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## IMPORTANT NOTICE:

To continue to receive your chapter's event notifications, please be sure to keep your email and postal addresses up to date on the ASM web site:

**[www.asminternational.org](http://www.asminternational.org)**

We will continue to send the hard copy to members who do not have email.

**Be sure to visit the new chapter website at:**  
<http://www.asminternational.org/portal/site/easternva/>



Eastern VA Chapter ASM  
C/O Steven J. Gentz  
2252 Towne Park Drive SW  
Huntsville, AL 35803



The Materials  
Information Society

# Eastern Virginia Chapter

**A Joint Event With the  
Central Virginia Section ASME**

**Students' Night**  
**ASM Materials Camp Experience**

Ms. Katherine Beaulieu

**From Tubal Cain: The Art and Science  
of Forming Metals and Alloys**

Dr. Robert Pond Jr.

**Friday, November 15, 2013**

St. Gertrudes High School  
3512 Stuart Ave., Richmond VA 23221  
**804-358-9114**

<http://www.saintgertrude.org>

5:30 – 6:00	Social
6:00 – 6:45	Dinner
6:45 – 7:00	Presentation by Ms. Katherine Beaulieu
7:00 – 8:30	Featured Presentation by Dr. Robert Pond Jr.

**Cost for Dinner: FREE** – Barbeque meal  
catered by Buzz and Ned's of Richmond.

**Reservations:** Please notify Kurt Thompson  
at 804-370-6082 or [kurtthomps@aol.com](mailto:kurtthomps@aol.com) by  
**Friday, November 8, 2013** on your planned  
attendance.

### Chairman's Message:

This month's program is part of our chapter's continuing commitment to student education at the high school and college levels. In addition to Students' Night, each season we normally award one \$4000 scholarship to a graduating high school senior (\$1000/year), offer funding for one or two ASM Teachers' Camps (\$4000 this previous season), and provide a grant to cover the travel expenses for one or more high school students to attend the summer ASM Materials Camp. In fact, just before the main presentation, this summer's attendee, Miss Katherine Beaulieu, will be giving a 10 minute description of her experiences at Materials Camp.

Dr. Pond is an excellent speaker, and he has been kind enough to visit our section for many years, continuing the tradition begun by his father. His presentations are always interesting and accessible to all, and although high school students and teachers are specifically invited, everyone finds them interesting.

Jeff Wiese

### About the Featured Presentation:

"From Tubal Cain: The Art and Science of Forming Metals and Alloys" starts with the science of the elastic deformation of metals that has developed over the last 400 years. The science of plastic deformation has matured in a little more than the last 100 years, and deformation phenomena is well understood starting from atoms and crystals through microscopic structures to the behavior of large engineered components. However, the art of deforming metals into useful shapes has been

practiced for more than 10,000 years. Looking at this history, there are a number of questions:

- Do we know everything about deformation of metals?
- Did you know that the theoretical capacity for load bearing of metals is 100's and 1,000's times greater than realized?
- Did you know that an atomic defect makes metals weak, and if you add more of that defect into metals it makes them stronger?
- Did you know that smaller crystals make an alloy stronger, unless the temperature is above a critical point, and then the smaller crystals make the alloy weaker?
- Did you know most alloys may be stretched to increase their length by about 10 percent, but a few alloys may be stretched nearly 10 times their length (~1,000 percent)?
- *Did you know that there are experimental phenomena in deformation of metals that no theory explains?*

### About the Featured Speaker:

Dr. Robert Pond Jr. has extensive education and experience in materials and metallurgical engineering. He has worked in research laboratories including the Ballistics Research Laboratory at Aberdeen Proving Ground. He has taught at the U. S. Naval Academy and is presently an Associate Professor of Engineering at Loyola University Maryland.

### Parking:

Parking is available behind the school, which can be accessed from Tilden. From Stuart Avenue, head South on Tilden for ½ block and then turn to left (East) into the alleyway. Entrance to the event is at the far set of double glass doors.

### Upcoming Events:

- January:** Technical Talk – Finite Element Methods and Real World Engineering (Jeff Wiese)
- February:** Engineers' Week Banquets (RJEC and PEC)
- March:** Technical Talk – Use of Polymer Materials in Medicine (Tom Haas)
- April:** Technical Talk – Ceramic Materials (Jim Hurst)
- May:** Spring Social – Colonial Shooting Academy
- July:** ASM Camp for teachers – Princess Ann High School Virginia Beach, and Highland Springs High School, Richmond

### Chapter Officers:

#### Chairman:

Jeff Wiese (wiese@NLEng.com)

#### Secretary:

Kurt Thompson (kurtthomps@aol.com)

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#### Program Chair:

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