

DETAIL CONFERENCE PROGRAM

(July 25, 2019)

Welcome

to the

**Twelfth (12th) American Society of Nepalese Engineers
(ASNEng) Annual Conference**

**“Explorations and Applications in Engineering, Science, and
Technology”**

Organized By

American Society of Nepalese Engineers (ASNEng)

P. O. Box 39524

Baltimore, Maryland 21212-9998, USA

Email: info@ASNEng.org / Web: www.ASNEng.org

Hosted By: Greater Chicago Nepali Engineering Community

Venue

Holiday Inn Chicago O'Hare, 5615 N. Cumberland Ave, Chicago, IL 60631

Date

July 27-28, 2019

Conference Website

<http://www.asnengr.org/conference/conference2019/>

WELCOME FROM CONFERENCE CHAIRS

On behalf of the Conference Organizing Committee of the American Society of Nepalese Engineers (ASNEng), we would like to extend our greetings and a warm welcome to you to the 12th ASNEng Annual Conference being held at Holiday Inn Chicago O'Hare, 5615 N. Cumberland Ave, Chicago, IL 60631 on July 27-28, 2019. The conference is hosted by the Greater Chicago Nepali Engineering Community. This special conference has a unique theme of “*Explorations and Applications in Engineering, Science, and Technology*” with the principal objective of assembling faculty, engineers, scientists, technologists, students and other professionals from related areas on a common platform for sharing and disseminating knowledge and experience with broader scientific and engineering communities.

The conference program covers a wide variety of engineering and scientific areas ranging from infrastructures, energy, and environmental issues to recent advances and innovation in engineering and technology. The technical program includes four technical sessions, women interaction program, kid's STEM learning program, networking session, dinner and a cultural program on the 1st day, and the ASNEng Annual Membership meeting on the 2nd day. The seven sessions on the first day include the Conference Opening with invited guest speaker, a plenary session with keynote speakers, three more technical oral presentation sessions, IT interaction session, and entrepreneurs' Session. Each of these technical sessions will feature individual presentations and question-answer forum to facilitate the sharing of knowledge and experience among fellow engineers, scientists, and professionals. The IT interaction session and Entrepreneurs' session will include a panel discussion on issues of industry interests. This year we are proud to have many invited distinguished guests including His Excellency Dr. Arjun Karki, Nepali Ambassador to the United States. We are also very proud to have two keynote lectures by 1) Govinda Timilsina, Ph.D., Senior Economist, Research Department, World Bank, Washington, DC, and 2) Ramesh B. Malla, Ph.D., F. ASCE, F. EMI, A.F. AIAA, F. ASNEng (Life), Founding President of ASNEng. University of Connecticut, Storrs, CT. The presenters and participants come from a broad base, including academia, government agencies, international organization, and industries.

We would like to express our heartfelt gratitude to the authors/presenters who submitted their abstracts and are willing to share their research results and knowledge to the conference attendees. We believe that the conference will provide all participants ample opportunity to share their knowledge and experience in their pertinent areas and create a common discussion ground for the further enhancement of knowledge for the future development of technology for humankind. We would also like to thank the conference attendees for taking their valuable time in participating and supporting the conference. Our sincere thanks are due to all Conference Organizing Committee members, in particular, the Local Organizing Committee members for their tireless effort and countless hours of voluntary service, and to the members of the Board of Directors of ASNEng for their valuable suggestions and support.

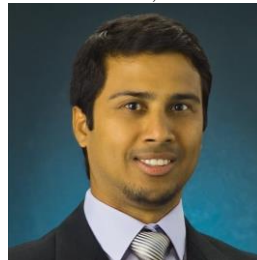
Last but not least, we would like to express our deep appreciations to the distinguished guest and speakers in attendance, and all sponsors/donors for their generous support and contribution for the success of our 12th annual conference. We wish you all an enriching and memorable time at the conference.

With warm regards,

Thakur Dhakal, P.E.
General Chair
Fairfax County Government,
Fairfax, VA



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Technical Chair
University of Illinois,
Urbana, IL



Sanjaya Gajuel, Ph.D.
Technical Co-Chair
CWRU, Cleveland, OH



Madan Baral, P.E.
Local Committee Chair
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American Society of Nepalese Engineers (ASNEng)

Twelfth (12th) ASNEng Annual Conference

Theme: “Explorations and Applications in Engineering, Science, and Technology”

Date: July 27-28, 2019

Venue: Holiday Inn Chicago O'Hare, 5615 N. Cumberland Ave, Chicago, IL 60631

Hosted by: Greater Chicago Nepali Engineering Community

*You are cordially invited to attend the conference.
For registration, please visit –<http://www.asneng.org/conference/registration/2019/>*

Overall Program Schedule At-A-Glance

Saturday, July 27, 2019

		<i>(Room)</i>
8:00 AM – 8:45 AM	Light Breakfast	Superior Ballroom
8:00 AM – 11:00 AM*	On-Site Registration	Superior Ballroom
8:45 AM – 9:15 AM	Conference Opening & Guest speakers	Superior Ballroom
9:15 AM – 10:25 AM	Keynote/Plenary Session (INVITED SPEAKERS)	<i>(2 Presentations)</i>
10:25 AM – 10:40 AM	Break	
10:40 AM – 12:00 PM	Technical Session II: Advances in Climate, Water, and Environment	Superior Ballroom <i>(4 Presentations)</i>
12:00 PM – 1:00 PM	Luncheon	Michigan Ballroom
1:00 PM – 1:20 PM	Society Initiative: Flood Position Paper	Superior Ballroom
1:20 PM – 2:20 PM	IT Interaction program	Superior Ballroom
2:20 PM – 2:30 PM	Refreshment Break	
2:30 PM – 3:30 PM**	Technical Session III: Recent Advances in Information Technology, Education, and, Management	Superior Ballroom <i>(3 Presentations)</i>
3:30 PM – 3:40 PM	Refreshment Break	
3:40 PM – 4:20 PM	Technical Session IV: Advances in Infrastructure Research, Design, and Analysis	Superior Ballroom <i>(2 Presentations)</i>
4:20 PM – 5:30 PM	Entrepreneur’s Session	Superior Ballroom
5:30 PM – 5:45 PM	Refreshment Break	Superior Ballroom

5:45 PM – 6:30 PM	Chapter Presentations, Website Committee Presentation, Awards and Networking Social	Superior Ballroom
6:30 PM – 9:30 PM	<i>Dinner and Cultural Program</i>	Superior Ballroom

Saturday, July 27, 2019

2:00 PM – 3:00 PM	Women interaction program	Huron Ballroom
3:00 PM – 5:00 PM	Kids STEM program	Huron Ballroom

Sunday, July 28, 2019

8:00 AM – 9:00 AM	Light Breakfast	
9:00 AM – 11:00 AM	ASNEng Annual Membership Meeting <i>(All non-member conference attendees welcomed as Guests)</i>	Huron Ballroom
11:00 AM	Conference Closure	
11:15 AM	Sight-seeing of Chicago Area <i>(For those interested)</i>	

**Onsite registration will continue from 8:00 am through 11:00 am.*

***Women Interaction Program and Kid's STEM Program will be organized in Huron Ballroom in parallel during the Technical Session III and IV*

American Society of Nepalese Engineers (ASNEng)

Presents

Twelfth (12th) ASNEng Annual Conference

“Explorations and Applications in Engineering, Science, and Technology”

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Detail Conference Program Schedule

(Subject to change)

Saturday, July 27, 2019

<u>On-Site Registration</u>	8:00 AM – 11:00 AM	<i>Superior Ballroom</i>
<u>Light Breakfast</u>	8:00 AM – 8:45 AM	<i>Superior Ballroom</i>
<u>Conference Opening</u>	8:45 AM - 9:15 AM	<i>Superior Ballroom</i>

*Conference Opening, Welcome, Introduction of Invited Guests, and Overall Program Overview
by **Thakur Dhakal, P.E.**, Conference General Chair*

*Conference Technical Program Overview
by **Rabin Bhattarai, Ph.D.**, Conference Technical Chair and **Sanjaya Gajurel, Ph.D.**, Conference
Technical Co-Chair*

*Local Organizing Committee Welcome
by **Madan Baral, P.E., PMP**, Chair, Conference Local Organizing Committee*

*ASNEng Welcome and Organization Introduction
by **Upendra L Karna, D.Eng., P.E.**, President, American Society of Nepalese Engineers
(ASNEng)*

Message from Ambassador:

- **His Excellency Dr. Arjun Karki, Chief Guest**, Nepali Ambassador to the United States of America, Washington, D.C.

Plenary Keynote Session**9:15 AM - 10:25 AM***Superior Ballroom*

Session Chairs: *Bishnu Phuyal, Ph.D.*, Chicago, IL and *Jagannath Ghimire, P.E.*, Katy, TX

“Research Advances on Special Topics - (I) Response Monitoring of a Very Old Truss Railroad Bridge for High Speed Trains and (II) Engineering Challenges for Building Structures on the Moon”

Ramesh B. Malla, Ph.D., F. ASCE, F. EMI, A.F. AIAA, F. ASNEng (Life), Founding President of ASNEng. University of Connecticut, Storrs, CT

Ramesh B. Malla, Ph.D., F. ASCE, F. EMI, F. ASNEng, Professor of Structural Engineering and Applied Mechanics in the Department of Civil & Environmental Engineering at the University of Connecticut (UConn), Storrs, CT, U.S.A. has more than 38 years of teaching, research, and industrial experience, including 34 years at UConn. In addition to being a faculty member at UConn, Prof. Malla worked as a structural engineer at United Engineers & Constructors, Inc. in Philadelphia, PA; a Visiting Faculty Fellow at the NASA Lewis (now Glenn) Research Center, Cleveland, OH and a Visiting Faculty at Hamilton Sundstrand Space Systems International, Inc., Windsor Locks, CT; as the Founding UConn Campus Director of the NASA/Connecticut Space Grant College Consortium; and the Associate Head and Graduate Program Director of the CEE Department at UConn. Prof. Malla’s general research areas include structural mechanics, dynamics & vibrations of structures, finite element modeling and analysis. His research encompasses structures on earth, in space, and on the Moon.



“Hydropower Development in Nepal: Market Opportunities and Risks”

Govinda Timilsina, Ph.D., Senior Economist, Research Department, World Bank, Washington, DC

Govinda Timilsina, Ph.D., is a Senior Research Economist in the Sustainable Development Team of the Development Research Group. He has more than 15 years’ experience across a board range of energy and climate change economics at the international level. His key expertise includes general equilibrium and input-output modeling; project based mechanisms under the Kyoto Protocol; climate change science, impacts and mitigation; GHG market; energy sector modeling and electricity economics & planning. Prior to joining the World Bank, Mr. Timilsina was a Senior Research Director at the Canadian Energy Research Institute, Calgary, Canada where he was engaged mainly on climate change policy analysis, economic impacts assessment and electricity issues.



Break 10:25 AM – 10:40 AM

Technical Session II 10:40 AM – 12:00 PM Superior Ballroom
(Oral Presentation)

Session Title: *Advances in Climate, Water, and Environment*

Session Chair(s): Ram Poudel, Ph.D., Denver, CO and Manoj Khadka, P.E., Chicago, IL

(Note: Presenter's name is underlined in a paper with multiple authors)

10:40 AM – 11:00 AM

"*Impact of Climate Change on the Hydropower Economics of High Mountain Asia*" by Shruti Khadka Mishra, Ph.D., Argonne National Laboratory, Argonne, IL.

11:00 AM – 11:20 AM

"*15 Years Going on \$30 Million - A Risk Reduction Vision Realized*" by John Callen, P.E., CFM, and Lalit Jha, PE, D.WRE, CFM, JEO Consulting Group, Inc., Lincoln, NE.

11:20 AM – 11:40 AM

"*Role of common nutrient contamination on bacteriophage MS2 removal in biosand filter*", by Rabin Bhattarai, Ph.D., Chunhwa Jang, and Thanh H. Nguyen, Ph.D., University of Illinois at Urbana-Champaign, Urbana, IL.

11:40 PM – 12:00 PM

"*Land Use Classification: A Surface Energy Balance and Vegetation Index Application to Map and Monitor Irrigated Lands*" by Mahesh Pun, Ph.D., and Denis Mutubwa, PhD, Long Spring Consulting.

Luncheon 12:00 PM – 1:00 PM Michigan Ballroom

Society Initiative: Flood Position Paper 1:00 – 1:20 PM

"*Preparedness, response, mitigation, and disaster recovery for flood in southern Nepal*" by Upendra Karna, D.Eng., P.E., President, ASNEng.

IT Interaction Program 1:20 PM – 2:20 PM Superior Ballroom

"IT career road map, Software development, management and testing" by Ankur Sharma, Chicago, IL and Yagna Panta, Chicago, IL

Break 2:20 PM – 2:30 PM

Technical Session III**2:30 PM – 3:30 PM***Superior Ballroom**(Oral Presentation)***Session Title: *Recent Advances in Information Technology, Education, and Management*****Session Chair(s): *Lalit K. Jha, P.E., D.WRE, CFM*, Lincoln, NE and *Kiran Adhikary, P.E.*, Lake Zurich, IL***(Note: Presenter's name is underlined in a paper with multiple authors)***2:30 PM – 2:50 PM*****"A success story of establishing computer labs for public schools in Nepal"* by *Om Dahal, Ph.D.*, NiSource, Chicago, IL.****2:50 PM – 3:10 PM*****"The Evolution of Cooperative Behavior in Human"* by *Ram C. Poudel*, Institute of Engineering, Tribhuvan University, Nepal.****3:10 PM – 3:30 PM*****"Getting meaningful result from subordinates a valuable lesson for new manager"* by *Prasanna Subedi*, Walgreens Boots Alliance (WBA), Northbrook, IL.****Break****3:30 PM – 3:40 PM****Technical Session IV****3:40 PM – 4:20 PM***Superior Ballroom**(Oral Presentation)***Session Title: *Advances in Infrastructure Research, Design, and Analysis*****Session Chair(s): *Om Dahal, Ph.D.*, Merrillville, IN and *Kabita Joshi* Chicago, IL***(Note: Presenter's name is underlined in a paper with multiple authors)***3:40 PM – 4:00 PM*****"Subsurface Exploration: An Integral Part of Foundation Design"* by *Kiran Adhikary, P.E.*, Cook County Department of Highways, Chicago, IL.****4:00 PM – 4:20 PM*****"Maximizing angle board production"* by *Samir Bhetwal*, Northern Illinois University, DeKalb, IL.****Entrepreneur's Session****4:20 PM – 5:30 PM***Superior Ballroom***Panel: *Janak Thapa, P.E.*, Houston, TX, *Subash Poudel, P.E.*, Houston, TX, *Atul Karna*, Chicago IL, *Dilli Phuyal*, Chicago, IL****Session Moderators: *Mangal Maharjan*, Elkridge, MD, and *Uttam Sedai*, Chantilly, VA**

Break

5:30 PM – 5:45 PM

**Chapter Presentations, Website
Committee Presentations
Awards and Networking Social**

5:45 PM – 6:30 PM

Superior Ballroom

Dinner & Cultural Program

6:30 PM – 9:30 PM

Superior Ballroom

Saturday, July 27, 2019

2:00 PM – 3:00 PM

Women Interaction Program

Huron Ballroom

Moderator: Jyoti Adhikari, Anita Acharya, Sangita Bogati and Friends, Chicago, IL

1. Laliguras: A Chicago Women Organization, its Function and Dedication
2. Participant interaction: Let's hear your voice
3. Mapping mindfulness: Facets of Anxiety and Depression

3:00 PM – 5:00 PM

Kids STEM Program

Huron Ballroom

Moderator: Komal Dutta and Team, Chicago, IL

Kids demonstration of imaginations and creativity in a team by doing cool project using Legos, electronics kit and other computer related items.

Sunday, July 28, 2019

Light Breakfast

8:00 AM – 9:00 AM

Huron Ballroom

**ASNEngr Annual
Membership Meeting**

9:00 AM – 11:00 AM

Huron Ballroom

(All non-member conference attendees welcomed as Guests)

Conference Closure

11:00 AM

Huron Ballroom

**Sight-seeing of Greater
Chicago Area**

11:15 AM
(For those interested)

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General Chair:

Thakur Dhakal, P.E.

Fairfax County Government, Fairfax, VA, (tdhakal@gmail.com)

Technical Chair & Co-Chair:

Rabin Bhattarai, Ph.D.; Technical Chair

University of Illinois, Urbana-Champaign, IL (E-mail: BhattaraiRabin@gmail.com)

Sanjaya Gajurel, Ph.D.; Technical Co-Chair

CWRU, Cleveland, OH (E-mail: sanjaya.gajurel@gmail.com)

Local Organizing Committee Chair

Madan Baral P.E., PMP,

Engineering Manager, Revcor, Carpentersville, IL (madanbaral@yahoo.com)

Steering Committee

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Kiran Adhikari, Chicago, IL

Ananta Baidya, P.E., San Diego, CA

Bibhuti Baral, York, PA

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Rajendra Shrestha, Ph.D., F. ASNEng, Houston, TX

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Madan Baral P.E., PMP, Carpentersville, IL
(*Chair*)

Local Outreach

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Bishnu Phuyal
Kiran Adhikary
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Kids STEM Program

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Rabin Pantha

American Society of Nepalese Engineers (ASNEngr) - a non-profit organization established in September 2007 with IRS 501(c)(3) tax exempt status – aims at providing a common platform for people of Nepalese background and their friends, in engineering and closely related scientific and technical areas to come together, exchange ideas, and support each other for their and the larger society's common good and benefits. It operates for engineering, scientific and technological research and educational purposes. The Society also strives at promoting engineering, scientific, and technological advancement in Nepal. The Membership application form and detailed information on ASNEngr and updates on its recent activities can be found at <http://www.ASNEngr.org>.

Conference Websites

For more information on the conference, please visit the following websites:

www.ASNEngr.org (“Annual Conferences and Meetings”)
