



THE FILTER PRESS

Newsletter of the Georgia Section of the American Chemical Society

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And Some of the Cowboys Wore White Heads

—Disposal of Nuclear Waste at ORNL
during the Manhattan Project —

Speaker: Dr. Stephen H. Stow

When asked, most people would contend that the disposal of waste materials—including the highly toxic liquid nuclear waste—from operations at Clinton Laboratories (now Oak Ridge National Laboratory or ORNL) during the Manhattan Project was of secondary interest and was handled in a haphazard and irresponsible fashion. This talk addresses new and previously unpublished information that demonstrates this was not the case and that the world premier scientists and engineers of the Manhattan Project were highly dedicated to “proper” management decisions for the liquid wastes. The talk traces the evolution of waste management-related thoughts and actions at Clinton Laboratories from the start of the Manhattan Project in 1942 to the arrival of the Atomic Energy Commission in 1947. The involvement of the Chicago-based Metallurgical Laboratory, under the direction of Arthur Compton and Glenn Seaborg, and the construction and development of super-secret scientific facilities at Clinton Labs never lost sight of issues related to the safe handling and disposal of the liquid wastes. Chemical Principles dominated the thinking for the waste handling prior to disposal, when volume minimization and protection of human health were of paramount importance; the lack of knowledge of the chemical behavior of radionuclides in the environment, including the biosphere, after disposal was a frustration faced by all. The scientists, engineers, and medical professionals involved with this activity were of world-class caliber on a mission to produce a nuclear

weapon to end the war. However, their professional ethics and concern for their fellow man continued to direct their thoughts and actions toward, “proper” waste management. They were not solely directed toward bomb production at any cost, as many would automatically presume. Indeed, these individuals can be viewed as “cowboys” in a western town, where they battled a common enemy on the frontier of science. By today’s standards, what was done to manage liquid nuclear wastes in the 1940s is, of course, totally unacceptable. We must view their efforts in light of the times and with full understanding that they lacked knowledge of the chemical and physical characteristics of radionuclides, many of which had never even been envisioned before. Without the integrity that was demonstrated by these pioneers, we would be facing a much greater challenge today as we strive to clean up the disposal problems of the past.

Dr. Stow’s professional interests lie in the broad technical areas of geology, geochemistry, and hydrology with emphasis on applied aspects; management experience involves leadership in a wide variety of waste-related projects and programs that span a diversity of technical areas including geoscience, environmental engineering, chemistry, and remedial actions for radioactive (low-and high-level) and hazardous wastes. He is active at national and international levels in geoscience and waste management and serves as chairman of the International Commission on Hazardous Wastes (International Association of Hydrogeologists). He served as program leader for development of the Natural System portion of the new U.S. Department of Energy Advanced Neutron Source (ANS) International Conference on High-Level Radioactive Waste Disposal and participated in numerous conferences relating to geosciences and waste management. ♦

Monday, March 15, 2004, at 57th Fighter Group, Atlanta, GA



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(770)364-5354

Lillian_C_Johnston@fc.dekalb.k12.ga.us

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ACS Executive Director and CEO to Visit Atlanta

Madeleine Jacobs, newly appointed Executive Director and CEO of the American Chemical Society, will visit Atlanta in March. Jacobs will visit with individuals and give public talks at Spelman College and Emory University on March 15 and 16, 2004, respectively (program details are below).

Jacobs received a B.S. in chemistry from George Washington University in 1968 and completed course work for a master's degree in chemistry at the University of Maryland. After working as a reporter for *Chemical & Engineering News* from 1969 to 1972, she spent 14 years with the Smithsonian Institution, where she launched the nationally syndicated Smithsonian News Service, managed publication operations for several periodicals, and in 1986 became director of public affairs. In that role, she served as principal spokesperson and public affairs strategist for the entire Institution. Earlier in her career she held a similar position at the National Bureau of Standards (now the National Institute of Standards and Technology). In 1993, Jacobs was named the first woman managing editor of *Chemical & Engineering News*, and became the magazine's editor-in-chief in 1995, a position she has held until her current appointment. The first woman to hold ACS's highest executive office, Jacobs has received dozens of honors and awards in her career as a writer, editor, innovator, and motivator of young people, including the ACS Award for Encouraging Women into Careers in the Chemical Sciences, the New York Academy of Sciences Women's History Month Award, and an honorary doctorate of science from George Washington University. She is a sought-after public speaker by colleges and universities, international science organizations, and major chemical and pharmaceutical companies worldwide. Her topics range from gender and ethnic equity in science to the challenges facing chemists in a global environment.

Spelman College, Monday, March 15, 2004, 7:00 PM, Albro-Falconer-Manley Science Center Auditorium, "Ten Lessons From a Lifetime of Communicating Science";

Emory University, Tuesday, March 16, 2004, 2:00 PM, Atwood Chemistry Center, Room 360, "Opening Doors for Women in Chemistry: Why We Need Keys to the Doors". ♦

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March Meeting

And Some of the Cowboys Wore White Heads Dr. Stephen H Stow, ORNL

57 Fighter Group Atlanta, GA

- Date:** Monday, March 15, 2004
- Time:** 6:30 - 7:00 p.m. Arrive
7:00 - 8:00 p.m. Dinner
8:00 - 9:00 p.m. Program
- Dinner:** Gourmet Mixed Green Salad
- Choice of Entrée (choose one):
Farmhouse Chicken
Roasted Prime Rib of Beef
Broiled Fish Fillet
- Served with red roasted potatoes, mashed potatoes, or rice pilaf. Warm rolls and butter served with meal.
- New York Cheesecake
Coffee, tea, or iced tea.
- Location:** 57 Fighter Group
3829 Clairmont Road
Atlanta, Georgia 30341
(770)457-7227
- Directions:** Take Clairmont Rd exit (Exit 91) off I-85. At the off-ramp turn left onto Clairmont Road. Follow Clairmont Road for approx. 2.5 mi until you see the sign for the "57 Fighter Group". Make a right turn at the sign towards the restaurant. The restaurant is located at the SW corner of Peachtree-DeKalb (PDK) Airport.
- Cost:** \$ 25.00 per person; high school teachers, full-time students with ID, \$15.00. Payment should be made to the Georgia Section ACS and will be collected at the door.
- RSVP:** Lillian Johnston, (770)364-5354,
Lillian_C_Johnston@fc.dekalb.k12.ga.us.
When making reservations, please state your name, professional affiliation, and telephone number. Reservation deadline is 5:00 PM on Monday, March 8.

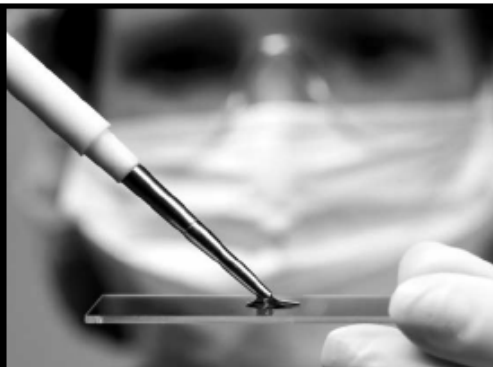
SERMACS 2003 Sets Record

By Don Hicks and Joe Stoner

Amazingly, during the worst economy in three decades, the Section organized and hosted a successful and *record-setting* Southeastern Regional Meeting of the American Chemical Society (SERMACS2003) that supported all 10 ACS Strategic Thrusts. It had *the all-time record number of abstracts* submitted at 1099, the largest attendance in the 21st century at 1672 registrants, and the 4th largest attendance in the history of ACS regional meetings. The event was held November 16-19, 2003 in Atlanta and involved *several features employed for the first time* at a regional ACS meeting. These "firsts" included new promotional efforts wherein (a) one-page interesting updates were sent by email four times during the preceding ten months to newsletter editors in the Southeast, and (b) emails were sent 10-11 times to about 10,000 ACS members in the region over the year prior to SERMACS. Also new was a highly successful Southeast Local Section Officers Mixer and Poster Session idea exchange special event, the publication of abstracts in the CAS database, a special event lecture on the 100 year history of the local Georgia Section, and co-sponsorship of a banquet with dinner and dancing that celebrated the 100th anniversary milestone of the Georgia Section. The 36 Section members on the organizing committee included General Chair Dr. Thomas L. Netzel of Georgia State University and Program Chair Dr. James C. Powers of Georgia Institute of Technology. These two chemists each exerted intense personal effort to make SERMACS a great success.

SERMACS2003 offered a Regional Employment Clearing House (RECH), an ACS Directors Breakfast, a Regional Industrial Innovation Awards Event, a Regional High School Teacher Award event, and a plenary forum on Federal Science, Education, and Technology policy. In addition to technical sessions and symposia on cutting edge interdisciplinary research, *Section members* worked to provide the previously mentioned special events as well as special events for women chemists, senior chemists, younger chemists, industrial chemists, small business entrepreneurial chemists, college teachers, K-12 teachers, undergraduate research students, and high school students (via a Chemagination contest). The Section financed activity expenses and prizes given to students in the Chemagination contest and the undergraduate student research paper competition. Three local Atlanta area high school students, whose paper won in the SERMACS Chemagination contest, also competed and were among the 4 winners in the national Chemagination contest. The theme of this 55th SERMACS was "Chemistry for a Dynamic Society". ♦

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Phone: (404) 459-2253

Fax: (404) 459-2257

Email: rcummings@kforce.com

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