

Using funds from NSF DUE awards numbers **0341138** and **0618678**, nine, five-day workshops have been run by the Center for Workshops in the Chemical Sciences at diverse locations over the year 2007. Two symposia have also been run by the CWCS as part of the initial development of a Community of Scholars, a major aspect of the current phase III award from the DUE. The workshops are listed below by title, organizers, locations and the dates over which they occurred. The figures in red are the number of participants that attended each workshop. The average enrollment was 17 participants.

Modeling Biomolecules, Prof. Jerzy Leszczynski, Jackson State University, Jackson, MS, May 20-25, 2007, **10**

Nuclear Magnetic Resonance, Prof. Norman Lewis and Dr. Greg Helms, Washington State University, Pullman, WA, May 20-25, 2007, **11**

Process Analytical Chemistry, Prof. Daniel Watts, New Jersey Institute of Technology, Newark, NJ, June 3-8, 2007, **16**

Forensic Science, Prof. Lawrence Kaplan, Williams College, Williamstown, MA, June 17-22, 2007, **17**

Advanced Forensic Science, Prof. Lawrence Kaplan, Williams College, Williamstown, MA, June 25-29, 2007, **13**

Green Chemistry, Profs. Hutchison, Doxsee, and Haack, University of Oregon, Eugene, OR, July 7-12, 2007, **20**

Chemistry of Art, Profs. Patricia Hill, Michael Henchman, and Nathan Bower, Colorado College, Colorado Springs, CO July 22-27, 2007, **19**

Materials Science and Nanotechnology for Chemists, Profs George Lisensky and Karen Nordell, Beloit College, Beloit, WI, July 22-27, 2007, **21**

Chemical Education: Teaching guided-Inquiry Organic Chemistry Laboratories, Profs Jerry Mohrig, Christina Hammond, and Jhong Kim, University of California, Irvine, CA August 5-10, 2007, **29**

A three-day symposium was held at the Chicago American Chemical Society meeting, March 26-28, 2007, and primarily featured the utilization of CWCS workshop materials by former participants in the numerous Forensic Science and Chemistry of Art workshops sponsored by the Program. The CWCS also sponsored a dinner for these participants as well as a cocktail hour at the conclusion of the symposium. Both were well attended as will be described in the Findings Section. A second, one-day symposium was held on August 19, 2007, at the Boston American Chemical Society meeting and contained contributions from former participants in the Chemistry of Art and a number of other workshops as described in the Findings Section.

Tentative CWCS Workshop Schedule for 2008

Environmental Chemistry – May 25-30
Hampton University, Hampton, VA (See note.)

Molecular Genetics – May 25-30
University of Hawaii, Hilo, HI

Chemistry of Art – June 15-20
Washington & Lee University, Lexington, VA

Chemical Education – June 15-20
University of Illinois, Chicago, IL

Introductory Forensic Science – June 15-20
Advanced Forensic Science – June 22-27
Williams College, Williamstown, MA

Crystallography – June 22-27
California State University-Fullerton, CA

Combinatorial Chemistry - July 20-25
Miami University, Oxford, OH

Research-Based Laboratory Curriculum -June 22-27
University of Illinois, Chicago, IL

Note: The Environmental Chemistry workshop scheduled for Hampton University will probably be postponed until 2009 due to a scheduling conflict and an on-going renovation of facilities needed for this workshop. The possibility of holding this workshop at Georgia State University, Atlanta, GA in 2008 is also under active consideration. Partial support only (housing and food costs) is to be provided for the Research-Based Laboratory Curriculum Workshop to be held at the University of Illinois at Chicago.

Recruitment

The CWCS recruitment protocol is considered mature since it has been developed over several years of funding from the DUE.

Standard practices include:

- The use of a 6,000-person list of individual faculty members, mostly at BS-granting institutions
- Placement of announcements in *Journal of Chemical Education*
- Distribution of announcements to Department Chairs at 200 PhD granting departments, 700 BS and MS-granting departments, and 1200 two-year colleges (mailing list obtained from AACC).

Most workshops are now oversubscribed. There is a long waiting list of persons wishing to attend some of the workshops such as those dealing with Forensic Science and the Chemistry of Art, both of which have been run multiple times in a given year. The CWCS Program now encourages applicants from the same institution or from institutions in close geographic proximity in order that they can subsequently work together in implementing materials from the workshops into their teaching activities, one of the facets of the Community of Scholars that the Program is developing. This recruiting practice is a significant departure from previous policy. A pin-on button has been designed to further publicize the existence of the CWCS Program and was distributed at the national American Chemical Society meetings held in Chicago (March, 2007) and at Boston (August, 2007) primarily in the areas devoted to Chemical Education, and specifically given to each speaker at the CWCS-sponsored symposia. The button design, by Mr. Victor Bolet, is reproduced below.



The CWCS Advisory Committee

The CWCS Program is fortunate to have an eminent Advisory Committee the composition of which is described in detail on the CWCS website (<http://chemistry.gsu.edu/cwcs>). The members of the Committee have broad experience and are affiliated with institutions ranging from two-year community colleges to well known research institutions. The members have provided invaluable insight into the development of the Program especially in its formative stages and more recently in the development of the Community of Scholars. A copy of this progress report has been sent to each member of the Committee; after the members are allowed some time to study it, a conference telephone call will be arranged for a far reaching discussion of relevant issues. The PI wishes to personally acknowledge the timely advice of Professors Stacey Lowery-Bretz and Jennifer Lewis regarding sensitive issues related to the Program evaluation effort.

The Community of Scholars Website

The CWCS is developing a website to promote interaction, at the local, regional, national levels, between former and future workshop participants, organizers, instructors, and discussion leaders plus other interested parties with the goal of extending the impact of this Program on student learning well into the future. For development purposes the Community is designed around the following seven areas:

- *Chemistry of Art*
- *Biochemistry* (Genetics, Biomolecular Crystallography, NMR)
- *Computational Chemistry* (Molecular Modeling, Computational and Theoretical Chemistry, Modeling Biomolecules)
- *Materials Chemistry* (Materials and Nanotechnology, Functional Organic Materials)
- *Chemistry Laboratory Instruction* (Supporting Lab Learning, Guided-Inquiry Organic Labs)
- *Sustainable Technologies* (Green Chemistry, Environmental Chemistry, Combinatorial Chemistry, Process Analytical Chemistry)
- *Forensic Science*

Note that some of the areas include multiple workshops indicated within the parentheses.

Given the large number of individuals who have attended the Forensic Science and Chemistry of Art workshop, these two areas are currently being utilized to develop a website template for the remaining divisions. Our current model for the website will include a repository of information relevant to the topics encompassed by the area i.e, texts, journal articles, well tested experimental procedures, scientific meeting symposia presentations plus a vital discussion forum and video-based information such as recordings of lectures given at workshops, workshop experiments, and virtual reunions of former workshop participants. A draft of a website under development for the Forensic Science division is nearing completion and may be viewed at <http://jaroklc.net/acsexp/home.htm>, but it is not yet available to the scientific community.