ISSN 1430-4171
http://journals.springer-ny.com/chedr
10.1007/s00897970130a

From the Editor

Scholarship, Education, and the Internet

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Since its inception and despite the naysayers, the World Wide Web has developed into a viable source for information of just about all kinds.

The close of ChemConf'97 at the end of July gives me the opportunity to reflect on the effect of the Internet on scholarship and education in chemistry. This conference was first held in 1993, continued in 1996 and 1997, and is slated to run again September through December of 1997 and February through May of 1998. The quality of the papers presented and discussed at the last session was outstanding. The presenters included many of the premier names in chemical education. *The Chemical Educator* is proud to serve as an archive for one of those papers. This issue offers as its "sample article," available free to anyone who registers at our Internet site, a paper presented at ChemConf'97 by Mary L. Swift and Theresa Zielinski. This paper "What Every Chemist Should Know About Computers II" addresses the challenges and opportunities associated with the use of computer technology in chemical education. We are also proud to have Hugh Cartwright, who presented his paper "Nature Doesn't Solve Equations, So Why Should We? Mathematically-Lean Simulations in Chemistry" at the conference, on our Board of Editors and acting as our Media-Review Editor.

ISSN 1430-4171
http://journals.springer-ny.com/chedr
S 1430-4171 (97)03130-2

That a conference dedicated to chemical education issues takes place on the World Wide Web is noteworthy. Since its inception and despite the naysayers, the World Wide Web has developed into a viable source for information of just about all kinds. This information is available to anyone with a computer and modem. The amount of information on the Internet useful to chemists, chemical educators, and chemistry students has been almost overwhelming. Scholarly information includes journals and online conferences, both research- and education-oriented; teaching tools including animations, computer files, and public software archives; chemical information sources such as Chemical Abstracts and other reference databases, Beilstein and Gmelin, Material Safety Data Sheets (MSDSs) produced by the Occupational Safety and Heath Association (OSHA), and library catalogs; as well as specialized discussion and news groups. The World Wide Web has even become a source for a unique type of college course that can combine the resources of institutions across the country and that allows students to have dialog with fellow students and instructors anywhere in the world. This development is particularly important for students in colleges with small Chemistry Departments, who now have the opportunity to take advanced or specialized courses not normally available at their institution. Such a course "Environmental and Industrial Chemistry" was discussed by Archer et al. at ChemConf'97.

The availability of such a convenient and prolific source of information is not without its hazards, but much of the initial debate about the accuracy and value of the information available on the web is fading. Viable, trustworthy sites have emerged and intelligent persons have found that they *can* judge the reliability, accuracy, and worth of the information found on the Internet. They can judge such information, like they judge print information, by the reputation of the organizations and people associated with it. ChemConf'97, for instance, was supported by the Chemical Education Division of the American Chemical Society, organized by Donald Rosenthal (Clarkson University) and Tom O'Haver (The University of Maryland at College Park), and hosted by the Academic Information Technology Center of the University of Maryland at College Park (Jennifer Fajman, Director). The eleven papers presented by noted chemical educators received a joint total of over 300 questions and comments, also by noted chemical educators.

Internet journals, such as this one, are also judged in this manner. As peer-reviewed dissemination mediums, they should lead the way in the Internet's striving for an

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image equivalent to that of information presented on paper. In either case, there is a difference between published information, supported by the reputation of a publishing company, and other information, devoted to advertising, presenting one side of a many-sided issue, or simply for fun or even the vanity of an individual. Many respected, as well as some not so respected organizations and companies, print unrefereed information intended to support their products or views. Intelligent persons understand that this information is intended to support the opinions and goals of the presenting entity. Journals, however, are different. Printed or electronic, they are intended to present cutting-edge material, in research or education, not to take sides on an issue. This material must provide new knowledge, have support for its validity, and be open for discussion and comment by those with knowledge and interest in the field it represents. The accuracy, uniqueness, and quality of the information is judged before it is published and after it is published. Just as is the case for print journals, the material presented in an online journal is backed by the reputations of the publisher, the editor, and the referees.

The Chemical Educator is such a journal. It is an edited, peer-reviewed journal published by Springer-Verlag New York. Comments are received from at least three referees for each submitted article and the articles and reviewer comments are then thoroughly reviewed by the Editor-in-Chief. Members of the Editorial Board also comment and make recommendations on articles that reflect their expertise. We believe that our reviewing process is one of the most thorough of any journal. Our referees are outstanding. For this reason you will often see acknowledgment of those referees by authors of *Chemical Educator* articles.