DEPARTMENT OF CHEMICAL ENGINEERING

WILLIAM G. LOWRIE
LECTURESHP

1997 Lecturer
Dr. William R. Schowalter

Dean, College of Engineering,
Professor, Department of Chemical Engineering
University of Illinois at Urbana-Champaign

Lecture I, 3:30 PM, April 24, 1997
Lecture II, 10:30 AM, April 25, 1997

The Ohio State University
Department of Chemical Engineering
140 W. 19th Avenue
Columbus, OH 43210
1997 William G. Lowrie Lecturer
Dean William R. Schowalter

WILLIAM G. LOWRIE LECTURES
OSU Department of Chemical Engineering

Lecturer: Dr. William R. Schowalter
Dean, College of Engineering,
Professor, Department of Chemical Engineering
University of Illinois at Urbana-Champaign

Lecture I: April 24, 1997
Room 207, Koffolt Lab. 3:30 PM

LECTURE I: Some Devils in the Details of Stokesian Dynamics
Applied to Colloidal Dispersions

Stokesian dynamics is a powerful tool for simulating a wide variety of fluid mechanical phenomena at low Reynolds numbers. Because the full solutions are intricate and computation-intensive, considerable ingenuity is required to keep the process manageable. In this talk it is shown that use of Stokesian dynamics must be tailored to the problem at hand. We have learned that the issue of “particle overlaps” at a microscale can create serious departures from meaningful physics of colloidal behavior at the macroscale. When the potential difficulties are properly anticipated, effective preventive action is often possible.

EVERYONE IS WELCOME TO ATTEND THE LECTURES

Lecture II: April 25, 1997
Room 205, Koffolt Lab. 10:30 AM

LECTURE II: If Chemical Engineers Can Do Anything, Why Haven’t They?

My generation has witnessed the evolution of chemical engineering as an academic discipline, from the brash new kids on the block who had little respect for the more mature and presumably “stable” fields of engineering, to a well codified and relatively conservative position among engineering fields. As a dean I have had the opportunity to reflect on the culture of my discipline of chemical engineering, comparing it to the cultures of other engineering specialties. Many of the characteristics of our field are the envy of others; our solid grounding in chemistry and our cohesiveness as a profession being just two examples. However, these advantages come at a price. We would do well to think carefully of the opportunity cost that comes with our culture. Is it excessive? Is it becoming more “expensive” with time? Also, has our university cohesiveness produced an unhealthy gap between chemical engineering departments in universities and the realities of the global marketplace? By posing these questions it should be clear that my sense is that the answers to these questions are affirmative. In this talk I shall state some opinions and suggest some (partial) solutions to the problems I perceive.
The William G. Lowrie Lectureship was established in the Department of Chemical Engineering at The Ohio State University on October 1, 1995, to honor William G. Lowrie, a distinguished alumnus. The lectureship is awarded once each year to an individual who has made outstanding contributions to fundamental or applied research in the field of chemical engineering.

—1996 Lecturer—

Prof. John F. Davidson
University of Cambridge
Vice-Master, Trinity College