



# AMERICAN CHEMICAL SOCIETY KENTUCKY LAKE SECTION

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### KLS-ACS Web Page

<http://kentuckylake.sites.acs.org/>

## November 2014 Kentucky Lake Section Meeting Bethel University

Vera Low Student Center Board Room  
McKenzie, Tennessee 38201

**Thursday, November 20, 2014**

**Social @ 5:30, Dinner @ 6:00, Presentation @ 7:00**

**Menu:** Baked ham, turkey and dressing, loaded mashed potatoes, green beans, corn, cheese cake, and peach cobbler

***The price for dinner is \$10 (Students \$5)***

### Program:

**Officer elections, Award Presentations, and brief presentation about the local National Historic Landmark: "William Kelly Pneumatic Iron and Steel Process- Revisited"**

### Comments from the Chair

Greetings! As you enjoy the nice weather, Fall season colors and looking forward to Thanksgiving, plan on attending the crowning November meeting of our section for this year. What a year we have had!!! We have enjoyed thought provoking meetings varying from chemical safety, energy from dye-sensitized solar cells to legislative perspective on issues affecting higher education by expert chemists and the Legislator. We participated in

social events such as annual picnic and ball game. Also, we had a very successful NCW and CCED celebrations with two national level winners in the CCED illustrated poem contest. Our section actively participated in the SERMACS meeting held at Nashville, TN and successfully completed the first web-based poster symposium funded by the Global Innovation Grant of the ACS. Also, our nomination for the National Historical Chemical Landmark (NHCL) site is approved by the NHCL subcommittee. Another wonderful milestone was the winning of a Chemluminary (2 years in a row!!!) for outstanding section of our size. There are still a few awards to give out during this month's meeting, so please attend and support our section. As this is my farewell address, I wish to thank everyone for the support you have given not only to your section, but also to me personally. It is your participation that makes our section outstanding, and I look forward to serving with you for years to come. ~Bommanna Loganathan, Chair

**Awards Presentation includes honoring winners of:**

- 1) Howard Huyck Outstanding Chemistry Teacher Award
- 2) Outstanding Student Research Award
- 3) Global Innovation Grant Poster Competition Award

**Abstract**

**William Kelly Pneumatic Iron and Steel Process- Revisited**

BOMMANNA G. LOGANATHAN

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William Kelly's invention that led to mass commercial production of low cost malleable iron and steel from the iron ore had a great impact on human civilization. Better bridges, expansion of railroads, military defense armaments, kitchen utensils, buildings and skyscrapers, agricultural, automobile and industrial machineries were all advances that emerged after this steel making method was discovered. Above all, jobs were created for millions all over the world. All these provided man-kind with comfort and a sophisticated life. During 1847-1851 William Kelly from Eddyville, Kentucky was first to invent a pneumatic process to make malleable iron products such as wrought iron and steel, by blowing air through molten impure "pig iron" or re-melted cast iron, in a separate fixed vertical position "converter" apparatus, without added heat. This process, erroneously known as the "Bessemer process," had five features that enabled mass production of low cost, strong, long wearing steel from all types of iron ores. This presentation revisits the development of commercial pneumatic steel making process, with details on who first to discover/invent one of these five features.