

## Program Report

### PROF 1 Setting priorities

**Zhaohui Sunny Zhou**, Barnett Institute, Northeastern University, 341 Mugar, 360 Huntington Avenue, Boston, MA 02115

In 2000, I started my independent academic career as an Assistant Professor at Washington State University, and I was promoted to Associate Professor with tenure in 2006. In 2007, my laboratory moved to the Barnett Institute and Department of Chemistry and Chemical Biology at Northeastern University in Boston. Currently, our research focuses on two areas at the interface of chemistry and biology. One area is to devise new methodologies to characterize protein post-translational modifications, such as methylation and deamidation. A second program area is the mechanistic study of enzymes and inhibitor synthesis, targeting bacterial biofilm formation, for example. In this presentation, I will talk about my academic career development and share some of my experiences, for instance, how to manage technology transfer and industrial collaboration, and more importantly, how to find a mentor and set priorities.

### PROF 2 Searching for powerful stereoselective catalysis in organic synthesis

**Li Deng**, Chemistry Department, Brandeis University, 415 South St, Waltham, MA 02454-9110, Fax: 718-736-2516, deng@brandeis.edu

I joined Brandeis University as an assistant professor of chemistry in 1998. Since then my students and I have been engaged in the design and development of efficient, practical and broadly useful chiral catalysts to address the challenging problem of stereochemistry control in organic synthesis. Our studies have revealed unexpected mechanistic insights, which lead to new concepts for asymmetric catalysis design. The broad impact of these concepts on the development of stereoselective reactions will be highlighted. The synthetic consequence of these new reactions will be illustrated by asymmetric syntheses of biologically interesting and structurally complex natural products.

### PROF 3 Design and development of small molecules of biological interests

**Xiangming Guan**, Department of Pharmaceutical Sciences, South Dakota State University, Box 2202 C, Brookings, SD 57007, Fax: 605-688-5993, Xiangming.Guan@sdstate.edu

I started my independent academic career at South Dakota State University in 1995 after receiving my Ph.D. in Medicinal Chemistry from the University of Kansas in 1991 and following four years postdoctoral training at the University of Kansas and University of Washington. My research is currently focused on developing anticancer agents, which include enzyme inhibitor design, organic synthesis, in vitro and in vivo activity evaluation, and drug target identification. This presentation will share my experience on how to develop an independent research program at a less research intensive institute. Some of our research achievements will also be presented.

### PROF 4 Tiptoeing along the border between chemistry and biology

**Jun O. Liu**, Departments of Pharmacology, Neuroscience and Oncology, Johns Hopkins School of Medicine, 725 North Wolfe Street, Hunterian 516, Baltimore, MD 21205, Fax: 410-955-4620, joliu@jhu.edu

The last twenty years have witnessed explosive advances in biology as well as chemistry among other scientific disciplines. While traditional chemistry was seeking new fields to interface with, new developments in biology offered a myriad of opportunities for chemists. This mutual attraction between the two fields has helped to blur the boundary that separated chemists from biologists, with a few notable exceptions, for decades. As the ultimate description of biology has to necessarily be written in the language of chemistry, new tools and techniques in chemistry have been applied to address important problems in biology. It is also through chemistry, particularly medicinal chemistry, that new knowledge in biology can be eventually translated into clinical medicine. The efforts made by chemists and biologists alike have culminated in the emergence and acceptance of the interdisciplinary field of

chemical biology. In this talk, I will provide an overview of some of the interesting developments in chemical biology from a personal vantage point.

#### **PROF 5 Fluorescence sensing technologies in demanding situations**

**Lei Zhu**, Department of Chemistry and Biochemistry, Florida State University, Tallahassee, FL 32306-4390, Fax: 850-644-8281, lzhu@chem.fsu.edu

I started my independent academic career at FSU, after completing my doctoral dissertation in 2003 and postdoctoral research in 2005, at New York University and the University of Texas at Austin, respectively. My graduate training was in the areas of coordination chemistry and nucleic acid chemistry; whereas at UT Austin, I ventured into molecular sensing technologies. Naturally, the focus of my research is the application of organic synthesis to help solve problems in molecular sensing and DNA nanotechnology. For instance, we are interested in how to develop fluorescent probes for dynamically imaging substances with high spatiotemporal variations in live cells. For example, the concentration of intracellular zinc ion may vary from below nanomolar to almost the millimolar range. Currently available highly sensitive zinc probes are unable to cover the over-6-order of magnitude dynamic range. In this presentation, our effort in the development of fluorescent probes targeting zinc with both high sensitivity and large effective dynamic range will be described.

#### **PROF 6 Research in the rapidly evolving field of bioorganic and medicinal chemistry**

**Binghe Wang**, Department of Chemistry and Center for Biotechnology and Drug Design, Georgia State University, Atlanta, GA 30302-4089, Fax: 404-654-5827

Like many other fields, bioorganic and medicinal chemistry have seen very rapid changes during the last decade. As a medicinal chemist, my research interests have also evolved with time going from peptide synthesis methodology development, drug delivery, drug design, to new diagnostics. This presentation will give an overview of my research interests since I started as an assistant professor at the University of Oklahoma, College of Pharmacy.

#### **PROF 7 Developing new multifunctional nanomaterials for biological and biomedical applications**

**Wenbin Lin**, Department of Chemistry, University of North Carolina, Chapel Hill, NC 27599, Fax: 9199622388, wlin@unc.edu

I will talk about recent research efforts in my group on the development of new multifunctional nanomaterials for biological and biomedical applications. Multifunctional inorganic-organic hybrid nanoparticles containing a luminescent core and a paramagnetic coat have been prepared using a general water-in-oil microemulsion-based method, and their utility as multimodal imaging probes has been demonstrated both in vitro and in vivo. A variety of techniques were used to characterize the nanomaterials including SEM, TEM, TGA, and direct current plasma spectroscopy. These nanoparticles exhibit very high  $r_1$  and  $r_2$  relaxivities per millimolar of  $Gd^{3+}$  (up to 19.7 s<sup>-1</sup> and 60.0 s<sup>-1</sup>, respectively), and extraordinarily high  $r_1$  and  $r_2$  relaxivities per millimolar of nanoparticles (up to 5 x 10<sup>5</sup> s<sup>-1</sup> and 8 x 10<sup>5</sup> s<sup>-1</sup>, respectively) due to the presence of tens of thousands  $Gd^{3+}$  centers per particle. Cellular labeling studies have shown that these nanoparticles exhibit very low cytotoxicity, and have excellent optical and MR contrast enhancing properties. Preliminary in vivo data indicates that these hybrid nanoparticles are excellent contrast agents for imaging choroid plexus carcinoma and inflammatory arthritis in mouse models.

#### **PROF 8 A sweet journey started from Shanghai**

**Zhongwu Guo**, Department of Chemistry, Wayne State University, 179 Chemistry Building, Cass Ave, Detroit, MI 48202, zwguo@chem.wayne.edu

My young dream was to become a mathematician. However, the formal training I received was in

pharmaceutical science, in the process of which I became more and more obsessed with organic chemistry. Eventually, I obtained my Ph.D. degree from the Polish Academy of Sciences by working on organometallics. At the beginning of the 1990's, carbohydrate research started to boom, with the help of the discovery of several new glycosylation methods and the recognition of the biological significance of carbohydrates. The sweetness of carbohydrates also started to entertain my sensations. Consequently, after I went back to Shanghai Institute of Organic Chemistry (SIOC) in 1991, I began to work with carbohydrates. Those years at SIOC were both challenging and very rewarding. In 1999, I decided to relocate to the US and entertain an offer from Case Western Reserve University, and six years later, I moved again to join the Department of Chemistry, Wayne State University. My main research interests are in the development of new methodologies for effective synthesis of carbohydrates and glycoconjugates, total synthesis and structural studies of biologically important natural products, especially various glycoconjugates, and the discovery of new carbohydrate-based cancer immunotherapies.

### **PROF 9 Few-walled carbon nanotubes for bulk applications**

**Jie Liu**, Department of Chemistry, Duke University, Durham, NC 27708, Fax: 919-660-1605, j.liu@duke.edu

Few-walled carbon nanotubes (FWNTs), a unique type of multi-walled carbon nanotubes (MWNTs) with generally two to five layers of sidewalls and diameters less than 10 nm have been synthesized in our lab by a thermal chemical vapor deposition (CVD) method. It was found that the FWNTs have enhanced electron field emission characteristics compared to the other types of nanotubes, with a low threshold field for emission and improved emission stability because of their high structural perfection resulting from the high growth temperature. Their high current stability is even better than single walled carbon nanotubes (SWNTs). Moreover, unlike SWNTs, even after covalent functionalization, the FWNTs keep the structural integrity of their inner tubes, thus the FWNTs are believed to be a better candidate for polymer reinforcement than either SWNTs or the more defective MWNTs. So in many aspects, FWNTs are better candidates than both SWNTs and MWNTs for bulk applications. The method of synthesis and purification and the effect of growth conditions on the diameter, structural perfection and number of walls will be discussed.

### **PROF 10 Researches DIY, Sort of**

**Linghao Zhong**, Pennsylvania State University at Mont Alto, 1 Campus Drive, Mont Alto, PA 17225, Fax: 717-749-6069, luz4@psu.edu

Throughout the pathway of my education and postdoctoral training, collaboration with someone at the next desk/door/building was a common thing. However, such convenience turned out to be a luxury when I started my academic career at a small campus in 2005. The closest Chemistry professor is not steps away, but miles. Most students are not research savvy. Fortunately, my research topics involve computer simulations on glycoproteins (cellulase and prion), which can be carried out by myself, with adequate resources. Face-to-face conversations with collaborators are replaced by e-mails, conference calls and occasional visits. At the same time, undergraduate research projects are developed through collaboration with faculty members from other fields on campus, so that enthusiastic students can see, touch, and more importantly, enjoy.

### **PROF 11 Improving cancer chemotherapy through the design of prodrugs and new inhibitors of protein-protein interaction**

**Longqin Hu**, Department of Pharmaceutical Chemistry, Ernest Mario School of Pharmacy, Rutgers, The State University of New Jersey, 160 Frelinghuysen Road, Piscataway, NJ 08854, Fax: 732-445-6312, LongHu@rutgers.edu

As an academic medicinal chemistry laboratory in a school of pharmacy, we are interested in exploring new approaches to improve the therapeutic effectiveness and decrease the systemic toxicity of cancer chemotherapy. Our main research interests are to design, synthesize, and evaluate new prodrug systems

for the site-specific delivery and activation of anticancer drugs in tumor tissues and to discover new anticancer agents with novel mechanisms of action. This presentation will highlight our research projects exploring nitroreduction and proteolysis as trigger mechanisms for the site-specific activation and delivery of anticancer drugs to tumor tissues, and the design and discovery of small molecule inhibitors of protein-protein interactions involved in angiogenesis and oxidative stress.

### **PROF 12 Building a "metal bridge" between chemistry and biology**

**Yi Lu**, Department of Chemistry, University of Illinois at Urbana-Champaign, 600 S. Mathews Ave, Urbana, IL 61801, Fax: 217-333-2685, yi-lu@uiuc.edu

I was trained as an inorganic chemist and received my B.S. degree from Beijing University. My interests in biology began as a graduate student in Joan S. Valentine group at the University of California, Los Angeles and grew as a postdoctoral researcher in Harry B. Gray's group at the California Institute of Technology. Through this training and independent research at the University of Illinois, I found that metal ions can play essential roles in connecting chemistry and biology, and thus I have become a bioinorganic chemist. On one hand, my group is developing innovative chemical approaches to provide deeper insight into biological structures and functions. On the other hand, we are taking advantage of recently developed biological tools to advance fundamental chemical principles. Exciting rewards for combining the benefits of both chemical and biological approaches include artificial biocatalysts for environmentally benign asymmetric catalysis, novel stimuli-responsive biomaterials and biosensors for environmental monitoring and clinical tests.

### **PROF 13 From molecular synthesis to "Se" structures at the atomic level**

**Zhen Huang**, Department of Chemistry, Georgia State University, 38 Peachtree Center Avenue, Atlanta, GA 30303-3083, Fax: 404-651-1416, Huang@gsu.edu

Nowadays it is challenging to do chemistry. You are expected not only to synthesize interesting molecules, but also to characterize them chemically, biochemically, even biologically. To clearly illustrate and see structures of your molecules is surely a plus. But where is the crystal ball, or even a small crystal? After spending time and obtaining experiences in analytical chemistry, peptide chemistry, enzymology, synthetic organic chemistry, nucleic acid chemistry, RNA molecular biology, and structure biology, I finally figure out that the combination is best, which allows you to synthesize, study and "Se" your molecules crystal-clearly. In this talk, I will talk about my education-training and career-developing stories and experiences.

### **PROF 14 Wisdom of age: Age discrimination in the high powered workplace**

**Marc D. Greenbaum**, Suffolk University Law School, 120 Tremont Street, Suite 320-F, Boston, MA 02108-4977, Fax: 617-305-3087, mgreenba@suffolk.edu

This session will explore ways of identifying, proving and remedying actual and potential violations of the laws prohibiting age discrimination in employment. To that end, the speaker will discuss the theories by which individuals prove and employers defend against age discrimination claims and how the potential claims and defenses are likely to arise in the event of major corporate restructurings. The session will help individuals and employers determine when legal advice should be sought, methods for identifying attorneys capable or providing superior representation, the nature and costs of the litigation process, the financial and other remedies in age discrimination disputes and methods for resolving discrimination claims outside the normal judicial process.

### **PROF 15 Age discrimination and the EEOC**

**Benjamin Nidus**, Boston Area Office, Equal Employment Opportunity Commission, John F. Kennedy Federal Building, Government Center, Room 475, Boston, MA 02203

Topics to be covered will be an introduction to the EEOC and the laws enforced. The focus will be on the Age Discrimination in Employment Act of 1967 and will include jurisdictional requirements in

order to file a charge of age discrimination, the process of filing a charge, and the legality of general release waivers under Older Workers Benefit and Protection Act. These waivers are frequently offered to older workers in the process of separating from their employer (for whatever reason). We will look at what an employee should be aware of before agreeing to sign one of these waivers, thereby giving up rights to make a future claim against that employer.

### **PROF 16 Do I have a good case? : Proving age discrimination with circumstantial evidence**

**Nancy S. Shilepsky**, Shilepsky O'Connell Casey Hartley Michon Yelen LLP, 225 Franklin Street, 16th Floor, Boston, MA 02110-2898

There is a saying that bad management, unkind management and even unfair management is not necessarily unlawful management. To be unlawful, it must be unlawful in motive or in method. In an age discrimination case, the employee must prove unlawful motive, i.e., age animus. In recent cases, however, there is often little or no direct evidence of such animus. Most employers know better these days. Nonetheless, age discrimination may be proven indirectly. Relying on case studies, the speaker will focus on how to prove age animus with circumstantial evidence.

### **PROF 17 Middle aged or older and separated from employment: Don't always think age discrimination**

**Joan S. Ackerstein**, Jackson Lewis LLP, 75 Park Plaza, 4th Floor, Boston, MA 02116

While often employees laid off when they are age 50 or older assume it must be age discrimination, they often are incorrect. The speaker will discuss legitimate reasons for separating employees, even older employees, and the methods by which employers demonstrate their legitimate reasons for particular terminations. Highlighting decisions where employees were unable to establish that age was the reason for their termination, the session will provide guidance on thinking through terminations and the employer's articulated reasons to determine if there is support for the reason given. The speaker also will discuss the statistics employers provide in the event of group terminations and the process employers use to assure that age is not a factor.

### **PROF 18 Aging workforce: Opportunities for organizational and professional innovation**

**Marcie Pitt-Catsoupes** and **Tay McNamara**, Center on Aging & Work/Workplace Flexibility, Boston College, 308 McGuinn Hall, Chestnut Hill, MA 02467, pittcats@bc.edu, tay.mcnamara@bc.edu

The signs of the impending change are becoming visible to most employers. They are aware that our population – in general - is aging. Many of them understand that their clients and customers are aging (and therefore their market orientation is shifting). And, when they look around at their own employees, some employers realize that a substantial proportion of their own workforces might retire in the next 5 - 10 years. Many employers are starting to sense that businesses around the world may be crossing the threshold of “a tipping point” with regard to the demographic composition of the workforce. Forward-looking employers realize that they could encounter a human capital crisis if they are not prepared.

Dr. Pitt-Catsoupes will present the findings of a 2007 study that profile the extent to which employers are getting ready to respond to the aging of the workforce. Implications for professionals, such as chemists, will be discussed.

### **PROF 19 Can a business case be made for 50+ workers?**

**Deborah Russell**, Director, Workforce Issues, AARP, 601 E Street NW, Washington, DC 20049

In today's business environment, the most valuable capital a company possesses is its human capital. Employers who recognize that fact and are prepared to meet the workplace needs of their people stay ahead of the curve. Studies have shown that companies that invest in their human capital realize a return on investment through an increase in their market value. What has been missing until now is a thorough examination of the recruitment and retention of workers 50+ within a business case

framework. AARP's landmark study, *The Business Case for Workers Age 50+: Planning for Tomorrow's Talent Needs in Today's Competitive Environment* affirms that a case can be made for attracting and retaining these workers.

This session will show through demonstrated best practices, how to develop and implement effective strategies for retaining and recruiting 50+ workers. These strategies will assist in meeting workforce needs in a changing global market.

### **PROF 20 Transitioning your R&D towards open innovation**

**Bernard Munos**, Corporate Strategy, Eli Lilly and Company, Lilly Corporate Center, 1085, Indianapolis, IN 46285, [bhmunos@stanfordalumni.org](mailto:bhmunos@stanfordalumni.org)

Most drug companies are heavily invested in the traditional pharmaceutical R&D model, sometimes called the blockbuster model. Even though the return on that investment has been eroding, as judged by the declining number of NMEs approved, switching to another model is daunting. Where to start? What roadmap to follow? Should the replacement be gradual or abrupt?

This presentation explores concrete steps that a traditional research organization can take to transition towards an open-innovation model. The emphasis is upon changes that require little or no capital investment, and therefore offer the prospect of early returns. It also examines the pitfalls that can derail such initiative, particularly the adjustments in process and culture that must accompany it.

### **PROF 21 Engaging a global scientist community in extra-organizational innovation**

**Peter A. Lohse**<sup>1</sup>, Eugene Ivanov<sup>1</sup>, Michael Yu<sup>1</sup>, Michael Albarelli<sup>1</sup>, Elly Madrigal<sup>1</sup>, Kingler Mallik<sup>1</sup>, Wencheng Lou<sup>2</sup>, and Jill A. Panetta<sup>3</sup>. (1) InnoCentive, Inc, 35 New England Business Center, Andover, MA 01810-1071, [plohse@innocentive.com](mailto:plohse@innocentive.com), (2) InnoCentive, Inc, Shanghai, China, (3) InnoCentive, Inc, Indianapolis, IN 46278

The distribution of knowledge has shifted away from centralized R&D organizations towards variegated pools of knowledge distributed across the landscape (Chesbrough). Increased mobility of highly skilled workers and easy access to scientific know-how through electronic communication, in particular the internet, have facilitated knowledge distribution on a global level. Today, companies can find knowledge in customers, suppliers, universities, start-up firms, national laboratories, consultants and other third parties. The question arises as to how R&D organizations leverage this distributed pool of talent outside their walls.

We have built an internet-based platform for presenting scientific problems (Challenges) from the pharma, agro, chemical, consumer product, food industries and non-profit organizations (Seeker Clients) to a global community of > 120'000 scientists (Solvers). Our communication with the Solvers is facilitated by a secure website which regulates information and intellectual property transfer. In the presentation we show that disclosure of Challenges to this large group of external scientists is an effective means of solving scientific problems. The benefits, risks and obstacles of engaging external scientist communities will be discussed.

### **PROF 22 Making open innovation a part of your DNA**

**Shauna R. Brummet**, Program Management, NineSigma, Inc, 23611 Chagrin Blvd., Suite 320, Cleveland, OH 44122, Fax: 216-295-4825, [brummet@ninesigma.com](mailto:brummet@ninesigma.com)

Open Innovation supports and extends existing R&D capability allowing a company to connect with the millions of peer-level researchers and innovators around the world. Developing a culture of looking outside your organization to make connections offers new opportunities for scientists whether you work at a company searching for solutions or one that has solutions. Working with an Open Innovation service provider that brings expertise across the process can jump-start your Open Innovation program. NineSigma has built a Discover – Connect – Solve framework to bring together solutions from world-class innovators to meet the needs of progressive innovative companies. NineSigma has an open network of solution providers and has reached out to more than a million people to bring solutions to

the toughest needs in consumer products, chemicals, electronics, automotive, food, aerospace, and other industries.

Examples of successes from our various clients will be discussed as well as some of the essentials for successful Open Innovation programs within a diverse array of industries.

### **PROF 23 Open innovation: The importance of culture**

**Thomas Balsano**, Technology & Innovation, Solvay Advanced Polymers, 4500 McGinnis Ferry Road, Alpharetta, GA 30005, Fax: 770-772-8460, Thomas.Balsano@solvay.com

The smartest people in your organization do not all reside in R&D. In fact, leveraging the collective intellectual firepower of everyone in your organization can yield bottom line benefits that will help seed a culture that nurtures Open Innovation.

Culture is a critical enabler for Open Innovation. At Solvay Advanced Polymers, Open Innovation is viewed as a continuum, ranging from the network of innovators outside our corporate boundaries all the way to the network within our own organization. In addition to the "traditional" Open Innovation practices, we have deployed a distinctive "innovation infrastructure" to enable employees to fully tap our internal network for new ideas. Central to this framework is a cultural shift to unleash the innovation potential within all of our employees. Learnings on influencing a culture and developing an appropriate set of innovation processes and tools to meet an organization's needs will be shared.

### **PROF 24 Open innovation providing new chemical career options**

**John K. Borchardt**, Southaven Communication, 8010 Vista del Sol Drive, Houston, TX 77083-5039, Fax: 281-495-0146, jkborchardt@aol.com

The growing use of open innovation is giving rise to new types of positions for chemists in chemical, pharmaceutical and other companies. In addition, there are new companies – open innovation services providers – that are also providing rewarding careers for chemists while providing clients with cost-effective innovation solutions. One interesting and exciting trend is that many of these positions are best filled by experienced mid- and late-career chemists.

All these points will be discussed in detail with examples provided.

### **PROF 25 Faces of chemistry**

**Allison A. Aldridge**, Mikart, Inc, 1750 Chattahoochee Avenue, Atlanta, GA 30318, Fax: 404-355-7654, aaldridge@mikart.com

Pictures of all different types of people doing different types of chemistry will be presented.

### **PROF 26 The need for higher-order (soft) skills in our global economy**

**Barbara E. Moriarty**, Nalco Company, 1601 W. Diehl Road, Naperville, IL 60563-1198, Fax: 630-305-2982, bmoriarty@nalco.com

In many of the discussions of what we can do to stay current in the global economy, the need for higher-order skills has been highlighted. Higher-order skills, are more commonly known as soft skills. This poster will discuss what the higher-order skills are, and how you can obtain and/or improve these skills.

### **PROF 27 Asian women chemists in the USA**

Michaeline F. Chen, 529 Grove Street, Needham, MA 02492, mfuchen@juno.com, and **E. Ann Nalley**, ACS Past President, Professor of Chemistry, Physical Sciences Department, Cameron University, Lawton, OK 73505, annn@cameron.edu

The number of Asians in chemistry have increased over the past 20 years and are no longer considered as under-represented minorities in chemistry. This may be true for males but it is not true for females. A number of Asian American women who have excelled in chemistry are highlighted in this poster.

### **PROF 28 Advancing professionalism: The Henry Hill award**

**E. Ann Nalley**, ACS Past President, Professor of Chemistry, Physical Sciences Department, Cameron University, Lawton, OK 73505, annn@cameron.edu

Henry Hill was one of the early pioneers of professionalism in chemistry. When the word professionalism was considered unprofessional. He with a few other dedicated chemists kept the issue on the front burner. Unfortunately he did not live long enough to see the fruits of his work, but before he died, he became President of the ACS. He used his influence at the highest level to promote professionalism for chemists. Since 1986, the Division of Professional Relations recognizes every year a person who in the spirit of Henry Hill promotes the advancement of professional relations. This presentation will give a short summary of the past winners of the award and will highlight their activities.

### **PROF 29 Our award recipient: The early years**

**Peter F. Rusch**, Chemical Structure Association, 355 Verano Drive, Los Altos, CA 94022, pfrusch@aol.com

Like all dedicated volunteers for ACS activities, in the beginning, our award recipient was coaxed and guided by capable mentors. This presentation will review his early ACS activities at the Local Section level with emphasis on his varied activities and with recognition of those who helped him along the way.

### **PROF 30 Starting a new ACS division as illustrated by accomplishments with Chemistry and the Law**

**Hugh Dubb**, PIPM Corp, I Lyndhurst Court, Belmont, CA 94002-3758, Fax: 650-591-4243

CHAL was one of the first non-research related divisions formed in the ACS. There was considerable doubt in the ACS governance as to whether the formation of such a division should be approved for this reason. CHAL's formation was accomplished through several years of concerted effort by a number of members (of which the presenter is one) assembled and led by Dr. Howard Peters. This presentation will touch on those efforts and will hopefully serve as a source of information and encouragement for other chemists who might want to form a new division.

### **PROF 31 Howard Peters' work with other divisions, sections, and outreach**

**Sally B. Peters**, PARC Inc, 3333 Coyote Hill Road, Palo Alto, CA 94304, Fax: 650-812-4028, sally.peters@parc.com

Howard is a great proponent of the ACS committee system. He began his service in 1979 on the Meeting and Exposition Committee. In the mid 90's when he served on ConC (Committee on Committees) he was their representative to the Chemical Technicians and the Committee on Minority Affairs. His Minority Affairs activities really crystallized in 1999 when he organized a program called Kid Vention which pulled together members from his local Santa Clara Valley section and his new division, CHAL (Chemistry and the Law). This program has lead him to the Intel ISEF where today he is a member of the organizing committee bringing the Fair back to San Jose in 2010!

If Outreach has a dark side for Howard, it is brown. Howard, CHAL and chocolate have been a fixture at SciMix for about the past 10 years! Howard really has a life outside of ACS. In the mid '90's he became active with fundraising and raised money to renovate the science building at Geneva College. Other areas of outreach involve his genealogy interests, so he joined SAR (Sons of the American Revolution), and became program chair for the local branch, He even began giving talks in the Division of the History of Chemistry! He is a member of several typical professional societies besides ACS; i.e. the BAR, SCPLA, and most recently was elected to become a Fellow of the Royal Society of Chemistry!

### **PROF 32 The career of an ACS volunteer**

**James A. Walsh**, Retired, 255 Capri Cir N Apt 26, Treasure Island, FL 33706-4468,  
jwalsh03@tampabay.rr.com

The forty-two year career of an ACS volunteer will be critically reviewed. Note will be made of a few small successes, some gaudy failures, and numerous lessons learned during a journey that is not yet over.

### **PROF 33 Ted and Arlene Wick Light – A personal tribute**

**John M. Sophos**, Meeting and Exposition Services, American Chemical Society, 1155 Sixteenth Street, N.W, Washington, DC 20036, j\_sophos@acs.org

Volunteerism is the life blood of the American Chemical Society. ACS members are passionate about both their society and their profession, and that passion is particularly evident when they are involved in a specific ACS endeavor that is an extension of themselves and their commitment. Ted and Arlene Wick Light have lived out their dedication to the ACS and the chemical profession as few others have through their efforts to enhance and advance the ACS Career Services programs for their fellow members.

This presentation will be a personal tribute from an ACS staff member who has spent over a decade working with Ted and Arlene in their volunteer roles as career mentors, advocates, councilors, and advocates.

### **PROF 34 Sustainability as an ACS volunteer**

**Elaine M. Diggs**, Division of Membership and Scientific Advancement, American Chemical Society, Department of Local Sections and Community Activities, 1155 16th St. N.W, Washington, DC 20036, Fax: 202-872-4353, e\_diggs@acs.org

No better word than “sustainability” can be found to describe Ted and Arlene Light's commitment to the career development of young chemists. Year after year, again and again, Ted and Arlene volunteered at the Career Resource Center (CRC) at national meetings. In whatever way they were needed, they were there--assisting with the National Employment Clearing House (NECH), keeping statistics on members using the career library, or greeting nervous job seekers and putting them at ease. Their work was sustained beyond just direct assistance to job seekers, however. They served on the Committee on Economic and Professional Affairs (CEPA), helping to monitor employment trends, reach out to employers, and study issues impacting chemists and their careers. Ted and Arlene Light show that volunteer service to the ACS, sustained over time, can be a source of accomplishment and fulfillment in a well-lived, long lasting career as a chemical professional.

### **PROF 35 Informal class in mentoring: Ted and Arlene's shining volunteer example**

**Daniel J. Eustace**, MultiLayer Coating Technologies LLC, 100 Duchaine Blvd, 100 Duchaine Blvd, New Bedford, MA 02745

Very few of us have formally identified mentors to help us make sense of confusing and tangled worlds of landing an interview or being selected for a position or promotion.

But after encountering and being "one-twoed" by Arlene and Ted, you had a sense of what it is like. They thought deeply, spent time with people, treated each person as important and opened doors where the doors seemed closed for many.

In the process they gave a course, an informal one, in carefully expressed and deftfully delivered mentoring. In the process they showed the lasting happiness one can be left with in a volunteer role. Some examples of the lasting impressions they played roles in will be shared.

### **PROF 36 The value of values as career guides**

**James D. Burke**, Rohm and Haas (retired), 2422 Rosemore Avenue, Glenside, PA 19038-3514, jdb2422r@aol.com

Technical capability and knowledge are indispensable assets for being hired into appealing employment and pursuing a successful career. However, as many studies have shown, latent technical incompetence is rarely the reason for an employee to be fired or to choose to resign. Other factors, such as one's personal motivators and values, are more influential in determining job success and whether a particular job or career will contribute to the employee's sense of satisfaction and personal happiness, success notwithstanding. To the extent that our work is aligned with our values and our personal goals, the more likely it will result in high performance and career success and satisfaction. Consequently, it is important for employees at every career stage to recognize that knowledge of their personal values and goals is a basic tool for evaluating any employment opportunity and for guiding their careers. This presentation will offer a survey of personal values and goals that can impact performance. It will also discuss how to use them as practical standards for critiquing the short-term suitability of any employment and its utility for advancing career success and satisfaction.

### **PROF 37 History of african american women chemists - pioneer members of the women chemist committee**

**Jeannette E. Brown**, Education Consultant, 122 Brookside Lane, Hillsborough, NJ 08844-4816, Fax: 908-874-6177, jebrown@infionline.net

African American women in science have always labored under the "double bind" of being a woman and a minority in science. To date, limited knowledge exists on the educational experiences of African American Women Chemists. Since the Women Chemists Committee (WCC) is celebrating its 80th birthday now is the time to look back in history and explore the lives of two of the pioneer African American women chemists who were on the Women Chemists Committee in the early years. These women were forgotten when WCC celebrated its 70th birthday, but they made significant contributions to the WCC and to ACS governance. We will talk about the lives of these women and some of the topics for discussion during the early years of the WCC.

### **PROF 38 A certain restlessness**

**Esther Hopkins**, Retired (Polaroid), 1550 Worcester Road, Unit 309, Framingham, MA 01702, eahhopkins@comcast.net

I will discuss some of the myriad careers that women trained as chemists do in addition to, or in place of, being active laboratory chemists. Examples include administrators in academic areas, librarians, patent attorneys, interdisciplinary instrumental work in various fields, entrepreneurs, etc.

### **PROF 39 Crossing the roads that unite R&D and business careers**

**Dorothy J. Phillips**, Waters Corporation, 34 Maple Street, Milford, MA 01757, dorothy\_j\_phillips@waters.com

Why did you go attend graduate school? The dream of dreams is a real driver for those of us who love science, winning the Nobel Prize. We are seeking knowledge and expertise in our chosen discipline to reach this ultimate goal that can be achieved by only a select few. However, the path from graduate school is not always so well defined; many who have begun on this quest realize that there are other careers for scientists with doctoral degrees. This lecture will discuss the career paths of scientists who have left the lab and achieved rewarding business careers based on a scientific background. Achieving the "bottom line" becomes the Nobel Prize for these scientists. The lecture will tell why these scientific-business women made the changes and what motivates or drives them.

### **PROF 40 Sisters speak on research in the academy**

**Gilda Barabino**, Department of Chemical Engineering, Northeastern University, 360 Huntington

Avenue, 342 Snell Engineering Center, Boston, MA 02115, Fax: 617-373-2209, g.barabino@neu.edu  
African-American women comprise a mere 1.3% of the science and engineering (S&E) workforce and are severely underrepresented among the S&E faculty. Speaking with African-American women about their research experience unveils several common threads across levels and institutions and helps shed light on the unique set of challenges facing this group that impede educational and career advancement and contribute to the persistence of underrepresentation. These challenges impact identity formation as a scientist/engineer and professional socialization, both of which help dictate research success and career progression. This presentation will address these issues through the lens and in the voices of African-American women. Continued dialogue is crucial to ensure the full engagement of African-American women in the academic research enterprise.

**PROF 41 Congratulations, if this is how you want to spend your life!**

**Sharon L. Neal**, Department of Chemistry & Biochemistry, University of Delaware, Newark, DE 19711, sneal@udel.edu

Many people have asked me “how did you become a scientist?” by which I think they meant “why did you make such an unusual choice?” In the exchanges that followed, I learned that most of them thought that it's great that a black woman does science, but they were also usually surprised, even concerned, because at a deep level, they weren't completely sure I was in the right place. As a young person this ambivalence was a sad surprise, even a source of concern, for me. Eventually, I saw that dichotomies characterize my life as a scientist: thrilled by uncovering nature's secrets one minute; confounded by recalcitrant equipment the next. The phenomenon that looks like a limitation to planned experiments turns out to be an exciting line of new inquiry. The chauvinist reconsiders and becomes a friend (well, this one is still a dream, but one day, right?) I will recount a few recollections that illustrate the how central stubborn optimism is to overcoming obstacles inside and outside the research lab.