

NEWSLETTER

Volume: 38, Issue: 1, April 2022

Nepal Physical Society

President's Message

Dear Esteemed NPS Members,

Happy New Year to all of you, and a hearty welcome to the 38th General Convention of Nepal Physical Society !

The majority of the NPS activities have been executed virtually using digital technology during past two years due to unfavorable situation of the global epidemic of COVID-19 pandemic. We have developed the dynamics website of the NPS. We were able to form the NPS Chapters in all seven provinces, and the Chapters are actively working at the local and regional levels. Similarly, on the basis of the field of research interests, the NPS divisions are formed to foster the collaborative research in the Physics community. In addition, the NPS conducted the International Physics Olympiad (IPhO) at the CDP, Kirtipur, in an online link via Zoom platform with the IPhO executive team hosted by Lithuanian.

Furthermore, we have organized workshops, seminars, and training programs on a regular basis to help our faculty and students enhance their teaching and research skills. For graduate students and physics faculties, we conducted computational training programs. We organized the school of Python program for MSc and PhD students in the collaboration with ANPA, and a long-term (seven months) School of Advance Computing to grow and develop the computational and research capabilities of our faculty members (participated more than 100) who have been teaching to undergraduate and graduate level Physics courses.

Most noteworthy, the NPS hosted the "International Conference on Frontiers of Physics (ICFP-2022)" through virtual mode on January 22-24, 2022. The

conference brought together eminent professors and scientists from around the world from different fields of physics, who shared their research investigations. This conference, we believe, provided an excellent platform for fostering and motivating learners' enthusiasm in Physics research, particularly among Nepalese researchers. Similarly, we have published Journal of Nepal Physical Society (JNPS) biannually with an additional special issue annually in the collaboration with ANPA. We are also dedicated to upgrade the JNPS into the index journal by strengthening its quality. During the past two-year tenure, the NPS has made even more significant achievements. The president of NPS has been nominated by the Prime minister as an academican of NAST as a representative of the professional organizations. Similarly, the NPS president has also been designated as a member of Physical Science Committee of the NAST.

Finally, I would like to appeal for greater efforts in promoting collaborative excellence in Physics research and education from national and international organizations. I urge all the NPS Chapters to play a more active role and work together in scientific activities. On behalf of the NPS executive committee, I would like to thank to all our esteemed seniors and the NPS members for their tremendous efforts in making our tenure a spectacular success.

Thank you.

With best regards,



Prof. Dr. Narayan P. Chapagain
President
Nepal Physical Society

From the Editorial

Our great pleasure is to introduce the NPS newsletter of Volume 38, issue 1, covering the NPS scientific activities such as NPS news, seminars, talks/ scientific visits, physics-related news, meeting, conferences, and many more information. The editorial board is worth sharing such events along with the executive committee of NPS formed from the general AGM and gave the mandate to flourish events and information in the nation's development in science through path-breaking.

The editorial board also announces its pace proudly in making three-three issues on volumes 6th and 7th (including special issues contributed by the Association of Nepali Physicists in America) of the journal of Nepal Physical society within two years despite its several seen and unseen obstacles such as Covid 19. In any case, the editorial board of JNPS has had a productive two years. JNPS is an ideal venue for exchanging physics-related scientific achievements. The journal's editorial board is strongly convinced of providing peer-reviewed articles and is dedicated to publishing manuscripts bi-annually. JNPS aims to complete the review process of each paper within one month of the first submission to ensure quick dissemination of information. JNPS has upgraded its website to allow all aspects of the publication process to be handled online, including article submission, review, and correspondence. The journal invites original, high-quality articles that demonstrate a thorough mastery of scientific information, experiments, ideas, methodologies, and techniques. JNPS aspires to publish high-quality research publications promptly. In

addition, JNPS will publish special calls for papers regularly.

The published manuscripts span a wide range of topics, including but not limited to quantum computing, space and atmospheric physics, plasma, atomic molecular optics, material science, condensed matter physics, high-energy, and nuclear physics. The manuscripts have gone through a rigorous peer-review process. We would like to thank the reviewers for their contribution. The most important feeling we felt is that we are always thankful to the authors who provided the research articles for the JNPS to pull it into new dimensions of numbers that never happened in the past years. So, we humbly request all the researchers, professors, students, and others to keep such help in the future for JNPS continuously. Once again, we would like to thank all the NPS members for their valuable support in publishing several volumes and issues.

The JNPS editorial committee welcomes constructive feedback to improve the publication's incoming issues. Finally, we appreciated your comments, queries, suggestions, and correspondences.

Thank you.



Dr. Binod Adhikari
Editor in Chief
Nepal Physical Society

Nepal Physical Society, Executive Committee (2019-2022)



President
Prof. Dr. Narayan P. Chapagain



Immediate Past President
Prof. Dr. Pradeep Kr. Bhattarai



Vice President
Prof. Dr. Leela Pradhan Joshi



Secretary
Dr. Gopi Chandra Kafle



J. Secretary
Mr. Karan Giri



Treasurer
Mrs. Sita Kandel



Editor in Chief
Dr. Binod Adhikari



Member
Mrs. Sumana Gyawali



Member
Mr. Khagendra Katuwal



Member
Mr. Subash Kr. Shrestha



Member
Mr. Ramesh Acharya



Associate Editor
Dr. Manoj Kr. Yadav



Associate Editor
Mr. Kiran Pudasainee

Province-1 Chapter Executive Committee



President
Prof. Dr. Devendra Adhikari



Vice-President
Mr. Jhaga Prasad Baral



Secretary
Dr. Shashit Kumar Yadav



J. Secretary
Mr. Prabhakar Oli



Treasurer
Mr. Ramesh Kumar Gohivar



Member
Mr. Arjun Dhungana



Member
Mr. Arun Kumar Shrestha



Member
Mr. Jiwan Dhital



Member
Mrs. Nirmala Bhandari



Member
Mr. Peshal Pokharel



Member
Mr. Prem Sagar Dahal

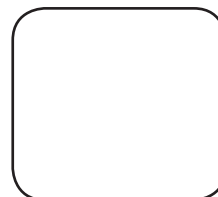
Madhesh Chapter Executive Committee



President
Mr. Hareram Mishra



Vice-President
Mr. Shiv Kumar Das



Secretary
Mr. Amirilal Yadav



J. Secretary
Mr. Jaya Kumar Yadav



Treasurer
Mrs. Puspa Chaudhary



Member
Mr. Bulbul Chaudhary



Member
Mr. Kameshwar Mahaseth



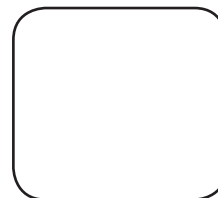
Member
Mr. Ramhit Yadav



Member
Mr. Brajbhushan jha



Member
Mr. Mukesh Kr. Yadav



Member
Mr. Sanjiv Upadyaya

Bagamati Chapter Executive Committee



President

Prof. Dr. Sitaram Bahadur Thapa



Vice-President

Prof. Dr. Harihar Paudyal



Secretary

Mr. Udaya Bahadur Thapa



J. Secretary

Dr. Rajendra Adhikari



Treasurer

Mr. Moti Bhusal



Member

Prof. Arun Kumar Shrestha



Member

Mrs. Sangeeta Chaulagain



Member

Mr. Tej Bikram Thapa



Member

Mr. Ramesh Adhikari



Member

Mr. Surendra Regmi



Member

Mr. Upendra Giri

Gandaki Chapter Executive Committee



President

Mr. Min Raj Lamsal



Immediate Past President

Mr. Jeevan Regmi



Vice President

Mr. Sundar Prasad Dhakal



Secretary

Mr. Ravi Karki



J. Secretary

Mr. Sujan Lamsal



Treasurer

Mr. Dipak Adhikari



Member

Dr. Kapil Adhikari



Member

Mr. Laxman Thapa



Member

Mr. Amrit Dhakal



Member

Mr. Narayan Prasad Bhandari



Member

Mr. Pradeep Subedi



Member

Mr. Laxman Timilsina

Lumbini Chapter Executive Committee



President
Prof. Dr. Ananta Panthi



Vice-President
Dr. Bed Raj K.C



Secretary
Mr. Lakshminath Bhattarai



J. Secretary
Mr. Chudamani Rajaure



Treasurer
Mr. Shalikaram Bhandari



Member
Mr. Aashish Chaudhary



Member
Mr. Dharmabandhu Poudel



Member
Mr. Naresh Acharya



Member
Mr. Santosh Kumar K.C.



Member
Ms. Shanta Sharma



Member
Mr. Shishir Adhikary

Karnali Chapter Executive Committee



President
Mr. Tarani Prasad Yadav



Vice-President
Mr. Dharma Raj Paudel



Secretary
Mr. Krishna Prasad Chapai



J. Secretary
Mr. Bhim Bahadur BC



Treasurer
Mr. Anil Kumar Gurung



Member
Mr. Amrit Basnet



Member
Mr. Dinesh Kandel



Member
Mr. Dipak Kumar Acharya



Member
Mr. Gajendra Pun



Member
Mr. Jagat Pandey



Member
Mr. Madhab Chapain

Far-Western Chapter Executive Committee



President
Prof. Dr. Bhawani Datt Joshi



Vice-President
Mr. Prakash Raj Pant



Secretary
Mr. Bhim Singh Thagunna



J. Secretary
Mr. Badri Poudel



Treasurer
Mr. Krishna Dev Bhatt



Member
Mr. Anil Ojha



Member
Mr. Prem Raj Joshi



Member
Mr. Ramesh Joshi



Member
Mr. Ramesh Prasad Pandeya



Member
Mr. Ran Bdr Bist



Member
Ms. Reshma Basukalu

Advisory Board



Prof. Dr. Devendra Raj
Misra



Prof. Dr. Lok Narayan Jha



Prof. Dr. Shekhar Gurung



Prof. Dr. Shesh Kant Aryal



Assoc. Prof. Basant
Kumar Gautam



Prof. Dr. Uday Raj Khanal



Prof. Dr. Sitaram P.
Byahut



Prof. Dr. Jeevan Jyoti
Nakarmi



Prof. Dr. Bhadra P.
Pokharel

Nepal Physical Society Presidents (1983-2022)



Prof. Dr. Shankar Prasad Pradhan
(1983-1986)



Prof. Dr. Balaram Joshi
(1986-1988)



Prof. Dr. Kedar Lal Shrestha
(1988-1990)



Prof. Dr. Narayan Hari Joshi
(1990-1993)



Prof. Dr. Lok Narayan Jha
(1993-1997)



Prof. Dr. Devendra Raj Mishra
(1997-2001)



Prof. Dr. Shekhar Gurung
(2001-2005 and 2009-2013)



Prof. Dr. Shesh Kant Aryal
(2005-2007)



Assoc. Prof. Ramesh Shakya
(2007-2009)



Prof. Dr. Jeevan Jyoti Nakarmi
(2013-2016)



Prof. Dr. Pradeep K. Bhattarai
(2016-2019)



Prof. Dr. Narayan P. Chapagain
(2019-2022)

NPS Division

NPS executive committee has formed the NPS division based on research field of interest to promote the collaborative research work in the physics community.

Division of Astrophysics (DAP)

Chair: Prof. Dr. Binil Aryal, Dean, IoST

Members:

- Prof. Dr. Saroj Nepal, MMC
- Dr. Ajay Kumar Jha, CDP
- Dr. Shiv Narayan Yadav, PMC
- Dr. Arjun K Gautam, BMC

Division of Atmospheric and Space Physics (DASP)

Chair: Prof. Dr. Narayan P. Chapagain

Members:

- Prof. Dr. Khem Narayan Poudyal
- Prof. Dr. Binod Kumar Bhattarai
- Prof. Dr. Ram Prasad Regmi
- Dr. Bed Raj KC
- Dr. Shreeram Sharma
- Dr. Binod Adhikari

Division of Bio-Medical Physics (DBMP)

Chair: Dr. Hari Prasad Lamichhane

Members:

- Dr. Kanchan Prasad Adhikari
- Dr. Tika Ram Lamichhane
- Dr. Sagar Regmi

Division of Plasma Physics (DPP)

Chair: Prof. Dr. Raju Khanal

Members:

- Prof. Dr. Deepak Prasad Subedi
- Dr. Lekhanath Mishra
- Dr. Ujwal Man Joshi
- Dr. Raju Bhai Tyata
- Dr. Rajendra Shrestha
- Dr. Ganashyam Thakur

Division of Condensed Matter Physics (DCMP)

Chair: Prof. Dr. Narayan Prasad Adhikari

Members:

- Prof. Dr. Devendra Raj Adhikari
- Dr. Gopi Chandra Kafle

- Prof. Dr. Bhawani Dutta Joshi
- Dr. Khemanand Neupane
- Dr. Shashit Kumar Yadav
- Dr. Nurapati Pantha
- Dr. Kapil Adhikari
- Dr. Saran Lamichhane

Division of Geophysics (DGP)

Chair: Prof. Dr. Harihar Paudyal

Members:

- Prof. Dr. Anant Panthi

Division of Material Science (DMS)

Chair: Prof. Dr. Leela Pradhan Joshi

Members:

- Prof. Dr. Shankar Prasad Shrestha
- Prof. Dr. Tika Bahadur Katuwal
- Prof. Dr. Sitaram Bahadur Thapa
- Prof. Dr. Rajendra Parajuli
- Prof. Dr. Ohm Prakash Niraula
- Prof. Dr. Purna Bahadur Chanda

Division of School of Computing (DSC)

Chair: Dr. Dibakar Sigdel

Members:

- Mr. Prakash Man Shrestha
- Dr. Sanju Shrestha
- Mrs. Usha Joshi
- Dr. Amba Datt Pant
- Mr. Karan Giri
- Mr. Devendra Raj Upadhyay
- Mr. Madhu Sudan Paudel
- Mr. Yogesh Maharjan

JNPS-Editorial Board Members

Dr. Binod Adhikari

Dr. Bhawani Joshi

Dr. Manoj Kumar Yadav

Dr. Krishna Rai

Dr. Rajendra Prasad Adhikari

Publication of Journal of Nepal Physical Society (JNPS)

NSP has been publishing bi-annual journal and special issue every year with collaboration with ANPA, Journal of Nepal Physical Society (JNPS). The main priority of the journal is to contribute knowledge building process on experimental, theoretical and simulation works by providing an opportunity for scholarly discussion on the role of researchers and reviewers. JNPS includes original relevant manuscripts from different areas of research in physics. NPS encourages everyone

to support in our endeavor to build and share the knowledge from the research activities in physics.

NPS would like to thank all the contributors to make this issue successful. We would like to especially thank reviewers for their valuable suggestions and feedbacks. The NPS editorial board welcomes to receive any comment, query, suggestion, and correspondence for the improvement of JNPS.

Collaboration between NPS and ANPA

NPS and ANPA (Association of Nepali Physicists in America) have signed on MoU (Memorandum of understanding) with purpose of creating a framework for collaboration and cooperation between the two organizations via mutual sharing of scientific and technological ideas and expertise to better serve Nepali scientific diaspora.

As part of collaborative work between NPS and ANPA

MSc and BSc students are working for their research projects with supervisors jointly from Nepal and US. Moreover, NPS and ANPA organized a Python training school during April 18 – May 23, 2020 for Physics Graduate students from Nepal. Instructors for this school were Dr. Shree Krishna Bhattarai, Dr. Jagan Devokota and Dr. Ghanashyam Khanal from ANPA, USA. In this school, 61 participants successfully completed their training courses.

Nepal Physics Olympiad (NePhO) Activity

Nepal Physics Olympiad Committee (NePhO), a subcommittee of NPS, conducted national level preselection test exam for higher secondary school graduates for the participation in 51st International Physics Olympiad on 18-26 July 2020 Vilnius, Lithuania. The test was held on 25th January 2020. A large numbers of higher secondary school graduates enthusiastically participated in the test. We are thankful to all professors/faculties, CEO's of respective colleges and NPS members who supported for the preselection of the students.

We highly appreciate their constant involvements and guidance for the selection procedure of first round of IPhO. NePhO have selected top 26 students for further training. We would like to congratulate selected candidates and we will honor them whenever the



situation of the country turns into normal condition. Due to unfavorable situation created by covid-19, IPhO-2020 has been cancelled and the 51st IPhO steering committee postponed all the activities for one year. The NPS conducted the International Physics Olympiad (IPhO) 2021 at the CDP, Kirtipur in an online link via zoom platform with the IPhO executive team hosted by Lithuanian.

Nepal Physical Society-Picnic

Nepal Physical Society organized a picnic program on 21st Mانشیر at Balaju Park, Kathmandu. Senior professors, Physicists associated on different organizations, faculties of different institutes, executive members, advisors, and general members of the Society were present in the picnic.



NPS 37th Annual Convention held on 6th February 2021

NPS Executive Committee would like to thank all valued NPS members for making the NPS 37th Annual Convention (held on 6th February 2021) a grand success. We would like to extend our special thanks to the Chief Guest of the inauguration ceremony Dr. Sunil Babu Shrestha, (Vice-Chancellor, NAST), Special guests Prof. Dr. Shivalal Bhusal (Rector, T.U), Prof. Dr. Binil Aryal (Dean, IoST, T.U), and all senior professors

and presidents of other professional societies. Moreover, we would like to thank all professors who served as chairs and judges of the scientific session, presenters, and all the participants.

The scientific session was outstanding, and all presenters did great jobs. Congratulations to all the presenters and huge congratulations go to the winner of the scientific session.

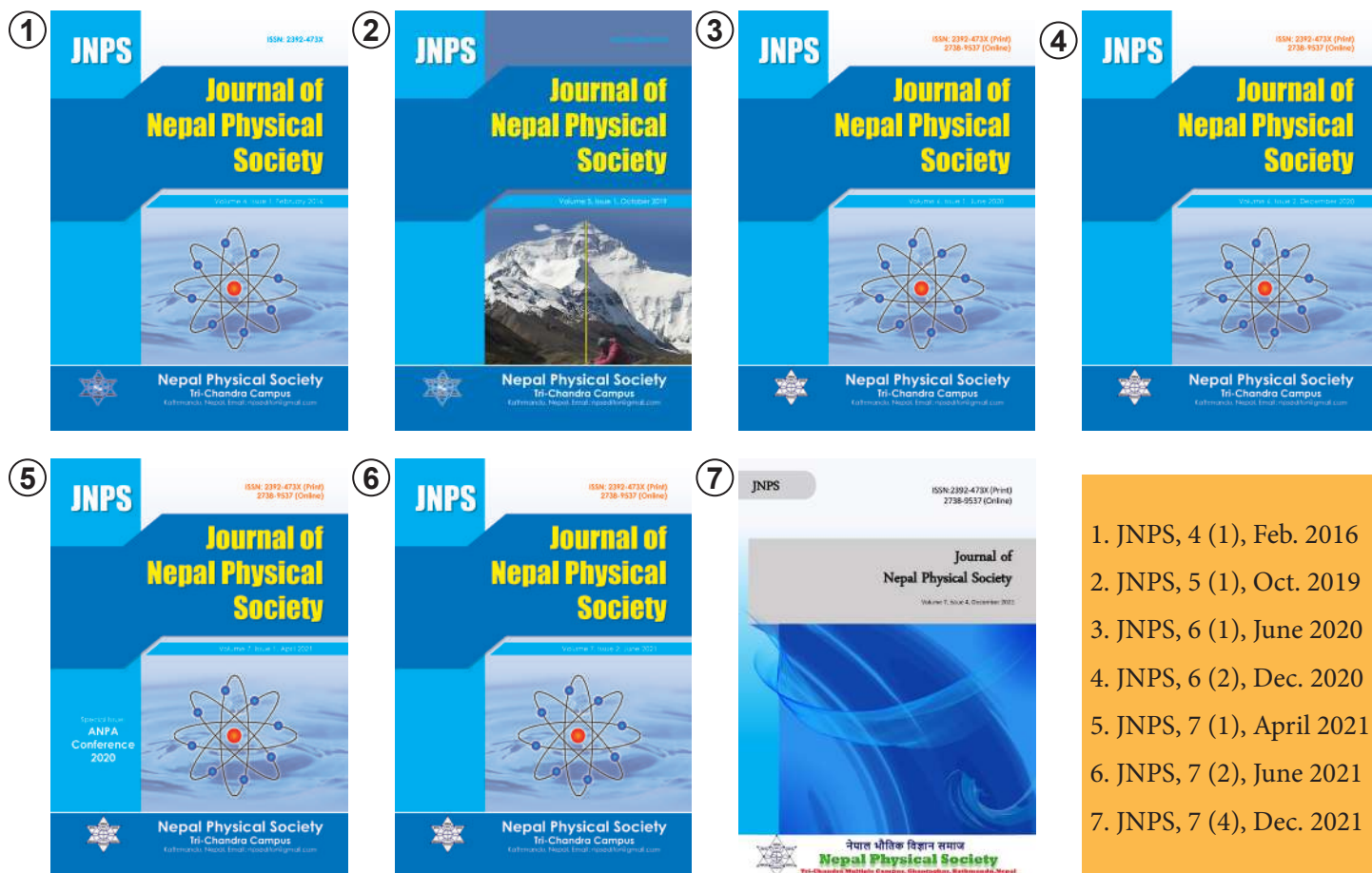
Committee for the NPS Constituent Amendment

The NPS executive committee meeting held on Shrawan 22, 2078 formed a committee to amend the constituent of the NPS. The committee was formed according to the following:

1. Prof. Dr. Shekhar Gurung (Coordinator)
2. Prof. Dr. Pradip Pradhan (Member)
3. Prof. Dr. Navendra Narayana Nidhi (Member)
4. Mr. Basant Kumar Gautam (Member)
5. Prof. Dr. Bhadra Pokharel (Member)
6. Prof. Dr. Nilam Shrestha (Member)
7. Prof. Dr. Ananta Panthi (Member)
8. Dr. Gopi Chandra Kafle (Member)
9. Assoc. Prof. Minraj Lamsal (Member)

Accomplishment of the NPS

During the past two-year tenure, the NPS has made even more significant achievements. The Prime Minister has nominated the president of NPS as an academican of NAST as a representative of professional organizations. Similarly, the president of the NPS has been appointed to the NAST's Physical Science Committee. Furthermore, AAPPs has contributed \$2,000 to help with the organization of the International Conference on Frontiers of Physics – 2022. With this support, we were able to extend our AAPPs membership for the ten years, from 2009 to 2018.



Editorial Team



Dr. Binod Adhikari



Prof. Dr. Bhawani Joshi



Dr. Manoj Kumar Yadav



Dr. Rajendra Adhikari



Dr. Krishna Bahadur Rai



Mr. Kiran Pudasainee

Scientific Visits

- Prof. Dr. Narayan P. Chapagain, President of NPS, participated and presented a paper entitled “Study on Correlation Between GPS-TEC and Geomagnetic Parameters Over Nepal in The Year of 2016” in the AGU Fall Meeting 2019 during 9-13 December in San Francisco, CA, USA. Prof. Chapagain also visited to Utah Valley University, UT, USA (January 2019) for his collaborative research projects. Dr. Chapagain delivered a talk organized by Association of Nepali Physicists in America (ANPA) on “Nepal Physical Society: Overview of NPS and Possible Collaboration with ANPA” in ANPA monthly colloquium series.
- Prof. Dr. Leela Pradhan Joshi and Dr. Sanju Shrestha participated and delivered invited talks on 8th Asian conference on colloid & interface Science (ACCIS 2019) during 24-27 September 2019 at IOE Pulchok, Nepal.
- Prof. Dr. Deepak Prasad Subedi, Department of Physics, School of Science, KU participated and presented a paper “entitled Optical Characterization of Atmospheric Pressure Dielectric Barrier Discharge (DBD) in Air Using Transparent Electrode” in the 3rd Asia-Pacific Conference on Plasma Physics (AAPPS-DPP2019) during 4-8 November 2019 at Hefei, China. Dr. Subedi, presented a paper “Surface Treatment of Polypropylene by Dielectric Barrier Discharge Generated at Near Atmospheric Pressure” in the 14th Asia-Pacific Physics Conference 2019 (APPC-14) during 17-22 .
- Prof. Dr. Narayan Adhikari, CDP, TU visited IIT Kanpur from poush-28 to Magh 9 for academic discussion. Dr. Adhikari participated and presented a paper entitled “Simulation of 2D materials” during 7th May 2020 in IEEE.
- Prof. Dr. Raju Khanal, CDP, TU, participated and presented a paper entitled “Kinetic Trajectory Simulation Method for Interaction of Magnetized Plasma Having two Species of Positive Ions with Tungsten Surface” during 4-7 November 2019 at International Atomic Energy Agency (IAEA) Headquarters, Vienna, Austria. Dr. Khanal and Mr. Suresh Banset, participated in the “Conference on Plasma Simulation (CPS)” during 23 and 24 January 2020 at Institute for Plasma Research, Gandhinagar, Gujarat, India.
- Associate Prof. Dr. Gopi Chandra Kaphle, Secretary of NPS, participated and presented a paper entitled “Effect of Fe and Cr doping on electronic and magnetic properties of Inverse Heusler alloys” in the International conference on Correlative Advancement on Analytical and Applied Physics during 21-23 October 2019 at St. Joseph's College, North Point Darjelling , India.
- Associate Prof. Dr. Madhav Prasad Ghimire, CDP TU participated and presented a paper entitled “Dirac fermions and flat bands in the ideal kagome metal FeSn” in the International conference on Correlative Advancement on Analytical and Applied Physics during 21-23 October 2019 at St. Joseph's College, North Point Darjelling , India.
- Dr. Pitri Bhakta Adhikari, TU, participated and presented a paper entitled “Different types of lightning electric field waveforms observed in Kathmandu, Nepal” in the "3rd International Conference on Astronomy and SpaceScience" during 02-03, May 2019 in London, UK.
- Mr. Saroj Raj Shahi participated a Short-Term Training Course for Capacity Building in Space Application on Earth Observation Applications and Research: Fundamentals, Emerging Technological Tools and Services for BIMSTEC Member States from 06-17 January 2020 at Shillong, Meghalaya, India.
- Dr. Binod Adhikari, Lecturer at St. Xavier's College, participated and presented a paper entitled “Loss, Acceleration and Transport of Relativistic Electrons during Geomagnetic Disturbances” in the 27th Workshop on Space Technology for

Socio-Economic Benefits during 18 -20 October 2019 in Washington D.C., USA. Dr. Adhikari also participated a Short-Term Training Course for Capacity Building in Space Application on Earth Observation Applications and Research: Fundamentals, Emerging Technological Tools and Services for BIMSTEC Member States from 06-17 January 2020 at Shillong, Meghalaya, India.

- Mr. Prakash Man Shrestha, Mrs. Usha Joshi, Mr. Parshuram Poudyal, Mr. Udaya Shrestha and Mr. Suresh Bhattarai participated a short course on “Space Weather” organized by Physics Research Lab.(PRL) and Central for Space Science

Chemical Calculation Method of cefradine” in 8th International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2020) during 24-28, February 2020 at JNCASR, Bengaluru, India,

- Mr. Rambabu Ray, CDP, TU participated and presented a paper entitled “ Electronic and magnetic properties of Quaternary Heusler alloys” in the International conference on Correlative Advancement on Analytical and Applied Physics during 21-23, October 2019 at St. Josheph,s College, North Point Darjelling , India.
- Mr. Tarani Yadav, CDP TU participated and presented a paper entitled “electronic and magnetic



and Technology Education in Asia and Pacific (CSSTEAP,UN) from 14-27 November 2019 at Ahmadabad, India.

- Mr. Manoj Kumar Chaudhary, Amrit Campus, Kathmandu, TU, presented a paper entitled “Computational evaluation on molecular stability, reactivity and drug potential of Frovatriptan: Insights from DFT and molecular docking approach” in Indo-Brazilian e-Symposium on Solid State Properties of Pharmaceuticals during 29-30 April, 2020 at University of Lucknow, India. He “Study on Vibrational Spectroscopy and Quantum

properties of CuO Nanotubes” in International conference on Advances in Nanomaterials and device for Energy and Environment (ICAN-2019) during 27-29, January 2019, India.

- Mr. Dinesh Kumar Chaudhary, CDP, TU, participated 8th Asian conference on colloid & interface Science (ACCIS 2019) during 24-27, September 2019 at IOE Pulchok, Nepal.
- Mr. Raj Kumar Rai, CDP TU participated and presented a paper entitled “ Electronic and magnetic properties of Heterostructures of ABO₃ types alloys” in the International conference on

Correlative Advancement on Analytical and Applied Physics during 21-23, October 2019 at St. Josheph's College, North Point Darjelling, India

- Mr. Bhujendra Nepali, Mr. Ganesh Kuwar Mr. Chhetri, Raju Khanal, Mrs. Sangita Chaulagain, Mr. Santosh Dhungana, Mr. Suresh Basnet, and Mr. Vijay Kumar Jha CDP, TU, participated in the "12th International Conference on Plasma Science & Applications (ICPSA 2019)" during 11-14 November 2019 at Lucknow, India.
- Mr. Shyam Khanal, CDP, TU visited IIT Kanpur from poush-28 to Magh 9 for academic discussion.
- Mr. Basudev Ghimire, CDP, TU, participated and presented a paper entitled "Study on Correlation Between GPS-TEC and Geomagnetic Parameters Over Nepal in The Year of 2016" in the AGU Fall Meeting during 09-12, December 2019 in San Francisco, CA, USA.
- Hari Adhikari, Homnath Adhikari, Krishna Lamsal, Monika Karki, Nirajan Dahal, Roshan Chalise, and Vijaya Shrestha from Amrit Campus, Lainchaur; Amrit Naharki, Parjapati Dahal, Parkash Joshi, Raju Khanal, Sandesh Devkota, Sangat Sharma, Santosh Panth, Satyanand Gupta, Shiva Bikram Thapa, Suresh Basnet, and Umesh Karki from Central Department of Physics, Kirtipur; Naharki, Parjapati Dahal, Parkash Joshi, Raju Khanal, Sandesh Devkota, Sangat Sharma, Santosh Panth, Satyanand Gupta, Shiva Bikram Thapa, Suresh Basnet, and Umesh Karki

from Central Department of Physics, Kirtipur; Ganga Panday, Laxmi Khatiwada, Madhusudan Dhungana, Rekha Yogi, Sudan Dhakal, and Suman Kumar Chaulagain from Goden Gate International College, Battisputali; Bishnu Prasad Kandel from Laboratory College, Kirtipur; Sures Ghimire from Padamkanya HSS, Kathmandu; Arun Kumar Shah, Basanta Raj Dangal, Narendra Chaudhary, Netra Prasad Bhandari, Nirmal K.C, Oat Bahadur Dhakal, Roshani Dahal, and Tulsi Ram Dumre from Patan Multiple Campus, Lalitpur participated in the 34th National Symposium on Plasma Science & Technology (PLASMA-2019) during 3-6 December, 2019 at VIT Chennai, India.

- Mr. Suresh Banset and Mr. Rishi Ram Pokhrel, CDP, TU participated in the "9th International Conference on Frontiers of Plasma Physics and Technology (FPPT-9)" during 8-12 April 2019 at Colombo, Sri Lanka.
- Mr. Devendra Raj Upadhyay, Assistant professor, Department of physics, Amrit campus, TU, Dr. Sanjeev Maharjan and Mr. Prakash Chandra Ghimire from Pulchok Campus, TU received IAEA's technical cooperation programme for Training on Basic Non-Destructive Methods up to Level 2 at the Malaysian Nuclear Agency in Selangor, Malaysia, from 10 February 2020 to 5 June 2020. The purpose of training is to facilitate the launching of Non-Destructive Testing (NDT) curriculum at Tribhuvan University.

Talks Program

- Prof. Dr. Binil Aryal, HOD, Central Department of Physics, TU delivered a talk on "Standard of curriculum and Proposed New +2 Physics Curriculum" on 1st January 2020 at Tri-Chandra Multiple Campus, Ghantaghar, Kathmandu, Nepal.
- Prof. Dr. Pradeep Kumar Bhattarai, Former President of Nepal Physical Society delivered a talk on "Research Methodology and project works for B.Sc 4th year students" on 6th February 2020 at Physics Department of Mahendra Multiple Campus, Nepalgunj, Nepal.
- Dr. Rudra Aryal, Franklin Pierce University, USA, delivered a talk on "Measurement techniques and Aerosol optical properties" 2nd Magh 2076 at Tri-Chandra Multiple Campus, Ghantaghar, Kathmandu, Nepal.
- Dr. Ravinder Kumar, Gurukula Kangri Vishwavidyalaya, Haridwar (Uttarakhand), delivered a talk on "India Smart Composite Materials for Environmental Sustainability" 22 Paus, 2076 at Patan Multiple Campus, Patandhoka Lalitpur.

-
- Dr. Hemwati Nandan, IUCAA Centre for Astronomy Research Development (ICARD), India, delivered a talk on “Matter and Forces in Our Universe” 22 Paush, 2076 at Patan Multiple Campus, Patandhoka Lalitpur.
 - Dr. Tulashi P Dahal, Austin Community College Austin, USA delivered a talk on “An experimental study on thermoelectric and mechanical properties testing of skutterudite” 5th March 2020 at CDP, TU.
 - Dr. Niraj Dhital, Institute of Nuclear Physics, Polish Academy of Science, delivered a talk on “Ultra-high Energy Cosmic Rays: Latest Results from the Pierre Auger Observatory and Future Perspectives”, 6th March 2020, at CDP, TU.
 - Prof. Dr. Bhola NS Ghimire, IOE Pulchowk T.U, delivered a talk on “How to write technical articles and contribution of engineers to the society”, 26-27, October 2019 at Lumbini Engineering College, Bhalwari Rupandehi, Nepal.
 - Associate Prof. Dr. Gopi Chandra Kaphle, CDP, T.U, delivered a talk on “Ethical value of writers and plagiarism”, 26-27, October 2019 at Lumbini Engineering College, Bhalwari Rupandehi, Nepal.
 - Dr. T. S. Velayutham, University of Malaya delivered a talk on “Exploring Opportunities for Collaboration Between University of Malaya and Tribhuvan University”, 20th January 2020 at CDP, TU.
 - Dr. Hemwati Nandan, IUCAA, Center for Astronomy Research Development, (ICARD), India, delivered a talk on “Kinematics of Deformations and Geodesic Flows in Diverse Contexts”, 8th January 2020 at CDP, TU.
 - Dr. Shiva Subedi, Ohio University (OU), Athens, USA, delivered a talk on “Nuclear astrophysics: Studying nucleosynthesis in massive stars via laboratory experiments”, 3rd January 2020 at CDP, TU.
 - Dr. Madhav Pd. Ghimire, Tribhuvan University, delivered a talk on “Dirac Fermions and Flat bands in Ideal Kagome Metal FeSn”, 2nd January 2020 at CDP, TU.
 - Dr. Purushottam Tiwari, Georgetown University, Washington D.C., USA, delivered a talk on “Investigating Biomolecular Interactions: From Method Development to Drug Discovery” 13th July 2019 at St. Xavier's College, Maitighar, Kathmandu.
 - Dr. Chandra B. Singh, Assistant Professor, South Western Institute for Astronomy Research, Yunnan University, China delivered talk on “Accretion Ejection around Black Holes” at St. Xavier's College, Tri-Chandra Multiple Campus and Amrit Campus on different occasions during February 2020.
 - Dr. Santosh KC, San Jose State University, San Jose, California, USA, delivered a talk on “Understanding polarizations in Bismuth based multiferroics” 27 December 2020 at CDP, TU.
 - Dr. Sudip Khadka, Georgia State University, Atlanta USA, delivered a talk on “An Interactive Information Session about SARS – 2 CORONA VIRUSES” 16th May 2020 at NPS Western Chapter Pokhara.
 - Prof. Dr. Shobha Kanta Lamichhane and Dr. Kapil Adhikari, PN Campus, Pokhara delivered a talk on “The Establishment of the Advanced Research Centre as the Centre of Excellence of the Nepal Academy of Science and Technology in the Gandaki Province”, 29th Falgun 2076 at Policy and Planning Commission, Gandaki Province, Pokhara, Nepal.
 - Dr. Kapil Adhikari, PN Campus, Pokhara delivered a talk on “Recent Trends / Issues in Physics, Challenges and to Overcome Them”, occasion of Vijaya Dashami and Deepawali 2076 at NPS Western Chapter.
 - Prof. Dr. CK Sarkar and Dr. Sanju Shrestha delivered a one-day seminar and talk on “Current Trends and Perspectives on Condensed Matter Physics”, 2076 at PNC, Pokhara.
 - Mr. Devendra Raj Upadhyay, Amrit Campus, TU, delivered a talk on “Stellar Astrophysics-II”, 28-30, May 2019 at School on Astronomy & Space Science organized by B. P. Koirala Memorial Planetarium.
 - Mr. Prabhat Pant, Linköping University delivered a talk on “Neutron Scattering and use of Large-scale facility” 28th January 2020 at St. Xavier's College, Maitighar, Kathmandu.

-
- Prof. Dr. Uday Raj Khanal, TU, delivered a talk on "Black Hole" 21 April 2019 at Nepal Physical Society.
 - Dr. Pradip Basnet, School of Materials Science and Engineering at Georgia Institute of Technology, Georgia USA, delivered a talk on "Filamentary Adaptive Oxides-based Memristor Devices for Brain-inspired Computing Applications – Focus on Physics of Materials and Devices", 17th July 2020 at Nepal Physical society.
 - Dr. Durga Paudyal, an associate scientist at Ames Laboratory and an adjunct associate professor at Iowa State University, USA, delivered a talk on "Magnetic functionalities to quantum phenomena with rare earth materials", 3rd July 2020 at Nepal Physical society.
 - Dr. Bhoj Raj Gautam, Assistant Professor, Fayetteville State University, USA, delivered a talk on "Manipulation of Optoelectronic properties of Polymer and Perovskite Nanostructures", 17th June 2020 at Nepal Physical Society.
 - Prof. Michale, Steinitz, Emeritus Professor of Physics, St. Francis Xavier University, Nova Scotia, Canada, and Editor in chief of Canadian Journal of Physics delivered a talk on "beyond the box", 12th June 2020 at Nepal Physical Society.
 - Dr. Sarita Paudel, Virologist, University of Pittsburgh, USA delivered a talk on "COVID-19: Ongoing Pandemic", 18th May 2020 at Nepal Physical Society.
 - Nepal Physical Society organized one day Workshop on Python Programming on April 18th, 2020.
 - Dr. Rudra Aryal, Assistant Professor of Franklin Pierce University, USA delivered a talk on "Measurement technique and Aerosol Optical Properties" at following venue and time, 2nd, Magh, 2076 at Nepal Physical Society.
 - Dr. Hemwati Nandan, Professor and Coordinator, IUCAA Centre for Astronomy Research Development (ICARD), India and Dr. Ravinder Kumar, Assistant Professor of Gurukula Kangri Vishwavidyalaya, Haridwar (Uttarakhand), India delivered talks on Particle physics and nanomaterials, 7th Jnuary 2020 at Patan Multiple Campus, Patandhoka Lalitpur, TU.
 - Dr. Binod Adhikari delivered a talk on online School of Space and Atmospheric Physics, August 5-7, 2020 at St. Xavier's College, Maitighar, Kathmandu, Nepal.

Conference and Workshop

- Prof. Dr. Narayan P. Adhikari and Mr. Shyam P. Khanal visited IIT Kanpur India during 13th Jan -24 Jan 2020.
- Dr. Deepak Subedi Participated and co-chaired a session in AAPPS-DPP 2020 e-conference during Oct. 26-30, 2020 in Jeju, Korea. Dr. Subedi Presented an invited talk in the International Webinar on Emerging Interfaces of Physics & Technology (EIPT-2020) held during Sept 7-8, 2020. Dr. Subedi also Presented an invited talk and chaired a session in 13th ICPSA 2020 (International Conference on Plasma Science and Applications) Series of Conferences of AAAPT jointly organized by Ravenshaw University, Cuttack and AAAPT (Asian African Association for Plasma Training) during 26th-28th Dec 2020.
- Mr. Daya Nidhi Chhatkuli participated and presented in the 1st International e-Conference on Recent Advances in Physics & Materials Science-2020 (IC-RAPMS-2020) on July 9 - 10, 2020 in West Bengal, India Mr. Chhatkuli also participated online one week Faculty Development Program (22-28, July 2020) and Interaction Session on Astronomy & Astrophysics (30th sept. 2020) in India.
- Dr. Deepak Prasad Subedi Presented an invited talk in 5th Asia-Pacific Conference on Plasma Physics, 26 Sept- 1 Oct, 2021 (Remote e-conference) and delivered an invited talk in the 14th International Conference on Plasma Science and Applications (ICPSA 2021) 28th - 30th December 2021 (online). Dr. Subedi also Presented an invited talk in the International Conference on Frontier of Physics (ICFP)-2022 and chaired a scientific session. The conference was held online during Jan 22-24, 2022 and organized by Nepal Physical Society.

Committee to Develop Rules and Regulations for NPS Award Establishment

The NPS executive committee meeting held on Magh 30, 2077, a committee was formed to develop rules and regulations for the NPS awards establishment. The following were the members of the committee:

1. Prof. Dr. Lok Narayan Jha (Coordinator)
2. Prof. Dr. Shekhar Gurung (Member)
3. Mr. Basant Kumar Gautam (Member)
4. Prof. Dr. Devendra Adhikari (Member)
5. Dr. Deependra Parajuli (Member)
6. Mr. Karan Giri (Member)

The committee submitted the report to the NPS executive committee in the given time frame.

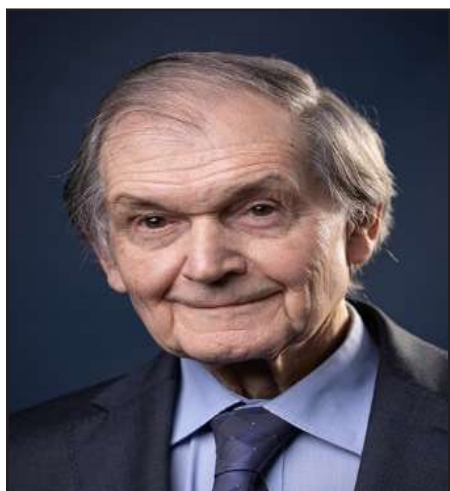
38th General Convention of Nepal Physical Society

38th General Convention of Nepal Physical Society is going to organize on Baishakh 9-10, 2078 at the Central Department of Physics, TU, Kirtipur, Kathmandu.

Title of Thematic Talk:

- Times Higher Education World University Ranking & Tribhuvan University: Contribution from Physical Science – Prof. Dr. Binil Aryal (Dean, IoST, TU)
- Physics and Society – Prof. Dr. Uday Raj Khanal (Retired from CDP, TU)
- Overview of Earthquake in Nepal – Prof. Dr. Harihar Poudyal (Birendra Multiple Campus, TU, Bharatpur) and Prof. Dr. Anant Panthi (Butwal M. Campus, TU, Butwal)

The Nobel Prize in Physics 2020



Roger Penrose

The Nobel Prize in Physics 2020 was divided, one half awarded to Roger Penrose "for the discovery that black hole formation is a robust prediction of the general theory of relativity", the other half jointly to



Reinhard Genzel

Reinhard Genzel and Andrea Ghez "for the discovery of a supermassive compact object at the Centre of our galaxy."



Andrea Ghez

Source: www.nobelprize.org

The Nobel Prize in Physics 2021



Syukuro Manabe

The Nobel Prize in Physics 2021 was awarded "for groundbreaking contributions to our understanding of complex systems" with one half jointly to Syukuro Manabe and Klaus Hasselmann "for the physical modelling of Earth's climate, quantifying variability



Klaus Hasselmann

and reliably predicting global warming" and the other half to Giorgio Parisi "for the discovery of the interplay of disorder and fluctuations in physical systems from atomic to planetary scales."



Giorgio Parisi

Source: www.nobelprize.org

Prof. Dr. Shankar Prasad and Sudakshina Pradhan Award (2022)

Late Prof. Dr. Shankar Prasad Pradhan was the founder president of the Nepal Physical Society (1983-1986). He was the Professor and Head of the Central Department of Physics, Tribhuvan University, Kathmandu, Nepal. This award has been established with the financial support of Prof. Pradhan's family and administered by the Nepal Physical Society. For this award, they have donated a total of Rs. 500000 (Five lakh only) for this award, which has been deposited at Nepal Bank Limited, Kirtipur branch as Akshya Kosh (Fixed Deposit) "Nepal Physical Society Award (Prof. Dr. Shankar Prasad and Sudakshina Pradhan Award)". The goal of this award is to encourage and motivate graduate students and researchers working in the field of physics from Nepal.

- The award will be managed with an annual interest payment of the principal amount.
- Every year, two awards will be:
 - For MSc girl topper in physics from Tribhuvan University (including all constituent colleges).
 - PhD research scholar working in the field of physics in universities from Nepal.
- The award comprises a certificate, token of love, and cash.
- The fellowship will be worth Rs. 11,000 for MSc student and Rs. 20,000 for PhD scholar



To be considered for a PhD fellowship, an applicant must be registered for the PhD degree in a Nepalese university and be in their second-year completion and not more than five years from the date of registration. The candidate must be involved in physics research and have published excellent and original scientific research publications in the field of physics in reputable index international/national journals.

Criteria and Guidelines for the PhD Research Award

The publication must be of scientific quality (at least one publication in index journal). More specifically, the publication must meet the following requirements:

- 1) Originality and creativity: how distinctive and innovative are the research?
- 2) Depth and breadth of treatment: what is the treatment's depth and breadth, does it demonstrate understanding into the subject areas treated, and how complicated is the content addressed?
- 3) Importance and applicability to science: what is the research's significance, and has it been widely accepted in terms of its significance and applicability to science's future development?
- 4) Presentation: Well-structured, with a logical and consistent methodical sequence that assures that what is being presented is understandable.



Necessary Documents

A prospective candidate must submit the following documents:

- An explanation of why your research to be considered for this Award; this explanation must address criteria mentioned above (a summary of the study's findings no more than 1000 words)
- Curriculum Vitae (CV)
- Copies of research articles that have been published in index journals since the PhD enrolment.
- Photocopies of undergraduate and graduate academic transcripts
- For confirmation of being a PhD researcher during this time, an institutional/supervisor referral is required.

Evaluation Committee

- The NPS executive committee will appoint a five-member evaluation committee made up of professionals in physics who have earned a Ph.D. degree in Physics. The NPS president will necessarily be the one of the members of the evaluation committee.

- The prize winner (topper), as well as an alternate contender (second topper), will be recommended to NPS executive committee along with an evaluation document. The successful candidate will be declared by the NPS executive committee. This decision is not subject to appeal.
- The committee members will assess each eligible published work against the aforementioned criteria.
- Members of the evaluation committee shall decline to evaluate papers of the student if he/she serve as a PhD supervisor, a close relative or colleagues, or co-authors of the publications.
- The NPS will present the award once a year.

The day of the award

The NPS should make the award application process public at least with one month deadline of the application submission process. The award will be presented in a formal ceremony at the annual NPS convention day. To receive the award and present the award research work, recipient is strongly invited to attend the NPS meeting and deliver the presentation for 5-10 minutes.

Congratulation

NPS would like to express a wholeheartedly congratulation and extend best wishes to recently PhD graduates in Physics from Nepal.

- NPS would like to express a wholeheartedly congratulation and extend best wishes to Prof. Dr. Binil Aryal as a Dean of IOST and Prof. Dr. Om Prasad Niraula as a HOD of Central Department of Physics, TU.
- NPS would like to express congratulation to Dr. Sanju Shrestha as a Fulbright Nepali post-doctoral grantee at New Jersey Institute of Technology, Newark, New Jersey, USA, 2020.
- NPS would like to express a wholeheartedly congratulation to Dr. Diwakar Sigdel of UCLA, USA (Life member of NPS and Co-ordinator of NPS School of Computing) for being an IBM Quantum

Computing (QisKit) Advocate. We NPS family are proud of you. We wish you your outstanding future endeavors.

- NPS would like to express a wholeheartedly congratulation and extend best wishes to Mr. Khimananda Neupane and Mr. Ramhit Yadav, Asst. Prof. of TU as a campus chief of Butwal Multiple Campus and S.S. M Yadav Multiple Campus, Siraha, Nepal.
- Mr. Manoj Kumar Chaudhary, Amrit Campus, TU, received Indian Science and Research Fellowship (ISRF-2019), provided by Centre for Co-Operation in Science and Technology among Developing Societies (CCSTDS), India.
- Mr. Dinesh Kumar Chaudhary, PhD scholar, TU, received a Royal Society of Chemistry Book prize



at 8th Asian conference on colloid & interface Science (ACCIS 2019) during September 24-27, 2019 at IOE Pulchok, Nepal

- Prof. Fanindra P. Lohani Award was honored to Prof. Dr. Vishwo N. P. Kurmi, from Nepalgunj on November 2019.

Congratulations

NPS executive committee would like to express a wholeheartedly congratulations and extend best wishes to the recently promoted Professor of Physics at TU.

1. Dr. Bhawani Datt Joshi
2. Dr. Hari Lamichhane
3. Dr. Bed Raj KC
4. Dr. Arjun Gautam

NPS executive committee would like to express a wholeheartedly congratulations and extend best wishes to the recently promoted Associate Professor of

Physics at TU.

1. Dr. Hom Bahadur Baniya
2. Mr. Kamal Bahadur Rayamajhi
3. Mr. Ranajt Prasad Yadav
4. Dr. Tikaram Lamichhane

NPS Executive Committee would like to congratulate to the following successful candidates for the post of Lecturer in Physics, Tribhuvan University:

1. Mr. Num Prasad Acharya
2. Mr. Binod Pandey
3. Mr. Raj Kumar Baral
4. Mr. Nar Bahadur Thami
5. Mr. Ram Lal Shah
6. Mr. Madan Khanal
7. Mr. Krishna Prasad Adhikari
8. Mr. Laxman Pokharel

Congratulations for landing a great job and we wish you all the best for your new position and successful endeavors!

NPS executive committee would like to express congratulations to all the students who successfully selected from the final round of NePhO-2021.

Name of the candidates according to merit is as follows:

1. Sagar Baidhya
2. Sandesh Ghimire
3. Rahul Gupta
4. Bibek Khadka
5. Prakshesh Chalise

Brain activity translated into synthetic speech

In April 2019, a neuroscience collaboration between the University of California San Francisco and Columbia University reported the development of a neuroprosthetic device (nicknamed a neural decode) which is capable of reconstructing the brain activity of a human subject into speeches that are understandable by humans. First, the team designed a modeling network that can map different neural signals into movements of the vocal tract. And then, they programmed their

machine to translate movements into synthesized speeches. With further improvement and thorough testing, the researchers hoped that their decoder can help paralyzed individuals and patients with vocal tract issues to regain their ability to communicate orally. Also, since the neural decoder can directly read a person's thoughts, scientists may be able to devise a new way for the human-computer interface.

Quantum Trap Based on Casimir Effect

Led by physicist Xiang Zhang at the University of California, Berkeley, a group of scientists has come up with a new method of trapping a nano-sized object without energy input, by taking advantage of Casimir effect. Dutch physicist Hendrik Casimir proposed an interesting quantum phenomenon back in the 1940s: due to vacuum fluctuations of the electromagnetic field, when two electrically neutral surfaces only have a nano-scaled distance between them, there could be an

attractive force. Zhang and colleagues found a way of manipulating the Casimir force, making it repulsive or attractive depending on the size of the gap between the two surfaces. By creating a stable Casimir equilibrium, the researchers developed a passive trapping mechanism that can confine an object (for example, a tiny gold flake) close to another object, with no external energy input. This could lead to the creative new application for operation in nanomechanical systems.

First photo of a Black Hole

There seems to be a significant news in science this year (2019) that the first image of a black hole, a result of years of intense observation and analyses conducted by the Event Horizon Telescope (EHT) collaboration. The out-of-this-world image, a ring-shaped radiance surrounding a central dark void, is created from radio waves captured by the EHT network observatories around the globe. It gives us a visual impression of the supermassive black hole at the center of the Messier 87 galaxy, at 55 million light-years away. Make no mistake though: black holes themselves do not emit light due to their extreme density and gravitational field. But scientists managed to capture a ginormous number of images of the event horizon, the edge of the supermassive black hole where gas and dust keep spinning at ultra-high speed before finally getting sucked in. Before



Figure: First photo of a Black Hole

Source: www.labroots.com

2019, a black hole was just a theoretical phenomenon in our textbook. Now we have got one visualized. No wonder it was claimed as the "one-way door out of our universe".

NPS School of Computing

Nepal Physical Society (NPS) has conducted “NPS School of Computing” via online platform from July 4, 2020 to January 31, 2021 for the period of seven months. The target group of this program is the faculties of Physics working at different universities, constituent, community, and private colleges from Nepal. This long – term computing school has been designed as the classes scheduled at weekends (2 hours on every Saturday and Sunday). The main objective of this school

Electrodynamics, Monte Carlo simulation in Statistical Physics and Condensed Matter Physics) using Python programming and Quantum Physics with QuTip, and Quantum Computing with QisKit, and several data-visualization techniques. There are more than 100 participants actively participated during this school.

NPS has formed Division School of Computing (DSC) to conduct the computational activities more effectively. The DSC emphasizes to develop the practical



Fundamentals of Documentation

Fundamental of Python Programming

Introductory Computational Projects

Advanced Computational Projects

Conducted by
NPS School of
Computing Team

Registration open
Date: 21 June, 2020
Registration
Deadline
Date: 27 June, 2020
Program starting
Date: 4 July, 2020

Google form Link: <http://tiny.cc/vnx2pz>
School Web.: <https://npshub.github.io/>
NPS Web.: <https://nps.org.np/>

is to develop the capabilities of computational skills (e.g., Numerical Methods, Simulation, and Animation, etc.) of the Physics faculty, which are fundamental techniques in research and teaching Physics courses to Undergraduate and Graduate levels. The school includes from basic training on python programming to solve introductory computational problems in the Physics courses (e.g., differential equations in Mechanics and partial differential equations in

skills in computation and problem solving across all areas of physics computing that brings from Physics Textbook to Scientific Computing in the Cloud. For further information: School website: <https://npshub.github.io>

Major goals of NPS DSC are:

- Conducting long term and short-term School of Computing in diverse computing topics from

Physics and beyond to deliver classroom-oriented project design for undergraduate and graduate level Physics syllabus (e.g., Numerical Methods, Classical Mechanics, Statistical Physics, Quantum Physics, Electrodynamics and Condensed Matter Physics etc).

- Conducting occasional coding hackathon together with collaboration of other educational institutions and interested parties in innovative topics (e.g., Quantum Computing, Machine Learning, AI).
- To encourage independent researchers to design computational model on experimental data and

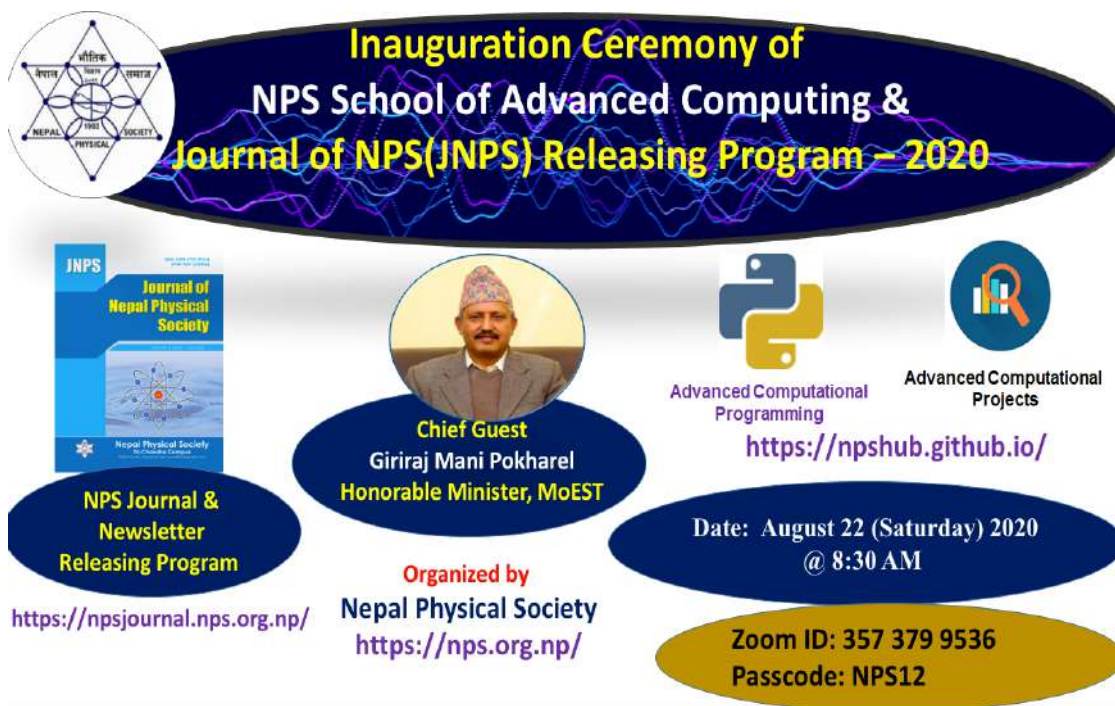
big-data scenario (e.g., transport, healthcare, social media, environment) through advanced computing project design, computing architecture and methodologies.

- To encourage graduate and undergraduate students to participate in the intern projects and research projects in scientific computing in collaboration with other organization (e.g., ANPA, NAST). To encourage and help responsible body in the development and implementation of computation-oriented course chapters in high school level (grade 9-12) syllabus.

Inauguration Ceremony of the NPS School of Computing

The NPS had organized an Inauguration Ceremony for the NPS School of Advanced Computing on August 22, 2020 that included release of the 6th volume of Journal of Nepal Physical Society (JNPS). The program was organized through a virtual zoom meeting with more than 300 participants. The program was chaired by the President of NPS, Prof. Dr. Narayan P. Chapagain and conducted by the Secretary of NPS, Dr. Gopi Chandra Kafle. The chief guest at the inauguration ceremony was Honorable Minister, Mr. Giriraj Mani Pokharel, Ministry of Education, Science and Technology, Government of Nepal. The special guests were Vice Chancellor of Nepal Academy of Science and Technology (NAST), Dr. Sunil Babu Shrestha, Prof. Dr. Shivlal Bhusal, Rector, TU; Prof. Dr. Kedar Lal Shrestha, Former VC, NAST; and Deans of Universities; NPS Past Presidents,

President of different professional societies and senior professors and faculties. The program began with welcome speech by the Vice President of NPS, Prof. Dr. Leela Pradhan Joshi. The NPS president, Prof. Dr. Narayan P. Chapagain presented an overview of NPS activities and highlighted the ongoing activities, 'NPS School of computing' and publication of the NPS Journal. The School includes training in Python programming and solving introductory computational



**Inauguration Ceremony of
NPS School of Advanced Computing &
Journal of NPS(JNPS) Releasing Program – 2020**

Chief Guest
Giriraj Mani Pokharel
Honorable Minister, MoEST

Organized by
Nepal Physical Society
<https://nps.org.np/>

NPS Journal & Newsletter Releasing Program
<https://npsjournal.nps.org.np/>

Advanced Computational Programming
<https://npsclub.github.io/>

Advanced Computational Projects

**Date: August 22 (Saturday) 2020
@ 8:30 AM**

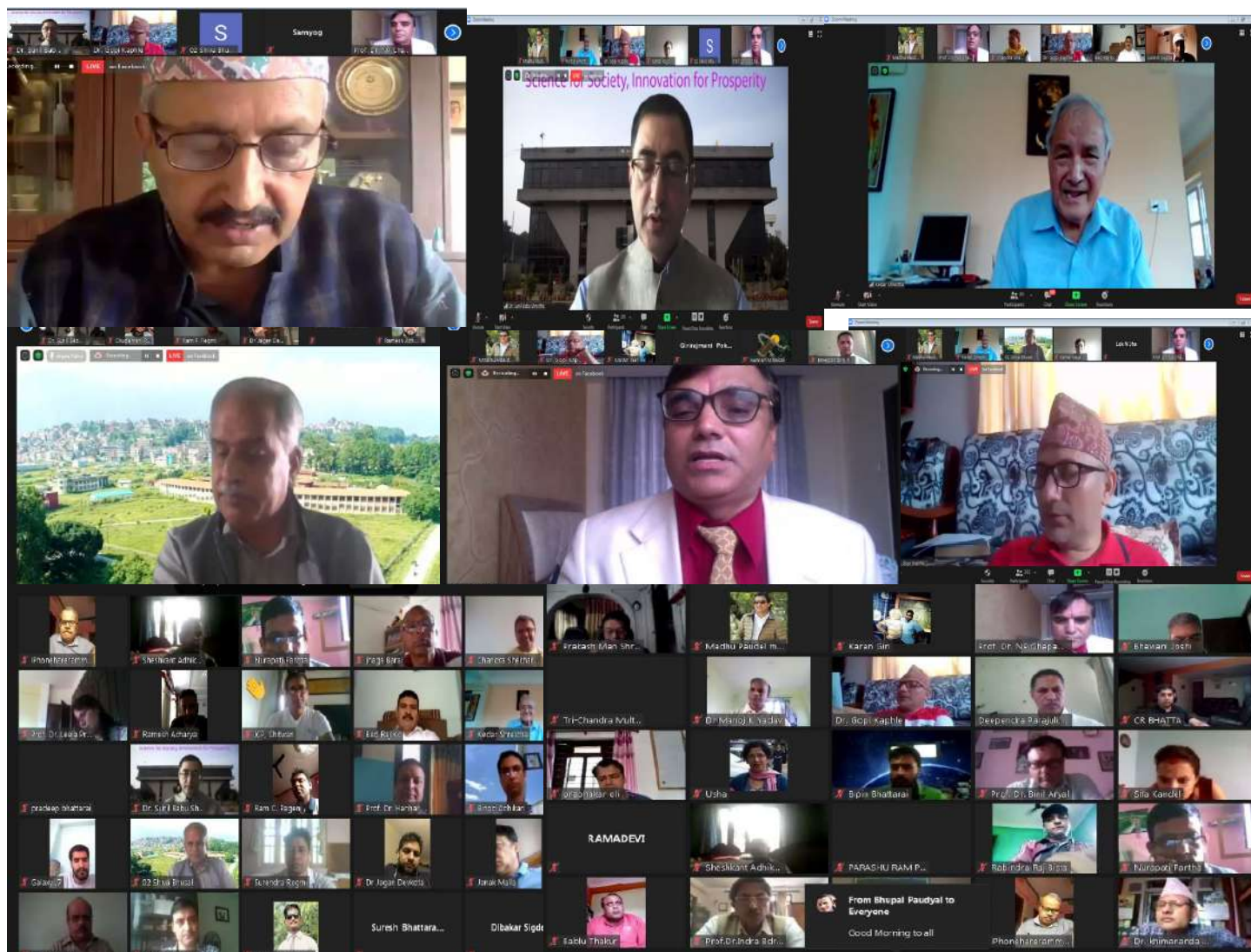
**Zoom ID: 357 379 9536
Passcode: NPS12**

problems in Physics courses (e.g. differential equations in Mechanics and partial differential equations in Electrodynamics, Monte Carlo simulation in Statistical Physics and Condensed Matter Physics) using Python programming, Quantum Physics with QuTip, Quantum Computing with QisKit, several data-visualization techniques, Artificial Intelligence (AI) and Machine Learning.

The lead role as an instructor at the school was Dr. Dibakar Sigdel, Data Scientist, UCLA, USA. Dr. Sigdel also highlighted the importance of

the computing school. The Honorable Minister addressed the program with a commitment to incorporate the issues raised by the NPS president to strengthen research activities in the universities and association of professional societies for formulating the Science, Technology and Information (STI) policy. Similarly, the Vice Chancellor of NAST, Dr. Sunil Babu Shrestha also highlighted the ongoing research activities and his desire to work in collaboration with Nepal Physical Society.

Snapshots of the inauguration program



Activities organized by NPS Gandaki Chapter, Pokhara

The Seventh National Science Day was celebrated by conducting a talk program on "Science Technology and Innovation Socio-economic Transformation" followed by mass rally with play cards and banner by the grand participation of Physicists in this region. New Year (2020 A.D.) greeting exchange program was organized. The preliminary selection test of students for the year 2020 for National Physics Olympiad took place at PNC on 2076 Magh 11 (25 Jan 2020). There were 79 students from different Pokhara based educational institutions. The test was conducted on co-ordination of Mr. Min Raj Lamsal, President of NPS Western Chapter and Mr. Ravi Karki, Secretary of NPS Western Chapter. NPS Western Chapter and Department of Physics PNC jointly organized a picnic program on 2076/10/ 04 at Destination Green Home Stay, Khapaudi, Pokhara. New year (2076 B.S.) greeting exchange program was organized.

Dr. Sudip Khadka, Virologist of Georgia State University, Atlanta USA, delivered a talk on "SARS-2 CORONAVIRUS, 16 May 2020 at NPS Ganadaki Province.

Dr. Shree Ram Acharya, Old Ridge National Laboratory USA delivered a talk on "Material Computation: Theory and Analysis, - 1 Aug 2020 at NPS Ganadaki Province.

Dr. Chandra Mani Adhikari, (General Secretary,



ANPA) North Carolina Central University, delivered a talk on "Optical Properties of Carbon Nanotube and its Periodic Array, 9 Aug 2020 at NPS Ganadaki Province.

Dr. Nava Raj Subedi, University of IDaho, USA, delivered a talk on "An Overview of Imaging Modalities: Digital Holography to Lattice Light-Sight Microscopy", 23 Aug 2020 at NPS Ganadaki Province.

NPS Ganadaki Province organized "A Virtual Interactive Program" on the occasion of National Science Day" on 17 Sep 2020.

Mr. Abiskar Bhushal delivered a talk on "Nobel Prize of Physics 2020 on 21 Nov 2020 at NPS Ganadaki Province.

NPS Ganadaki Province organized a "Felicitation Program to Assoc. Prof. Benimadhav Dhungana", a newly appointed HOD of Department at Physics Prithvi Narayan Campus, on Dec 25, 2020.

Activities of NPS Province-1

Workshop

- NPS Province-1 organized a workshop on Research Writing and Publishing on July 8-9, 2020.
- NPS Province-1 organized a workshop on MATLAB Computations and Simulations on August 1-2, 2020.

Activities of NPS Lumbini Chapter

Talk Program

- Dr. Mukti Aryal, USA, delivered an online talk on "Mimicry of Colorful Nature", 10th July 2020 at NPS Chapter-5. This program was supported by Condensed Matter Physics Research Center.
- Mr. Jhulan Poudel, Butwal at Multiple Campus, Tribhuvan University delivered an online talk on "Scientific Writing Using Latex" 12th September 2020 at NPS Chapter-5.

Activities of NPS Bagmati Chapter

Talk Program

Dr. Rajendra Prasad Adhikari, Kathmandu University delivered an online webinar on use of Supercomputer for Physicists on 2020/07/18 at NPS Bagmati Chapter.

Dr. Madan Sigdel, CDMH, TU delivered a Physical Aspects of Climate Change on 2020/08/08 at NPS Bagmati Chapter.

Dr. Dilli Ram Thapa, Birendra Multiple Campus, TU delivered a talk program on Damaging Earthquakes

and Seismic Hazard Assessment of Nepal, 2020/08/29 at NPS Bagmati Chapter.

Dr. Jagan Devkota and Dr. Sri Krishna Bhattarai, Association of Nepalese Physicists in America (ANPA), USA, delivered a talk about Collaborative Research on 2020/08/29 at NPS Bagmati Chapter.

Dr Sabin Adhikari, Columbia University, USA delivered an online Talk on Statistical Physics of semi-crystalline Polymers, 2020/10/3 at NPS Bagmati Chapter.

Activities of NPS Far-Western Chapter

1. Two-days seminar on the topic "Research Methodology, Project selection, and Scientific Writing" was organized on Chaitra 28-29, 2077.
2. A Scientific Program was organized at Siddhanath Science Campus in association with IEEE Eds Nepal Chapter and Nepal Physical society on Mangsir 09, 2078.
3. A scientific program on "Role of Female Scholars in Strengthening the STEAM Education" in association of Atmospheric and Material Science Research Center, Amrit Campus, and Siddhanath Science campus, Physics Department was organized on Mangsir 10, 2078:

Workshop

- Dr Bhawani Datt Joshi, Siddhanath Science Campus, Mahendranagar, TU delivered a talk "Literature Search and Formatting" on Regional Workshop organized by NPS Chapter-7, 2020-07-27.
- Mr Prem Raj Joshi, Kailali Multiple Campus, Dhangadi, TU delivered a talk "Data collection and Analysis" on Regional Workshop organized by NPS Chapter-7, 2020-07-27.

- Dr Gopi Chandra Kafle, Central Department of Physics, Kirtipur, TU delivered a talk "Language, Citation and References" on Regional Workshop organized by NPS Chapter-7, 2020-07-28.
- Dr Mahadev Bista Siddhanath Science Campus, Mahendranagar, TU delivered a talk "Problem Selection and Writing" on Regional Workshop organized by NPS Chapter-7, 2020-07-28.

Talk Program

- Dr Chandra P. Joshi, Cornell University, delivered a talk on "Opportunities for abroad study and research standard in USA" , 2020-05-01 at NPS Province-7.
- Dr Abhishek K. Mishra, University of Petroleum and Energy Studies, Dehradun, India delivered a talk on "Computational Material Science using Density Functional Theory", 2020-06-27 at NPS Province-7.
- Dr. Bhim Prasad Chamlagain, University of Central Florida, Orlando, FL, USA delivered a talk on "Device Engineering in 2D TMDs Electronics", 2020-07-19 at NPS Province-7.

Obituary of Prof. Balkrishna Sapkota

We, Family of Nepal Physical society, are deeply distressed by hearing the regretful news about the sudden death of Professor Balkrishna Sapkota on Manshir 24, 2078. May God give all of us (Family members, all the member of NPS and well-wishers) the full strength to bear this irremediable loss. May God provide his soul with eternal rest.



Obituary of Prof. Vishwanath Prasad Kurmi

We, NPS family express our deepest condolences on sudden and unexpected demise of Prof. Dr. Vishwanath Prasad Kurmi. We, the NPS family as a whole are deeply shocked, and we don't have words to express our sorrows and sadness. He has gone forever from the sight but will remain in our hearts. May God give all of us (Family members, all the member of NPS and well-wishers) the full strength to bear this irremediable loss. May God provide his soul with eternal rest.

Obituary of Steven Weinberg

We, Family of Nepal Physical society, are deeply distressed by hearing the regretful news about the sudden death of the greatest theoretical physicist and Nobel Laureate (1979) Steven Weinberg, on July 23, 2021. Together with Newton, Einstein, and Maxwell. He was one of the unifiers where his work together with Salam and Glashow led to the unification of electromagnetism and weak force. May his soul live in peace, and we extend our deeply felt condolence to the Weinberg's family, disciples, colleagues, and followers.



Obituary of Prof. Kedar Lal Shrestha

Nepal Physical Society (NPS) is recently suffered from a tragedy: the loss of life of the late Prof. Dr. Kedar Lal Shrestha, Life Member and Former President of NPS, one of the ideal scientists and a motivator. Late Prof. Shrestha passed away at the age of 82 years on 25 November 2020. May God give all of us (Family members, all the member of NPS and well-wishers) the full strength to bear this irremediable loss. May God provide his soul with eternal rest.

- We, NPS family express our deepest condolences on sudden and unexpected demise of Dr. Ramesh Raj Subedi (Life member of NPS, Living at Irving, Texas, USA) on 9 Aug 2020. May gods provide the strength for whole family and friends to bear such sorrow. We pray departed soul Rest in Peace (RIP).
- Mr. Swapan Kumar Chakraborty (Lecturer of Physics, MMM, Multiple Campus Biratnagar) is no more with us. NPS family give our deepest condolence to the entire family.
- We, NPS family express our deepest condolences on sudden and unexpected demise of Mr. Puskar Basnet. May gods provide the strength for whole



family and friends to bear such sorrow. We pray departed soul Rest in Peace (RIP).

Obituary of Philip Warren Anderson

We, Family of Nepal Physical Society, are deeply distressed by hearing the regretful news about the sudden death of Philip Warren Anderson, on March 29, 2020 at the age of 96.

Anderson is the top condensed-matter physicists of the 20th century and he was awarded Nobel Prize for Physics in 1977 on theoretical research into the electronic structure of magnetic and disordered systems led to an improved understanding of metals and insulators.

Anderson also visited Kathmandu on 1989 during First Kathmandu Summer School in Physics-BCSPIN. May his eternal soul live in peace and we extend our deeply felt condolences to the Anderson's family, disciples, colleagues, and followers.

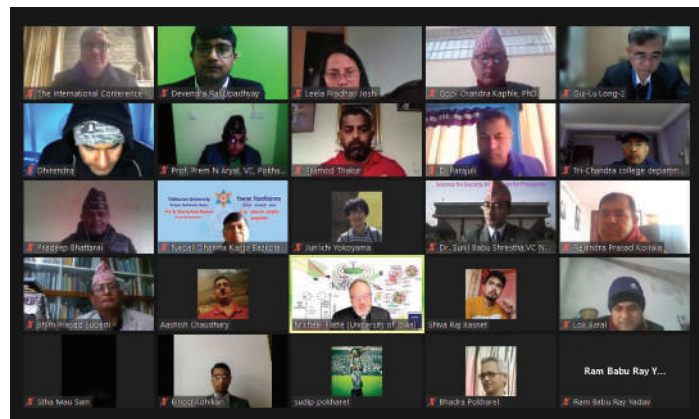


International Conference on Frontiers of Physics (ICFP)-2022, Nepal

The Nepal Physical Society (NPS) is successfully organized the “International Conference on Frontiers of Physics (ICFP-2022)” on January 22-24, 2022, via virtual mode. The main goal of the conference was to bring together leading scientists, researchers and research scholars to exchange and share their research experiences and results for the advancement of Physics in Nepal, as well as to establish international collaboration with foreign universities and research institutes to strengthen future research projects of physics and physics education.

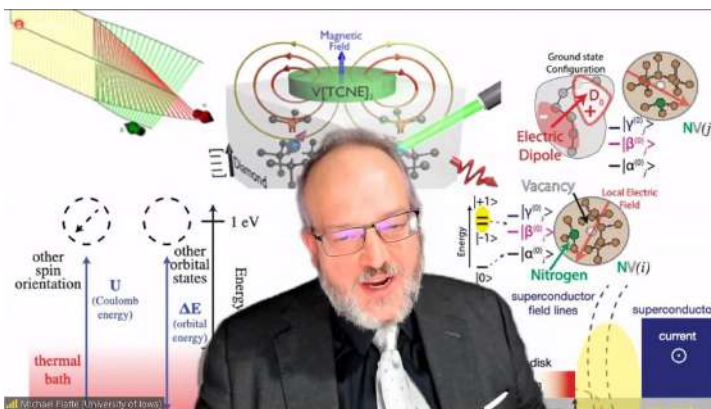
In the opening ceremony of the conference, guest speakers were: UGC Chairman, Prof. Bhim Prasad Subedi; Vice Chancellor of Tribhuvan University, Prof. Dharmakant Baskota; Vice Chancellor of Pokhara University, Prof. Prem Narayan Aryal; Vice Chancellor of NAST, Dr. Sunil Babu Shrestha; president of AAPPS, Prof. Jun'ichi Yokoyama from Japan; Dr. Bruce Tsurutani from Jet Propulsion Laboratory, NASA, USA; and Prof. Michael Flatte, University of Iowa State, USA.

This three-day conference provided an excellent platform for fostering and motivating learners' enthusiasm in Physics research. The conference brought together distinguished professors from different fields of physics from across the world, who shared their research findings along with their professional careers in academia and industry. The prominent scientists and researchers from different



areas of physics delivered their elegant talks on various Thematic Groups: Astrophysics, Atmospheric & Space Physics, Condensed Matter and Materials Sciences, and Computational Physics, Nuclear and Plasma Physics, and Geophysics. In all, 70 scientific papers were presented including 14 plenary talks, 16 invited talks, and 40 contributed talks (34 oral and 6 poster presentations). The speakers were from the different parts of the world: Nepal, India, China, Bangladesh, Pakistan, Thailand, Japan, Korea, The United States, Canada, United Kingdom, France, Italy, Sweden, Argentina, and Israel. More than 300 participants from all over the world attended the conference.

We believe that this conference became an instrumental in encouraging the young researchers and aspirants to pursue research in their fields of interest, as well as



providing an excellent platform for disseminating their research findings. In this event, Nepalese researchers got the opportunity to share their research findings and develop new scientific networks among physicists from abroad. The NPS wishes to express its gratitude to

all the institutions and NPS members who supported consistently to make this conference grand success. We are so grateful to AAPPS executive team for their continued academic and financial support for this conference.



Satellite Remote Sensing of Atmospheric Aerosols

NPS organized a virtual webinar entitled "Satellite Remote Sensing of Atmospheric Aerosols: Algorithms, Datasets, Access and Applications" on July 30, 2021. The speaker was Dr. Pawan Gupta, Senior Scientist, Earth Sciences Universities Space Research Association, NASA Marshall Space Flight Center, USA.

NPS also organized a webinar on Standardization on School Leaving Certificate Examination System in Physics held on Ashadh 12, 2078. The webinar focuses on interaction about the implementation of the new physics syllabus and its evaluation system including the new model question pattern.



NPS Webinar on Standardization on School Leaving Certificate Examination (Grades XI & XII) System in Physics

Panelists



Prof. Dr. Bhadra Pokharel
IOE, TU



Mr. Keshar Khulal
Principal, Ktm World School



Mr. Basant K. Gautam
Retired Assoc. Professor TU

Guest Speaker:
Mr. Durga P. Aryal, Member Secretary, NEB

Gallery





Published by:

Nepal Physical Society

P.O. Box: 2934
Tri-Chandra College,
Ghantaghar, Kathmandu, Nepal
E-mail: info@nps.org.np
URL: www.nps.org.np

