

**WELCOME**  
to the

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

**(Joint ASNEng/CAN-USA Conference 2013)**

*(6<sup>th</sup> ASNEng Annual Conference and Meeting and 6<sup>th</sup> CAN-USA Annual Development  
Conference)*

**“Engineering, Science and Technology for a Better Living”**

**Conference Organized By**

**American Society of Nepalese Engineers (ASNEng)**

P. O. Box 39524, 4904 York Road

Baltimore, Maryland 21212-9998, USA

Email: [info@ASNEng.org](mailto:info@ASNEng.org) / Web: [www.ASNEng.org](http://www.ASNEng.org)

and

**Computer Association of Nepal, USA (CAN-USA)**

PO Box 105, Pleasanton, California 94566, USA

Email: [info@can-usa.org](mailto:info@can-usa.org) / Web: [www.can-usa.org](http://www.can-usa.org)

**Conference Hosted By**

**Computer Association of Nepal-USA (CAN-USA)**

**Venue**

**Intel Corporation Headquarters, SC9 Auditorium,  
2250 Mission College Blvd, Santa Clara, CA 95054, USA**

**Date**

Saturday, June 29, 2013

**Conference Websites**

[www.can-usa.org](http://www.can-usa.org) and [www.ASNEng.org](http://www.ASNEng.org)



## 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 warm welcome to you to the 2013 Joint ASNEngr/CAN-USA Conference being held here at Santa Clara, CA (heart of the Silicon Valley, California) on this day of June 29th, 2013. This conference, sixth in the series for each organization, and fourth joint endeavor, is thankfully hosted by Computer Association of Nepal-USA (CAN-USA).

This joint conference has a fitting theme of “Engineering, Science and Technology for a Better Living” with the principal objective of 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,” “Applied Science & Disaster Communication,” “Bio-Sciences, Medicine & Engineering,” and “Connecting with Nepal.” Each of these sessions will feature individual presentations, and question-answer forum to facilitate sharing of knowledge and experience among fellow engineers, scientists and professionals. The presenters and participants in the technical sessions are engineers, scientists, and professionals who come from a broad base, including 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 bio-sciences, energy and environmental issues to recent advances in engineering to social entrepreneurship.

We would like to express our heartfelt gratitude to the authors who submitted their abstracts and are willing to share their research results 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. Sincere thanks are also due to the tireless effort of organizing committee members and the members of the Board of Directors of ASNEngr and 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 wish you have an enriching and most memorable time at the conference, and we, the members of the conference organizing committees, are committed and looking forward to see that happen.

With warm regards,

Amod K. Pokhrel, Ph.D.  
General Co-Chair  
President, CAN-USA  
University of California,  
Berkeley

Rajendra K. Shrestha, Ph.D.  
General Co-Chair  
President, ASNEngr  
ConocoPhillips Company  
Houston, TX

Pradeep Khanal  
Technical Co-Chair  
Vice President, CAN-USA  
Intel Corp.  
Santa Clara, CA

Ramesh B. Malla, Ph.D.  
Technical Co-Chair  
Founding President,  
ASNEngr  
University of Connecticut  
Stors, CT.

Bineet Sharma  
Chair, Local Organizing  
Committee  
Founding President,  
CAN-USA  
Entrepreneur,  
Pleasanton, CA



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

**Joint ASNEngr/CAN-USA Conference 2013**

(6th ASNEngr Annual Conference and Meeting / 6th CAN-USA Annual Development Conference)

**“Engineering, Science and Technology for a Better Living”**

**Date: Saturday, June 29, 2013**

**Venue: Intel Corporation Headquarters, SC9 Auditorium,  
2250 Mission College Blvd, Santa Clara, CA 95054, USA  
(Hosted by: CAN-USA)**

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

**Overall Program Schedule At-a-Glance**

**Saturday, June 29, 2013**

8:30 AM	<i>On-Site Registration/Breakfast</i>
9:00 AM – 9:45 AM	<i>Conference Opening</i>
9:45 AM – 11:00 AM	<i>Technical Session I</i> <b>Session Title:</b> <i>Joint ANMF/ASNEngr/CAN-USA Initiative on Earthquake Preparedness and Disaster Relief in Nepal</i> (5 presentations)
11:10 AM – 12:25 PM	<i>Technical Session II</i> <b>Session Title:</b> <i>Applied Science &amp; Disaster Communication</i> (5 presentations)
12:25 PM- 1:40 PM	<i>Lunch (provided)</i>
1:40 PM – 2:30 PM	<b>Keynote Lecture on “Breaking Trail: Mountains and Molecules” – Arlene Blum, Ph.D.,</b> Green Science Policy Institute, Berkeley, CA
2:30 PM – 3:30 PM	<i>Technical Session III</i> <b>Session Title:</b> <i>Bio-Sciences, Medicine &amp; Engineering</i> (4 presentations)
3:40 PM – 4:55 PM	<i>Technical Session IV</i> <b>Session Title:</b> <i>Connecting with Nepal</i> (5 presentations)
5:00 PM – 6:00 PM	<i>ASNEngr General Membership and BOD Meeting</i>
6:00 PM – 10:00 PM	<i>Networking Mixer (dinner included)</i>

*[Please see the following pages for details of the Program]*



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

**Joint ASNEngr/CAN-USA Conference 2013**

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**Detail Program Schedule**

**Saturday, June 29, 2013**

**Registration/Breakfast**

8:30 AM

**Conference Opening**

9:00 AM – 9:40 AM

*Conference Welcome and Organization Introduction –*

by **Amod Pokhrel, Ph.D.**, Conference General Co-Chair and President, Computer Association of Nepal-USA (CAN-USA) and **Rajendra K. Shrestha, Ph.D.** Conference General Co-Chair and President, American Society of Nepalese Engineers (ASNEngr)

*Special Welcome Remarks –*

**Shankar Adhikari, Act. Secretary**, Ministry of Science and Technology, Nepal

**Binod Dhakal, President**, Computer Association of Nepal (CAN)

**Bimal Sharma, Founding President**, Computer Association of Nepal (CAN)

*Conference Program Overview –*

by **Pradeep Khanal**, Conference Technical Co-Chair and Vice President, CAN-USA and **Ramesh B. Malla, Ph.D.**, Conference Technical Co-Chair, Founding President, ASNEngr

*Local Organizing Committee Welcome –*

by **Bineet Sharma**, Chair, Local Conference Organizing Committee and Founding President, CAN-USA

**Technical Session I**

9:45 AM – 11:00 AM

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

**Session Chairs: Bimal Sharma**, Founding President, CAN and **Binod Tiwari, Ph.D.**, California State University, Fullerton, CA

**9:45 AM – 10:00 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.**, Founding President, American Society of Nepalese Engineers (ASNEngr) and Chair, Committee on Joint ANMF/ASNEngr/CAN-USA Initiative on Earthquake Preparedness and Disaster Relief in Nepal; University of Connecticut, Storrs, CT.

**10:00 AM – 10:15 AM**

***“Use of IT tools for training professionals in the municipalities”*** by **Amod Mani Dixit, Ph.D.**, National Society for Earthquake Technology - Nepal (NSET), Kathmandu, Nepal

**10:15 AM – 10:30 AM**

***“Role of IOM Smart Health line in providing medical services in rural areas of Nepal”*** by **Dr. Pradeep Vaidya**, Director, Department of Information Technology, IOM and Prof. and Unit Chief, GI and HBP Surgery, Dept. of Surgery, TUTH. Kathmandu, Nepal

**10:30 AM – 10:45 AM**

***“Logistic Contingency Planning for Seismic Emergency in an Urban Settlement”*** by **Upama Ojha**, Department of Civil Engineering, Institute of Engineering, Pulchowk, Nepal

**10:45 AM – 11:00 AM**

***“Experiences of Dharan Municipality on Building Code Implementation”*** by **Suraj Shrestha**, Dharan Municipality, Dharan, Nepal

**Break**

11:00 AM – 11:10 AM

**Technical Session II**

11:10 AM – 12:25 PM

**Session Title:** *Applied Science & Disaster Communication*

**Session Chairs:** **Kishor Panth**, Cisco Systems, Kathmandu, Nepal; and **Achyut Shrestha**, Suraj Green Tech (SGT.com.np), Phoenix, Arizona

**11:10 AM - 11:25 AM**

***“Remote Sensing Using Quadcopter”*** by **Sanjeeb Pandey, Ph.D.**, Institute of Engineering, Pulchowk, Nepal.

**11:25 AM – 11:40 PM**

***“Use of Soil Reinforcement Panel to Reduce Seismic Ground Motion”*** by **Sneha Upadhyaya and Binod Tiwari, Ph.D.**, California State University, Fullerton, CA

**11:40 PM - 11:55 PM**

***“Creating Synergy From Chaos: Implementing the WHOLE OF SOCIETY approach to address challenges of post-disaster communications focusing on Leadership, Innovation, & Collaboration”*** by **Pat Lanthier**, Advisor, US Pacific Command and Chairman, Emergency Communications Leadership & Innovation Center, Carnegie Mellon University Silicon Valley

**11:55 AM – 12:10 AM**

**“Communicating after a Disaster in Nepal (A review of the Diaspora's involvement and possibilities for the future)”** by **Suresh Ojha**, Disaster Preparedness Committee Chair, CAN-USA, Santa Clara, CA.

**12:10 PM - 12:25 PM**

**“Dynamic Response of a Simply Supported Bridge under a Moving Vehicle Using MATLAB/Simulink”** by **Fatih Avcil and Ramesh B. Malla, Ph.D.**, University of Connecticut, Storrs, CT, U.S.A.

**Lunch Break (provided)**

12:25 PM -1:40 PM

**Keynote Lecture: “Breaking Trail: Mountains and Molecules”** 1:40 PM – 2:30 PM

**Arlene Blum, Ph.D.**, Green Science Policy Institute, Berkeley, CA

[http://en.wikipedia.org/wiki/Arlene\\_Blum](http://en.wikipedia.org/wiki/Arlene_Blum)

**Award Presentation:** CAN-USA 2012 Volunteer of the Year Award to **Mr. Rob Rowlands**, Walnut Creek, CA

**Technical Session III**

2:30 PM – 3:30 PM

**Session Title:** *Bio-Sciences, Medicine & Engineering*

**Session Chairs:** **Nabin Acharya**, Dell Systems, San Jose, CA; and **Suresh Ojha**, National Instruments, Santa Clara, CA

**2:30 PM – 2:45 PM**

**“Extracellular Matrix (ECM) in Our Tissue Structure”** by **Bikram Sharma, Ph.D.**, Postdoctoral Research Fellow, Stanford University, Palo Alto, CA

**2:45 PM – 3:00 PM**

**“Tele-Medicine in Nepal”** by **Prabhat Adhikari, MD**, Fresno, CA

**3:00 PM – 3:15 PM**

**“Single Domain Antibody in Diagnosis and Therapy of Cancer and Infectious Disease”** by **Toya Nath Baral.**, Merck, Palo Alto, CA

**3:15 PM – 3:30 PM**

**“Indoor PM2.5 in Household Kitchens of Bhaktapur, Nepal, Monitored with an Inexpensive Light-Scattering Monitor”** by **Amod K Pokhrel, Ph.D.**, University of California, Berkeley, CA

**Break**

3:30 PM – 3:40 PM

**Technical Session IV**

3:40 PM – 4:55 PM

**Session Title:** *Connecting with Nepal*

**Session Chairs:** **Nabin Khanal**, Microsoft Corp, Seattle, WA, and **Ramesh B. Malla, Ph.D.**, Founding President, ASNEng; University of Connecticut, Storrs, CT

**3:40 PM – 3:55 PM**

**“Research and Education Network in Nepal”** by **Kishor Panth**, Cisco Systems, Kathmandu, Nepal

**3:55 PM - 4:10 PM**

**“Dayitwa, Nepal Public Service Fellowship”** by **Pradeep Khanal**, Intel Corporation, Santa Clara, CA

**4:10 PM – 4:25 PM**

**“Design and Development of Mobile Devices in Nepal: Scope and Possibilities”**, by **Pramod Poudel**, Intel Corporation, Folsom, CA

**4:25 PM – 4:40 PM**

**“Electric Vehicles from old Petrol/Gas Engine Conversions in Nepal”** by **Achyut Shrestha**, Suraj Green Tech (SGT.com.np), Phoenix, Arizona

**4:40 PM – 4:55 PM**

**“Think Different Nepal – A Techie Approach to Connect and Develop Nepal & Nepali Diaspora”** by **Jay Mandal**, Los Angeles, CA.

**ASNEngr General Membership Meeting.** 5:00 PM – 6:00 PM

*Annual General Membership Meeting of the American Society of Nepalese Engineers (ASNEngr)*

**Networking Mixer (includes dinner)** 6:00 PM – 10:00 PM

(Casa Azteca, 20 N Abel St, Milpitas, CA 95035)

**Presentations Titles and Speakers**

**Presentation I**

**Looma** by **David Sowerwine and Skip Stritter**, San Francisco, CA

**Presentation II**

**Center for Information Technology, Nepal** by **Bimal Sharma, CIT**, Kathmandu, Nepal

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## **Conference Sponsors and Donors**

The support from the following organizations is gratefully appreciated:

**Intel Corporation, Santa Clara, CA**

**Casa Azteca, Milpitas, CA**

**Third Eye Travel, Fremont, CA**

**Microsoft Corporation, Seattle, WA**

**John Hancock, Charlotte, NC**

## Conference Organizing Committees

### General Chairs:

**Amod K. Pokhrel, Ph.D. (President, CAN-USA)**

University of California at Berkeley (E-mail: [amodpokhrel@gmail.com](mailto:amodpokhrel@gmail.com))

**Rajendra K. Shrestha, Ph.D. (President, ASNEngr),**

ConocoPhillips Company, Houston, TX. (E-mail: [RShrestha1234@yahoo.com](mailto:RShrestha1234@yahoo.com))

### Technical Chairs:

**Pradeep Khanal (Vice-President, CAN-USA)**

Intel Corporation, Santa Clara, CA (E-mail: [pradeepkhanal@gmail.com](mailto:pradeepkhanal@gmail.com))

**Ramesh B. Malla, Ph.D. (Founding President, ASNEngr)**

University of Connecticut, Storrs, CT (E-mail: [MallaR@engr.uconn.edu](mailto:MallaR@engr.uconn.edu))

### Local Organizing Committee Chair:

**Bineet Sharma (Founding President, CAN-USA)**

Soffront Software Inc., Fremont, CA (E-mail: [bineet@gmail.com](mailto:bineet@gmail.com))

### Committees:

#### **1. Steering Committee**

Amod Pokhrel, Ph.D., *Conference General Co-Chair* (President, CAN-USA)

Rajendra Shrestha, Ph.D., *Conference General Co-Chair* (President, ASNEngr)

Pradeep Khanal, *Conference Technical Co-Chair* (Vice President, CAN-USA)

Ramesh B. Malla, Ph.D., *Conference Technical Co-Chair* (Founding President, ASNEngr)

Bineet Sharma, *Conference Local Organizing Chair* (Founding President, CAN-USA)

Nabin Acharya

Baikuntha Adhikari

Ananta Baidya, P.E.

Rabin Bhattarai, Ph.D.

Harihar Dahal

Sanjaya Gajurel, Ph.D.

Jagannath Ghimire, P.E., (Vice President, ASNEngr)

Samana Ghimire (Treasurer, ASNEngr)

Mandeep Guragain

Pujan Joshi (Information Secretary, ASNEngr)

Kanhaiya Kayastha, S.E., P.E.

Nabin Khanal (Past President, CAN-USA)

Mahendra Poudyal (Vice-President, CAN-USA)

Achyut Shrestha

Sushil Subedi (Treasurer, CAN-USA)

Binod Tiwari, Ph.D. (General Secretary, ASNEngr)

#### **2. Technical Committee**

Pradeep Khanal –*Technical Co-Chair*

Ramesh B. Malla, Ph. D. – *Technical Co-Chair*

Prabuddha Dahal

Jagannath Ghimire, P.E.



Samana Ghimire  
Mandeep Guragain  
Kanhaiya Kayastha, S.E., P.E.  
Nabin Khanal  
Amod Pokhrel, Ph.D.,  
Bineet Sharma  
Achyut Shrestha  
Rajendra Shrestha, Ph.D.,  
Binod Tiwari, Ph.D.

### **3. Local Organizing Committee**

Bineet Sharma, Local Organizing Chair  
Nabin Acharya (Networking Mixer Coordinator)  
Sambit Bhattarai  
Durga P. Bhurtel  
Anjana Chalise  
Harihar Dahal (Logistics & Outreach Coordinator)  
Prabuddha Dahal  
Sushma Dahal  
Samana Ghimire (Public Relations Coordinator)  
Sanjeev Giri  
Mandeep Guragain  
Ashish Hada  
Nabin Khanal  
Pradeep Khanal  
Jitendra Khatri  
Sanjay Khatri  
Shamod Lacoul  
Bijay Niraula  
Suresh P. Ojha  
Ranjan Pokharel  
Amod Pokhrel  
Mahendra Poudyal (Website/IT Coordinator)  
Abin Pradhan  
Bineet Sharma (Fundraising Coordinator)  
Sushil Subedi  
Ksheetij Thapaliya

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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.*

### **Conference Websites**

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

*[www.CAN-USA.org](http://www.CAN-USA.org) (“2013 Joint Conference”) and  
[www.ASNEngr.org](http://www.ASNEngr.org) (“Annual Conferences and Meetings”)*

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