This seminar begins with a discussion of the education requirements and salaries that an analytical chemist may expect in industry. The different roles (including scientific consultant, methods developer, and problem solver) of the industrial analytical chemist are explained. A majority of time is spent on problem solving, both the process and solving real-world problems. Students will learn a “framework” for approaching problems. Time will be available to ask questions on these topics and other related subjects. The Course text includes supplementary material on finding a job, summer employment, etc. The entire course, especially the problem solving, is structured for extensive participation and interaction.

Additional information is available at http://www.pg.com/science/prof_chemists.jhtml

The Course is intended primarily for undergraduate students to educate them about careers as analytical chemists in industry. However, graduate students, high school teachers, and college faculty have indicated it was worth their time to attend.

**Typical Course Schedule**

1. Course Introduction and Personal Perspectives
2. Perspectives: The Industrial Analytical Chemist
3. Problem Solving I: The Bulging Drum Problem
4. Break
5. Questions and Answers
6. An Approach to Problem Solving
8. Problem Solving II: Potential Issues Concerning Use of Recycled Plastics
9. Questions & Answers II
10. Problem Solving III: Problem Solving by Student Teams
11. Summary and Evaluation

**About the Instructor:**

Alan H. Ullman is an analytical chemist with The Procter & Gamble Company in Cincinnati, OH. He received his B.S. from Brooklyn College of the City University of New York and his Ph.D. from the University of Delaware. Prior to joining P&G, he did postdoctoral research at the University of Florida with Professor J.D. Winefordner. He has published 31 articles and chapters, and presented more than 125 invited and contributed talks, including this seminar. He and a small group of his P&G colleagues developed this seminar for undergraduate students to introduce them to the fun and excitement of analytical chemistry careers in industry. This seminar has been offered at dozens of conferences and universities across the nation, including many past Eastern Analytical Symposia. Alan's current assignment at P&G is in the Family Care Business Unit where he leads a group providing analytical support for the paper product business.

Additional instructors may be drawn from the ranks of P&G’s analytical chemistry community.