



Double Bond

The Newsletter of the Western New York Section of the American Chemical Society

Volume 78

January 2006

IN MEMORIAM

Patty Shelley, the WNY/ACS section Double Bond Assistant Editor and long time secretary for the Department of Chemistry and Biochemistry at Canisius College, passed away recently after a long battle with cancer. Patty will always be remembered for her cheerful telephone voice when taking reservations for a section meeting (or other function), her extraordinary organizational skills, and her vast knowledge of both the college's and section's organizational structure. Many of you probably do not know that Patty, in addition to her duties at the college and service to the section, was also very active in cheerleading. She coached both the Canisius College and Buffalo State cheerleading teams, and even became active in private practice after a time. She indeed was and always will be a cheerleader, but not just for sports teams. Patty was without a doubt the lead cheerleader for this section, for Canisius College as a whole, for the department in particular, for her family, friends, and for many other individuals and causes as well. Patty leaves behind a husband of 35 years (Rodger) a daughter (Elizabeth), three sons (Michael, Patrick, and Stephan) and two grandchildren. In the final analysis, Patty served this section and the department at a very high level. She was a good wife, mother and in general a good humored and very pleasant human being. Patty will be sorely missed by everyone she touched. May she rest in peace.

Peter Schaber
Department of Chemistry and Biochemistry
Canisius College

Condolences may be sent to:
The Shelley Family
5 Edgewood Road
Lancaster, NY 14086

CALL FOR NOMINATIONS **HELEN M. FREE AWARD FOR PUBLIC OUTREACH**

The time has arrived to submit nominations for the Helen M. Free Award for Public Outreach. Any ACS member whose efforts have increased the public's awareness and understanding of the importance of chemistry or chemical engineering is eligible for the award.

Qualifying activities include lectures, presentations, demonstrations, seminars, symposia, and exhibits; newspaper or magazine articles and interviews; radio and television appearances; and hands-on science activities with children and/or adults.

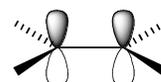
The Helen M. Free Award was established in 1995 to recognize outstanding achievements in public outreach. A former president of the ACS, Dr. Free initiated many programs and activities designed to improve the public's awareness of chemistry's contributions to the quality of daily life.

Go to the Awards section of the Committee of Public Relations and Communications web page for all of the details: www.chemistry.org/committees/cprc.html

Nominations are due **March 1, 2006**, and should be mailed to:

Office of Communications/CPRC Liaison
American Chemical Society
1155 Sixteenth Street, NW
Washington, DC 20036
Tel: (800) 227-5558 ext. 4400
Fax: (202) 872-4370

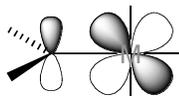
If you have any questions or concerns please feel free to call or email Victor Cornejo at 800.227.5558 ext. 4580 or v_cornejo@acs.org.



ACS SCHOLARS PROGRAM ACCEPTING APPLICATIONS

The American Chemical Society (ACS) Scholars Program is now accepting applications for the 2006-2007 academic year. This renewable, undergraduate scholarship is for African American, American Indian and Hispanic/Latino students majoring in a chemical science and planning a career in that science. Now beginning its twelfth year, the ACS Scholars Program has identified over 1600 scholarship recipients and disbursed more than \$8.2 million since inception in 1994. More information and the application documents are available on the web at <http://chemistry.org/scholars>, by calling toll-free 1-800-227-5558, ext. 6250, by sending an e-mail request to scholars@acs.org, or by writing to American Chemical Society Scholars Program, 1155 16th Street, N.W., Washington, D.C. 20036. Application deadline is March 1, 2006.

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CERTIFICATES FOR UNDERGRADUATES

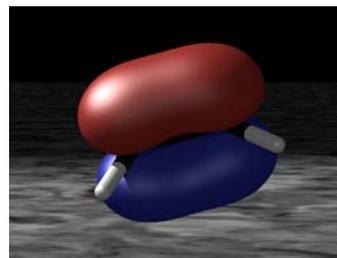
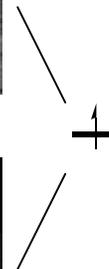
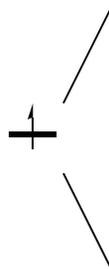
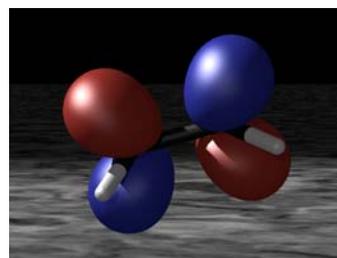
The [ACS Committee on Professional Training](http://www.chemistry.org/education/cpt) (CPT, <http://www.chemistry.org/education/cpt>), among many other activities in postsecondary education, administers the ACS approval process for undergraduate programs in chemistry. All graduates of an ACS-approved program who have completed the requirements for certification described in the ACS guidelines are certified annually to the Society by each program chair. Every certified graduate is eligible to receive a certificate from ACS that recognizes that the graduate has completed a bachelor's degree that meets the Society's criteria for professional education and membership. Faculty members and graduates can request certificates from the Office of Professional Training by sending an email to cpt@acs.org. Upon certification, every graduate is eligible for full membership in the ACS by applying online at the website: www.chemistry.org/membership or by contacting Debora Fillinich at d_fillinich@acs.org in the ACS Membership Activities Office.

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From the Editor...

I want to thank readers who have contacted me about changes in format used in the last edition of the Double Bond. This newsletter is the voice of our ACS section, joining up chemists and chemical endeavors throughout Western New York. To keep the 'Bond strong, we need to put our time and effort into local section activities and into this publication. Every contribution to the Double Bond makes our section a stronger organization.

Get excited and contribute! (just not to the π^* please)



Contribute to the 'Bond!

Remember, the Double Bond is sent by email to the regular ACS roster of the Western New York section. Any additions or updates to address or email (including opting out of all future email contact) may be made through ACS Member and Subscriber Services at (800) 333-9511 or through the ACS website:

<http://www.chemistry.org/contactus.html>

Thanks,

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TRAVEL GRANTS AVAILABLE FOR STUDENT AFFILIATES CHAPTERS

The ACS Student Affiliates (SA) Program is pleased to announce the 2006 National Meeting Travel Grant for active SA chapters. The SA program will offer up to 75 travel grants of \$275 for the spring national meeting to offset travel costs including transportation, registration, lodging, and food.

Applications are available on the SA website (www.chemistry.org/education/saprogram.html), or from the SA Program office.

For grant consideration, a chapter must:

- have at least one paid student affiliate present a research or chapter poster in one of the Division of Chemical Education's undergraduate poster sessions (abstracts submitted to other technical divisions are not eligible);
- be an active Student Affiliates chapter: have submitted an annual report to the SA program at least once in the past three years and have at least six dues-paying national student affiliates in the chapter;
- submit a national meeting travel grant application, a completed undergraduate poster session abstract, and an OASYS abstract identification number to the SA program by January 15, 2006.

Travel grants will be awarded on a first-come, first-served basis until the deadline is reached or the specified number of grants has been awarded. For additional information, contact Alicia J. Chambers, Education Associate, at 800-227-5558, ext. 6176, or a_chambers@acs.org. ψ

EVENT PLANNED FOR SENIOR CHEMISTS IN ATLANTA

If you are a retired chemist and plan to be in Atlanta, GA for the March 26-31, 2006 ACS National Meeting, be sure to attend the Silver Circle & Retiree Breakfast on Tuesday, March 28, at the Marriott Marquis Hotel, Salon 1. The event is 7:30-9:00 a.m. and tickets can be purchased at registration. Program details will be announced in the Meeting Program. Ticket price is \$10. ψ



CALL FOR WCC OVERCOMING CHALLENGES AWARD NOMINATIONS

The Overcoming Challenges Award (OCA) acknowledges the efforts of women and undergraduates who have overcome economic, personal, and/or academic hardships in pursuit of an education in the chemical sciences.



The award consists of a plaque, a \$250 honorarium, and \$1,000 for travel expenses to the fall ACS National Meeting where the award is presented. Award candidates must be women matriculating as an undergraduate chemical science major/minor in a two-year program or at a four-year school not granting a doctoral degree in chemical-related disciplines. Nominations are due May 1, 2006, and should be sent to: Women Chemists Committee, American Chemical Society, 1155 16th Street, N.W., Washington, DC 20036. For additional information, contact the WCC at wcc@acs.org or visit

<http://membership.acs.org/W/WCC>. ψ

THIS MONTH IN CHEMICAL HISTORY - #1

Harold Goldwhite, California State University, Los Angeles hgoldwh@calstatela.edu; Prepared for SCALACS, the Journal of the Southern California, Orange County, and San Gorgonio Sections of ACS.

In my (apparently insatiable) search for early chemistry texts I recently acquired "The Elements of Medical Chemistry" by John Ayrton Paris M.D., F.R.S., F.L.S., Fellow of the Royal College of Physicians of London. This leather-bound volume, published in New York in 1825, has a quotation from Joseph Priestley on its title page: "The objects of Science are so multiplied that it is high time to subdivide them. Thus the numerous branches of an overgrown family in the Patriarchal ages found it necessary to separate; and the convenience of the whole, and the strength and increase of each branch, were promoted by the separation." This I take to be the author's apologia for a narrowly focused work on Medical Chemistry, and he claims that his is the first work in English to be devoted to those aspects of chemistry most useful to the medical practitioner.

In classic fashion, and in place of the usual preface, we are given a 16 page dialogue "Between the Author [A] and a Practitioner [P] who is about to direct the Medical Studies of his Son." A few quotations will give the flavor of this exchange. "A: ...I feel no small degree of diffidence in offering advice to a practitioner

who has been nearly thirty years in the active exercise of the profession. P: ...The truth is that for the last twenty years I have been so absorbed in medical practice, that I have neither found leisure nor inclination to inquire into the improvements of medical education..." "A: ...I am by no means satisfied that our system of teaching has been improved. ...among our Metropolitan lecturers, may be ranked some of the first philosophers of the age, but there are many competitors, some of whom...have introduced a system of "grinding" or "cramming" .. which allures pupils, from the assistance it affords them in passing an examination..." How little things have changed in 180 years!

The text is devoted to those aspects of chemistry that the author, in his many years of lecturing to medical students, has found to be most applicable to the practice of medicine. It covers in some 460 pages of small print, a wide range of topics including some, such as Gravitation and Cohesion that would seem to be out of place in a modern course. But the author links these unlikely chemical topics to real chemical problems. Gravitation is really about weights and measures and includes a brief discussion of the difference between weight and mass. Under Cohesion the author treats of phenomena that depend on the state of subdivision of materials including pulverization, trituration, despumation (look it up!), and filtration.

I find very interesting the sections on chemical affinity, elective affinity, and the rather new "Daltonian doctrine, or atomic theory" which had only been announced about a decade earlier. Chemical affinity was a subject of great interest to eighteenth century chemists such as Torbern Bergman and Claude-Louis Berthollet. Bergman's affinity tables held the same place in many lecture halls of his period as periodic tables do today. Here is a simple experiment that Dr. Paris suggests: "Mix together equal weights of magnesia [MgO] and quicklime [CaO], in fine powder, and add diluted nitric acid. After some hours it will be found that a considerable amount of the lime has been dissolved, but that the whole of the magnesia has remained untouched. Hence it is clear that nitric acid has a stronger attraction for lime, than for magnesia." I could not have predicted easily, from my general knowledge of chemistry, the result of that experiment. For muriatic acid [HCl] the order of decreasing affinities of bases is "Baryta, Potass, Soda, Lime, Ammonia, Magnesia." In fact the general subject of displacement reactions, as we would call them, seems to be of great importance to the medical chemist of the early nineteenth century, and Dr. Paris links the subject to the detection of poisons and proposes a kit for such tests.

Dr. Paris is quite up-to-date. He cites Berthollet on "the first distinct views of the relations of the force of affinity to quantity", views that were a forerunner of the

Law of Mass Action which would be announced forty years later. He also cites the rebuttal of Berthollet's views by Sir. H. Davy, but has to admit that "excess in quantity of matter will compensate for deficiency of affinity" in some cases.

The text is illustrated by many wood engravings. For instance there is a clear depiction of the famous experiment of Galvani, in the chapter on electricity, in which a dissected pair of frog's legs are attached to separate plates of zinc and silver. When the plates are connected by a wire, the legs twitch. This experiment, celebrated at the end of the eighteenth century, led Volta early in the nineteenth, to develop the electric battery and initiate the field of electrochemistry.

I plan to return to further discussion of this book in my next column. ψ

INNOVATIVE PROJECTS GRANT

The Local Section Activities Committee (LSAC) invites all local sections to submit proposals by Wednesday, March 1, for the first 2006 review cycle to receive an Innovative Projects Grant. These grants support local sections undertaking innovative programs or activities-projects that are either new to the section or creative enhancements to an existing program. In particular, activities that promote local section and division interaction or interaction between multiple local sections are encouraged. Local sections may request funding up to \$3,000, but funding cannot be used for hardware purchases or major equipment, honoraria, stipends, alcoholic beverages, or food (except for snacks). Approved projects will receive funding by June in order for sections to initiate projects in the first half of 2006. Only one project per local section will be funded per fiscal year.

To apply for an Innovative Projects Grant, visit the Office of Local Section Activities website at <http://chemistry.org/localsections> where complete instructions and a template for the brief proposal (limited to 2 pages) are available (just select "Innovative Grants Program" listed under "Improve Your Finances"). The website also includes a link to a list of some previously funded projects to help stimulate your thinking. ψ



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