# ANMA NEWSLETTER

## ASSOCIATION OF NEPALESE MATHEMATICIANS IN AMERICA

Dear ALL,

I trust that this issue of the ANMA newsletter will find you well. Let me begin by thanking you all for your tremendous and continuous encouragement to our activities. Because of your support and strong team efforts within the ANMA executive committee, we have been able to move forward bringing ANMA into a greater height. Since the beginning of our term, we have made substantial progress. In collaboration with Nepal Mathematical Society (NMS), we have successfully established scholarships in Nepal for two students (one male and one female) who secure the highest marks in the master's entrance examination. We successfully organized number of workshops and interaction programs in Nepal. We also published two proceedings from the last conference (International Conference on Applications of Mathematics to Nonlinear Sciences - 2016) in "Electronic Journal of Differential Equations" and "Neural, Parallel, and Scientific computations".

Most notably, we are organizing a "Workshop on Collaborative Research in Mathematical Sciences" on May 25-27, 2018 at Mercer University, Georgia. I believe that this unique initiative within our organization will provide us a great opportunity for initiating collaborative research among Nepalese mathematicians in America. This will eventually offer a platform to extend opportunities for collaboration with mathematicians in Nepal. I look forward to welcoming many of you in Georgia. Additional super-exciting news is that we are also planning to organize the "Second International Conference on Applications of Mathematics in Nonlinear Sciences" in Nepal on June 27-30, 2019. We will also be running a summer school in Mathematical Biology from June 17 to June 26, 2019 in the Central Department of Mathematics, Tribhuvan University, Kathmandu, Nepal. I request all of you to mark your calendars to attend this conference and make it one more historic event of the country.

I anticipate your continuous help in our exciting future endeavors and would like to express full confidence for accomplishments with our hands together. With this enthusiasm in mind, I clearly foresee ANMA reaching a benchmark as one of the fastest growing collaborative organizations bringing Nepalese mathematicians together from all over the world.

Once again, I thank you all, and thank my extremely supportive team members in the ANMA executive committee. I wish you bright days ahead!!!

**Naveen K. Vaidya, President of ANMA**

**Naveen K. Vaidya**

**EDITORIAL:** It is a great pleasure to present the second issue of ANMA Newsletter. We would like to thank the entire team of ANMA for providing us with this wonderful opportunity and material support. We have tried our best effort to mainly present the recent ANMA activities in this issue. We strongly anticipate that ANMA Newsletter will be successful in achieving its goal of creating a common platform for exchanging the news and its support for Nepalese mathematicians around the globe. We will be eagerly waiting for your suggestions and support on how this Newsletter can be improved in the future. We wish you all happy and wonderful days ahead!

**Inside this issue:**



**Contact** Dr. Raj Dahal, and Dr. Dhruba Adhikari [Editorial Board], E-mail: info@anmaweb.org, Website: http://www.anmaweb.org/

ANMA ACTIVITY

# Visual Aid in Teaching Mathematics & Statistics

## Interaction Program

**Date:** June 01, 2017 (JESTHA 18, 2074)
**Time:** 3:00 pm – 5:30 pm
**Venue:** Central Department of Mathematics
Tribhuvan University, Kathmandu, Nepal

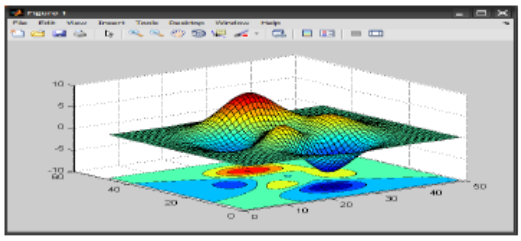
**PART-I: Presentations (3:00 pm – 4:30 pm)**

- **Mr. Subash Acharya,** University of Texas at Dallas, Texas, USA
  - *Perspective of a Graduate Student on Teaching and Learning in Nepal and USA*
- **Dr. Deepak Basyal,** University of Wisconsin-Washington County, Wisconsin, USA
  - *Desmos Online Calculator in Teaching and Learning of Mathematics*
- **Dr. Kedar M. Nepal,** Mercer University, Georgia, USA
  - *Visual Aid in Teaching* Mathematics

**PART-II: Interaction and Open Discussion (4:30 pm – 5:30 pm)**

Moderators:

- **Dr. Kedar N. Uprety,** Tribhuvan University, Kathmandu, Nepal
- **Dr. Ghanshyam Bhatt,** Tennessee State University, Tennessee, USA



**Organizers**

**Association of Nepalese Mathematicians in America (ANMA)**
**Central Department of Mathematics, Tribhuvan University**

- This program is free. No registration is required.
- Light refreshment and a few door prizes will be provided.

## *ANMA Activity*

### Visual Aid in Teaching and Learning of Mathematics, June 1, 2017, Kathmandu Nepal

ANMA (in association with the Central Department of Mathematics) organized a workshop on Visual Aid in Teaching and Learning of Mathematics at Kirtipur, Nepal. There were two sessions of the workshop.

**Session I**

- Dr. Deepak Basyal from the University of Wisconsin-Washington County presented on using Desmos online graphing calculator to enhance student learning. Dr. Kedar Nepal from Mercer University showed how open online sources can be used to help students visualize 3-dimensional images of various surfaces and solids. Despite some technological glitches, the presentations were well received by the students and faculty members at the Central Department of Mathematics.
- Mr. Subash Acharya, a graduate student at the University of Texas at Dallas, presented his perspective on the similarity and differences of teaching mathematics in The United States and Nepal.

**Session II**

An interaction and open-discussion program was organized with the mathematics graduate students of Tribhuvan University. Dr. Ghanshyam Bhatt from Tennessee State University facilitated the discussion. Dr. Basyal, Dr. Bhatt, Dr. Nepal, and Mr. Acharya answered students' questions, and offered their advice on applying for graduate studies abroad and publishing mathematics research papers in international journals.

**National Conference on the History and Recent Trend of Mathematics, June 2-4, Kathmandu, Nepal**

A few members of ANMA presented their papers on the Conference on History and Recent Trend of Mathematics in Nepal.

- Dr. Deepak Basyal presented his paper titled *Can Nepali Historical Sources of Mathematics be Used in the Teaching and Learning of Undergraduate Mathematics?*
- Dr. Kedar Nepal and Dr. Deepak Basyal jointly presented a research paper titled *How did American Mathematics Instructors of Nepali Origin Change their Perspectives Of Teaching And Learning Of Undergraduate Mathematics?*

Dr. Ghanshyam Bhatt also presented his research paper titled *Wavelet Theory: A Historical Perspective*.


Kedar Nepal


Deepak Basyal


Subas Acharva

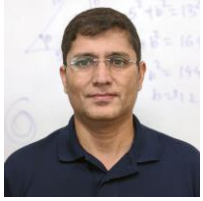

G. B. Bhatt

**ANMA Activity**

## Improve Student Learning by Flipping Classroom: An Overview of Flipping Classroom with details on Producing Online Lecture Videos


Presented by
Rajendra Dahal, Ph.D.
Associate Professor
Coastal Carolina University
Conway, SC, USA

**Venue: Central Department of Mathematics**
**Tribhuvan University, Kirtipur**
**November 16, 2017 @1:00 PM**



ANMA gave away 100 ANMA logo imprinted T-shirts for the participants of the conference titled 'Mathematics in Nepal: Challenges and opportunities in the competitive edge of 21st Century'. The conference was organized by the Mathematics Olympiad of Nepal (MOON) on May 20, 2018 at the Central Department of Mathematics, Tribhuvan University, Nepal.



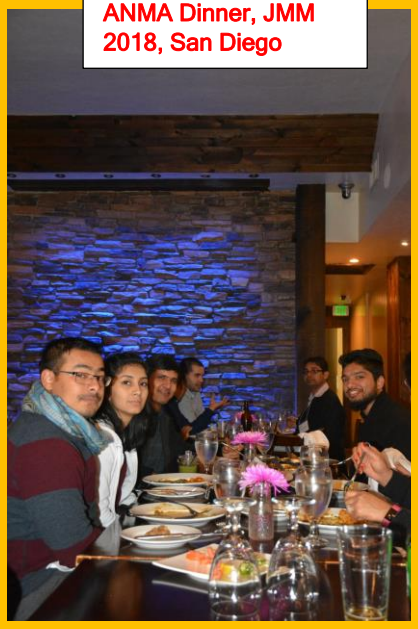
After successful completion of the International Conference on Applications of Mathematics to Nonlinear Sciences (ANMS-2016), ANMA is pleased to inform you the articles submitted for the conference proceedings were peer-reviewed, and accepted articles are published in the following journals.

**Electronic Journal of Differential Equations: Conference 24, (2017), pp. 1--121**
**Neural, Parallel, and Scientific Computations 25 (2017), pp. 307--522**

June 1, 2017 program

## ANMA Sponsored Activity


ANMA Dinner, JMM 2018, San Diego



ANMA Dinner, JMM 2017, Atlanta

## JMM 2017 talks by Nepalese Mathematicians:

| Name | Title of the talk |
|---|---|
| | **Wednesday, January 4** |
| Adhikari, Ramsaran | A weak modified Euler-Maruyama method based on trapezoidal rule for a class of stochastic differential equations and mean square stability results. |
| Rai, Shiva Shankar | Pseudo-Endpoints of a nondegenerate Chainable Continua. |
| Vaidya, Naveen | Math models to evaluate morphine–altered antibody responses on HIV Dynamics. |
| Chettri, Sher | The Beta Transmuted Pareto Distribution: Theory and Application. |
| Sharma, Ramji | Numerical computations of 2D Boussinesq equations with fractional dissipation. |
| Devkota, Mitra | Study of Autocorrelation of Regression Residuals using Crop Residue Yield Potential. |
| | **Thursday, January 5** |
| Paudel, Laxmi | Porous Medium Eqn and Its one parameter family of solns with degenerate interface. |
| Acharya, Gangadhar | A Study of University Mathematics Outreach Programs in the United States. |
| Pantha, Buddhi | Optimal control applied to a differential equation model for an anthrax epizootic. |
| Rana, Jashmon | Comparison of Numerical Solutions of Advection-Reaction-Dispersion Model. |
| Shrestha, Nirjal | Convergence of Iterative Methods under Weak Conditions. |
| Upadhyay, Tulsi | Invariant Densities of Frobenius-Perron Operator Related to Random Maps. |
| Regmi, Samundra | Diffie-Hellman key exchange protocol and its software implementation. |
| Kunwar, Vijay Jung | Solving Second Order Linear Differential Equations with Five Regular Singularities. |
| Dahal, Rajendra | An Almost Sharp Monotonicity Result for Discrete Sequential Frac. Delta Differences. |
| Joshi, Hem | Modeling Harmful Agal Blooms in the Western Basin of Lake Erie and their Econ Impact. |
| Adhikari, Dhruba | On the Uniqueness of Topological Degrees for Densely Defined Mappings Involving Variants of (S+)(S+) Operators. |
| Paneru, Khyam | Pseudo-Likelihood Estimates and Bootstrap Confidence Intervals for the Mean of Zero-Inflated Population. |
| Khanal Netra | Differential Equation model for carbon dioxide emission. |
| Joshi, Janak | Existence of Solns for semilinear problems with prescribed no. of zeros on exterior domains. |
| Kadel, Gokul | Spectrum of hypercyclic operators. |
| Banjade, Debendra | Estimates for the Corona Theorem on HI(D).HI(D) |
| Tharu, Bhikhari | Bayesian Method for Histogram Smoothing. |
| | **Friday, January 6** |
| Nepal, Kedar | Do They Know What They Know or Do Not Know? A Report on Undergraduate Mathematics Students' Self-assessment Behaviors. |
| Kunwar, Ishwari | Weighted estimates for multilinear dyadic operators and their commutators. |
| Kafle, Bir | On the xx-coordinates of Pell equations which are Fibonacci numbers. |
| Aryal, Ashok | Mean Value Theorem for general divergence form elliptic operators. |
| | **Saturday, January 7** |
| Bhatt, Ghanshyam | Incoherent Matrices for Compressed Sensing. |
| Kutal, Durga | REML for cure rate model with extra partial information of diagnostic results. |
| Budhathoki, Parshu | Elliptic Curve based RFID authentication scheme and its software implementation. |
| Neupane, Kashi | One-Round Authenticated Group Key Establishment from Multilinear Mappings. |
| Pokhrel, Keshav | Regional Discrepancies in Cancer Mortality Rates. |
| Neupane, Ram C | Connecting Regional-scale Tree Distribution Models with Seed Dispersal Kernels. |
| Khadka, Bal | Techniques in Lattice Basis Reduction. |
| Rawal, Nar | Coexistence and Extinction in Time-Periodic Volterra-Lotka Type Systems with Nonlocal Dispersal. |
| Poudyal, Basanti | Existence of totally reflexive modules in graded local rings with Hilbert series ... |
| Thapa, Manoj | Numerical Study about the Origin of the Flow Chaos in Late Boundary Layer Transition. |
| Thapa, Narayan | On the Numerical Solution of Second Order Hyperbolic Nonlinear Partial Differential Equation. |
| Adhikari, Dhanpati | On the global regularity of two-dimensional incompressible Boussinesq equations with mixed partial dissipation. |
| Ghimire, Prakash | Derivations of the Lie algebra of strictly block upper triangular matrices. |
| Aryal, Ashok | Geometry of underlying set in Mean Value Theorem for general divergence form elliptic operators. |

## JMM 2018 talks by Nepalese Mathematicians:

| Name | Title of the talk |
|---|---|
| | **Wednesday, January 10** |
| Samundra Regmi | Quantum circuits for arithmetic operations over binary field. |
| Nawa Raj Pokhrel | Cybersecurity: Time Series Predictive Modeling of Vulnerabilities of Desktop Operating System Using Linear and Non-linear Approach. |
| Laxmi Chataut | Groups with the weak maximal condition on non-permutable subgroups. |
| Hum Nath Bhandari | Behavior of the Particle Swarm Optimization Algorithm. |
| Parshuram Budhathoki | Quantum Circuits for Multiplication Operation. |
| Naveen Vaidya | Impact of Environmental Temperature on Dengue Epidemics: Mathematical Models. |
| | **Thursday, January 11** |
| Deepak Basyal | Singing sines in Sanskrit slokas. |
| Sher Chettri | Generalizations Using the Composition of Beta Distribution and Truncated Poisson Distribution. |
| Gangadhar Acharya | Frameworks for different types of mathematics outreach programs: A proposed model. |
| | **Friday, January 12** |
| Krishna Subedi | Necessary Condition for the Hyponormality of Toeplitz Opetators on the Weighted Bergman Space. |
| Ghanshyam Bhatt | From Orthonormal basis to Frames: An introduction. |
| Upama Neupane | Polynomial multiplication over binary field and its implementation. |
| Dipendra Regmi | Global regularity criteria for 2D micropolar equations with partial dissipation. |
| Kedar Nepal | How Do Undergraduate Mathematics Students Justify Their Self-assessments in Academic Assignments? |
| Durga Prasad Dhakal | Teaching and learning statistics in education through MOODLE in Nepal. |
| Dhanapati Adhikari | Remarks on the global regularity of two-dimensional Boussinesq equations. |
| Hem Raj Joshi | HIV epidemiology; mass incarceration and HIV incidence; male-female ratio; |
| | **Saturday, January 13** |
| Bir Kafle | On the x-coordinates of Pell equations which are Fibonacci numbers |
| Ram S Adhikari | Mean square stability analysis of a weak modified Euler-Maruyama method based on trapezoidal rule for a class of stochastic differential equations. |
| Sher Chetri | Teaching an Introductory Statistics Course: A New Partially Flipped Approach. |
| Bhikhari Tharu | Spatiotemporal trends in daily precipitation extremes and their connection with North Atlantic tropical cyclones for the Southeastern United States. |
| Raju Bhusal | The error analysis for the cubic front tracking and RKDG method solving scalar conservation laws. |
| Subhash Subedi | Quenching problem for one dimensional fractional reaction diffusion equation. |
| Dilli Bhatt | Bayesian Analysis of Contingency Tables With Covariates Under Cluster Sampling. |
| Dhuruba Adhikari | Existence Results for Multivalued Operators of Monotone Type in Reflexive Banach Spaces. |
| Ganesh Malla | A New Test for New Better Than Used in Expectation Lifetimes. |
| Keshav Pokhrel | Effectiveness of Cervical Cancer Screening Tests. |
| Ramesh Karki | Optimal reconstruction of initial data in some evolutionary PDEs via finite discrete samplings. |
| Janak Joshi | Existence of Solutions for Semilinear Neumann problems with prescribed number of zeros on exterior domains. |

S. Shrestha


## NMS-ANMA Fellowship and Recipients

Nepal Mathematical Society (NMS) and Association of Nepalese Mathematicians in America (AMNA) established NMS-ANMA Fellowship in 2016 to award one female student and one male student who secure highest marks on entrance exam for the admission to the master's program in Mathematics in the Central Department of Mathematics at Tribhuvan University. The first two awardees of the NMS-ANMA Fellowship (for 2017) are Ms. Sushmita Shrestha and Mr. Lila Prasad Bagale, and the awardees for 2018 are Ms. Sanskriti Dhakal and Mr. Ashok Badaila. ANMA congtratulates the deserving students!

L. Bagale


| ANMA Life Members | | | |
|---|---|---|---|
| Bibek Acharya | Maya Chhetri | Hari Koilrala | Binod Rimal |
| Gangadhar Acharya | Keshav Dahal | Sita Koirala | Khim R. Shrestha |
| Subas Acharya | Koshal Dahal | Vijaya Kunwar | Kusum Subedi |
| Keshav Acharya | Rajendra Dahal | Ishwari Kunwar | Subhash Subedi |
| Dhruba Adhikari | Mitra Devkota | Anup Lamichhane | Krishna Subedi |
| Hari Adhikari | Kailash Ghimire | Manoj Lamichhane | Rishi Subedi |
| Kamal Mani Adhikari | Srijana Ghimire | Kedar Nepal | Narayan Thapa |
| Gokarna Aryal | Sunil Giri | Ram Neupane | Mohan Thapa |
| Pradip Aryal | Hemraj Joshi | Khyam Paneru | Manoj Thapa |
| Ashok Aryal | Janak Joshi | Sujan Panta | Krishna Thapa Magar |
| Debendra Banjade | Bir Kafle | Buddhi Raj Panta | Surya Thapa Magar |
| Deepak Basyal | Ram C Kafle | Lokendra Paudel | Bhikari Tharu |
| Mukta Bhandari | Krishna Kaphle | Laxmi Paudel | Jiblal Upadhya |
| Ghanashyam Bhatt | Manoj Karki | Krishna Pokhrel | Tulsi Upadhyaya |
| Dilli Bhatt | Basant Karna | Keshav Pokhrel | Naveen K. Vaidya |
| Bikram Bhusal | Dinesh Kasti | Laxmi Paudel | |
| Raju Bhusal | Balkumar Khadka | Bhupendra Poudel | |
| Parshuram Budathoki | Harihar Khanal | Chudamani Poudyal | |
| Laxmi Kanta Chataut | Netra Khanal | Nar Singh Rawal | |
| ANMA Members (2017-2019) | | | |
| Deepak Bastola | Milan Bimali | Bhesh R. Mainali | Govinda Pageni |
| Hum Bhandari | Ranju Karki | Kiran Mainali | Sundar Tamang |

| Executive Committee 2017-2019 | | Subas Acharya | Member |
|---|---|---|---|
| Naveen Vaidya | President | Dhruba Adhikari | Member |
| Keshav Pokhrel | Vice President | Deepak Basyal | Member |
| Debendra Banjade | Vice President | Krishna Kaphle | Member |
| Rajendra Dahal | General Secretary | Kedar Nepal | Member |
| Ram C. Kafle | Treasurer | Subhash Subedi | Member |