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Meeting Report

16th Biennial Conference on Chemical Education

by Fitzgerald B. Bramwell

Innovation, inspiration, controversy, and consensus were hallmarks of the 16th Biennial Conference on Chemical Education (BCCE) held at the University of Michigan (UM), Ann Arbor. The conference officially began Sunday, July 30, and ended Thursday, August 3, 2000, but there were workshops and special meetings as early as Saturday morning.

Lighting the Way to the Future, the first BCCE of the new millennium, was well attended, international in scope, and intellectually provocative, yet warm with regional hospitality. Registrants from Mexico, the Netherlands, Denmark, Canada, England, the United Arab Emirates, France, Belgium, Egypt, and Japan were among the 1777 attendees. These international registrants joined colleagues from the U.S. and its territories ranging from Alaska to the Virgin Islands. Of 1087 reporting a school affiliation, there were 720 university faculty, 135 faculty at 4-year colleges, 73 from 2-year schools, and 159 secondary school teachers. There were 510 oral presentations in 71 organized symposia, 78 workshops with 1716 registrants, and 124 exhibitors at 52 exhibit booths.

The conference included graduate education, the professional development of future faculty, innovations, implementations and interpretations for K–12, and undergradu-

Brian Rohrig, Aurora High School, demonstrates a flaming vapor tube, one of his demonstrations guaranteed to generate enthusiasm.



Photo by Lew Brubacher/Chem13 News

ate research efforts, as well as educational activities sponsored through the American Chemical Society. I learned from Larry Peck how to “burn” books and from Conrad Stanitski how to enjoy the Henry Ford Museum. There were activities and opportunities for professional growth too numerous to report. Thus, at best, this review will report a limited few highlights of the BCCE.

At the opening ceremonies, Brian Coppola announced a surprise change in the program, using that opportunity to honor BCCE General Chair Seyhan N. Ege with testimonials and a brief reception. Ege will retire this May from the University of Michigan. Speakers included Robert W. Parry (University of Utah Emeritus), Dave Reingold (Juniata College), Cinda-Sue Davis (Director UM Women in Science Program), Deanna Mitchell (recent doctor-

ate Northwestern University). Each speaker addressed different aspects of Ege's numerous and significant contributions to organic chemistry pedagogy, curriculum development and reform, student training, and mentoring.

Next, attendees were asked to say yes to NO. In the opening plenary lecture, Michael Marletta, UM Professor of Medicinal Chemistry, delivered an informative talk on nitric oxide (NO) as an important agent for signal transduction. In *Say Yes to NO—An Important Lesson for Biology*, Marletta described serendipitous, controversial, and surprising events and the role played by this reactive free radical gas in critical biological functions of the brain, gut, and sex organs.

Monday morning opened with Kati Haycock's eloquent presentation, *Achievement in America—A Look at Achievement Patterns and Practices That Produce Them*. Her data offered overwhelming evidence for the need to allocate resources into making better teachers rather than excusing student performance for socio-economic status or family situations. “Disturbed” is the word heard most often in describing how one feels after Kati speaks. She is Director of the Education Trust, whose publications can be accessed at www.edtrust.org.

Although there were many outstanding talks, presentations, and workshops during the conference, an area that deserves special mention is the diversification and inclusion of women and minorities in chemistry. Nancy Hopkins convened the two-day symposium, *Assessing the Leaky Pipeline: Women and Minority Representation in Chemistry*. Several attendees at these sessions concluded that the recruitment and retention of the best and brightest to assist in the discovery and generation of new knowledge are among the most important tasks that we as chemists can perform.

Worthy of special recognition was a day-long undergraduate research program. Tuesday morning, Theresa Zielinski moderated a set of oral presentations from undergraduate research students, some of which were drawn from the 72 poster presentations given by 89 undergraduates.

Wednesday evening, more than 600 registrants engaged in interactive theater as an instructional tool. This innovation represents a collaboration between the UM Center for Research on Learning and Teaching and the art-theatre school. Actors, under the direction of Jeffrey Steiger, put on a 15-minute play featuring the interaction of four students with a teaching assistant. This play focused on issues of sexism and related classroom practices. The script was drawn from the research literature to convey important information from case studies. After the play, the actors remained in character and were interrogated by the audience. About a half hour later, a play with a new script was presented, integrating many of the audience's suggestions.



Joseph Lechner as Democritus.

Photo by Lew Brubacher/Chem13 News



Seyhan Ege (right), general chair of the 16th BCCE, poses with Brian Coppola, program chair.

Thursday morning, Robert L. Lichter (Executive Director of The Camille and Henry Dreyfus Foundation) irreverently presented *An Idiosyncratic View of Chemical Education*. Bob challenged the audience by asking whether the term “chemical educator” was used in too exclusionary a way, and whether the word “professor” might not capture better the sense of integrated work that defines chemistry. He appeared to suggest that the “chemical education” culture was separatist and supported a “teaching versus research” mentality.

Next, Bassam Shakhshiri convened *Opportunities, Motivations and Responsibilities In and Beyond the Classroom*. A

BCCE innovation that deserves to be repeated, an “open overhead” format, gave any participant one minute and a single transparency on which to present ideas. After this, four panelists addressed the audience. James Duderstadt, past president of the University of Michigan, gave a compelling look into the future of technology-mediated work. Goéry Delacôte, director of the Exploratorium, talked about the need and design for good public and informal science. Randolph Guschl, from DuPont, described the need for better and deeper relationships among industry, academia, and the public. Then, Brian Coppola expanded on many of the themes that Lichter had opened with and described a vision of integrated faculty work based on the kind of broader notion of scholarship being advanced by the Carnegie Foundation.

After the conference, Coppola reported, “We have received some excellent feedback on the meeting and are grateful for all the hard work that everyone involved put into this effort. Some young faculty members who have written to us have used the phrase “life-altering” to describe their experience at the BCCE!”

These reports and anecdotes speak for themselves. I agree wholeheartedly with them.

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Doris Kolb (left), one of several speakers at the symposium honoring Reg Friesen, whose image appears in the background. On the right is the tree, planted at the University of Waterloo, in Friesen's memory.

Photos by Lew Brubacher/Chem13 News