



## In This Issue

We hope everyone is getting ready for the ANS Winter Meeting and the Young Professionals Congress (YPC)! This issue has more information about YPC just after this summary and on page 5, be sure to check it out! Also, a list of YMG events at the ANS meeting can be found on page 4 and **early registration for the ANS Winter Meeting ends this Friday!**

Additionally, YMG has reached out to the other Divisions and we'll be showcasing a few other Divisions in the upcoming Newsletters, starting with the Human Factors, Instrumentation & Controls Division on page 2.

This newsletter also contains an article about Nuclear Security Implementation, from Ms. Brunelle Battistella of the World Institute for Nuclear Security on page 3.

YMG is also hosting a free webinar titled "CASL Energy Innovation Hub: Delivery Multi-scale Multiphysics Solutions for Commercial Nuclear Industry Challenges" on Wednesday, October 21<sup>st</sup>, more information on page 6.

Nominations for the ANS Landis Young Member Engineering Achievement Award are due March 1<sup>st</sup> and will be announced at the Annual Meeting. [More information on the Landis Award can be found here.](#)

Lastly, if you'd like to write up an article for the YMG Newsletter please contact the YMG Secretary, Nicholas Thompson. Some possible topics:

- a summary of what your Division does, why it's exciting, and how to get involved,
- your work or current research, and why it's important,

- an upcoming event or meeting that Young Members would be interested in
  - another topic that you think is important related to YMG, ANS, or nuclear in general.
- We look forward to your submissions!

## YPC 2015

*Catherine Perego and Brett Rampal*

As the Winter Meeting nears, we hope that everyone has the Young Professionals Congress (YPC 2015) on their calendars! This daylong embedded topical meeting is your opportunity to attend a program specifically targeted to the Young Members Group (YMG) and North American Young Generation in Nuclear (NA-YNG), and promises to be a great experience full of engaging speakers and spirited panels. The YPC 2015 planning committee has organized a program that is all-inclusive for Young Members (YMs), regardless of one's current profession.

The congress is structured with plenary sessions revolving around topics that are applicable to all YMs, followed by two breakout sessions where attendees can choose one of three concurrent panels. The first concurrent session includes topics split amongst the most common professional tracks of YMs: industry, academia, and national laboratories. Sessions include experienced as well as newer members of each of these most common sectors of the nuclear world and will offer advice, anecdotes, and lessons learned that would be of value to any YM. The second set of concurrent sessions covers areas of interest that can be common among those different career paths: a review of codes used throughout the nuclear industry, understanding how to be an advocate for nuclear science and technology, and how we, as YMs, can get the most out of the American Nuclear Society (ANS). Speakers in these concurrent



sessions run the gamut from premier vendors, national lab staff, to longtime champions of ANS and nuclear technology.

Several other highlights include keynote speeches by Dr. Jose Reyes of NuScale and former ANS President, Dr. Eric Loewen of GE-Hitachi, advice on how to communicate about the nuclear industry effectively, and a session on conquering the constant struggle of maintaining a work-life balance. Please see the flyer on the following page 5 the great presentations planned for this one day event.

As ANS and NAYGN members, and YMs, there are plenty of things that separate us: where we work, what we do, even what school we went (or still go) to – but the overarching intent of the YPC 2015 is to identify that among all of those disparate traits, it is more important to focus on our unifying ones. Clearly, we are all passionate about the nuclear industry and trying to make our mark on an industry that is hopefully poised for great growth and revitalization. We hope you are all excited to attend the YPC 2015 and use it as the avenue to learn from those who have gone before us, share your own stories with peers, and celebrate our enthusiasm for nuclear science and technology.

## **Human Factors, Instrumentation & Controls Division**

*Dr. Jamie Coble, University of Tennessee*

The Human Factors, Instrumentation & Controls Division (HFICD) comprises professionals from across the nuclear industry; division members are found across all sectors of the nuclear field from utility, manufacturing, suppliers, consulting

companies, national labs, government agencies, and educational institutions. HFICD is devoted to the human component of nuclear technology, along with the underlying instrumentation, control, and human-machine interface technologies that support the safe operation of nuclear facilities. We focus on the information processing, control, and human system interaction aspects of nuclear systems. This includes sensors that transduce physical processes into signals; monitoring, control, and communications systems that process data into information; the interfaces that display plant operational information; and the human cognitive capabilities that enable perception and interpretation of information.

HFICD's technical areas are focused on improving overall task performance, system reliability, system and personnel safety, efficiency, and effectiveness. HFICD has been a part of the ANS since 1979, when the Technical Group for Human Factors was formed. The Group became a division in 1985 and was renamed to include Instrumentation & Controls in 2008. Memberships in the Division continue to grow with 765 members, growing more than 15% over the past year. Utilities and consulting companies make up the highest fraction of membership, with each sector holding 16% of total membership. Manufacturing, suppliers and students take up the second highest percent membership with 8% each of the total members of HFICD as of this year. Nearly 11% of our division members are ANS Young Members, and another 6% are student members.

Membership in HFICD is a great way to create personal and professional opportunities. Division membership is steadily increasing and it is a growing, dynamic, and vibrant community. This makes it a great place to connect with peers, mentors, and protégés, and to just make new



friends. The Division's successful flagship Topical Meeting, Nuclear Plant Instrumentation and Control-Human Machine Interface Technology (NPIC-HMIT), is an opportunity to present the results of one's work and to find out how others are solving problems in the HFICD's professional areas. The Division's executive committee provides leadership opportunities and is a group elected from among the Division's members. One primary purpose for the Division's existence is to promote the sciences and arts of human factors and instrumentation and control. The success and growth of Division members of all grades is fundamental to achieving that purpose.

## Demonstrable Competence in Support of Nuclear Security Implementation

*Ms. Brunelle Battistella, World Institute for Nuclear Security*

At the March 2014 Nuclear Security Summit, 58 world leaders convened in the Netherlands to demonstrate their commitment to improving nuclear security and its governance. Through the discussions, all participating States agreed to a final *Communiqué* to support activities that will prevent nuclear material from falling into the hands of terrorists. Furthermore, 35 States signed an agreement on *Strengthening Nuclear Security Implementation*<sup>1</sup> that contains commitments to explicitly subscribe to the essential elements of the nuclear security regime. The agreement contains four essential commitments:

1. Subscribe to International Atomic Energy Agency (IAEA) nuclear security "fundamentals".
2. Embed IAEA guidance into national rules and regulations.
3. Conduct self-assessments and host peer reviews.
4. Ensure that management and personnel with accountability for nuclear security are demonstrably competent.

All of these commitments are very important but the fourth commitment relating to "demonstrable competence" is more difficult to quantify and deliver.

Professional certification through accredited competence testing to *demonstrate competence* is the norm in nearly all professions, be it medicine, engineering, information technology, risk management, or a host of other professional endeavours. No one would consider attending an appointment with an accountant, or trusting their computer network to an information technology specialist, unless they were confident that the person was both academically qualified and professionally certified. It is therefore surprising to discover that the same framework and availability of training does not seem to be at all common for security professionals and others with *senior* managerial or regulatory responsibilities relating to security (certified training for armed guards is common practice). One of the major challenges in this regard is that no internationally-recognised criteria have been developed for the training and certification of personnel with security accountabilities.

In an effort to make "demonstrable progress" in relation to security competence and certification, the World Institute for Nuclear Security (WINS) has launched a suite of certified materials aimed at different professional disciplines, all of which have accountabilities for the security of nuclear

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<sup>1</sup> Nuclear Security Summit 2014, Strengthening Nuclear Security Implementation (2014), [https://www.nss2014.com/sites/default/files/downloads/strengthening\\_nuclear\\_security\\_implementation.pdf](https://www.nss2014.com/sites/default/files/downloads/strengthening_nuclear_security_implementation.pdf).



and other radioactive material. This programme is called the WINS Academy<sup>2</sup> and offers structured courses for numerous stakeholders ranging from Executive Managers, to off-site Incident Responders, to the Regulator. It was first announced in principle at the Seoul Nuclear Industry Summit (NIS) in 2012, and WINS launched the first Academy certification programmes online coincident with the 2014 NIS in Amsterdam. The Academy programme sets out security as a strategic, operational activity to be implemented across the organisation and as a fundamental aspect of risk management and corporate reputation.

In other industries (including nuclear safety), leading performance indicators are measured through training and certification to ensure that practitioners can demonstrate competence. These certification frameworks and trainings approach security as a business: ergo Security Managers become business managers, leading to more operationally effective and financially efficient security operations. All international nuclear security efforts must lead to sustainable changes and improvements for the effort and expenditure to be worthwhile: in advance of the 2016 Nuclear Security Summit, all States should be encouraged to subscribe to the *Strengthening Nuclear Security Implementation* Joint Statement<sup>3</sup>, and to support efforts to drive forward national requirements for the certification of managers and practitioners with accountabilities for nuclear security.

<sup>2</sup> More information about the WINS Academy Nuclear Security Management Certification Programme can be accessed at [www.wins.org/academy](http://www.wins.org/academy).

<sup>3</sup><https://www.iaea.org/sites/default/files/publications/documents/infcircs//infcirc869.pdf>

## ANS Meeting Events of Interest

Young Members Group  
Program, Monday, 10:00 am - 11:30 am  
Executive, Monday, 11:30 am - 1:00 pm

Thermal Hydraulics Education-Panel  
Tuesday, 8:00 am - 12:00 pm

Nuclear Politics: Perspectives from ANS  
Congressional Fellows and Nuclear Advocates-Panel  
Wednesday, 8:00 am - 10:00 am

Student Conference Proposal Writing and Planning-  
Panel  
Wednesday, 10:00 am - 12:00 pm

The Importance of Professional Engineering  
Licensure in the Nuclear Industry-Panel  
Wednesday, 10:00 am - 12:00 pm

An Overview of the 2015 NPT Review Conference-  
Considerations for the Next 5 Years-Panel  
Wednesday, 1:00 pm - 2:30 pm

Young Members Group: General  
Wednesday, 4:30 pm - 7:00 pm

Postdoctoral Experience at a National Laboratory: A  
Nuclear Engineering Perspective-Panel  
Thursday, 8:00 am - 12:00 pm

Storm the Hill, taking place November 12, is an all-day advocacy event perfect for those passionate about nuclear. Participants will have the chance to meet with their Congressional representatives and tell them how nuclear matters—both to themselves and to the country. This is a great opportunity to raise your voice for a cause you care about on a personal level, with the American Nuclear Society providing help along the way. Register now to ensure your spot and a meeting with your Congressional representatives!

# YPC15 YOUNG PROFESSIONALS CONGRESS



American Nuclear Society  
Young Members Group



## The American Nuclear Society Young Members Group and North American Young Generation in Nuclear invites you to attend the 2015 Young Professionals Congress!

A one-day program held in conjunction with the ANS Annual Winter Meeting providing a unique opportunity for young professionals in the nuclear industry. Sessions held will provide attendees with skills and professional development as well as broad networking opportunities. Members of ANS and NAYGN are encouraged to attend. Attendance to the ANS Winter Meeting is not required.

**November 7, 2015**

**Marriott Wardman Park Hotel ♦ Washington, D.C.**

### Sessions and presentations this year include:

#### Keynote Addresses

- ♦ Opening Remarks Made by: Don Hoffman, EXCEL Services Corporation
- ♦ Jose Reyes, NuScale Power LLC
- ♦ Eric Loewen, General Electric – Hitachi

#### Exchanging Ideas: How to Communicate Effectively

- ♦ Rian Bahran, Los Alamos National Laboratory
- ♦ Craig Piercy, ANS D.C. Representative
- ♦ Mimi Limbach, Potomac Communications Group

#### Work Life Balance Wisdom

- ♦ Katy Huff, University of California, Berkeley
- ♦ Brian Matthews, Nuclear Safety and Technology Services
- ♦ Heather Connaway, Argonne National Laboratory

#### Influencing the Industry

- ♦ Sarah Gillham, Southern Nuclear Company
- ♦ Laura Goosen, Westinghouse Electric Company
- ♦ Brett Rampal, NuScale Power LLC

#### Making a Difference at the Labs: A Department of Energy and International Atomic Energy Agency Perspective

- ♦ Patricia Lee, Department of Energy – HQ
- ♦ Patricia Paviet, Department of Energy – NE
- ♦ Brian Collins, Department of Energy – NE/ PNNL
- ♦ Warren Stern, Brookhaven National Laboratory
- ♦ John Kelly, Department of Energy – NE

#### Staying in School: Grad School to Postdoc and Beyond

- ♦ Rachel Slaybaugh, University of California, Berkeley
- ♦ Leigh Winfrey, University of Florida
- ♦ Jamie Coble, University of Tennessee

#### The Cacophony of Code: Understanding the Landscape

- ♦ Arthur DiGiovine, Studsvik Scandpower
- ♦ Will Boyd, Massachusetts Institute of Technology
- ♦ Christopher Perfetti, Oak Ridge National Laboratory

#### Acquaint Yourself with Nuclear Advocacy

- ♦ Suzy Hobbs Baker, Idaho National Laboratory
- ♦ Lenka Kollar, Nuclear Undone
- ♦ Elizabeth McAndrews, Nuclear Energy Institute

#### Accomplish More with ANS

- ♦ Art Wharton, Westinghouse Electric Company
- ♦ Harsh Desai, Knolls Atomic Power Laboratory
- ♦ Ryan McClarren, Texas A&M University

#### Opening and Closing Remarks

- ♦ Elia Merzari, 2014 ANS YMG Chair, Argonne National Laboratory
- ♦ Benjamin Holtzman, 2015 ANS YMG Chair, Westinghouse Electric Company
- ♦ Eugene Grecheck, ANS President

Please visit the ANS YMG website - <http://ymg.ans.org/ypc/>



# ANS Brief

## Member Webinar Series

**Free ANS Members-Only Webinar  
Hosted by the Young Members Group**

**CASL Energy Innovation Hub:  
Delivering Multi-scale Multiphysics Solutions for Commercial Nuclear  
Industry Challenges**

**Wednesday, October 21, 2015  
12:00-1:30 pm CDT**

**CASL:** the Consortium for Advanced Simulation of Light Water Reactors is the first U.S. Energy Innovation Hub connecting fundamental research and technology development through an integrated partnership of government, academia, and industry.

**CASL's objective:** to provide leading-edge modeling and simulation (M&S) capability to improve light water reactor performance. Its vision is safer and more productive commercial nuclear power production via comprehensive science-based predictive M&S technology.

**Advancement resulting from Hub research:** Virtual Environment for Reactor Applications (VERA) software, simulating nuclear reactor physical phenomena using coupled multi-physics models and including physical domains from microscale to engineering scale. VERA's capabilities include neutron transport, thermal-hydraulics, fuel performance, and coolant chemistry.

**All ANS Members are encouraged to attend this free webinar to learn:**

- the challenges facing existing commercial nuclear power reactors
- the state-of-the-art of modeling capabilities to address operating reactor challenges
- the role of high performance computing in simulating commercial power reactors
- the need for multi-physics and multi-scale modeling capability and the remaining challenges

**Pre-register now** using password: 2015