Proposal

Organized by

Central Department of Mathematics, Tribhuvan University

Jointly organized with

Association of Nepalese Mathematicians in America (ANMA)

Nepal Mathematical Society (NMS)

Department of Mathematics, Kathmandu University (KU)

Venue: Hotel Sarowar, Pokhara

Introduction

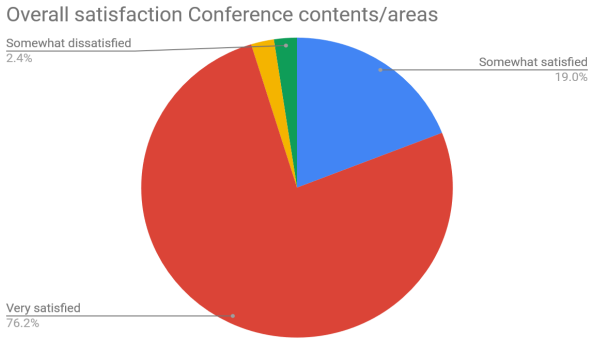
We are requesting funds from the University Grant Commission (UGC) to support the **Third International Conference on Applications of Mathematics to Nonlinear Sciences (AMNS-2023)**, which will be held in Pokhara, Nepal, during May 25-28, 2023 [http://anmaweb.org/AMNS-2023]. The AMNS-2023 conference is being organized by the Central Department of Mathematics at Tribhuvan University (TU) in collaboration with the Association of Nepalese Mathematicians in America (ANMA), the Nepali Mathematical Society (NMS), and the Department of Mathematics at Kathmandu University (KU). The major themes of the conference are (1) Differential Equations and Nonlinear Analysis, (2) Mathematical Biology, (3) Probability, Statistics and Big Data, (4) Algebra and Topology, (5) Mathematical Education, and (6) Numerical Analysis, Scientific Computation, and optimization. Prior to the AMNS-2023 conference in Pokhara we are also organizing a ten-day Summer School in Data Visualization, Modeling, and Mathematical Tools during May 15-24, 2023, in Kathmandu Nepal. The Summer school information is provided at http://anmaweb.org/AMNS-2023/summer-school.html

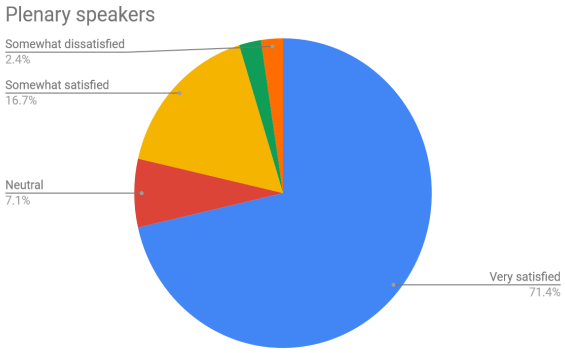
This conference aims to bring together a substantial number of participants with interests in interdisciplinary applied mathematics research from all over Nepal as well as from neighboring countries along with participants from North America, South America, Europe, Australia, and Asia. We expect to have full-fledged activities of a diverse areas of mathematical research during this conference that involves the world's renowned experts as plenary speakers, invited speakers, and members of the scientific advisory committee. Thus, the conference provides a great opportunity for mathematicians from Nepal and neighboring countries to interact with great leaders of mathematics from outside the South Asian Association for Regional Cooperation (SAARC) region.

Research in mathematical sciences has been developing in a very slow pace in Nepal. Recently, there has been some efforts to encourage and engage Nepali Mathematicians including graduate students to establish collaborative activities in mathematical research by inviting researchers from different parts of the world by organizing international conferences and workshops. The Association of Nepalese Mathematicians in America (ANMA) has been a good collaborator to organize an international conference on Applications of Mathematics to Nonlinear Sciences (AMNS-2016) in Kathmandu, Nepal, and the second international conference on Applications of Mathematics to Nonlinear Sciences (AMNS-2019) in Pokhara, Nepal. Both AMNS-2016(http://anmaweb.org/AMNS-2016/) and AMNS-2019 (http://anmaweb.org/AMNS-2019) were a huge success with over 200 participants from more than 20 different countries.

Recent growth in research publications by scholars both in Nepal and neighboring countries are encouraging, and there have been tremendous interests in applied mathematics and nonlinear science among faculty, students, and research scholars in Nepal and neighboring countries. Except for a handful institutions, there is still a desperate need of clear research agendas for scholars in most institutions in the region to carry out advanced mathematics research. Any introduction to modern research trends would be a first experience for most scholars and extremely valuable to scholars from Nepal and the whole Southeast Asian region. Based on the feedback received from the AMNS-2019 participants, we are motivated to continue to organize this conference series in Nepal. While this third AMNS-2023 conference is being held in

Pokhara, Nepal, it is highly beneficial and interesting to mathematicians from neighboring countries because the conference features plenary talks and invited talks by world renowned mathematicians and scientists. We conducted a post-conference survey regarding several aspects of the conference AMNS-2019 including the locations of the conference, kinds of topics covered and research diversity of invited speakers. Over 90% of the participants were very satisfied or satisfied with the conference content areas as well as the plenary talks.





In response to call for limited travel support by some other international funding sources, we have received overwhelming requests for support by many students and junior faculty from all over Nepal. While we will be able to support some students through these outside sources, because of extreme demand we are requesting additional funds to support graduate students so that as many interested scholars as possible from different parts of Nepal will have opportunity to participate in the conference. In particular, CIMPA (CENTRE INTERNATIONAL DE MATHÉMATIQUES PURES ET APPLIQUÉES) has provided partial support for 20 students from Nepal and 10 students from neighboring countries to participate in the summer school (Kathmandu, May 15-24, 2023). However, the funding support is not sufficient for these students to participate in AMNS-2023 conference (Pokhara, May 25-28, 2023). Thus, the funding from UGC will make extremely valuable contributions to the students and early career faculty of Nepal to participate in this international conference.

Significance and Impact

By its very nature of the conference, six plenary speakers from diverse areas of applications of mathematics are invited. We are pleased to share with you that we have six confirmed plenary speakers

Plenary Speakers

- Amy B. Ellis, University of Georgia, USA
- Irene Fonseca, Carnegie Mellon University, USA
- Alun Lloyd, North Carolina State University, USA
- Bhramar Mukherjee, University of Michigan, USA
- Frank Werner, Otto von Guericke University Magdeburg, Germany
- Zhou-Ping Xin, Chinese University of Hong Kong, Hong Kong

Special Invited Speakers

1	Jerry Bona	University of Illinois Chicago, USA
2	Dongho Chae	Chung-Ang University, Seoul, South Korea
3	Gianni Dal Maso	Scuola Internazionale Superiore di Studi Avanz
4	Sergei Kuksin	University of Paris, France
5	Ian W. McKeague	Columbia University, USA
6	Ruy Ribeiro	Los Alamos National Laboratory, USA
7	Jiahong Wu	Oklahoma State University, USA
8	Jie Shen	Purdue University, USA

The plenary and invited talks delivered by internationally renowned speakers in their research fields will broaden the knowledge of participants on current research trends and techniques in their areas of interest. Moreover, for those who are interested in interdisciplinary research can take advantage by participating in relevant plenary talks, invited talks and contributed talks. The conference will aim to current status of the advanced mathematics as well as the activities of the mathematical society to an entirely underdeveloped community of mathematicians. While participants from Nepal and neighboring countries will have opportunities to learn ideas from experts from North America, Europe, and Asia, the experts will have opportunities themselves to learn about mathematical issues that are relevant to the context of Nepal and neighboring countries. Interactions among participants on these issues can be expected to provide new collaborations between researchers in and outside Nepal. Eventually, these activities will attract many more scholars in Nepal and surrounding regions to the field of mathematical sciences, thereby increasing the international influence of the overall mathematical society. Consequently, significant mathematical results may be produced, new mathematical techniques may be discovered, and contemporary global problems could be addressed by engaging scholars from different research area.

Program Outline

May 25, 2023

Registration 8:00AM
Tea /Coffee: 8:30AM-9:00AM
Welcome/Opening: 9:00AM-9:30AM
Plenary talk I: 9:30AM-10:30AM (Speaker TBD)

Parallel Sessions: 10:30AM-12:10 (4 talks of 20 mins)

Session I: Probability
Session II: Analysis I
Session III: Topology and Geometry

Lunch Break 12:10- 1:30

Plenary talk II: 1:30PM-2:30 PM (Speaker TBD)

Parallel Sessions: 2:30AM-4:10 (5 talks of 20 mins)
Session I: Mathematical Biology I
Session II: Analysis II
Session III: Differential Equations I

Plenary talk II: 1:30PM-2:30 PM (Speaker TBD)

May 26, 2023

Tea /Coffee: 8:00AM-9:00AM
Plenary talk III: 9:00AM-10:00AM (Speaker TBD)

Parallel Sessions: 10:00AM-11:40 (5 talks of 20 mins)

Session I: Mathematical Biology II
Session II: Harmonic Analysis I
Session III: Differential Equations II

Plenary talk IV: 1:30PM-2:30 PM (Speaker TBD)

Parallel Sessions: 2:30AM-4:10 (5 talks of 20 mins)

Session I: Numerical Analysis I
Session II: Harmonic Analysis II
Session III: Differential Equations III

May 27, 2023

Tea /Coffee: 8:00AM-9:00AM
Plenary talk V: 9:00AM-10:00AM (Speaker TBD)

Parallel Sessions: 10:00AM-11:40 (5 talks of 20 mins)

Session I: Mathematical Biology III
Session II: Numerical Analysis II
Session III: Mathematical Modeling I

Plenary talk VI: 1:30PM-2:30 PM (Speaker TBD)

Parallel Sessions: 2:30AM-4:10 (5 talks of 20 mins)

Session I: Numerical Analysis III
Session II: Optimization I
Session III: Mathematical Modeling II

May 28, 2023

Tea /Coffee: 8:00AM-9:00AM

Thank you note from the organizers (9:00 AM- 9:30 AM)

Parallel Sessions: 9:40AM-11:20 (5 talks of 20 mins)

Session I: Mathematical Modeling III
Session II: Optimization II
Session III: Mathematics Education

Closing:

Funding

The proposed total budget for the conference is Rs 61,21,000/-. The expected total income from the registration, local supports, sponsorship, is Rs 52,40,000/-. **We request funding in the amount of Rs 2,00,000/- from the UGC.** Details on how these funds will be used to support the participants of the workshop and conference are given in the Funding sources and **Estimated cost for the program with detail breakdown**.

Funding sources

Amount (Registration fee): International Faculty:	NRs 45500 (US $350) ×50	22,75,000/-
Amount (Registration fee): International Students:	NRs 19500 (US $150) × 20	3,90,000/-
Amount (Registration fee): SAARC countries (except Nepal) Faculty:	NRs 32500(US $250) × 30	9,75,000/-
Amount (Registration fee): SAARC countries (except Nepal) student:	NRs 16250 (US $125) × 40	6,50,000/-
Amount (Registration fee): Nepalese Student:	50×5,000/-	2,50,000/-
Amount (Registration fee): Nepalese Faculties:	60×7,500/-	4,50,000/-
Any other institution supporting for this program	Partial Support from collaborative Institutions	50,000/-
Amount of support requested to UGC	2,00,000/-	2,00,000/-
Total		52,40,000/-

Estimated cost for the program with detail breakdown

SN	Particulars	Rate	Quantity	Amount	Remarks
1.	Remuneration to experts	8000/-	12	96,000/-	
2.	Stationeries (Diary, Pen)	500/-	250	1,25,000/-	
3.	Printing and binding (book of abstract, kits)	1000/-	250	2,50,000/-	
4.	Certificate	100/-	250	25,000/-	
5.	Others (Conference bag)	800/-	250	200,000/-	
6	Accommodation	2500/night×4=10,000/-	250	25,00,000/-	
7.	Refreshment(Lunch, tea, snacks)	1500/day ×4 days =6,000/-	250	15,00,000/-	
7.	Dinner	1000/day×4 = 4,000/-	250	10,00,000 /-	
8.	Local transportation/excursion	50,000/-	-	50,000 /-	
9.	Conference souvenir	500/-	250	1,25,000/-	
10	Baggage	1000/-	250	2,50,000/-	
	Total			61,21,000/-	