

WELCOME

to the

**Joint American Society of Nepalese Engineers (ASNEngr) and
Computer Association of Nepal-USA (CAN-USA) Conference**

(Joint ASNEngr/CAN-USA Conference 2012)

*(5th ASNEngr Annual Conference and Meeting and 5th CAN-USA Annual Development
Conference)*

**“Bringing Engineering, Scientific and Technological
Communities Together for a Better World”**

Conference Organized By

American Society of Nepalese Engineers (ASNEngr)

P. O. Box 39524, 4904 York Road

Baltimore, Maryland 21212-9998, USA

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

and

Computer Association of Nepal, USA (CAN-USA)

PO Box 105, Pleasanton, California 94566, USA

Email: info@can-usa.org / Web: www.can-usa.org

Conference Hosted By

The Greater Washington, D.C. Chapter of ASNEngr

Venue

Holiday Inn Leesburg, 1500 E. Market Street, Leesburg, VA 20176, U.S.A.

Date

May 26-27, 2012 (Memorial Day weekend)



WELCOME FROM CONFERENCE CHAIRS

On behalf of the Conference Organizing Committee of American Society of Nepalese Engineers (ASNEngr) and Computer Association of Nepal-USA (CAN-USA), we would like to extend our greetings and welcome you to the Joint ASNEngr/CAN-USA Conference 2012 being held in “The Greater Washington, D.C” (Leesburg, VA), May 26 - 27, 2012. Although ASNEngr and CAN-USA organize their conferences annually, this conference is yet another remarkable achievement for these organizations in that it is being organized stand-alone, independent of other Nepali organizations, for the second time in both organizations’ history. This conference, fifth in the series for each organization, and third joint endeavor, is thankfully hosted by The Greater Washington, D.C. (GWDC) Chapter of ASNEngr.

This joint conference has a fitting theme of “Bringing Engineering, Scientific and Technological Communities Together for a Better World” with an objective bringing the engineers, scientists, students and professionals in related areas together on a common platform for sharing and disseminating knowledge and experience with each other and with broader scientific and engineering communities.

The technical program includes four sessions, including Joint ANMF/ASNEngr/CAN-USA “Initiative on Earthquake Preparedness and Disaster Relief in Nepal” and three other technical sessions titled “Earthquake Safety Engineering and Information Communication Technologies”, “Energy and Environmental Issues and Concepts”, and “Recent Advances in Engineering and Science Topics.” Each of these sessions will feature individual presentations, and an open forum to meet and share scientific knowledge among fellow engineers, scientists and professionals. The presenters and participants in the technical sessions (there are no panel discussions this year) are engineers, scientists, and professionals who come from a broad base of the academia, government agencies, and leading private and multinational industries. The program covers a wide variety of scientific areas ranging from disaster preparedness to earthquake safety and emergency communication, to energy and environmental issues to recent advances in engineering to unconventional petroleum resources.

We would like to express our heartfelt gratitude to the authors who submitted their abstracts and are willing to share their research and knowledge to the conference attendees. We believe that the presentations and forum for discussion at the conference will give all the participants ample opportunities to share their knowledge of research and development in the pertinent area and create a common discussion ground for the further enhancement of such research and knowledge.

We would like to thank the conference attendees for taking their valuable time in participating and supporting the conference. Thanks are also due to the tireless effort of organizing committee members, especially colleagues at the GWDC Chapter of ASNEngr. Sincere thanks are also due to the members of the Board of Directors of ASNEngr and Executive Committee of CAN-USA for their valuable suggestions. Last but not least, we would like to express our deep appreciation to each and every distinguished invited guest in attendance, and all sponsors/donors for their generous support contributing to the success of this conference. We are looking forward to meeting and greeting you at the conference.

With warm regards,

Ramesh B. Malla, Ph.D. General Co-Chair President, ASNEngr University of Connecticut Storrs, CT	Nabin Khanal General Co-Chair President, CAN- USA Microsoft Corporation Seattle, WA	Rajendra K. Shrestha, Ph.D. Technical Co-Chair Vice President, ASNEngr ConocoPhillips Company Houston, TX	Amod Pokhrel, Ph.D. Technical Co-Chair Executive Member, CAN-USA University of California Berkeley, CA.	Shashi Dahal , P.E. Chair, Local Organizing Committee Dahal Consulting Engineers Oakhill, VA	Jagannath Ghimire , P.E. Program Logistics Chair, General Secretary, ASNEngr RK&K LLP Baltimore, MD
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**American Society of Nepalese Engineers (ASNEngr) and Computer Association of
Nepal-USA (CAN-USA)
Present**

Joint ASNEngr/CAN-USA Conference 2012

(5th ASNEngr Annual Conference and Meeting / 5th CAN-USA Annual Development Conference)

**“Bringing Engineering, Scientific and Technological Communities Together
for a Better World”**

Date: May 26-27, 2012

**Venue: Holiday Inn Leesburg, 1500 E. Market Street, Leesburg, VA 20176, U.S.A
(Hosted by: The Greater Washington, D.C. Chapter of ASNEngr)**

**You are cordially invited to attend the conference.
For registration, please visit – http://www.asnengr.org/conference_registration.php**

Overall Program Schedule At-a-Glance

Saturday, May 26, 2012

7:30 AM – 4:00 PM	On-Site Registration	Ball Room
8:30 AM – 9:30 AM	Conference Opening	Ball Room
9:35 AM – 10:55 AM	Technical Session I <i>Session Title: Joint ANMF/ASNEngr/CAN-USA Initiative on Earthquake Preparedness and Disaster Relief in Nepal</i>	Ball Room
11:05 AM – 12:25 AM	Technical Session II <i>Session Title: Earthquake Safety Engineering and Information Communication Technologies</i>	Ball Room
12:25 PM- 1:45 PM	Luncheon	Ball Room
1:45 PM – 2:45 PM	Technical Session III <i>Session Title: Energy and Environmental Issues and Concepts</i>	Ball Room
2:55 PM – 4:15 PM	Technical Session IV <i>Session Title: Recent Advances in Engineering and Science Topics</i>	Ball Room
6:00 PM – 7:00 PM	Networking Hour	Ball Room
7:00 PM – 8:30 PM	Cultural Program	Ball Room
8:30 PM – 10:30 PM	Dinner and Entertainment	Ball Room

Sunday, May 27, 2012

8:30 AM-10:00 PM	ASNEngr General Membership and BOD Meeting.	Loudoun Room
10:10 AM -11:10 AM	Professional Development Presentation I <i>Topic: “Use of Fiber Reinforced Polymers for Structural Strengthening” (The attendee will earn one hour of Professional Development Hour-PDH)</i>	Loudoun Room
11:20 AM - 12:20 PM	Professional Development Presentation II <i>Topic: “Lateral System/Wood Shear Wall Design” (The attendee will earn one hour of Professional Development Hour-PDH)</i>	
12:20 PM-1:45 PM	Lunch and Closure	Loudoun Room
2:00 PM – 5:00 PM	Tour & Sight-Seeing (if enough interest) <i>Tour Event: Sight-seeing of point of interest in Washington D.C. (This event will be held only if there is enough interest in advance.)</i>	Meet at Hotel Lobby

[Please see the following pages for details.]



American Society of Nepalese Engineers (ASNEngr) and Computer Association of Nepal-USA (CAN-USA) Present

Joint ASNEngr/CAN-USA Conference 2012

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[Detail Program Schedule](#)

Saturday, May 26, 2012

<u>On-Site Registration & Name Badge pick-up</u>	7:30 AM – 4:00 PM	Ball Room
<u>Conference Opening*</u>	8:30 AM – 9:30 AM	Ball Room

Conference Welcome and Program/Organization Introduction –

by **Ramesh B. Malla, Ph.D.**, Conference General Co-Chair and President, American Society of Nepalese Engineers (ASNEngr); and **Nabin Khanal**, Conference General Co-Chair and President, Computer Association of Nepal-USA (CAN-USA).

Welcome from the Greater Washington, D.C. (GWDC) Chapter of ASNEngr –

by **Thakur Dhakal, P.E.**, President-Elect/current Vice President, GWDC Chapter of ASNEngr.

Local Organizing Committee Welcome –

by **Shashi Dahal, P.E.** Chair, Local Conference Organizing Committee, ASNEngr.

Welcome Remarks –

by **His Excellency Honorable Shankar Prasad Sharma, Ph.D.**, Ambassador of Nepal to the United States, Washington, D.C.

Overall Conference Program Overview –

by **Ramesh B. Malla, Ph.D.**, Conference General Chair and President, American Society of Nepalese Engineers (ASNEngr).

Technical Program Overview –

by **Rajendra K. Shrestha, Ph.D.**, Conference Technical Co-Chair and Vice President, ASNEngr and **Amod K. Pokhrel, Ph.D.**, Conference Technical Co-Chair, CAN-USA.

Vote of Thanks –

by **Jagannath Ghimire, P.E.**, Conference Logistic Chair and General Secretary, ASNEngr.

**Emcee: Raj K. Tamang, P.E., GWDC Chapter of ASNEngr*

Break 9: 30 AM – 9:35 AM

Technical Session I 9:35 AM – 10:55 PM Ball Room

Session Title: *Joint ANMF/ASNEngr/CAN-USA Initiative on Earthquake Preparedness and Disaster Relief in Nepal*

Session Chairs: *Upendra Karna, D.Eng., P.E.*, U & S Engineers, P.C. , Lambertville, NJ; and *Prakash C. Khanal*, Parsons Brinckerhoff, Cockeysville, MD.

9:35 AM – 9:50 AM

“General Overview of the Joint ANMF/ASNEngr/CAN-USA Initiative on Earthquake Preparedness and Disaster Relief in Nepal” by **Ramesh B. Malla, Ph.D.**, President, American Society of Nepalese Engineers (ASNEngr); University of Connecticut, Storrs, CT.

9:50AM – 10:05 AM

“Earthquake Preparedness and Disaster Relief in Nepal –Physical Infrastructure” by **Kanhaiya Kayastha, S.E., P.E.**, La Habra (Los Angeles), CA; and **Ramesh B. Malla, Ph.D.**, President, American Society of Nepalese Engineers (ASNEngr); University of Connecticut, Storrs, CT.

10:05 AM – 10:20 AM

Earthquake Preparedness and Disaster Relief in Nepal – Medical and Public Health” by **Sunil Sharma, M.D.**, President, America Nepal Medical Foundation (ANMF), Winchester, VA.

10:20 AM – 10:35 AM

Earthquake Preparedness and Disaster Relief in Nepal – Information Technology and Communication” by **Suresh Ojha**, Computer Association of Nepal –USA (CAN-USA), San Francisco, CA.

10:35 AM – 10:55 AM

“Preparing for a Major Earthquake in Nepal: Achievements and Lessons” by **Amod Mani Dixit**, National Society for Earthquake Technology - Nepal (NSET), Kathmandu, Nepal; **Yogeshwar K. Parajuli**, TAEC Consult Pvt. Ltd., Kathmandu, Nepal; and **Surya Narayan Shrestha.**, NSET, Kathmandu, Nepal.

Break 10:55 AM – 11:05 AM

Technical Session II 11:05 AM – 12:25 PM Ball Room

Session Title: *Earthquake Safety Engineering and Information Communication Technologies*

Session Chairs: *Bipin Pathak, Ph.D., P.E.*, District Department of Environment, Washington, D.C ; and *Deependra Pokharel*, Orbital Science, Chantilly, VA

11:05 AM - 11:25 AM

“Change in Cost and Performance with Variation in Codal Parameters in the Design of Earthquake Resistant Buildings in Nepal” by **Jishnu K. Subedi, Ph.D.**, Institute of Engineering, Pulchowk, Nepal.

11:25 AM – 11:45 AM

“Amateur Radio for Emergency Communication in Nepal” by **Khadga Sen Oli, Ganesh Kumar Jimjee** and **Amod Mani Dixit**; National Society for Earthquake Technology - Nepal (NSET), Kathmandu, Nepal.

11:45 AM -12:05 AM

“Development and Investment of Utility Scale Grid Connected Renewable Energy in Nepal”

by ***Santosh Dhakal***; Pecon LLC, Waldorf, Maryland

12:05 AM-12:25 PM

“Localization of ICT for Empowering the Rural Masses and the Differently-abled in Nepal”

by ***Bal Krishna Bal***; Kathmandu University, Kavre, Nepal

Lunch & Networking

12:25 PM-1:45 PM

Ball Room

Technical Session III

1:45 PM – 2:45 PM

Ball Room

Session Title: *Energy and Environmental Issues and Concepts*

Session Chairs: *Shyam Sharma, Ph.D., P.E.*, American Association of State Highway Officials (AASHTO), Falls Church, VA; and *Yubaraj Budhathoki, P.E. LEED AP*, Mt. Everest Engineering LLC, Fairfax VA.

1:45 PM – 2:05 PM

“A Review of Renewable Energy Practices in US and Nepal” by ***Mangal Maharjan, P.E.***; Everest Energy, Washington DC; ***Dilli Neupane, P.E.***, Everest Energy, Washington DC; and ***Bipin Pathak, P.E., P. Eng., Ph. D.*** Fairfax, VA.

2:05 PM – 2:25 PM

R&D in Energy Technology and Challenges in Nepal: A Case Study of KAPEG by ***Pramod Ghimire***; KAPEG, Dhulikhel, Nepal; ***Peter Freere***, World Vision Australia; ***Ghanshyam Shrestha, Ph.D.***, ABB Inc., Raleigh, NC.; ***Chudamani Lamichhane***, AkerSolutions, Norway; ***Ranjan Sharma***, Siemens, Denmark; and ***Rakesh Sinha***, Wind Power System, Aalborg University, Denmark.

2:25 PM – 2:45 PM

“Addressing the Environmental Burden shifting of Biofuels in the Context of Developing Countries” by ***Anil Baral, Ph.D.***, The International Council on Clean Transportation, Washington, DC.

Break

2:45 PM – 2:55 PM

Technical Session IV

2:55 PM – 4:15 PM

Ball Room

Session Title: *Recent Advances in Engineering and Science Topics*

Session Chairs: ***Rishi Baral, P.E., CFM***, Stafford County Government, Stafford, VA and ***Kulmani Acharya***, Kalika Construction Group USA, Parkville, MD.

2:55 PM - 3:15 PM

“Understanding the Structural Behavior of your Home” by ***Raj Tamang, PE, LEED AP***; BEI Structural Engineers, Fairfax, VA.

3:15 PM – 3:35 PM

“Design and Implementation of Advanced Technology for the Highway Infrastructure development” by ***Upendra L. Karna, D.Eng, P.E.***; U&S Engineers, P.C., Lambertville, NJ.

3:35 PM – 3:55 PM

“Advances in Technology Aid Production from Unconventional Petroleum Resources” by **Rajendra K. Shrestha, Ph.D.**, ConocoPhillips Company, Houston, TX.

3:55 PM – 4:15 PM

“Natural Frequency Determination of a Proposed Lunar Habitat Subjected to Diurnal Cycle Extreme Temperatures” by **Kevin Brown and Ramesh B. Malla, Ph.D.**, University of Connecticut, Storrs, CT.

<u>Networking Hour</u>	6:00 PM – 7:00 PM	Ball Room
<u>Cultural Program</u>	7:00 PM – 8:30 PM	Ball Room
<u>Dinner and Entertainment</u>	8:30 PM-10:30 PM	Ball Room

Special Attraction - Best Paper/Presentation Awards: This will be a new attraction for this year’s conference. A panel of judges will evaluate the presentations delivered at the Conference. Top three best presentations/papers will be selected and recognized.

Sunday, May 27, 2012

ASNEngr General Membership Meeting. 8:30 AM-10:00 AM Loudoun Room
Annual General Body Meeting of the American Society of Nepalese Engineers (ASNEngr)

Break 10:00 AM – 10:10 AM

Professional Development Presentation I 10:10 AM – 11:10 AM Loudoun Room
Topic: "Use of Fiber Reinforced Polymers for Structural Strengthening" by **Carla A. Ramos**, Sales Engineer, Fibrwrap Construction Services, Inc., Chantilly, VA 20151
(The attendee will earn one hour of Professional Development Hour-PDH)

Break 11:10 AM – 11:20 PM

Professional Development Presentation II 11:20 AM – 12:20 PM Loudoun Room
Topic: “Lateral System for Wood Design” by **Michael Wolfe**, Simpson Strong-Tie Company, Columbus. OH
(The attendee will earn one hour of Professional Development Hour-PDH)

Lunch and Closure 12:20 PM – 1:45 PM Loudoun Room

Tour & Sight-Seeing 2:00 PM - 5:00 PM Meet at the Hotel Lobby
Tour Event: Sight-seeing of point of interest in Washington D.C. *(This event will be held only if there is enough interest in advance.) (For accompanying guests and spouses, the tour will be available from the morning if there is enough interest)*

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(E-mail: MallaR@engr.uconn.edu); and
Nabin Khanal (President, CAN-USA), Microsoft Corp, Seattle, WA
(E-mail: nabink@microsoft.com)

Technical Chairs:

Rajendra K. Shrestha, Ph.D. (Vice President, ASNEng), ConocoPhillips Company, Houston, TX.
(E-mail: RShrestha1234@yahoo.com); and
Amod K. Pokhrel, Ph.D. (Executive Member, CAN-USA), University of California, Berkeley, CA.
(E-mail: amodpokhrel@gmail.com)

Program Activities/Logistics Chair:

Jagannath Ghimire, P.E. (General Secretary, ASNEng), RK&K, LLP, Baltimore, MD.
(E-mail: jaganghimire@yahoo.com)

Local Organizing Committee Chair/Contacts:

Shashi Dahal, P.E. (Chair, Local Organizing Committee), Dahal Consulting Engineers, Oak Hill, VA.
(E-mail: shashidahal@yahoo.com)
Yubaraj Budhathoki, P.E. (President, GWDC Chapter of ASNEng), Chantilly, VA.
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Arbina Shrestha (Co-Coordinator)	Shashi Dahal, P.E.	Raj Tamang, P.E.	.

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***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>.*

***Computer Association of Nepal-USA (CAN-USA)** is an American organization dedicated to the professional development of its members and technological progress of Nepal. It is a tax exempt 501(c)(3) non-profit organization with members throughout the United States. The organization continues to utilize the creativity and talent of its members and the broader American community to develop technology-rich solutions that address some of Nepal's challenges. Please visit <http://www.can-usa.org/> for more information.*

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