

It's A Chemical World—A Poster Competition

In collaboration with Science Across the World (SAW), the Committee on Chemistry Education's (CCE) Subcommittee on Public Understanding of Chemistry is pleased to announce a poster competition for students between the ages of 10–16, focusing on the importance of chemistry in the students' daily lives.

Possible subjects include, but are not limited to, the following:

- our world without chemistry
- chemistry and my body
- chemistry and life
- chemistry and food
- cooking up a chemical concoction
- chemistry in cosmetics
- chemistry in the medicine cabinet
- sustainable energy at home
- chemistry and renewable energy
- chemistry and plastics or polymers in everyday life

The posters can be submitted in any language, either on paper or electronically. For details on how to submit a poster and prize information, go to the Web site listed below.

Lida Schoen from SAW, and a member of the Subcommittee on Public Understanding of Chemistry, is the coordinator of the contest. SAW—whose motto is *exploring science locally, sharing insights globally*—manages a database of around 2000 school teachers from all over the world. If you're not familiar with SAW, have a look at www.scienceacross.org.



Prizes will be awarded and all winning posters will be exhibited at the IUPAC Congress in Ottawa in August 2003. The display will coincide with the launch of IUPAC's Public Understanding of Chemistry initiative and with the special session held on the topic on Thursday 14 August 2003.

The deadline for poster submission is 1 May 2003.



www.iupac.org/news/archives/2003/PUC-scienceacross.html

John Prausnitz Awarded the 2002 Rossini Lecture

John M. Prausnitz, a professor in the Chemical Engineering Department of the University of California, Berkeley, and a faculty senior scientist at the Lawrence Berkeley National Laboratory, was awarded IUPAC's 2002 Rossini Lecture, the highest international award in the field of chemical thermodynamics.

Prausnitz presented the Rossini Lecture at the 17th IUPAC Conference on Chemical Thermodynamics in Rostock, Germany on 28 July 2002. An abstract of his presentation on "Molecular Thermodynamics for Some Applications in Biotechnology" appears below.

Prausnitz's research is aimed at obtaining, interpreting, and correlating thermodynamic properties of a variety of mixtures as required for process and product design in the chemical and related industries, including biotechnology. Toward that end, his laboratory obtains experimental data, performs Monte-Carlo molecular simulations, and develops molecular-thermodynamic models based on the statistical mechanics of fluids and solids.

Prausnitz received his Ph.D. from Princeton in 1955. He is a member of the National Academy of Sciences (1973), the National Academy of Engineering (1979), and the American Academy of Arts and Sciences (1988). He has received several honorary degrees: Doctor of Engineering from the University of L' Aquila, Italy, in 1983, and the Technical University of Berlin, Germany, in 1989, and a Doctor of Science from Princeton in 1995.



Molecular Thermodynamics for Some Applications in Biotechnology—Prausnitz's abstract presented at the 17th ICCT.

As biotechnology sweeps the world, it is appropriate to remember that the great virtue of thermodynamics is its broad range of applicability. As a result, there is a growing literature describing how chemical thermodynamics can be used to inform processes for old and new biochemical products for industry and medicine. A particular application of molecular thermodynamics concerns separation of aqueous proteins by selective precipitation. For this purpose, we need phase dia-

grams; for constructing such diagrams, we need to understand not only the qualitative nature of phase equilibria of aqueous proteins but also the quantitative intermolecular forces between proteins in solution. Some examples are given to show how aqueous protein-protein forces can be calculated or measured to yield a potential of mean force and how that potential is then used along with a statistical thermodynamic model to establish liquid-liquid and liquid-crystal equilibria. Such equilibria are useful not only for separation processes but also for understanding diseases like Alzheimer's, cataracts, and sickle-cell anemia that appear to be caused by protein agglomeration.



cheme.berkeley.edu/people/faculty/prausnitz/prausnitz.html

The Rossini Lecture—A Brief History

In recognition of the contributions of Prof. F. D. Rossini to the work of the IUPAC Commission on Thermodynamics and Thermochemistry during his 39-year membership (1934–1973), the Commission decided, in 1973, to institute a "Rossini Lecture," to be given during the IUPAC International Conferences on Chemical Thermodynamics. The first lecture was given by Prof. Rossini himself at the Fourth Conference held in August 1975 in Montpellier, France. Rossini lecturers were appointed by the Commission on Thermodynamics until 2002, but, as a result of the restructuring of IUPAC, they will be elected in the future by the Board of Directors of the newly established International Association of Chemical Thermodynamics. The text of these lectures is published in *Pure and Applied Chemistry* (see table) and in the *Journal of Chemical Thermodynamics* (see table).

Freedom of Access to Primary Experimental Data

For science to progress it is critical that research results are disseminated as widely as possible, and in particular that primary experimental data are freely available in perpetuity. In 1998, as a result of concern amongst the scientific community over this issue, the International Council for Science (ICSU) set up an Inter-Union Bioinformatics Group (IUBG) to consider this and related matters, with particular emphasis on bioinformatics. The issue of free access is particularly relevant now in relation to the availability of data from genomic and proteomic studies.

Rossini Lectures, 1975–2003

1975	Frederick D. Rossini Montpellier, France, 26–30 Aug 1975 <i>JCT</i> 1976, 8 , 803–834
1977	Henry A. Skinner Ronneby, Sweden, 23–26 Aug 1977 <i>JCT</i> 1978, 10 , 309–320
1980	Stig A. Sunner Merseburg, Germany, 26–29 Aug 1980 (died before his Lecture)
1982	Edgar F. Westrum (University of Michigan, USA) London, UK, 6–10 Sep 1982 <i>PAC</i> 1983, 55 (3), 539–551; <i>JCT</i> 1983, 15 , 305–325.
1984	Maxwell L. McGlashan (University College, London, UK) ICCT, Hamilton, Ontario, Canada, 13–17 Aug 1984 <i>PAC</i> 1985, 57 (1), 89–103; <i>JCT</i> 1985, 17 , 301–319.
1986	Ernst-Ulrich Franck (Universität Karlsruhe, Germany) 9th ICCT, Lisbon, Portugal, 14–18 Jul 1986 <i>PAC</i> 1987, 59 (1), 25–34; <i>JCT</i> 1987, 19 , 225–242
1988	Kenneth S. Pitzer (UC Berkeley, CA, USA) 10th ICCT, Prague, Czechoslovakia, 29 Aug — 3 Sep 1988 <i>PAC</i> 1989, 61 (6) p. 979–988; <i>JCT</i> 1989, 21 , 1–17
1990	Gerhard M. Schneider (Ruhr-Universität Bochum, Germany) 11th ICCT, Como, Italy, 26–31 Aug 1990 <i>PAC</i> 1991, 63 (10), 1313–1326; <i>JCT</i> 1991, 23 , 301–326.
1992	John S. Rowlinson (Oxford, UK) 12th ICCT, Snowbird, Utah, USA, 16–21 Aug 1992 <i>PAC</i> 1993, 65 (5), 873–882; <i>JCT</i> 1993, 25 , 449–461.
1994	Hendrick C. Van Ness (Rensselaer Polytechnic Institute, Troy, NY, USA) 13th ICCT, Clermont-Ferrand, France, 17–22 Jul 1994 <i>PAC</i> 1995, 67 (6), 859–872; <i>JCT</i> 1995, 25 – 27 , 113–134.
1996	Robert A. Alberty (MIT, Cambridge, MA, USA) 14th ICCT, Toyonaka, Osaka, Japan, 25–30 Aug 1996 <i>PAC</i> 1997, 69 (11), 2221–2230; <i>JCT</i> 1997, 29 , 501–516.
1998	Stanley I. Sandler (University of Delaware, Newark, DE, USA) 15th ICCT, Porto, Portugal, 26 Jul – 1 Aug 1998 <i>PAC</i> 1999, 71 (7), 1167–1181; <i>JCT</i> 1999, 31 , 3–25.
2000	William A. Wakeham (University of Southampton, UK) 16th ICCT, Halifax, Nova Scotia, Canada, 6–11 Aug 2000 <i>JCT</i> 2001, 33 , 1623–1642; <i>PAC</i> 2000, 72 (10) includes other presentations pp. 1799–2082.
2002	John M. Prausnitz (UC Berkeley, CA, USA) 17th ICCT, Rostock, Germany, 28 Jul – 2 Aug 2002