



# THE FILTER PRESS

Newsletter of the Georgia Section of the American Chemical Society

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**REACH-OUT Meeting: Wednesday, November 28, 2007 (see page 3 for 2/1 details)**

**More to Astronomy than Meets the Eye: meeting at the ASC Observatory!**

**Dr. Hélène R. Dickel, Emerita Research Professor, University of Illinois**

Visible light that is detectable by our eyes is only a very small part of the "electromagnetic spectrum" which includes gamma-rays and x-rays at the short wavelength end of the spectrum through ultraviolet, optical and infrared radiation to radio waves at the long-wavelength end. The earth's atmosphere protects us from most of this radiation. Clouds bursting apart at thousands of kilometers per second from the sites of exploding stars give off radiation in x-rays, infrared, and radio as well as in the optical. Observations made by radio telescopes (developed after World War II) and more recently from telescopes which orbit above the earth's atmosphere have allowed us to "glimpse" this invisible radiation. Observations made with the Einstein x-ray observatory in the early 1980's have expanded our understanding of such energetic events. Far-infrared radiation delineates regions of dust which are warmed by recently-formed, embedded stars; examples are the Horsehead nebula and the molecular cloud associated with the Orion Nebula whose far-infrared radiation was been mapped by the InfraRed Astronomical Satellite (IRAS). The newer space telescopes with their greatly improved sensitivity and resolution are producing images in exquisite detail - in x-rays with Chandra (1999) and in the infrared with Spitzer (2003) to match the high resolution images obtained in the radio with arrays of telescopes such as the Very Large Array (VLA) at centimeter wavelengths and the Berkeley-Illinois-Maryland Association millimeter array (BIMA). Even in the visible part of the spectrum, observations by space vehicles can give new insights. For example, after the last servicing mission in 2002, the Hubble Space Telescope observed a "blank" patch of sky for 1 million seconds (11.3 days) between September 2003 and mid January 2004 and detected 10,000 galaxies, some of which formed as far back in time as only about 800 million

years after the Big Bang. Examples of these observations and what we've learned from them will be described with the aid of slides.

Dr. Hélène R. Dickel received her A.B. in mathematics from Mount Holyoke College in 1959 and her Ph.D. in astronomy from the University of Michigan in 1964. She is currently an Emerita Research Professor of Astronomy at the University of Illinois and an Adjunct Professor in the Physics and Astronomy Department of the University of New Mexico. She co-discovered the first formaldehyde maser in 1979 and is a pioneer in radio molecular spectroscopy using radio aperture synthesis techniques, including making some of the first images of molecular distributions with the Westerbork Synthesis Radio Telescope in the Netherlands, the Very Large Array of Radio Telescopes of the National Radio Astronomy Observatory, and the millimeter array of the Berkeley-Illinois-Maryland Association for which she was the BIMA Scheduler from 1994 through 1998. She is now involved with the Long Wavelength Array project of the University of New Mexico. Prof. Dickel is the author of over 100 publications. Recent research includes radiative transfer modeling of star-forming regions. She and her astronomer husband, John, have been "Faculty Friends" to the undergraduates living in the Snyder residence hall at the University of Illinois since 1994. For 20 years they hosted "January term" student interns in astronomy from Mt. Holyoke, Wheaton, Oberlin, and Carroll Colleges. Interests outside of astronomy include ice dance (became a USFSA silver ice dancer in 2002), cross-country skiing (when there is snow!), canoeing, hiking, and church choir. They retired to Albuquerque, NM in

**Reservation deadline is 5:00 PM, Monday, November 19th—see page three for all details. →→⇒**



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## Georgia Local Section 2008 Election Results

The 2008 **Chair-Elect** is Deborah Sauder, and John Hall is elected member-at-large.

The 2008-2010 **Councilor** is Lihong D'Angelo, and David Sherrill is elected Alternate Councilor.

Jennifer Powers was re-elected as the **treasurer**.

Terry Say advances to **Chair** in 2008.

Thanks to all the candidates for agreeing to run and serve the Georgia Local Section of the American Chemical Society.

## Women Chemists of the Georgia Local ACS Section

The Women Chemists sponsored a Wine Tasting event at the Atlanta Wine School entitled "Wine: An Ancient Art, A Modern Science".

25 women (& a few men) from the local section munched on hors d'oeuvres while learning about the Chemistry of Wine.

Those present also took some time to map out plans for future events, which will be noted in upcoming editions of the Filter Press.

For any future suggestions or questions, feel free to contact Lynn Sullivan at [dsullivan@kforce.com](mailto:dsullivan@kforce.com).

## THE FILTER PRESS

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**November Meeting: Wednesday, November 28, 2007****More to Astronomy than Meets the Eye****Dr. Helene Dickel**

Time: 6:30 - 7:00 PM Arrive

7:00 - 8:00 PM Dinner

8:00 - 9:00 PM Meeting &amp; Presentation

Location: **Agnes Scott College****Foyer of the Bradley Observatory**

Dinner: Salad, dessert, iced tea, water and coffee and

Roasted **chicken breast** stuffed with creamed spinach and served with sautéed baby carrots, wild rice, and a saffron cream, or**Eggplant steak** with chickpeas, roasted red peppers, feta cheese and black olives served with toasted pita bread**Please note your choice of entrée when making your reservation.** Cost: \$20 per person; \$10 for high-school teachers or full-time students with ID.**REACHING OUT**

We have designated this meeting as our "Reaching Out" initiative. Take this opportunity to invite a minority co-worker or friend to accompany you to our meeting. They will get the opportunity to hear a wonderful speaker and network with other science professionals from industry and academia. Need an incentive?? How about "2 For 1". That's right, **bring a minority potential member to the meeting and both of you will receive a 50% discount on the price of the dinner.** Now that's a deal!

Payment should be made to the "Georgia Section ACS" and will be collected at the door. If you make a reservation and then don't attend, you will be charged for the meal, as we have to guarantee the number of meals. **RSVP: Terry Say** [terrsvay@aol.com](mailto:terrsvay@aol.com) (preferred) or 404-625-2136.

**Deadline for reservations or cancellations is 5:00 PM on Monday, November 19th, 2007.**

**Directions:** For directions to Agnes Scott College, see [the Agnes Scott web site](#). **From I-20:** Take Candler road exit north past Memorial Dr., past Kirk Rd. (light) look for E. Dougherty St. on your left (at the Agnes Scott College sign). Turn left, and park your car as directed above.

**From I-285 (east side of city):** Take the Ponce de Leon exit. Go west on Ponce de Leon toward Decatur. Stay on Ponce until Church Street. Turn left on Church Street. The 2nd light will be Trinity. Turn left on Trinity, cross the railroad tracks (College Ave.), and you will be on Candler Road southbound. As you just pass the main part of campus, look for E. Dougherty St. (**a one-way street**) on your right. Turn right and park as directed above.

**From downtown:** Take Ponce de Leon east until it reaches Church Street. Turn right on Church Street. The second light will be Trinity. Take a left on Trinity, cross the railroad tracks (College Ave.), and you will be on Candler Rd. southbound. As you just pass the main part of campus, look for E. Dougherty St. (**a one-way street**) on your right. Turn right and park as directed above.

**National Chemistry Week 2007**

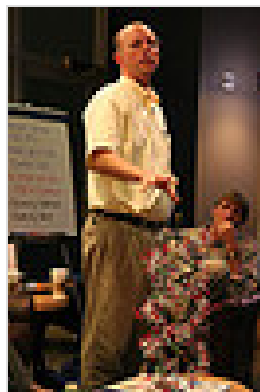
The theme for this year was **The Many Faces of Chemistry** celebrating the diversity of individuals and their careers within the chemistry profession.

Please submit pictures (and text) about NCW events to David Gottfried ([david.gottfried@mirc.gatech.edu](mailto:david.gottfried@mirc.gatech.edu)) for inclusion in upcoming editions of the Filter Press. Good ideas are free. See below the NCW display at the Kemp Branch Library in Cobb County:



Note the chemistry bumper sticker!

And from the Science Café at the Starbucks in the Georgia Tech Barnes & Noble, Nick Hud and David Lynn kept the audience's attention on the topic of the Origins of Life!



(cont'd from page 1) June 2005. Prof. Dickel has held Visiting positions at the Division of Radiophysics in Sydney, Australia, Sterrewacht te Leiden, the Netherlands, Earth and Space Sciences Division of the Los Alamos Laboratory, NM, and more recently at the Australia Telescope National Facility in Sydney, Australia. She retired in 2001 and is now an Emerita Research Professor of Astronomy at the University of Illinois and an Adjunct Professor at the University of New Mexico in 2005 where she is working on their Long Wavelength Array project. She is a member of a number of professional societies including the International Scientific Radio Union, Phi Beta Kappa, Sigma Xi, and Association for Women in Science. Prof. Dickel was President of the IAU Commission 5 Working Group [on Astronomical] Designations for ten years. Besides being a Tour Speaker for the American Chemical Society, she is a Shapley Visiting Lecturer for the American Astronomical Society and gives lectures to the Society of Physics Students and Sigma Xi.

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