khanal, S. P., & Adhikari, N. P. (2020). Effect of temperature on transport properties of cysteine in water. *AIP Advances*, 10(2), 025122. <https://doi.org/10.1063/1.5132777>
- (2019). Kinetic simulation of an electronegative plasma with a cut-off distribution and modified Bohm criterion. *Plasma Science and Technology*, 22(4), 045001. <https://doi.org/10.1088/2058-6272/ab5720>
- Basnet, S., Sarma, A., & Khanal, R. (2020). Effect of presheath electron temperature on magnetized plasma-wall transition and wall sputtering by plasma having two species of positive ions. *Physica Scripta*, 95(6), 065601. <https://doi.org/10.1088/1402-4896/ab7b89>
- Basnet, S., Patel, A., & Khanal, R. (2020). Electronegative magnetized plasma sheath properties in the presence of non-Maxwellian electrons with a homogeneous ion source. *Plasma Physics and Controlled Fusion*, 62(11), 115011. <https://doi.org/10.1088/1361-6587/abb0f7>
- Pantha, N., Bissokarma, P., & Adhikari, N. P. (2020). First-principles study of electronic and magnetic properties of nickel doped hexagonal boron nitride (h-BN). *The European Physical Journal B*, 93(9). <https://doi.org/10.1140/epjb/e2020-10186-2>

- Neupane, H. K., & Adhikari, N. P. (2020). Structure, electronic and magnetic properties of 2D Graphene-Molybdenum diSulphide (G-MoS₂) Heterostructure (HS) with vacancy defects at Mo sites. *Computational Condensed Matter*, 24, e00489. <https://doi.org/10.1016/j.cocom.2020.e00489>
- Mehta, U., Koirala, I., Yadav, S. K., Koirala, R. P., & Adhikari, D. (2020). Prediction of thermodynamic and surface properties of ternary Ti–Si–Fe liquid alloy. *Modelling and Simulation in Materials Science and Engineering*, 28(6), 065010. <https://doi.org/10.1088/1361-651x/aba053>
- Mehta, U., Yadav, S. K., Koirala, I., & Adhikari, D. (2020). Thermo-physical properties of ternary Al–Cu–Fe alloy in liquid state. *Philosophical Magazine*, 100(19), 2417–2435. <https://doi.org/10.1080/14786435.2020.1775907>
- Mehta, U., Yadav, S. K., Koirala, I., Koirala, R. P., Shrestha, G. K., & Adhikari, D. (2020). Study of surface tension and viscosity of Cu–Fe–Si ternary alloy using a thermodynamic approach. *Heliyon*, 6(8), e04674. <https://doi.org/10.1016/j.heliyon.2020.e04674>
- Mehta, U., Yadav, S. K., Koirala, I., Koirala, R. P., & Adhikari, D. (2020). Thermodynamic and surface properties of liquid Ti–Al–Fe alloy at different temperatures. *Physics and Chemistry of Liquids*, 59(4), 585–596. <https://doi.org/10.1080/00319104.2020.1793333>
- Lê Anh, M., Kaiser, M., Ghimire, M. P., Richter, M., Koepfner, K., Gruschwitz, M., Tegenkamp, C., Doert, T., & Ruck, M. (2020). The Weak 3D Topological Insulator Bi₁₂Rh₃Sn₃I₉. *Chemistry – A European Journal*, 26(67), 15549–15557. <https://doi.org/10.1002/chem.202001953>
- Mali, B., Nair, H. S., Heitmann, T. W., Nhalil, H., Antonio, D., Gofryk, K., Bhandari, S. R., Ghimire, M. P., & Elizabeth, S. (2020). Re-entrant spin reorientation transition and Griffiths-like phase in antiferromagnetic TbFe_{0.5}Cr_{0.5}O₃. *Physical Review B*, 102(1). <https://doi.org/10.1103/physrevb.102.014418>
- Bhandari, S. R., Yadav, D. K., Belbase, B. P., Zeeshan, M., Sadhukhan, B., Rai, D. P., Thapa, R. K., Kaphle, G. C., & Ghimire, M. P. (2020). Electronic, magnetic, optical and thermoelectric properties of Ca₂Cr_{1-x}Ni_xO₆ double perovskites. *RSC Advances*, 10(27), 16179–16186. <https://doi.org/10.1039/c9ra10775d>
- Prasad, K. S., Pillai, R. R., Ghimire, M. P., Ray, R., Richter, M., Shivamallu, C., Jain, A. S., Prasad, S. K., P. S., Armaković, S., Armaković, S. J., & Amachawadi, R. G. (2020). Indole moiety induced biological potency in pseudo-peptides derived from 2-amino-2-(1H-indole-2-yl) based acetamides: Chemical synthesis, in vitro anticancer activity and theoretical studies. *Journal of Molecular Structure*, 1217, 128445. <https://doi.org/10.1016/j.molstruc.2020.128445>
- Rai, D. P., Vu, T. V., Laref, A., Ghimire, M. P., Patra, P. K., & Srivastava, S. (2020). Electronic and optical properties of 2D monolayer (ML) MoS₂ with vacancy defect at S sites. *Nano-Structures & Nano-Objects*, 21, 100404. <https://doi.org/10.1016/j.nanoso.2019.100404>
- Mawphlang, B. R. K. L. L., Ghimire, M. P., Rai, D. P., & Patra, P. K. (2020). Buckling behavior of nonuniform carbon nanotubes using nonlocal elasticity theory and the differential transformation method. *International Nano Letters*, 11(1), 25–34. <https://doi.org/10.1007/s40089-020-00319-5>
- Ram Lamichhane, T., & Prasad Lamichhane, H. (2020). Structural changes in thyroid hormone receptor-beta by T3 binding and L330S mutational interactions. *AIMS Biophysics*, 7(1), 27–40. <https://doi.org/10.3934/biophy.2020003>
- National Journals**
- Gautam, A. K., & Aryal, B. (2020). Study of dust color temperature and visual extinction distribution of a far infrared cavity at 60 and 100 μm IRAS map around the AGB star at galactic latitude 8.6°. *BIBECHANA*, 17, 42–49. <https://doi.org/10.3126/bibechana.v17i0.25839>
- Gautam, A. K., & Aryal, B. (2020). Study of a Far Infrared Cavity at 60 μm and 100 μm IRAS Map around the Carbon-Rich AGB Star at Galactic Latitude 8.6°. *Scientific World*, 13(13), 14–19. <https://doi.org/10.3126/sw.v13i13.30483>
- Malla, J. R., Saurer, W., & Aryal, B. (2020). Spatial orientation of galaxies in supercluster S[227+006+0078]. *BIBECHANA*, 17, 117–122. <https://doi.org/10.3126/bibechana.v17i0.26582>
- Maskey, A., Deuja, A., Basnet, S., & Khanal, R. (2020). Effect of DC Biased Voltage and Ion Temperature on Bounded Ion-Ion Plasma. *Journal of Institute of Science and Technology*, 25(1), 61–67. <https://doi.org/10.3126/jist.v25i1.29449>
- Katuwal, T., Acharya, S. K., Bashyal, B., Neupane, C., Sapkota, B., Parajuli, R., & Khanal, R. (2020). Raman Spectroscopic Study of Valuable Idols from UNESCO World Heritage Sites in Kathmandu, Nepal. *Journal of Nepal Physical Society*, 6(1), 1–6. <https://doi.org/10.3126/jnphysoc.v6i1.30427>
- Adhikari, B. R., Basnet, S., Lamichhane, H. P., & Khanal, R. (2020). Variation of Velocity of Ions in a Magnetized Plasma Sheath for Different Magnetic Field. *Journal of Nepal Physical Society*, 6(1), 25–29. <https://doi.org/10.3126/jnphysoc.v6i1.30513>
- Basnet, S., & Khanal, R. (2020). Tungsten and Molybdenum Surfaces Exposed to Warm Deuterium Ion Plasma with Q-Nonextensive Distribution of Electrons. *Journal of Nepal Physical Society*, 6(1), 50–58. <https://doi.org/10.3126/jnphysoc.v6i1.30517>
- Neupane, H.K. & Adhikari, N.P. (2020). Path Integral Simulations of Harmonic Oscillator, *Journal of Nepal Physical Society* 6 (1), 42-49
- Pantha, N., Chauhan, B., Sharma, P., & Adhikari, N. P. (2020). Tuning Structural and Electronic Properties of Phosphorene with Vacancies. *Journal of Nepal Physical Society*, 6(1), 7–15. <https://doi.org/10.3126/jnphysoc.v6i1.30428>
- Koirala, R. P., Khanal, S. P., Shiwakoti, S., & Adhikari, N. P. (2020). Intermolecular Interaction of Hthyni Protein with Double Methylated DNA at 5m-Cytosine Nucleotide. *Journal of Institute of Science and Technology*, 25(1), 37–44. <https://doi.org/10.3126/jist.v25i1.29444>
- Pantha, N., Thapa, S., & Adhikari, N. P. (2020). First-Principles Study of Molecular Adsorption of Hydrogen/s on Co-Adatom Graphene. *Journal of Institute of Science and Technology*, 25(1), 15–23. <https://doi.org/10.3126/jist.v25i1.29418>
- Pantha, N., Chauhan, B., Sharma, P., & Adhikari, N. P. (2020). Tuning Structural and Electronic Properties of Phosphorene with Vacancies. *Journal of Nepal Physical Society*, 6(1), 7–15. <https://doi.org/10.3126/jnphysoc.v6i1.30428>
- Panthi, B., & Pantha, N. (2020). Hydrophobicity of small alkane molecules (propane dimer) in solvents: a classical molecular dynamics study. *BIBECHANA*, 17, 1–12. <https://doi.org/10.3126/bibechana.v17i0.25504>
- Lamichhane, T. R., & Ghimire, M. P. (2020). Research on Covid-19 from Biophysical Perspective. *Tribhuvan University Journal*, 1–14. <https://doi.org/10.3126/tuj.v34i0.31535>
- Shrestha, S., & Sarkar, C. K. (2020). Comparative studies on the electronic transport in magnetically quantized low band gap semiconductor system. *BIBECHANA*, 17, 34–41. <https://doi.org/10.3126/bibechana.v17i0.21741>

- Lamichhane, T. R., & Lamichhane, H. P. (2020). Constant velocity pulling and unfolding of thyroid hormone receptor by steered molecular dynamics. *BIBECHANA*, 17, 50–57. <https://doi.org/10.3126/bibechana.v17i0.25870>
- Lamichhane, T. R., & Ghimire, M. P. (2020). Research on Covid-19 from Biophysical Perspective. *Tribhuvan University Journal*, 1–14. <https://doi.org/10.3126/tuj.v34i0.31535>

Statistics

- Thapa, R., Khanal, S., Tan, H. S., Thapa, S.S. & van Rens, G.H.M.B.(2020). Prevalence, Pattern & Risk Factors of Retinal Diseases Among an Elderly Population in Nepal: The Bhaktapur Retina Study. *Clinical Ophthalmology*, 14: 2109-2118. (Scopus indexing) National Journal
- Poudel, S., & Khanal, S. P. (2020). Magnitude and Determinants of Computer Vision Syndrome (CVS) among IT Workers in Kathmandu, Nepal. *Nepalese Journal of Ophthalmology*, 12(2), 245–251. <https://doi.org/10.3126/nepjoph.v12i2.29387>
- Poudel, R. K., & Khanal, S. P. (2020). Binary Logistic Regression Model for Assessing Factors Associated with Nutritional Status of Children Under Five Years among Chepang Community in Siddi, Chitwan, Nepal. *Nepalese Journal of Statistics*, 4, 43–56. <https://doi.org/10.3126/njs.v4i0.33451>
- Bhandary, S., Shrestha, S. L., Khatiwada, R. P., Shah, D. N., Munankarmi, N. N., Banjara, M. R., Parajuli, R. T., Manandhar, K. D., Adhikari, R., & Tuladhar, R. (2020). Trend Analysis, Modelling and Impact Assessment of COVID-19 in Nepal. *Journal of Institute of Science and Technology*, 25(2), 1–8. <https://doi.org/10.3126/jist.v25i2.33715>
- Upriy, P. (2020). Measures, Distribution and Decomposition of Poverty: An Empirical Analysis in Nepal. *Nepalese Journal of Statistics*, 4, 1–16. <https://doi.org/10.3126/njs.v4i0.33447>
- Shah, S. K. (2020). Multinomial Logistic Regression Model to Identify Factors Associated with Food Insecurity in Rural Households in Nepal. *Nepalese Journal of Statistics*, 4, 17–32. <https://doi.org/10.3126/njs.v4i0.33448>

Zoology

- Adhikari, J. N., Bhattarai, B. P., Rokaya, M. B., & Thapa, T. B. (2020). Ethno-medicinal uses of vertebrates in the Chitwan-Annapurna Landscape, central Nepal. *PLOS ONE*, 15(10), e0240555. <https://doi.org/10.1371/journal.pone.0240555>
- Chokhal, K., Thapamagar, T., & Bahadur Thapa, T. (2020). Population status and habitat assessment of Cheer Pheasant (*Catreus wallichii*) in Western Nepal. *Ornis Hungarica*, 28(2), 111–119. <https://doi.org/10.2478/orhu-2020-0020>
- Engstrom, R. T., Edenius, L., Thapa, T. B., Bidari, B., Gurung, A., & Mikusiński, G. (2020). Bird Communities of Two Forest Types in Chitwan Valley, Nepal. *Ornithological Science*, 19(1), 29. <https://doi.org/10.2326/osj.19.29>
- Niraula, N., Thapa, T. B., & Bogati, R. (2020). Bengal Fox: Distribution and Den Site Characteristics in Western Jhapa, Nepal. *Journal of Environment Science*, 6.
- Adhikari, R. B., Maharjan, M., & Ghimire, T. R. (2020). Prevalence of Gastrointestinal Parasites in the Frugivorous and the Insectivorous Bats in Southcentral Nepal. *Journal of Parasitology Research*, 2020, 1–12. <https://doi.org/10.1155/2020/8880033>
- Bhusal, D. R. (2020). Insect Pollinators, Threats For Survival and Ecosystem Service: An Outlook From Hindu-Kush Himalaya Region. In *Hindu Kush-Himalaya Watersheds Downhill: Landscape Ecology and Conservation Perspectives* (pp. 565–576). Springer International Publishing. https://doi.org/10.1007/978-3-030-36275-1_27
- Bhusal, D. R., Chandra Ghimire, K., Patel, P., Bista, M., Upadhyay, R., & Kumar, B. (2020). Temperature and altitude modulate feeding attributes of Mexican beetle, *Zygogramma bicolorata* Pallister on *Parthenium hysterophorus*. *Journal of Thermal Biology*, 89, 102540. <https://doi.org/10.1016/j.jtherbio.2020.102540>
- Bhusal, D.R., Ghimire, K.C., Upadhyay, R., Bista, M. & Kumar, B. (2020). Phenotypic plasticity along altitudinal gradient affects the feeding efficiency & development of the parthenium beetle, *Zygogramma bicolorata* (Coleoptera: Chrysomelidae). *Acta Entomologica Sinica*, 63 (9): 1117-1124.
- Patel, P., Kumar, B., Upadhyay, R., Bhusal, D. R., & Kumar, D. (2020). Semiochemical tracks of predaceous Coccinellidae (Coleoptera) modulate feeding attributes and assimilation of nutrients in *Zygogramma bicolorata* (Coleoptera: Chrysomelidae). *The Canadian Entomologist*, 152 (3), 330–341. <https://doi.org/10.4039/tce.2020.18>
- Subba, S., K. Mahaseth, V., R. Subba, B., & R. Bhusal, D. (2020). Monthly dynamics of reproductive indices of *Neolissochilus hexagonolepis* (McClelland, 1839) and their relationship with physico-chemical parameters along the mid-reaches of Tamor River, Nepal. *Egyptian Journal of Aquatic Biology and Fisheries*, 24(2), 239–247. <https://doi.org/10.21608/ejabf.2020.80222>
- Thapamagar, T., Youlatos, D., Bhusal, D.R. & Bhandari, S. (2020). Habitat & nest use by hoary-bellied squirrels (*Callosciurus pygerythrus*): preliminary observations in central Nepal. *Tropical Ecology*
- Yang, B., Qi, K., Bhusal, D. R., Huang, J., Chen, W., Wu, Q., Hussain, A., & Pang, X. (2020). Soil microbial community and enzymatic activity in soil particle-size fractions of spruce plantation and secondary birch forest. *European Journal of Soil Biology*, 99, 103196. <https://doi.org/10.1016/j.ejsobi.2020.103196>
- Adhikari, S., Sharma, H. P., Rimal, B., Belant, J. L., & Katuwal, H. B. (2020). Road as a major driver for potential distribution of the invasive giant African land snail in Nepal. *Tropical Ecology*, 61(4), 583–588. <https://doi.org/10.1007/s42965-020-00115-4>
- Katuwal, H. B., Basent, H., Sharma, H. P., Koirala, S., Khanal, B., Neupane, K. R., Thapa, K. B., Panta, D. B., Parajuli, K., Lamichhane, S., Rai, M., Pun, T., Shakya, S., & Baral, S. (2020). Wildlife assessment of the Chandragiri hills, Kathmandu: Potentiality for ecotourism. *European Journal of Ecology*, 6(1), 27–50. <https://doi.org/10.17161/eurojcol.v6i1.13520>
- Kunwar, R. M., Adhikari, Y. P., Sharma, H. P., Rimal, B., Devkota, H. P., Charmakar, S., Acharya, R. P., Baral, K., Ansari, A. S., Bhattarai, R., Thapa-Magar, S., Paudel, H. R., Baral, S., Sapkota, P., Upriy, Y., LeBoa, C., & Jentsch, A. (2020). Distribution, use, trade and conservation of *Paris polyphylla* Sm. in Nepal. *Global Ecology and Conservation*, 23, e01081. <https://doi.org/10.1016/j.gecco.2020.e01081>

- Kunwar, R. M., Rimal, B., Sharma, H. P., Poudel, R. C., Pyakurel, D., Tiwari, A., Magar, S. T., Karki, G., Bhandari, G. S., Pandey, P., & Bussmann, R. W. (2021). Distribution and habitat modeling of *Dactylorhiza hatagirea* (D. Don) Soo, *Paris polyphylla* Sm. and *Taxus* species in Nepal Himalaya. *Journal of Applied Research on Medicinal and Aromatic Plants*, 20, 100274. <https://doi.org/10.1016/j.jarmap.2020.100274>
- Rijal, S., Rimal, B., Stork, N., & Sharma, H. P. (2020). Quantifying the drivers of urban expansion in Nepal. *Environmental Monitoring and Assessment*, 192(10). <https://doi.org/10.1007/s10661-020-08544-3>
- Sharma, H. P., Adhikari, S., Rai, Y., Sijapati, R., Chand, S., Karki, M., Magar, R. T., Husain, A., Khatri, K. B., Karki, M., Badu, S., Bajracharya, S., Pathak, S., Shah, R., & Pokhrel, C. P. (2020). Responses of Captive Ostrich *Struthio camelus* to Zoo Visitors at Central Zoo, Lalitpur, Nepal. *Pakistan Journal of Zoology*, 52(6). <https://doi.org/10.17582/journal.pjz/2019092902092>
- Sharma, H. P., Rimal, B., Zhang, M., Sharma, S., Poudyal, L. P., Maharjan, S., Kunwar, R., Kaspal, P., Bhandari, N., Baral, L., Dhakal, S., Tripathi, A., Karki, N., Khadki, B., Thapa, P., Acharya, B. K., Acharya, S., Baral, K., & Katuwal, H. B. (2020). Potential Distribution of the Critically Endangered Chinese Pangolin (*Manis pentadactyla*) in Different Land Covers of Nepal: Implications for Conservation. *Sustainability*, 12(3), 1282. <https://doi.org/10.3390/su12031282>
- Sharma, S., Sharma, H. P., Chaulagain, C., Katuwal, H. B., & Belant, J. L. (2020). Estimating occupancy of Chinese pangolin (*Manis pentadactyla*) in a protected and non-protected area of Nepal. *Ecology and Evolution*, 10(10), 4303–4313. <https://doi.org/10.1002/ece3.6198>
- Sharma, S., Sharma, H. P., Katuwal, H. B., & Belant, J. L. (2020). Knowledge of the Critically Endangered Chinese pangolin (*Manis pentadactyla*) by local people in Sindhupalchok, Nepal. *Global Ecology and Conservation*, 23, e01052. <https://doi.org/10.1016/j.gecco.2020.e01052>
- Sharma, S., Sharma, H. P., Katuwal, H. B., Chaulagain, C., & Belant, J. L. (2020). People's Knowledge of Illegal Chinese Pangolin Trade Routes in Central Nepal. *Sustainability*, 12(12), 4900. <https://doi.org/10.3390/su12124900>
- Sharma, H. P., Adhikari, S., Rai, Y., Sijapati, R., Chand, S., Karki, M., Magar, R. T., Husain, A., Khatri, K. B., Karki, M., Badu, S., Bajracharya, S., Pathak, S., Shah, R., & Pokhrel, C. P. (2020). Responses of Captive Ostrich *Struthio camelus* to Zoo Visitors at Central Zoo, Lalitpur, Nepal. *Pakistan Journal of Zoology*, 52(6). <https://doi.org/10.17582/journal.pjz/2019092902092>
- Böhm, M., Dewhurst-Richman, N.I., Seddon, M., Ledger, S.E. H., Albrecht, C., Allen, D., Bogan, A.E., Cordeiro, J., Cummings, K.S., Cuttelod, A., Darrigan, G., Darwall, W., Fehér, Z., Gibson, C., Graf, D. L., Köhler, F., Lopes-Lima, M., Pastorino, G., Perez, K.E., Smith, K., Damme, D.v., Vinarski, M.V., Proschwitz, T.v., Rintelen, T.v., Aldridge, D.C., Aravind, N.A., Budha, P.B., Clavijo, C., Tu, D.V., Gargominy, O., Ghamizi, M., Haase, M., Hilton-Taylor, C., Johnson, P.D., Kebapçı, U., Lajtner, J., Lange, C.N., Lepitzki, D.A.W., Martínez-Ortí, A., Moorkens, E.A., Neubert, E., Pollock, C.M., Prié, V., Radea, C., Ramirez, R., Ramos, M.A., Santos, S.B., Slapnik, R., Son, M.O., Stensgaard, A.-S. & Collen, B. (2020). The conservation status of the world's freshwater molluscs. *Hydrobiologia*, <https://doi.org/10.1007/s10750-020-04385-w1-24>.
- Gittenberger, E., Budha, P. B., & Bank, R. A. (2020). Amazing *Paralaoma servilis* (Gastropoda, Pulmonata, Punctidae) in Nepal. *Basteria*, 84(1-3), 76-82.
- Nokhbatolfoghahai, M., Conway, K. W., Atherton, L., Budha, P. B., Jowers, M. J., & Downie, J. R. (2020). Larval description and developmental staging of *Amolops* tadpoles from Nepal, including ultrastructure of the oral disc and sucker. *SALAMANDRA*, 56(4), 317-328.
- Subedi, I. P., & Budha, P. B. (2020). Diversity and distribution patterns of ants along elevational gradients. *Nepalese Journal of Zoology*, 4(1), 44–49. <https://doi.org/10.3126/njz.v4i1.30672>
- Subedi, I. P., Budha, P. B., Bharti, H., & Alonso, L. (2020). An updated checklist of Nepalese ants (Hymenoptera, Formicidae). *ZooKeys*, 1006, 99–136. <https://doi.org/10.3897/zookeys.1006.58808>
- Limbu, J. H., & Prasad, A. (2020). Environmental Variables and Fisheries Diversity of the Nuwa River, Panchthar, Nepal. *Scientific World*, 13(13), 69–74. <https://doi.org/10.3126/sw.v13i13.30542>
- PRASAD, A., SHRESTHA, A., LIMBU, J. H., & SWAR, D. (2020). Spatial and Temporal Variation of Fish Assemblages in Seti Gandaki River, Tanahu, Nepal. *Borneo Journal of Resource Science and Technology*, 10(2), 93–104. <https://doi.org/10.33736/bjrst.2048.2020>
- Chen, Z., Li, X., Song, W., Li, Q., Onditi, K., Khanal, L., & Jiang, X. (2020). Small mammal species richness and turnover along elevational gradient in Yulong Mountain, Yunnan, Southwest China. *Ecology and Evolution*, 10(5), 2545–2558. <https://doi.org/10.1002/ece3.6083>
- Khanal, L., Paudel, B. K., & Acharya, B. K. (2020). Community vulnerability to epidemics in Nepal: A high-resolution spatial assessment amidst COVID-19 pandemic. *Nepalese Journal of Zoology*, 4(1), 23–35. <https://doi.org/10.3126/njz.v4i1.30670>
- Neupane, J., Khanal, L., & Chalise, M. K. (2020). Avian diversity in Kaligandaki River basin, Annapurna Conservation Area, Nepal. *International Journal of Ecology and Environmental Sciences*, 46(2), 99-110.
- Neupane, J., Khanal, L., Gyawali, B., & Chalise, M. K. (2020). Elevational pattern and seasonality of avian diversity in Kaligandaki River Basin, central Himalaya. *Journal of Threatened Taxa*, 12(14), 16927–16943. <https://doi.org/10.11609/jott.5815.12.14.16927-16943>
- Pandey, N., Khanal, L., & Chalise, M. K. (2020). Correlates of avifaunal diversity along the elevational gradient of Mardi Himal in Annapurna Conservation Area, Central Nepal. *Avian Research*, 11(1). <https://doi.org/10.1186/s40657-020-00217-6>
- Roberts, M. C., Joshi, P. R., Monecke, S., Ehrlich, R., Müller, E., Gawlik, D., Diezel, C., Braun, S. D., Paudel, S., Acharya, M., Khanal, L., Koju, N. P., Chalise, M., & Kyes, R. C. (2020). *Staphylococcus aureus* and Methicillin Resistant *S. aureus* in Nepalese Primates: Resistance to Antimicrobials, Virulence, and Genetic Lineages. *Antibiotics*, 9(10), 689. <https://doi.org/10.3390/antibiotics9100689>
- Subedi, I. P., & Budha, P. B. (2020). Diversity and distribution patterns of ants along elevational gradients. *Nepalese Journal of Zoology*, 4(1), 44–49. <https://doi.org/10.3126/njz.v4i1.30672>
- Subedi, I. P., Budha, P. B., Bharti, H., & Alonso, L. (2020). An updated checklist of Nepalese ants (Hymenoptera, Formicidae). *ZooKeys*, 1006, 99–136. <https://doi.org/10.3897/zookeys.1006.58808>
- Adhikari, J. N., Bhattarai, B. P., Rokaya, M. B., & Thapa, T. B. (2020). Ethno-medicinal uses of vertebrates in the Chitwan-Annapurna Landscape, central Nepal. *PLOS ONE*, 15(10), e0240555. <https://doi.org/10.1371/journal.pone.0240555>
- Sapkota, B., Adhikari, R. B., Regmi, G. R., Bhattarai, B. P., & Ghimire, T. R. (2020). Diversity and prevalence of gut parasites in urban macaques. *Applied Science and Technology Annals*, 1(1), 34–41. <https://doi.org/10.3126/asta.v1i1.30270>

- Bhusal, D. R., Chhetri, B., & Subedi, J. R. (2020). Determination of Antibiotics Residues in Milk Samples Collected in the Different Sites of Kathmandu, Nepal. *Asian Journal of Dairy and Food Research*, *OF*. <https://doi.org/10.18805/ajdfr.dr-186>
- Chaudhary, S., & Raj Subedi, J. (2020). Comparative Prevalence of Intestinal Helminths in Satar and Chaudhary Communities of Birtamode Municipality, Jhapa, Nepal. *National Journal of Health Sciences*, *5*(1), 4–12. <https://doi.org/10.21089/njhs.51.0004>
- Khanal, M. & Subedi, J.R. (2020). Prevalence of gastrointestinal parasites in pigs (*Sus domesticus* Linnaeus, 1758) of Chandragiri Municipality Kathmandu, Nepal. *Journal of Animal Science & Veterinary Medicine*, *5*(2): 48-55.
- dey, L. & Subedi, J.R. (2020). Comparative Analysis of Gastro-Intestinal Helminth Parasites of Goat & Buffalo Syangja, Nepal. . *Journal of Animal & Veterinary Advances*, *19*(9): 124-128.
- Poudel, S. & Subedi, J.R. (2020). Prevalence of Gastrointestinal Parasites of Domestic Pig (*Sus scrofa domesticus* Linnaeus, 1758) in Two Farms of Pokhara Valley. *Research Journal of Animal Sciences*. *14* (4): 45-49. *Research Journal of Animal Sciences*, *14*(4): 45-49.
- Shrestha, D., Subedi, J. R., & Chhetri, B. (2020). Gastrointestinal parasites of domesticated duck (*Anas platyrhynchos* Linnaeus, 1758) in Chandragiri municipality, Kathmandu, Nepal. *Ife Journal of Science*, *22*(2), 015–023. <https://doi.org/10.4314/ijfs.v22i2.2>
- Shrestha, G & Singh, N. B. (2020). Distribution of Thalassemia & Hemoglobinopathy in the koch Rajbanshi ethnic group of Jhapa, Nepal. *Int. Res. J. Biological Sci.* *9*(2): 35-38.
- Chan, H. M., Hu, X. F., Cheung, J. S., Parajuli, R. P., Rosol, R., Yumvihoze, E., Williams, L., & Mohapatra, A. (2020). Cohort profile: health effects monitoring programme in Ndilo, Dettah and Yellowknife (YKHEMP). *BMJ Open*, *10*(9), e038507. <https://doi.org/10.1136/bmjopen-2020-038507>
- Cheung, J. S.-J., Hu, X. F., Parajuli, R. P., Rosol, R., Torng, A., Mohapatra, A., Lye, E., & Chan, H. M. (2020). Health risk assessment of arsenic exposure among the residents in Ndilo, Dettah, and Yellowknife, Northwest Territories, Canada. *International Journal of Hygiene and Environmental Health*, *230*, 113623. <https://doi.org/10.1016/j.ijheh.2020.113623>
- Shin, H. H., Parajuli, R. P., Maquiling, A., & Smith-Doiron, M. (2020). Temporal trends in associations between ozone and circulatory mortality in age and sex in Canada during 1984–2012. *Science of The Total Environment*, *724*, 137944. <https://doi.org/10.1016/j.scitotenv.2020.137944>
- Gupta, G. P., Shah, Y., Pant, D. K., Lekhak, S., Shahi, R., Mandal, A., Poudel, P., Dumre, S. P., Pandey, K., & Pandey, B. D. (2020). Preparatory phase for clinical trials of COVID-19 vaccine in Nepal. *Human Vaccines & Immunotherapeutics*, *17*(2), 418–419. <https://doi.org/10.1080/21645515.2020.1809267>
- Poudyal, P., Sharma, K., Dumre, S. P., Bastola, A., Chalise, B. S., Shrestha, B., Poudel, A., Giri, A., Bhandari, P., Shah, Y., Poudel, R. C., Khadka, D., Maharjan, J., Ngwe Tun, M. M., Morita, K., Pandey, B. D., & Pandey, K. (2020). Molecular study of 2019 dengue fever outbreaks in Nepal. *Transactions of The Royal Society of Tropical Medicine and Hygiene*, *115*(6), 619–626. <https://doi.org/10.1093/trstmh/traa096>

Birendra Multiple Campus, Bharatpur, chitawan

- Pandey, D. P., & Chaudhary, B. (2019). Snapshot View of Intestinal Parasites in Wild Birds of Chitwan District, the Southcentral Lowlands of Nepal. *Research Journal of Parasitology*, *15*(1), 1–8. <https://doi.org/10.3923/jp.2020.1.8>
- Chaudhary, B. (2020). Home Point Study of Birds and Mammals Diversity Allied to Humans in Lockdown of COVID-19 at Bharatpur, Chitwan, Nepal. *Open Journal of Ecology*, *10*(09), 612–631. <https://doi.org/10.4236/oje.2020.109038>
- Pandey, D. P., Chaudhary, B., Subedi Pandey, G., Piya, R. C., & Devkota, N. R. (2020). School students' perceptions on snakes, their uses, and snakebite in Nepal: implications for snake conservation and snakebite prevention. *Advances in Clinical Toxicology*, *5*(1).
- DP, P. (2020). School Students' Perceptions on Snakes, their Uses, and Snakebite in Nepal: Implications for Snake Conservation and Snakebite Prevention. In *Advances in Clinical Toxicology (Vol. 5, Issue 1)*. Medwin Publishers. <https://doi.org/10.23880/act-16000180>
- Sharma, K., Dhungana, G., Adhikari, S., Pandey, A. B., & Sharma, M. (2020). Psychiatric Morbidities in Patients with Non-communicable Diseases among Inpatients of Medicine Department in a Tertiary Care Hospital: A Descriptive Cross-sectional Study. *Journal of Nepal Medical Association*, *58*(232). <https://doi.org/10.31729/jnma.5255>
- Kumar Joshi, R., & Prasad Dhungana, G. (2020). Exponentiated Rayleigh Poisson Distribution: Model, Properties and Applications. *American Journal of Theoretical and Applied Statistics*, *9*(6), 272. <https://doi.org/10.11648/j.ajtas.20200906.13>
- Dhungana, G. P. (2020). A New Poisson Inverted Exponential Distribution: Model, Properties and Application. *Prithvi Academic Journal*, 136–146. <https://doi.org/10.3126/paj.v3i1.31292>
- Dhungana, G. P., & Sapkota, L. P. (2020). Prediction of Haemoglobin Level by Some Probability Distribution. *Journal of Balkumari College*, *9*(1), 84–88. <https://doi.org/10.3126/jbkc.v9i1.30090>
- Joshi, A. K., Tiwari, D. P., Poudyal, A., Shrestha, N., Acharya, U., & Dhungana, G. P. (2020). Utilization of Family Planning Methods Among Postpartum Mothers in Kailali District, Nepal. *International Journal of Women's Health*, *Volume 12*, 487–494. <https://doi.org/10.2147/ijwh.s249044>
- Shrestha, N., Pokharel, R., Poudyal, A., Subedi, R., Mahato, N. K., Gautam, N., KC, D., & Dhungana, G. P. (2020). Fertility Desire and Its Determinants Among People Living with HIV in Antiretroviral Therapy Clinic of Teku Hospital, Nepal. *HIV/AIDS - Research and Palliative Care*, *Volume 12*, 41–46. <https://doi.org/10.2147/hiv.s235502>
- Wagle, S., & Dhungana, G. P. (2020). Factors Influencing Individual Investor's Behaviour in Nepali Stock Market. *Artha Vijnana: Journal of The Gokhale Institute of Politics and Economics*, *62*(4), 413–420.
- Paudyal, D. R., & Mishra, L. N. (2020). ON APPROXIMATION OF SUM OF CONVERGENT SERIES. *The Journal of Engineering and Exact Sciences*, *6*(3), 0421–0428. <https://doi.org/10.18540/jcecvl6iss3pp0421-0428>
- Paudyal, D. R. (2020). Approximating the Sum of Infinite Series of Non Negative Terms with reference to Integral Test. *The Nepali Mathematical Sciences Report*, *37*(1–2), 63–70. <https://doi.org/10.3126/nmsr.v37i1-2.34092>
- Rajendra, N. (2020). Study on Emitted Radiations from Filament Bulb of Different Power. *Journal of Applied Mathematics and Physics*, *08*(08), 1615–1645. <https://doi.org/10.4236/jamp.2020.88124>

- Adhikari, B., & Ale, S. (2020). Effect of Drying Temperature and Natural Fermentation on the Phytochemical Composition of Stinging Nettle Buds (*Urtica parviflora*). *Himalayan Journal of Science and Technology*, 1–7. <https://doi.org/10.3126/hijost.v4i0.33859>
- Ghimire, A., & Parajuli, P. (2020). Effect of Frozen Storage on the Water- Holding Capacity and pH of Broiler Chicken cut-up Parts (*Gallus gallus domesticus*). *Himalayan Journal of Science and Technology*, 8–15. <https://doi.org/10.3126/hijost.v4i0.33860>
- KC, M., & Singh, N. B. (2020). Ethnomedicinal Knowledge of Kisan Community - A Case Study. *Himalayan Journal of Science and Technology*, 16–23. <https://doi.org/10.3126/hijost.v4i0.33861>
- Adhikari, D., Silwal, C. B., & Giri, S. (2020). Geological and Geotechnical State of the Nisane Khola Landslide, Dharan, Sunsari, Nepal: a case study. *Himalayan Journal of Science and Technology*, 24–31. <https://doi.org/10.3126/hijost.v4i0.33862>
- Limbu, D. S., Bantawa, K., Limbu, D. K., Devkota, M., & Ghimire, M. (2020). Microbiological Quality and Adulteration of Pasteurized and Raw Milk Marketed in Dharan, Nepal. *Himalayan Journal of Science and Technology*, 37–44. <https://doi.org/10.3126/hijost.v4i0.33864>
- Bhattarai, K., Adhikari, B., & Ghimire, P. (2020). Moisture Sorption Characteristics of Weaning Food. *Himalayan Journal of Science and Technology*, 45–50. <https://doi.org/10.3126/hijost.v4i0.33865>
- Tamang, G., Thapa, G. B., Kharel, M., Subba, A., & Pradhan, A. (2020). Population Status, Menaces and Management of Rhesus macaque (*Macaca mulatta*) and Tarai gray langur (*Semnopithecus hector*) in the Forest of Dharan and its Vicinities. *Himalayan Journal of Science and Technology*, 51–59. <https://doi.org/10.3126/hijost.v4i0.33866>
- KC, Y., Rajbanshi, R., Bhattarai, P., Dhungana, P. K., & Subba, D. (2020). Process Optimization of Finger Millet Incorporated Extrudates. *Himalayan Journal of Science and Technology*, 60–67. <https://doi.org/10.3126/hijost.v4i0.33870>
- Maskey, B., Sangroula, P., & Shrestha, N. K. (2020). Utilization of Banana (*Musa acuminata*) Pseudostem for Biscuit Making. *Himalayan Journal of Science and Technology*, 74–80. <https://doi.org/10.3126/hijost.v4i0.33873>
- Phattepuri, S., Subba, P., Ghimire, A., & Sah, S. N. (2020). AntibioGram Profiling and Thermal Inactivation of *Staphylococcus aureus* and *Escherichia coli* Isolated from Milk of Dharan, Nepal. *Himalayan Journal of Science and Technology*, 81–87. <https://doi.org/10.3126/hijost.v4i0.33875>
- Limbu, J., Shrestha, B. K., Shakya, J., Khatri, S. B., & Khanal, H. (2020). Isolation of *Bacillus thuringiensis* and its Insecticidal Effect against *Galleria mellonella*. *Himalayan Journal of Science and Technology*, 96–102. <https://doi.org/10.3126/hijost.v4i0.33918>
- Silwal, C. B., Pathak, D., Adhikari, D., & Adhikari, T. R. (2020). Climate Change and Its Possible Impact in Groundwater Resource of the Kankai River Basin, East Nepal Himalaya. *Climate*, 8(11), 137. <https://doi.org/10.3390/cli8110137>
- Ghimire, A., Kumar Sah, A., & Poudel, R. (2020). Kinetics and modeling of growth and lactic acid production in Gundruk , a Himalayan fermented vegetable dish. *Food Science & Nutrition*, 8(10), 5591–5600. <https://doi.org/10.1002/fsn3.1854>
- Bista, R., Ghimire, A., & Subedi, S. (2020). Phytochemicals and Antioxidant Activities of Aloe Vera (*Aloe Barbadensis*). *Journal of Nutritional Science and Healthy Diet*, 1(1). <https://doi.org/10.47890/jnshd/2020/rbista/10243803>
- Ghimire, A., Basnet, S., Poudel, R., & Ghimire, A. (2020). Mathematical modeling of thin layer microwave drying of Jaya fish (*Aspidoparia jaya*). *Food Science and Technology International*, 27(6), 508–516. <https://doi.org/10.1177/1082013220969353>
- Holt, J. A. (1997). Grazing pressure and soil carbon, microbial biomass and enzyme activities in semi-arid northeastern Australia. *Applied Soil Ecology*, 5(2), 143–149. [https://doi.org/10.1016/s0929-1393\(96\)00145-x](https://doi.org/10.1016/s0929-1393(96)00145-x)
- Khanal, S., & Bhattarai, K. (2020). Study on Post Harvest Losses in Potato in Different Storage Conditions. *Journal of Food Science and Technology Nepal*, 12(12), 14–19. <https://doi.org/10.3126/jfstn.v12i12.25298>
- Mahendra Morang Adarsh Multiple Campus, Biratnagar,
- Khadka, B., Bhattarai, A. (2020). UV-VIS studies on interaction between sodium dioctylsulfosuccinate (AOT) and methyl red. *Rev. Roum. Chim.*, 65(11), 989-996, DOI: 10.33224/rrch.2020.65.11.04.
- Shah, P., Jha, N., & Bhattarai, A. (2020). Physicochemical Studies on the Interaction between Sodium Dodecyl Sulfate and Methylene Blue in Methanol-Water Mixed Solvent Media. *Journal of Chemistry*, 2020, 1–13. <https://doi.org/10.1155/2020/5292385>.
- Acharya, S., Niraula, T., & Bhattarai, A. (2020). Conductivity Study of DTAB in Water and Ethanol-Water Mixture in the Presence and Absence of ZnSO₄. *Baghdad Science Journal*, 17(4), 1207. <https://doi.org/10.21123/bsj.2020.17.4.1207>.
- Kvyatkovskaya, E. A., Atioglu, Z., Akkurt, M., Epifanova, P. P., Valchuk, K. S., Khrustalev, V. N., & Bhattarai, A. (2020). Crystal structure and Hirshfeld analysis of di-tert-butyl 2,2'-(ethylazanediyl)bis(methylene)bis(1H-pyrrole-1-carboxylate). *Acta Crystallographica Section E Crystallographic Communications*, 76(12), 1827–1831. <https://doi.org/10.1107/s2056989020014966>.
- Rauniyar, B. S., & Bhattarai, A. (2020). Study of conductivity, contact angle and surface free energy of anionic (SDS, AOT) and cationic (CTAB) surfactants in water and isopropanol mixture. *Journal of Molecular Liquids*, 114604. <https://doi.org/10.1016/j.molliq.2020.114604>.
- Shah, P., & Bhattarai, A. (2020). Advances in Surfactants in Foliar Application of Agrochemicals on Mango Leaf Surfaces. *Tenside Surfactants Detergents*, 57(6), 460–468. <https://doi.org/10.3139/113.110715>.
- Dev, R. K., Mishra, P., Kumar Chaudhary, N., & Bhattarai, A. (2020). Synthesis, Characterization, and Antibacterial Evaluation of Heteroleptic Oxytetracycline-Salicylaldehyde Complexes. *Journal of Chemistry*, 2020, 1–10. <https://doi.org/10.1155/2020/7961345>.
- Çelikesir, S. T., Akkurt, M., Shikhaliyev, N. Q., Suleymanova, G. T., Babayeva, G. V., Gurbanova, N. V., Mammadova, G. Z., & Bhattarai, A. (2020). Crystal structure and Hirshfeld surface analysis of (E)-1-(2,6-dichlorophenyl)-2-(2-nitrobenzylidene)hydrazine. *Acta Crystallographica Section E Crystallographic Communications*, 76(8), 1173–1178. <https://doi.org/10.1107/s2056989020008567>.
- Shah, S. K., & Bhattarai, A. (2020). Interfacial and Micellization Behavior of Cetyltrimethylammonium Bromide (CTAB) in Water and Methanol-Water Mixture at 298.15 to 323.15 K. *Journal of Chemistry*, 2020, 1–13. <https://doi.org/10.1155/2020/4653092>.
- Sachin, K. M., Karpe, S. A., Singh, M., & Bhattarai, A. (2020). Interaction Between α -Glucosidase Inhibitor with Common Blood Proteins: A Thermodynamic and Spectroscopic Studies. *Asian Journal of Chemistry*, 32(7), 1756–1762. <https://doi.org/10.14233/aichem.2020.22685>.
- Bhattarai, A. (2020). Studies of aggregation properties of surfactant with and without polyelectrolyte in water and binary mixture of methanol-

water from the surface tension measurements. *Journal of Molecular Liquids*, 312, 113438. <https://doi.org/10.1016/j.molliq.2020.113438>.

- Dev, R. K., Bhattarai, A., Chaudhary, N. K., & Mishra, P. (2020). Synthesis, Spectroscopic Characterization and Antibacterial Assessment of Zirconium (II) and Palladium (II) Complexes of TcSal Mixed Ligand (Tetracycline (Tc) as Primary Ligand and Salicylaldehyde as Secondary Ligand, *Asian Journal of Chemistry*, 32(6), 1473–1481. <https://doi.org/10.14233/ajchem.2020.22623>.
- O'zkaraca, K., Akkurt, M., Shikhaliyev, N.Q., Askerova, U.F., Suleymanova, G.T., Shikhaliyev, I.M., Bhattarai, A. (2020). Crystal structure and Hirshfeld surface analysis of 4-{2,2-dichloro-1-[(E)-(4-fluorophenyl)diazanyl]-ethenyl}-N,N-dimethylaniline, *Acta Cryst. E76* <https://doi.org/10.1107/S2056989020006106>.
- Chaudhary, N. K., Bhattarai, A., Guragain, B., & Bhattarai, A. (2020). Conductivity, Surface Tension, and Comparative Antibacterial Efficacy Study of Different Brands of Soaps of Nepal. *Journal of Chemistry*, 2020, 1–13. <https://doi.org/10.1155/2020/6989312>.
- Chandra, A., Bhattarai, A., Yadav, A. K., Adhikari, J., Singh, M., & Giri, B. (2020). Green Synthesis of Silver Nanoparticles Using Tea Leaves from Three Different Elevations. *ChemistrySelect*, 5(14), 4239–4246. <https://doi.org/10.1002/slct.201904826>.
- Ghimire, Y., Amatya, S., Shah, S. K., & Bhattarai, A. (2020). Thermodynamic properties and contact angles of CTAB and SDS in acetone–water mixtures at different temperatures. *SN Applied Sciences*, 2(7). <https://doi.org/10.1007/s42452-020-3036-1>.
- Chaudhary, N. K., Guragain, B., Lamichhane-Khadka, R., & Bhattarai, A. (2020). Solution properties and comparative antimicrobial efficacy study of different brands of toothpaste of Nepal. *Beni-Suef University Journal of Basic and Applied Sciences*, 9(1). <https://doi.org/10.1186/s43088-020-00050-2>.
- Paudel, I. M., & Bhattarai, A. (2020). Interaction of thymidine with sodium bis (2-ethylhexyl) sulfosuccinate in alcohol and water: Studies with UV-Vis technique. *Pharmaceutical Sciences and Research*, 7(1), 4.

Mahendra Morang Adarsha Multiple Campus

- Khadka, B., Bhattarai, A. (2020). UV-VIS studies on interaction between sodium dioctylsulfosuccinate (AOT) and methyl red. *Rev. Roum. Chim.*, 65(11), 989–996, DOI: 10.33224/rch.2020.65.11.04.
- Shah, P., Jha, N., & Bhattarai, A. (2020). Physicochemical Studies on the Interaction between Sodium Dodecyl Sulfate and Methylene Blue in Methanol-Water Mixed Solvent Media. *Journal of Chemistry*, 2020, 1–13. <https://doi.org/10.1155/2020/5292385>.
- Acharya, S., Niraula, T., & Bhattarai, A. (2020). Conductivity Study of DTAB in Water and Ethanol-Water Mixture in the Presence and Absence of ZnSO₄. *Baghdad Science Journal*, 17(4), 1207. <https://doi.org/10.21123/bsj.2020.17.4.1207>.
- Kvyatkovskaya, E. A., Atioğlu, Z., Akkurt, M., Epifanova, P. P., Valchuk, K. S., Khrustalev, V. N., & Bhattarai, A. (2020). Crystal structure and Hirshfeld analysis of di-tert-butyl 2,2'-[(ethylazanediyl)bis(methylene)]bis(1H-pyrrole-1-carboxylate). *Acta Crystallographica Section E Crystallographic Communications*, 76(12), 1827–1831. <https://doi.org/10.1107/s2056989020014966>.
- Rauniyar, B. S., & Bhattarai, A. (2020). Study of conductivity, contact angle and surface free energy of anionic (SDS, AOT) and cationic (CTAB) surfactants in water and isopropanol mixture. *Journal of Molecular Liquids*, 114604. <https://doi.org/10.1016/j.molliq.2020.114604>.
- Shah, P., & Bhattarai, A. (2020). Advances in Surfactants in Foliar Application of Agrochemicals on Mango Leaf Surfaces. *Tenside Surfactants Detergents*, 57(6), 460–468. <https://doi.org/10.3139/113.110715>.
- Dev, R. K., Mishra, P., Kumar Chaudhary, N., & Bhattarai, A. (2020). Synthesis, Characterization, and Antibacterial Evaluation of Heteroleptic Oxytetracycline-Salicylaldehyde Complexes. *Journal of Chemistry*, 2020, 1–10. <https://doi.org/10.1155/2020/7961345>.
- Çelikesir, S. T., Akkurt, M., Shikhaliyev, N. Q., Suleymanova, G. T., Babayeva, G. V., Gurbanova, N. V., Mammadova, G. Z., & Bhattarai, A. (2020). Crystal structure and Hirshfeld surface analysis of (E)-1-(2,6-dichlorophenyl)-2-(2-nitrobenzylidene)hydrazine. *Acta Crystallographica Section E Crystallographic Communications*, 76(8), 1173–1178. <https://doi.org/10.1107/s2056989020008567>.
- Shah, S. K., & Bhattarai, A. (2020). Interfacial and Micellization Behavior of Cetyltrimethylammonium Bromide (CTAB) in Water and Methanol-Water Mixture at 298.15 to 323.15 K. *Journal of Chemistry*, 2020, 1–13. <https://doi.org/10.1155/2020/4653092>.
- Sachin, K. M., Karpe, S. A., Singh, M., & Bhattarai, A. (2020). Interaction Between α -Glucosidase Inhibitor with Common Blood Proteins: A Thermodynamic and Spectroscopic Studies. *Asian Journal of Chemistry*, 32(7), 1756–1762. <https://doi.org/10.14233/ajchem.2020.22685>.
- Bhattarai, A. (2020). Studies of aggregation properties of surfactant with and without polyelectrolyte in water and binary mixture of methanol-water from the surface tension measurements. *Journal of Molecular Liquids*, 312, 113438. <https://doi.org/10.1016/j.molliq.2020.113438>.
- Dev, R. K., Bhattarai, A., Chaudhary, N. K., & Mishra, P. (2020). Synthesis, Spectroscopic Characterization and Antibacterial Assessment of Zirconium (II) and Palladium (II) Complexes of TcSal Mixed Ligand (Tetracycline (Tc) as Primary Ligand and Salicylaldehyde as Secondary Ligand, *Asian Journal of Chemistry*, 32(6), 1473–1481. <https://doi.org/10.14233/ajchem.2020.22623>.
- O'zkaraca, K., Akkurt, M., Shikhaliyev, N.Q., Askerova, U.F., Suleymanova, G.T., Shikhaliyev, I.M., Bhattarai, A. (2020). Crystal structure and Hirshfeld surface analysis of 4-{2,2-dichloro-1-[(E)-(4-fluorophenyl)diazanyl]-ethenyl}-N,N-dimethylaniline, *Acta Cryst. E76* <https://doi.org/10.1107/S2056989020006106>.
- Chaudhary, N. K., Bhattarai, A., Guragain, B., & Bhattarai, A. (2020). Conductivity, Surface Tension, and Comparative Antibacterial Efficacy Study of Different Brands of Soaps of Nepal. *Journal of Chemistry*, 2020, 1–13. <https://doi.org/10.1155/2020/6989312>.
- Chandra, A., Bhattarai, A., Yadav, A. K., Adhikari, J., Singh, M., & Giri, B. (2020). Green Synthesis of Silver Nanoparticles Using Tea Leaves from Three Different Elevations. *ChemistrySelect*, 5(14), 4239–4246. <https://doi.org/10.1002/slct.201904826>.
- Ghimire, Y., Amatya, S., Shah, S. K., & Bhattarai, A. (2020). Thermodynamic properties and contact angles of CTAB and SDS in acetone–water mixtures at different temperatures. *SN Applied Sciences*, 2(7). <https://doi.org/10.1007/s42452-020-3036-1>.
- Chaudhary, N. K., Guragain, B., Lamichhane-Khadka, R., & Bhattarai, A. (2020). Solution properties and comparative antimicrobial efficacy study of different brands of toothpaste of Nepal. *Beni-Suef University Journal of Basic and Applied Sciences*, 9(1). <https://doi.org/10.1186/s43088-020-00050-2>.
- Chaudhary, N.K.; Chaudhary, N.; Dahal, M.; Guragain, B.; Rai, S.; Chaudhary, R.; Sachin, K.; Lamichhane-Khadka, R.; Bhattarai, A. Fighting the SARS CoV-2 (COVID-19) Pandemic with Soap. Preprints 2020, 2020050060.doi: 10.20944/preprints202005.0060.v1.

Padmakanya Multiple Campus, Bagbazar, Kathmandu

- Shrestha, P. K., & Shakya, P. R. (2020). Synthesis and Structural Characterization of Some Lanthanide(III) Nitrate Complexes with a Mesogenic Schiff-Base, N,N'-di-4-(4'-heptadecyloxybenzoate) salicylidene-1,3-diaminopropane Derived from 2,4- dihydroxybenzaldehyde. *Journal of Nepal Chemical Society*, 41(1), 16–25. <https://doi.org/10.3126/jncs.v41i1.30509>
- Napit, A., Shakya, S., Shrestha, M., Shakya, R. K., Shrestha, P. K., Pradhananga, A. R., Ghimire, N. G., Pant, D. R., & Shakya, P. R. (2020). Pollution Characteristics and Human Health Risks to Heavy Metals Exposure in Street Dust of Kathmandu, Nepal. *Advanced Journal of Chemistry-Section A*, 3(5). <https://doi.org/10.22034/ajca.2020.106231>
- Shrestha (Singh), S., & Khadka, R. (2020). Antibacterial Activity of Lemongrass on Gram Positive & Gram Negative Bacteria of Human Pathogens. *Journal of Plant Resources*, 18(1), 219-225. <https://dpr.gov.np/wp-content/uploads/2020/07/1.-Journal-of-Plant-Resources-2019-Full.pdf>
- Shrestha, R. M. (2020). Drought or Wet Assessment of Daily Rainfall Pattern of the Budhi Gandaki River Basin, Nepal: Standardized Precipitation Index Approach using Probabilistic Model. *Nepalese Journal of Statistics*, 4, 57–72. <https://doi.org/10.3126/njs.v4i0.33497>

Patan Samukta Campus, Patandhoka, Lalitpur

- Shrestha, P. M., Chapagain, N. P., Karki, I. B., & Poudyal, K. N. (2020). Variation on Atmospheric Transmittance Solar Radiation at Kathmandu Valley. *Journal of Nepal Physical Society*, 6(1), 105–112. <https://doi.org/10.3126/jnphysoc.v6i1.30558>
- Shrestha, P. M., Poudyal, K. N., Chapagain, N. P., & Karki, I. B. (2020). Study of Affecting Factors of Meteorological Parameters on Solar Radiation in Kathmandu Valley. *The Batuk*, 6(1), 72–80. <https://doi.org/10.3126/batuk.v6i1.32645>
- Shrestha, P. M., Joshi, U., Chapagain, N. P., Karki, I. B., & Poudyal, K. N. (2020). Study of Variation of aerosols on High Mountain, Jomsom. *Molung Educational Frontier*, 10, 147–155. <https://doi.org/10.3126/mef.v10i0.34081>

Post graduate Campus, Biratnagar

- Dhakal, S., Rai, S. K., Chalise, P., & Thapa, T. K. (2020). Algal Flora of Gajedi Lake, Rupandehi District, Central Nepal. *J Plant Res*, 18(1), 27–38.
- Rai, S.K., Godar, K. & Dhakal, S. (2020). Some freshwater green algae of Raja-Rani Wetland, Letang, Morang: New for Nepal. *Journal of Plant Resources*, 18(1), 6-26. http://dpr.gov.np/wp-content/uploads/2020/08/Journal-of-Plant-Resources_-2020.pdf

Tri-Chandra Multiple Campus, Ghantaghar, Kathmandu

- Thakur, M. K., Kumar, T. V. L., Narayanan, M. S., Kundeti, K. R., & Barbosa, H. (2020). Analytical study of the performance of the IMERG over the Indian landmass. *Meteorological Applications*, 27(3). <https://doi.org/10.1002/met.1908>
- Kumar Thakur, M., Desamsetti, S., Naga Rajesh, A., Koteswara Rao, K., Narayanan, M. S., & Lakshmi Kumar, T. V. (2020). Exploring the rainfall data from satellites to monitor rainfall induced landslides – A case study. *Advances in Space Research*, 66(4), 887–894. <https://doi.org/10.1016/j.asr.2020.05.015>
- Buriti, C. de O., Barbosa, H. A., Paredes-Trejo, F. J., Kumar, T. V. L., Thakur, M. K., & Rao, K. K. (2020). Un Siglo de Sequías: ¿Por qué las Políticas de Agua no Desarrollaron la Región Semiárida Brasileña? *Revista Brasileira de Meteorologia*, 35(4), 683–688. <https://doi.org/10.1590/0102-77863540073>
- Thakur, M. K., Desamsetti, S., Rajesh, A. N., Rao, K. K., Narayanan, M. S., & Kumar, T. L. (2020). Exploring the rainfall data from satellites to monitor rainfall induced landslides—A case study. *Advances in Space Research*, 66(4), 887–894. .

Research centre for Applied Sciecn and Technology (RECAST)

- Rajbhandari, M., & Lindequist, U. (2020). Isolation of Flavonoids from Anaphalis Busua and their Antibacterial Activity. *Journal of Institute of Science and Technology*, 25(1), 1–6. <https://doi.org/10.3126/jist.v25i1.29415>
- Poudel, M., & Rajbhandari, M. (2020). Phytochemical Analysis of Ampelopteris Prolifera (Retzius) Copeland. *Nepal Journal of Science and Technology*, 19(1), 78–88. <https://doi.org/10.3126/njst.v19i1.29786>
- Paneru, D. P., & Rajbhandari, M. (2020). Phytochemical Analysis and Antimicrobial Activity of Smilax ovalifoliaRoxb. Ex D. Don. *Nepal Journal of Science and Technology*, 19(1), 89–96. <https://doi.org/10.3126/njst.v19i1.29787>
- Giri, H., & Rajbhandari, M. (2020). Phytochemical Evaluation of Some Medicinal Plants of Puthan District of Nepal. *Nepal Journal of Science and Technology*, 19(1), 97–106. <https://doi.org/10.3126/njst.v19i1.29789>
- Subedi, C. K., Rokaya, M. B., Münzbergová, Z., Timsina, B., Gurung, J., Chettri, N., Baniya, C. B., Ghimire, S. K., & Chaudhary, R. P. (2020). Vascular plant diversity along an elevational gradient in the Central Himalayas, western Nepal. *Folia Geobotanica*, 55(2), 127–140. <https://doi.org/10.1007/s12224-020-09370-8>
- Bhandari, P., Shrestha, K. & Subedi, C.K. (2020). Orchids of Panchase Forest, Central Nepal: A checklist. *Journal of Plant Resources*, 18 (1), 143–156.
- Pangeni, B., Bhattarai, S., Paudyal, H., & Chaudhary, R. P. (2020). Ethnobotanical Study of Magar Ethnic Community of Palpa District of Nepal. *Ethnobotany Research and Applications*, 20. <https://doi.org/10.32859/era.20.44.1-17>
- Bijay, R. S., Giri, R. T., & Ram, P. C. (2020). DNA isolation and optimization of PCR protocol for ISSR analysis of Girardinia diversifolia: A medicinal and economic plant species from Nepal Himalaya. *African Journal of Biotechnology*, 19(10), 747–753. <https://doi.org/10.5897/ajb2020.17228>
- Pandey, T. R., Bhandari, P., Subedee, B. R., Yang, Y. C., Zhang, S. R., & Qin, H. N. Notes on the First Sino-Nepal Joint Botanical Expedition to Bajhang, West Nepal. *Journal of Plant Resources*, 18(1), 66-81.
- Chapagain, A., Chaudhary, R.P. and Ghimire, S.K. (2020). Population structure of Juniperus indica Bertol. along elevation gradient in Manang, Trans-Himalayas Nepal. *Journal of Plant Resources*, 18(1): 190-204.

- Ambu, G., Chaudhary, R. P., Mariotti, M., & Cornara, L. (2020). Traditional Uses of Medicinal Plants by Ethnic People in the Kavrepalanchok District, Central Nepal. *Plants*, 9(6), 759. <https://doi.org/10.3390/plants9060759>
- Pradhan, S. P., Chaudhary, R. P., Sidel, S., & Pandey, B. P. (2020). Ethnobotanical Knowledge of Khandadevi and Gokulganga Rural Municipality of Ramechhap District of Nepal. *Ethnobotany Research and Applications*, 20. <https://doi.org/10.32859/era.20.07.1-32>
- Schwab, N., Janecka, K., Kaczka, R. J., Böhner, J., Chaudhary, R. P., Scholten, T., & Schickhoff, U. (2020). Ecological relationships at a near-natural treeline, Rolwaling Valley, Nepal Himalaya: Implications for the sensitivity to climate change. *Erdkunde*, 74(1), 15–44. <https://doi.org/10.3112/erdkunde.2020.01.02>
- Aryal, K., Poudel, S., Chaudhary, P., Chaudhary, R. P., Ghimire, K. H., Shrestha, D. S., & Joshi, B. K. (2020). Agro-morphological Diversity of High Altitude Bean Landraces in the Kailash Sacred Landscape of Nepal. *Journal of Nepal Agricultural Research Council*, 6, 1–13. <https://doi.org/10.3126/jnarc.v6i0.28109>

Natural History Museum

- Shrestha, M., Wegener, J., Gautam, I., Singh, M., Schwekendiek, C., & Bienefeld, K. (2020). Individual-Level Comparisons of Honey Bee (Hymenoptera: Apoidea) Hygienic Behavior Towards Brood Infested with *Varroa destructor* (Parasitiformes: Varroidae) or *Tropilaelaps mercedesae* (Mesostigmata: Laelapidae). *Insects*, 11(8), 510. <https://doi.org/10.3390/insects11080510>
- Shrestha, N., & Gautam, I. (2020). Seasonal prevalence of Asian honeybee ectoparasitic mite *Varroa destructor* Anderson and Trueman, 2000 in Madanpokhara Apiaries, Palpa, Nepal. *Nepalese Journal of Zoology*, 4(2), 61–67. <https://doi.org/10.3126/njz.v4i2.33885>
- Tamang, G., Thapa, G. B., Kharel, M., Subba, A., & Pradhan, A. (2020). Population Status, Menaces and Management of Rhesus macaque (*Macaca mulatta*) and Tarai gray langur (*Semnopithecus hector*) in the Forest of Dharan and its Vicinities. *Himalayan Journal of Science and Technology*, 51–59. <https://doi.org/10.3126/hijost.v4i0.33866>
- Shrestha, J. N., Thapa, G. B., & Shrestha, S. (2020). A survey on gastro-intestinal helminth parasites of *Channa* species at Kanchanrup Municipality, Saptari, Nepal. *Journal of Natural History Museum*, 31(1), 33–42. <https://doi.org/10.3126/jnhm.v31i1.39372>

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2	Niraj Dhital	5284	34/50	29	Tribikram Bhattarai	997	11/13
3	Ram Prasad Chaudhary	3234	30/71	30	Sujan Bishwakarma	989	11/13
4	Megh Raj Dhital	2830	24/36	31	Rajani Malla	927	11/15
5	Rameshwar Adhikari	2688	29/76	32	Dwij Raj Bhatta	909	18/29
6	Kedar Nath Ghimire	2337	20/27	33	Vinay Kumar Jha	903	13/16
7	Ranjan Kumar Dahal	2240	21/35	34	Ajaya Bhattarai	845	16/30
8	Gaurishankar Manandhar	2220	24/36	35	Kishor Pandey	831	15/22
9	Pramod Kumar Jha	1987	23/47	36	Narayan Prasad Adhikari	826	12/15
10	Narayan Gaire	1919	16/22	37	Tanka Nath Dhamala	810	16/26
11	Suresh K. Ghimire	1766	21/37	38	Bhanu Neupane	810	13/18
12	Bharat Babu Shrestha	1734	22/36	39	Krishna D. Manandhar	808	11/12
13	Prakash Ghimire	1643	22/53	40	Madhav Prasad Ghimire	806	18/26
14	Yadav Uprety	1604	20/29	41	Hari Paudyal	768	16/18
15	Amar Prasad Yadav	1566	19/24	42	Sangeeta Rajbhandary	715	12/14
16	Kumar Sapkota	1555	24/30	43	Komal Raj Rijal	680	15/21
17	Megha Raj Banjara	1551	21/46	44	Dev Joshi	674	14/21
18	Paras Nath Yadav	1531	18/25	45	Hari Datta Bhattarai	664	14/16
19	Achyut Adhikari	1207	19/48	46	Megh Raj Pokhrel	648	14/17
20	Binod Lekhak	1187	18/25	47	Ram Kailash Yadav	611	10/11
21	Bijaya Pant	1178	18/34	48	Shyam Prakash Dumre	605	15/21
22	Chhatra Mani Sharma	1174	20/34	49	Urmila Pyakurel	590	14/19
23	Surya Kant Kalauni	1171	16/19	50	Mahendra Maharjan	588	10/11
24	Mahesh Kumar Joshi	1158	21/28	51	Binil Aryal	546	11/15
25	Jagadeesh Bhattarai	1123	17/34	52	Indu Shekhar Jha	542	15/19
26	Shankar Khanal	1112	17/18	53	Devendra Adhikari	540	13/19
27	Prakash Joshi	1070	8/8	54	Nabaraj Adhikari	501	12/13

Note: Any corrections/missing in the lists are heartily invited. Please contact: admin@iost.tu.edu.np





Doctoral class orientation program



USAID IPMIL Project Highlights Sharing Meeting



Former & Present Dean



Assistant Dean Appointed