

New Features in the *Journal* Showcase Its Coherence and Diversity

This issue introduces two new features designed to illuminate more effectively a broad spectrum of research interests pursued in chemical engineering and covered in the *AIChE Journal*. As Editor, I believe that authors want to communicate their research results to the readers of their own areas, and readers want to gain an easy access to the information of most immediate interest to them. To capture new readers who are not traditionally associated with chemical engineering and to serve our regular readers better, we will use in this and future issues *topical headings* for a group of articles on the same subject matter. The second new feature is a display of *color illustrations*, which enhance the effectiveness and appearance of technical contents.

Starting with this issue, the Table of Contents of the *Journal* will be divided into eight regular *topical headings*. These are: Fluid Mechanics and Transport Phenomena; Separations; Process Systems Engineering; Reactors, Kinetics and Catalysis; Materials, Interfaces and Electrochemical Phenomena; Thermodynamics; Bioengineering, Foods and Natural Products; and Energy and Environmental Engineering. Initially, I will assign categories, but soon this designation will become the authors' responsibility at the time of submission. These categories represent, with some rearrangement and consolidation by the Consulting Editors and myself, the programming areas for AIChE meetings. In 1991, there were more than 12 articles (an average of more than one per issue) published in each of these categories (substantially more in all but the last). These section headings will make the contents easier to scan, even for readers outside chemical engineering, who will certainly have directed interests when they read the *Journal*.

The topical headings will also make accessible (in the form of records in our database) interesting information on the composition of what is published in the *Journal*. Some experience with these headings may give us a more quantitative idea of what the published chemical engineering literature actually is. Few other engineering journals attempt to publish the diverse range of research represented by the headings under one cover. I believe that this

provides an advantage to the chemical engineering research community, relative to other engineering research disciplines.

It is interesting to compare these topical headings with the critical technologies addressed in two recent reports: *Report of the National Critical Technologies Panel* (U.S. Government Printing Office, 1991) and *Critical Technologies: The Role of Chemistry and Chemical Engineering* (National Academy Press, 1992). The National Critical Technologies Panel enumerated these technologies as: materials, manufacturing, information and communications, biotechnology and life sciences, aeronautics and surface transportation, and energy and the environment. The research published in the *Journal* addresses all of these technologies, except transportation. A strength of chemical engineering research is that, through an integrated knowledge of fundamentals of fluid mechanics, transport phenomena, separations, thermodynamics, chemical kinetics and process systems engineering, we are prepared to attack a broad spectrum of basic problems underlying chemical technology and processing. *Coherence and diversity are our strengths*. With this introduction of regular headings, we recognize the latter while maintaining the former.

A second new feature is the introduction of *color illustrations*, exemplified in the article by Krischer et al. on p. 89. Many problems now being studied involve spatial and temporal complexity, frequently multidimensional; it is valuable to employ the most effective means to represent the data and images arising in the pursuit of this work. Color will be used to meet these needs. Use of color for purely cosmetic purposes will be discouraged. Color may be employed in photographs or in other graphics where it might be useful to illustrate another dimension, scales, pattern, perspective, topography, or other features. The *Journal* will subsidize the costs of color production to encourage its use whenever it can enhance the information content of an article.

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