CHEMICAL ENGINEERING DIVISION ACTIVITIES

TWENTIETH ANNUAL LECTURESHIP AWARD TO LOWELL B. KOPPEL

The 1982 ASEE Chemical Engineering Division Lecturer was Lowell B. Koppel of Purdue University. The purpose of this award lecture is to recognize and encourage outstanding achievement in an important field of fundamental chemical engineering theory or practice. The 3M Company provides the financial support for this annual lecture award.

Bestowed annually upon a distinguished engineering educator who delivers the Annual Lecture of the Chemical Engineering Division, the award consists of $1,000 and an engraved certificate. These were presented to this year's Lecturer at the Annual Chemical Engineering Division banquet, held at the University of California at Santa Barbara.

NOMINATIONS FOR 1983 AWARD SOLICITED

The award is made on an annual basis with nominations being received through February 1, 1983. The full details for the award preparation are contained in the Awards Brochure published by ASEE. Your nominations for the 1983 lectureship are invited. They should be sent to Robert E. Slonaker, Chairman, 3M Award Committee, ChE Department, Bucknell University, Lewisburg, PA 17837.

NEW DIVISION OFFICERS ELECTED

The newly elected ChE Division officers are: Angelo Perna, Chairman; W. D. Baasel, Past Chairman; Dee Barker, Chairman Elect; Bill Beckwith, Secretary Treasurer; John Sears and Dale Seborg, Members at Large; Hal Kemp and R. P. Stambaugh, Industrial Representatives.

ChE's RECEIVE HONORS

ASEE Meeting • Texas A & M

George Burnet, Iowa State University, was the recipient of ASEE's highest honor, the Lamme Award, in recognition of his excellence in teaching, contributions to research and technical literature, and achievements contributing to the advancement of the profession. **William Corcoran**, California Institute of Technology, received the Distinguished Service Citation for his long and continuous service in teaching, research and administration.

Summer School • U.C.-Santa Barbara

Ray W. Fahien, University of Florida, was presented with an Award of Excellence. **Paul V. Smith** of Exxon and **James Townsend** of Dow were both recognized for their many contributions to the ChE Division as industrial representatives. **T. W. F. Russell, Stanley I. Sandler** and **Sherri Barwich**, all of the University of Delaware, were presented with Certificates of Appreciation for their work in coordinating the 1982 Summer School, and **Dale Seborg** and **John Myers** were both recognized for their contributions as hosts at the University of California, Santa Barbara.

ChE book reviews

OPTIMIZATION AND INDUSTRIAL EXPERIMENTATION

By W. E. Biles and J. J. Swain
John Wiley & Sons, NY

Reviewed by R. M. Bethea, H. R. Heichelheim, L. D. Clements Texas Tech University

Chapter 1. This section provides a thorough coverage and description of the properties of optimization problems with an inconsistent mixture of belaboring the mathematically obvious and "name-dropping" of methods to be developed later. **Chapter 2.** The use of the chi-squared goodness-of-fit test to evaluate the Poisson distribution is unusual in most introductory statistics texts. The explanation is clear to a reader with some background in mathematical statistics but not to the novice as is the authors' stated goal. Note that in the example of the Poisson on p. 47 should be $f_y(y) = e^{-2.8}y^{2.8}/y!$ and that the values of f_i and e_i in Table 2.12 have been multiplied by 100.

In the section starting on p. 89, no justification has been given for the F-tests. In this way, the student is not taught the *why* of analysis of vari-

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type of chemical engineer; one capable of assimilating the imported technologies and of developing new processes more suitable to the efficient utilization of our resources. This requirement provides one of the fundamentals for curriculum development; the other is a sound knowledge of what chemical engineering is.

With these two points in mind, we propose the formation of an "Academic Commission" on a national level, composed of highly qualified professors from all parts of the country who would coordinate the design of a curriculum which could then be implemented at all government sponsored schools. This curriculum should contain a fundamental core of basic science (chemistry, physics and mathematics), with strong interaction through practice in lab sessions. The second stage of the curriculum should emphasize the fundamentals of chemical engineering (thermodynamics, transport phenomena and reaction engineering). Finally, the third stage should be flexible and concentrate on several aspects, depending on the region of the country or the strength of the faculty at hand. As examples, important areas to cover are process design and development, project engineering, energy resources, and equipment design.

It is obvious that the implementation of the proposed curriculum requires highly trained teachers and researchers. These people should be educated through the graduate programs now existing in Mexico; therefore, those programs should be strengthened and strongly supported at the main government sponsored institutions. Furthermore, since all these programs offer only a M.S. degree thus far, emphasis should be placed on the development of one or two doctorate programs at the schools with the capabilities to implement them. Clearly, UNAM is one of them.

Strengthening the graduate programs should also develop research in chemical engineering, which so far has been meager and is greatly needed for the development of our industry. The few people that are presently capable of doing this have been schooled abroad. We feel that we have reached the stage where it is possible, and in fact imperative, to do it in Mexico. □

BOOK REVIEW: Optimization

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ance, just the *how* for a few cases. The *why* is needed so the student can develop, understand and use other designs. It is surprising that the Newton-Bairstow method for curve fitting is not given.

Chapter 3. This chapter, though well-written, desperately needs more worked examples. On p. 102, the concepts of consistency and efficiency should be included with unbiasedness as properties of an estimator.

Chapter 4. This chapter appears to be a literature search from a thesis. The notation will be confusing to older readers whose formal mathematical background predate 1955 but who apply mathematics daily. A glossary of symbols would help. The coverage is excellent in scope. The section on interval reduction is very good. It is unfortunate that the Kuhn-Tucker conditions for constrained optimization are not mentioned. The basis for several algorithms are described but no executable algorithm is actually given. Completed examples are rare; *no* student exercises are provided. There is no warning against sectioning.

Chapter 5. This is an improvement over Chapter 4 in that stepwise algorithms are given but not worked.

Chapter 6 contains only four complete examples to illustrate applications to physical processes.

Chapter 7 is descriptive in nature. For the two "examples" of simulation models, only the results were given. □

RESEARCH IS ENGINEERING

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spent about half as much time in industry as in academic institutions and I can tell you that the neurial, competitive and cost conscious as anything in the "real" world. Our budgets are even more inflexible than those of our industrial brothers. We can't pass cost overruns on to our clients, customers, or stockholders, for example. I suggest that when you hear someone say that research in academe is not the real world, you are listening to a person who doesn't know what he's talking about, who is so unaware of the actualities of university research that his own perspective is unreal.

SI: Well, you have certainly given me some food for thought. Let me digest it for awhile and come back to see you again.

PI: Fine. When you come I'll take you through the lab. It may make you feel better. It has 500-gallon tanks, 32-inch vacuum pumps, 6-inch valves and piping, and 10-horsepower motors. You'll think you're in a factory! □