

Alabama Section of the ACS Summer 2016 Newsletter

[HTTP://ALABAMA.SITES.ACS.ORG/](http://alabama.sites.acs.org/)

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Innovations in nano science

Please join us at Innovation Depot on 9/15 for a dinner and seminar on developments in nano science by Oak Ridge scientist, Dr. Adam Rondinone. See p. 2 for details



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A picture review of the 2015/2016 academic year! Pp. 6-7



Travel Grants available for students

Learn how much and how to apply on page 2.

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Back to School

by Kate Hayden, ACS Secretary

As the long days of summer begin to wane, and as we prepare, yet again, for the coming academic year, I invite all of us to think of ways in which we can become more involved with our local section. From conferences, workshops, and local events there are a number of ways in which we can engage and grow our chapter. Have an event, or an idea? We would love to hear it! Email Kate at khayden@bsc.edu

Want to contribute?

Please send to: Kate Hayden at khayden@bsc.edu

If you would like to contribute to our newsletter, please feel free to contact Kate Hayden at khayden@bsc.edu. Contributions can include announcements for upcoming events or important dates, interesting articles, comics, editorials, and puzzles. Did I leave out something? If I did, let me know!

Contributions to the fall issue are due by 10/01.

Events calendar

Keep up with all the events going on within the ACS. Page #4

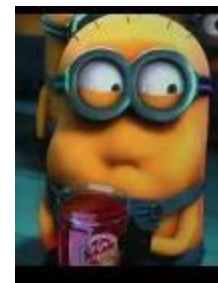


Join the Younger Chemists Committee!

Find out how on Page #5

The Science of Canning

In the last issue, we discussed gardening, but now that you have a bountiful harvest... what should you do with it? Try canning! We will show you how! #3



Job Postings

Looking to fill a chemistry related position that you want to post? Submit to khayden@bsc.edu.

Innovations in Nano Material Science

by Kate Hayden, ACS Secretary



Adam Rondinone



Dr. Adam Rondinone received his Ph.D. in Chemistry from the Georgia Institute of Technology in 2001, and immediately joined the Oak Ridge National Laboratory as a Wigner Fellow. He is currently the leader of Helium-ion microscopy and chemical imaging research at the Center for Nanophase Materials Sciences, and he is an expert on materials chemistry at the nanoscale. His research is focused on developing novel means to create functional nanomaterials for energy applications. He has served on various committees in service to ORNL, including two years as a Legislative Fellow in U.S. Senate working on energy and technology issues. He is also the outreach coordinator for the Center for Nanophase Materials Sciences.

EVENT DETAILS:

This event will begin at 6 pm at Innovation Depot. On **September 15th** This is a FREE event. Please RSVP by 9/10 at: <http://doodle.com/poll/79hrizhk23sv2dp7>
Training room, 1500 1st Ave N, Birmingham, Al.

Travel grants available to students for SERMACS

by Kate Hayden, ACS Secretary

The local section funds the Undergraduate Student Travel Award program to encourage undergraduates at colleges and universities within the Alabama Section's geographical region to present papers/posters at ACS regional and national meetings. This invaluable experience provides excellent opportunities for networking with peers and other ACS members. The maximum award is \$500 per meeting. The completed application must be submitted by **8/23!** Review the requirements for participation and consider submitting an application using either Word or self-calculating PDF formats. While acceptance of the abstract is not required at the time of application, acceptance is required for receipt of the award.

Review the requirements

<http://alabama.sites.acs.org/PDF%20file/StudentTravelAwardProgram.pdf> submitting an application using either WORD at

<http://alabama.sites.acs.org/PDF%20file/StudentTravelAwardForm.doc> or PDF at

<http://alabama.sites.acs.org/PDF%20file/StudentTravelAwardForm.pdf>



2016 SERMACS in Columbia, SC Oct 23rd – 26th

The Science of Canning

by Anne Gardiner & Sue Wilson are the authors, with the Exploratorium, of the book *The Inquisitive Cook*.

Adapted from [The Science of Cooking](#)

There's some happy anticipation as you unscrew the band, pry loose the metal lid, and taste those incredible peaches you canned last August! Equally, there's great pleasure in using summer's flavorful tomatoes in the middle of November.

Indeed, canning is an old but simple process, one that both destroys microorganisms and seals jars, so the food inside keeps well beyond its fresh storage period.

How Home Canning Works

The most crucial part of canning is referred to as heat processing. Here's how it works. Once jars are filled, the metal lids and screw bands are applied, and the jars are placed in a canner filled with water. As heating begins, the contents of each jar expand, and changes in internal pressure take place. Initially, gases are vented from the jar. When the processing period is finished, the atmospheric pressure outside the jar is greater than the pressure inside. This difference in pressure pulls the lid down onto the jar and forms a vacuum seal.



Heating for the required period of time also kills molds, yeasts, bacteria, and enzymes that may be present. Your preserves now keep safely, as the vacuum seal prevents microorganisms and air from re-entering the jar and contaminating the contents.

No Short Cuts

Sometimes it's tempting to take shortcuts, but when canning it's not worth the risk. If spoilage microorganisms are not destroyed, canned goods are unsafe, and the consequences can be serious. Let's take a look at why some practices are now faulty or outdated.

Only Two Safety Approved Methods

All high-acid foods should be heat-processed in a boiling water canner. This includes jams, jellies, preserves, marmalade, fruit, pickles, relish, and tomatoes with added acid.

All low-acid foods must be processed at a temperature higher than that of boiling water, i.e. in a pressure canner. Higher temperatures are required to destroy naturally-occurring spores that can cause botulism. Pressure canning must be done for the designated time for the specific food and size of canning jar. Low-acid foods include vegetables, tomato products with added vegetables or meat, meat and game, soups, stews, seafood, and poultry.

Potentially Unsafe Methods

Microwave canning, open-kettle methods or hot-fill, oven canning, and steam canning are not considered safe. They do not create or maintain the temperatures needed to vent jars or destroy spoilage microorganisms.

New Lids Each Year

Don't reuse old lids. While it may look like there's enough sealing compound present on last year's metal lids, once the compound has been indented, it is unlikely to seal again safely. Screw bands can be reused.

Several older kinds of lids are no longer recommended because their failure rate is high. Throw away zinc lids, old metal bands used with rubber rings, and glass lids, or alternatively, store dried foods in these jars. Outdated jars and lids can still be useful for nonperishables, but not for canning.

Just Any Jar Won't Do!

There are two good reasons why jars not designed for canning cause trouble. Their seals fail more frequently because they have a narrower sealing surface so it's less likely the lid will cling tightly to the rim. Glass bottles break more frequently than canning jars because the jars are not designed to undergo the repeated changing temperatures of heat processing.

Your best bet is to use Mason jars, designed to take the heat and seal safely. But even Mason jars won't last forever, so be prepared to replace them when necessary.

UPCOMING EVENTS:

DATE	EVENT
8/21-8/25	2016 Fall National ACS Meeting in Philadelphia, PA
9/3/2016	High School Teacher Academy
9/15/2016	Adam Rondinone Seminar at Innovation Depot on "Nano material research and advances" <i>Dinner provided</i>
9/19-9/23	Village Creek Clean Up hosted by Miles College and Village Creek Society <i>exact dates TBD</i>
10/3-10/7	Debate – "The Alabama Water – What can we do to keep it clean" Hosted by Miles College <i>Exact dates TBD</i>
10/23 – 10/26	2016 SERMACS Regional Meeting in Columbia, SC
10/24-10/28	"Mystery of Chemistry Solved" Lecture and Demonstration series focused on high school ChemEd <i>more information to follow</i>

Fall Seminar Series:

UAB	BSC	UA
<u>Tuesdays and Thursdays at 11am in Chemistry 101</u>	<u>Tuesdays at 11:00AM in Norton Theater</u>	<u>Tuesdays and Thursdays at 12:45pm in Shelby Hall 1093</u>
<p>9/22 – Timothy Brewster, PhD, Department of Chemistry, The University of Memphis, Tennessee</p> <p>9/29 – Dianqing Sun, PhD, Dept of Pharma Sci, The Daniel K. Inouye College of Pharmacy University of Hawai'i at Hilo, HI</p> <p>11/1 – Outstanding Women in Science seminar - Dr. Ahna Skop, PhD, D.Sc, Department of Genetics & Life Sciences Communication, University of Wisconsin-Madison</p> <p>11/8 – Danielle Pretorius, chemistry graduate student, Literature Seminar</p> <p>11/14 – Outstanding Women in Science seminar - Tracey L. Johnson, PhD, Howard Hughes Medical Institute</p> <p>11/17 – Robert Powers, PhD, Department of Chemistry, University of Nebraska Lincoln</p> <p>12/1 – Tandem talk presented by Drs. Nichole Powell and Brenda Harmon, Emory University</p>	<p>9/13 – Dr. Scott Dorman, Professor of Chemistry at BSC on <i>recent archaeology of ancient Maya sites in Central America.</i></p> <p>10/04 – Dr. Pam Hanson, Associate Prof of Biology at BSC on <i>Liberal Arts at the Crossroads: Science for Policy and Policy for Science</i></p>	<p>9/8 - Prof. Daniel J Goebbert from the University of Alabama</p> <p>9/16 - Prof. Marco Bonizzoni from the University of Alabama</p> <p>9/22 - Prof. Shanlin Pan from the University of Alabama</p> <p>9/29 - Amy McKenna from the University of Alabama, PhD candidate</p> <p>10/6 - Prof. Andrew Murkin from the University of Buffalo</p> <p>3/24 - Prof. Christian Goldsmith from Auburn University</p>

Join the Younger Chemists Committee

by Ethan Cagle, UAB

What is the Younger Chemists Committee (YCC)?

YCC advocates for and provides resources to early-career chemists and professional in the chemical sciences and related fields. The Alabama Section YCC would be devoted to the professional advancement of younger chemists in academia, government, and industrial settings.

Who can join the YCC?

Usually, if you are under the age of 35 you are able to join YCC. However, the criterion for membership is not age, but experience. With that said, anyone with less than five years of experience since their last advanced degree qualify for membership!

Why join the YCC?

YCC provides a mechanism to address and solve issues that younger chemists face in their various fields. It will also provide the tools, activities, and resources needed for younger chemists to network with chemists and scientists throughout the Alabama Section of the ACS.

Ready to join?

If you are interested in joining/starting a YCC for the Alabama Section, **please contact Ethan Cagle** (ecagle@uab.edu) for more information

Southern Research Leads 'Innovation Week' Panel on Zika Response

[Southern Research News Aug 2016](#)

Southern Research's rapid and multi-faceted response to the emerging threat of the Zika virus will be explored in a panel discussion held as part of this month's "[Innovation Week](#)" in Birmingham.

The session, called "Advances in Zika Research," is scheduled for 4:30 p.m., August 25, at Southern Research's Southside campus. [Sign up here to attend the free event](#). "The more we learn about Zika, the more we realize how complex this virus truly is."

Infectious disease scientists at the Birmingham-based non-profit organization have been heavily involved in efforts to understand and combat Zika, which has been linked to severe birth defects and other neurological conditions.

[Read more here](#)



Not a member of the ACS? Inquire about membership today by emailing khayden@bsc.edu

A Year in Review

Check out pictures from last year's events!

