

(Cash or Check at the door or to pre-pay using a credit card, see page 2 - **NOTE:**

**There is no cost for the program or PDH Certificate)**

5:00 pm Executive Committee Meeting (All members welcome)

5:30 pm Social/Networking

6:00 pm Dinner – Menu

7:00 pm Program – Dr. Jim Roberto, Associate Laboratory Director for Science and Technology Partnerships at Oak Ridge National Laboratory, ***The Discovery of Element 117: Super-Heavy Element and the “Island of Stability”***

Abstract – The periodic table received a significant update in December 2015 with the recognition of four new chemical elements with atomic numbers 113, 115, 117, and 118. Element 117, the most recent of these discoveries, was synthesized by bombarding a  $^{249}\text{Bk}$  target produced at the High Flux Isotope Reactor and Radiochemical Engineering Center at Oak Ridge National Laboratory with an intense beam of  $^{48}\text{Ca}$  ions at the Joint Institute of Nuclear Research in Dubna, Russia. The resulting nuclei included two isotopes of element 117, with nine new heaviest isotopes of odd-Z elements 115 through 105 observed in related decay chains. These nuclei represent our closest approach to date to the “island of stability” for super-heavy elements originally proposed by Seaborg in the 1960s. The results provide the strongest evidence to date for the existence of the island, where the effects of closed shells of neutrons and protons are expected to confer exceptionally long lifetimes to super-heavy nuclei. The presentation will review recent progress in super-heavy element research with a focus on the significance of element 117, the role of actinide targets, and opportunities to produce even heavier nuclei and elements. Element 117 officially joined the periodic table in November 2016 as











<i>Date</i>	<i>Event</i>





February 25

**MATHCOUNTS Competition**

Judges are needed for the MATHCOUNTS Competition at the John D. Tickle Engineering Building at UT. The MATHCOUNTS Competition Series is a national program that provides students the opportunity to compete in live, in-person contests against and alongside their peers. Created in 1983, it is the longest-running MATHCOUNTS program and is open to all sixth-, seventh- and eighth-grade students. See related article on page 8 of newsletter









## Knoxville - Oak Ridge Section

P.O. Box 2008  
Bldg. 4500N, Room B12  
Oak Ridge, TN 37830-6243

Phone: 574-1965  
Fax: 574-6872

E-Mail: [aiche-  
chat@chem.engr.utk.edu](mailto:aiche-chat@chem.engr.utk.edu)



---

### ***We're on the Web!***

See us at:

<http://www.ornl.gov/sci/aiche/>

**Editor: B. Lewis**

### *About Our Organization – AIChE Career Engineer*

Are you an AIChE member looking for a job or are you an employer trying to find qualified candidates? If so, checkout the [AIChE Career Engineer site](http://careerengineer.aiche.org/).

Job seekers can upload resumes, receive job alerts/notification, and search for positions by job title, key words, and/or location.

Employers have a wide range of options for posting and advertising positions.

(Source: <http://careerengineer.aiche.org/>)

P.O. BOX 2008  
BLDG. 4500N, ROOM B12  
OAK RIDGE, TN 37830-6243

