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# AIChE® The Pipeline

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Volume 16 Issue 6

R. Berg, Editor

October, 2009

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NEWSLETTER OF THE EAST TENNESSEE SECTION OF AIChE

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Local section website

<http://www.tnengineering.net/AICHE/>

Local section mailing address

PO Box 3488 Kingsport, TN 37664-3488

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**Kenneth Massey program at Eastman Lodge**

## MASSEY/RATINGS



**Date:** Thursday, October 22<sup>nd</sup>  
**Location:** Eastman Lodge  
**Time:** Social 6:00 p.m.  
Dinner 6:30 pm.  
Program 7:30 p.m.  
**Cost:** BBQ Dinner (Braeden's) available  
for \$10/person  
(no charge for program only).

\*\*\*\*\* Guests are welcome! \*\*\*\*\*

**RSVP by 10/19/09:** Email Burts Compton at  
[compton@eastman.com](mailto:compton@eastman.com)



Are you a College Football fan? Have you ever discussed who should play for the National Championship or in the major bowl games? Ever wonder how the Bowl Championship Series (BCS) formula works? Well, on October 22<sup>nd</sup>, you'll get the chance to ask questions of someone who has a direct influence on deciding these issues. Kenneth Massey will be the featured speaker at the October meeting of the **East Tennessee Local Section of AIChE**. Dr. Massey, currently an Assistant Professor of Mathematics at Carson-Newman College, developed a computer algorithm for rating college football teams. The Massey Ratings are one component of the BCS formula. Dr. Massey's talk will cover the following topics:

- 1) Rating theory with an emphasis on the role of strength of schedule, and censoring margin of victory, illustrated with examples from previous and current college football seasons.
- 2) History of computer ratings, their role in the BCS, and Dr. Massey's personal involvement.
- 3) Nature of competition fostered by the BCS vs. potential playoff proposals.

Keeping with the college football theme, attendees are encouraged to wear the colors of their favorite team. Guests are welcome as well – just indicate the number attending when you RSVP. Please RSVP before the 19<sup>th</sup> to help with food planning!

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## October 7 lunch meeting – David Wishnick



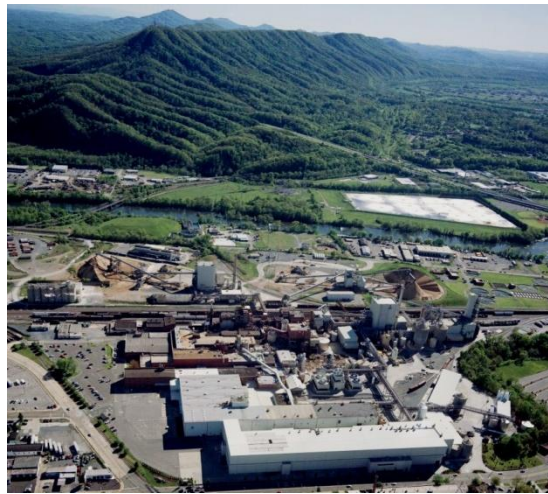
David Wishnick, National Chair of the Young Professionals Advisory Board (YPAB), spoke to our local section on October 7<sup>th</sup>. David flew in from Seattle, Washington to speak about the benefits of starting a local YPAB chapter and how YPAB interfaces with National AIChE. YPAB can be “a source of guidance, news, and inspiration for young chemical engineers.”

YPAB's objective is two-fold: to address the need to operate within AIChE and to stress the importance of remaining relevant to young chemical engineers. A local section of YPAB should keep young professionals engaged and increase participation of neophyte engineers in local AIChE programs. David indicated that the ProjectConnect Grant (which helped fund this program) can be a tool used to create local events for YPAB. He also recommended matching program concepts to the lifestyle and values of young engineers to develop a successful program.

David left us with his personal insight to YPAB: “We all participate with the benefit of networking and building relationships with other members. However, in order for YPAB to succeed, AIChE members who have benefitted from this value ought to reinvest similarly into YPAB even though younger members lack the networking capital to reciprocate.” If you are interested in learning more about YPAB, please contact Stephanie Goss ([sgoss@eastman.com](mailto:sgoss@eastman.com)) or Natalie Robertson ([NSRobertson@nuclearfuelservices.com](mailto:NSRobertson@nuclearfuelservices.com)).

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## Domtar tour stressed safety, sustainability



Forty attendees showed up on a beautiful fall evening at Domtar in downtown Kingsport. After a safety brief, Domtar employees described the plant. The people at Domtar are justifiably proud of their safety record. With about 350 employees, Domtar recorded a full calendar year (2008) without any OSHA recordable injuries. The mill went through a \$500 Million upgrade in 2002. Because of that upgrade, productivity has quadrupled; the plant is now capable of producing 4 tons/day of paper for each worker (over 1,200 tons/day).

Most of the power requirements for the plant come from the incoming wood chips and other biomass. In addition to boilers for the process, some of the raw materials are used for steam to run a turbine generator that sells energy to the grid. A very small amount of power is generated from natural gas. Domtar has achieved certifications from the Forest Stewardship Council and the Sustainable Forestry Initiative for responsible stewardship. With these chain-of-custody certifications, Domtar can trace the source of each roll of paper back to the forest, and verify that these forests are harvested and replanted to meet sustainability requirements.

During the tour, we were impressed with the cleanliness of the newly renovated areas. The state-of-the-art continuous digester is where the wood chips are broken down into cellulose fibers for paper. The other products in wood, mainly lignins, are removed as black liquor and either burned as fuel or recycled by reacting with lime to re-create the white liquor reactant for the digester. This caustic process uses lime and anthroquinone as a catalyst, and is much less “stinky” than sulfite processes used in older pulp mills. This allows a plant to be located downtown without degrading the quality of the community.

The pulp fibers are bleached to increase whiteness, and then applied to the beginning of the new K1 paper machine in a slurry of less than 2% cellulose fibers in water. The thirty-foot wide slurry is dewatered instantly by gravity and vacuum while being pressed through felt rollers to about 25% cellulose fibers. The delicately formed sheet then gets rolled through a series of steam-heated rollers before being finally rolled into jumbo sheets at the end of the process... about 15 seconds after the slurry is applied at the front end!

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## Message from the Chair, Luke Stewart



After a very successful run in 2008-2009, our Local Section added 9 members through Project Benjamin! The East TN Local Section Officers have voted to **CONTINUE** the program into 2010 with some slight modifications:

### Eligibility:

- Minimum of B.S. in Chemical Engineering
- Living in the geographic region that bounds the East TN Local Section less than 5 years
  - NE TN and SW VA
- NOT currently a National AIChE member
- Attend at least 3 local section programs during 2009-2010 Programming Year

### Selection:

- If you meet all of the above requirements, you *could* be subsidized \$100 to join AIChE!!!
  - That's the full amount for BS degrees < 2 years post-graduation!
  - Or half the dues for BS degrees > 2 years post-graduation!
- You will automatically be considered based on sign-up sheets at our programs.
  - Please BE SURE to sign the roll!
- The exact number of awards will be determined by the number of eligible persons.
- Up to 10 awards will be given.
- You will be notified in May 2010 if you are selected to receive this award.

If you would like more information or have any questions about this program, please contact Paul Fanning (229-8500).

## Save the date – November 17 Lunch meeting

Eastman's own Steve Wright, a Senior Associate in the Process and Environmental Analytics Department, will discuss the world of process analytics during a lunch meeting on Tuesday, November 17 – watch for the announcements!

In December, Alan Rossiter will discuss "Ethics and Excellence in engineering." For this meeting, which will satisfy the ethics requirement for Professional Engineers, Alan will present the topic remotely. Alan wrote an article in the June 2009 issue of *Chemical Engineering Progress* (CEP), offering encouragement to "Celebrate Your Work and Have Fun." More details will be in the next issue of the PIPELINE.

## Calendar of upcoming events

October 22 – Dinner meeting at the Eastman Lodge with Ken Massey/BCS

November 17 – Lunch meeting w/ Steve Wright – Process Analytics

December (TBD) – Alan Rossiter, “Ethics and Excellence in Engineering”



## Keep Up With the Local Section Online

Up-to-date information about the East Tennessee Section of the American Institute of Chemical Engineers can be found [on our website](http://www.tnengineering.net/AICHE) (www.tnengineering.net/AICHE). The website includes the Local Section Bylaws, List of Officers from 1945 to present, and an archive of Pipeline Newsletters - to mention only a few aspects of the information covered. Photos from past events can be found, along with contact information for the Local Board. Review the site occasionally and keep up with the local section!

### 2009 Local Section Officers, Directors, & Support Staff

<b>Chair:</b>	Luke Stewart	229-5173
<b>Chair-Elect and Program Committee Chair:</b>	Paul Fanning	229-8500
<b>Secretary:</b>	Patrice Riesenber	229-8980
<b>Treasurer:</b>	Noah McMillan	229-8114
<b>Directors:</b>	Burts Compton	229-8526
	Jennifer Mize	224-7018
	Heather McNabb	229-3102
<b>Local Section Webmaster:</b>	Tim Nolen	229-8287
<b>Short-Course Coordinator:</b>	Mark Shelton	229-4753
<b>Professional Development Coordinator:</b>	Joe Parker	229-3850
<b>AIChE Pipeline Newsletter Editor:</b>	Rich Berg	224-7393
<b>ETEAC Representative:</b>	Joey Watson	229-6486

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