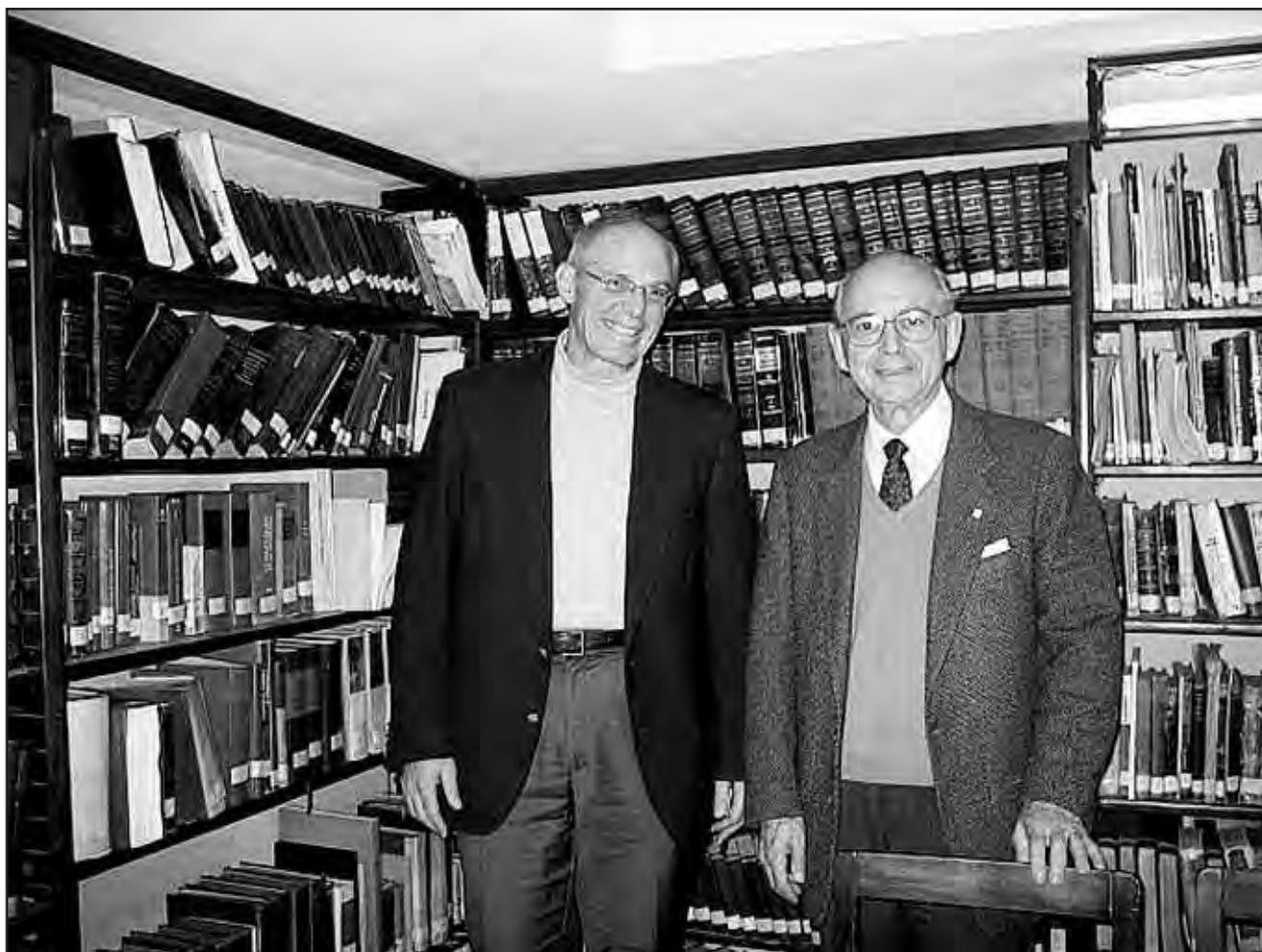


THE NUCLEUS

December 2006

Vol. LXXXV, No. 4



Monthly Meeting

Medicinal Chemistry Symposium: "New Approaches on Depression"

Book Review

"Leaps in the Dark. The Making Of Scientific Reputations"

by John Waller. Reviewed by Dennis Sardella

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by Megan Driscoll, Jennifer Sass and Scott Szczesny

Report from NERM 2006

By Morton Z. Hoffman

Report from NERM 2006

Morton Z. Hoffman,
Boston University
NESACS Representative to the Board of Directors, Northeast Region of the ACS, Inc.

The 34th Northeast Regional ACS Meeting was held in Binghamton, NY, on October 5-7, 2006. Hosted by the Binghamton Local Section, the meeting had “*Emerging Technologies and the Chemical Sciences*” as its theme, and offered 554 presentations; more than 850 registrants, including 120 undergraduate students, were in attendance. With numerous grants to support programs within the meeting, more than 20 exhibitors, many organizational supporters, and a very strong program, the meeting was the best attended NERM (and one of the most profitable) in recent years. Among the attendees from ACS governance were James Burke (Chair of the Board of Directors), Anne O’Brien (District I Director), Ann Nalley (President), and Catherine Hunt (President-Elect); also present were three of the four current candidates for President-Elect (Rhodes, Shkhashiri, and Walsh).



(l-r) Ann Nalley (ACS President), Anne O’Brien (District I Director), Katie Hunt (ACS President-Elect) photo by Morton Z. Hoffman

Notable in the program were the following features: the keynote lecture by Tobin Marks (Northwestern University) on “*New Materials and Processes for Organic Transistors, Inorganic Transistors, and Printed Electronics*”; the public interest symposium on “*Living in a Chemical World: Trichloroethylene (TCE) in Endicott, NY*,” which

featured a chemist, an environmental activist, a local newspaper reporter, a public health specialist, and a local member of the New York State Assembly, who discussed the ramification of the TCE spill at the IBM manufacturing site; the career services provided by the ACS Chemjobs Career Center,



(l-r) Wayne Jones (Binghamton University), Tobin Marks (Northwestern University), Ann Nalley (ACS President)

photo by Morton Z. Hoffman

which included career workshops, résumé reviews, and the use of the Career Center database by job seekers; a symposium for K-12 teachers that attracted more than 40 attendees. **The details of the meeting program and the abstracts of the papers can be found at <http://www.nerm2006.org/>.**

The following were honored at the awards reception and dinner: Brenda From (Manhattan High School for Girls, New York, NY), Excellence in High School Chemistry Teaching Award; Richard Cobb (Eastman Kodak), Regional Award for Excellence in Volunteer Service; Kenneth Takeuchi (University of Buffalo), Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences; Voya Markovich (Endicott Interconnect Technologies), Patricia Burns, Grazyna Kmiecik-Lawrynowicz, Hwee Ng, and Chieh-Min Cheng (all of Xerox), Regional Industrial Innovation Award.

The Board of Directors of the Northeast Region, Inc., held its annual meeting on October 7 at which time it unanimously voted to commend Wayne Jones (Binghamton University; Binghamton Local Section), the General Chair of NERM 2006, for leading the organizing committee of this very successful NERM and for engaging the more than 60 volunteers who worked on various aspects of the meeting

logistics. The Board elected Christopher Masi (Westfield State College; Central Massachusetts Local Section) and Wayne Jones to two-year terms (starting 1/1/07) as Secretary and Treasurer, respectively; they will replace Willem Leenstra (University of Vermont; Green Mountain Local Section), who has held the combined positions since the incorporation of the Northeast Region in 2005. Continuing as Chair and Vice Chair of the Board until the end of 2007 will be Julianne Smist (Springfield College; Connecticut Valley Local Section) and Richard Cobb (Rochester Local Section), respectively. The Board voted to participate in the Division of Chemical Education



Richard Cobb (Eastman Kodak), at right, winner of the Regional Award for Volunteer Service, receiving congratulations from Morton Hoffman (Boston University), designated recipient of the 2007 Award for Volunteer Service to the ACS.

photo from Morton Z. Hoffman

Regional High School Teacher Award. A preliminary bid from the Connecticut Valley Local Section to host NERM 2009 in Hartford, CT, or Springfield, MA, was received; a full proposal from the Northern New York Local Section to host NERM 2010 in Potsdam, NY, was accepted. The idea of holding the 2011 NERM jointly with the Middle Atlantic Regional Meeting (MARM) at a site near the border of the two regions (e.g., Westchester County, NY) was favorably discussed; local sections in the Northeast Region are invited to express interest to serve as a host. Inasmuch as there will be no NERM in 2007, the Board will next meet at the Boston ACS meeting.

NERM 2008 will be hosted by the Green Mountain Local Section on June 29-July 2 in Burlington, VT. See <<http://www.nerm2008.org/>> for details. ◊

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Cover: Meeting of Argentinian and American journal donation collaborators, Professor Maximo Baron (r) and Daniel Eustace (NESACS) in Buenos Aires at AQA headquarters on October 10, 2006. Dan's article on journal donations in the Summer edition of the Nucleus prompted a member to donate 40 years of J. Phys. Chem. and J. Electrochem. to the AQA. Prof. Baron is now trying to figure out how to transport the collection to Argentina. Photo provided by Dan Eustace.

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THE NUCLEUS

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Book Review

Leaps In The Dark. The Making Of Scientific Reputations,
by John Waller

(Oxford University Press, 2004) 292 pp.,
ISBN 0-19-280484-7; \$24.95 hardcover)

Reviewed by Dennis J. Sardella Department of Chemistry,
Merkert Chemistry Center, Boston College, Chestnut Hill, MA 02467

Not long ago the winners of the 2006 Nobel Prizes in science were announced. This year's choices appear to have been non-controversial, though that has not always been the case. I have occasionally heard colleagues complain that someone got the prize less for scientific achievements than for good publicity or a large body of good, but not really exceptional work, or that the prize should have been shared with some else. Perhaps these complaints are nothing more than sour grapes, but the uneasy possibility exists that some might not be entirely baseless.

While the idealistic view of science might lead one to expect – or at least hope – that the system of independent verification and peer review might ensure that credit is allocated fairly, rewards given equitably, and misattributions of credit corrected promptly, science is a human endeavor, practiced not by brilliant, disinterested automatons, but by people who do not check their humanity at the laboratory door. The passions and competitive spirit that draw them to the laboratory in the quest for knowledge also fuel the quest for recognition of their achievements, and human frailties, such as greed or simple dishonesty, have certainly led to misattribution, fabrication of data or plagiarism. Yet, the scientific community generally seems to support the notion that the truth will always win out, and that a person's scientific reputation will be a faithful reflection of the quality of their body of work.

Leaps In The Dark: The Making Of Scientific Reputations, by John Waller, takes on the topic of how reputations in science are made (or unmade), focusing on several case studies of scientists who have either not received credit that was their due, or who have either received more than

their fair share of credit, or who are given credit for things they never did. Ten years ago I read an intriguing book entitled *Lies My Teacher Told Me*, in which the author pointed out that many topics in American History books are presented in either a misleading or an incorrect way. In a sense, *Leaps In The Dark* falls into a similar genre. However, Waller, a Lecturer in the History of Medicine and Biology at the University of Melbourne, is not a muckraker, but a serious historian of science.

Waller divides his book into four parts, the first of which (“Falling From Grace”) deals with case studies of several otherwise excellent scientists whose negative reputations derive from the fact that they took positions that were consistent with the best science of the time, but that ultimately were shown to be incorrect (a case of “the evil that men do lives after them; the good is oft interred with their bones”). For instance, he profiles Lazzaro Spallanzani (1729-1799), the Italian biologist who devised numerous elaborate experiments to test the theory of preformationism — the idea that living beings exist fully-formed in miniature in the egg or the sperm, merely growing into their full size during gestation rather than developing. While the theory was ultimately shown to be incorrect, much evidence appeared to support it at the time, and countervailing evidence only emerged slowly, and Spallanzani's championing of it was eminently sensible in the light of what was considered good science at the time. Only the advantage of hindsight makes his experiments appear laughable, yet this, rather than his many other achievements and facility as an investigator, are what Spallanzani is remembered for, and he is often treated as a scientific joke, rather than some-

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one who happened to be on the wrong end of a serious scientific debate.

Waller next turns to cases of what he calls the “Eureka!” moment — the blinding flash of insight or the critical experiment that ushers in a new paradigm that brings clarity and organization to what was heretofore a chaotic mass of baffling data. For example, Archimedes soaking in his bath, Kekulé dozing by the fire, Newton relaxing under the apple tree. Waller examines three cases — Newton's development of his theory of light and color, James Lind's discovery that scurvy can be cured and prevented by citrus fruits, and Semmelweis' linking poor hygiene to childbed fever — and shows convincingly that the truth is vastly more complex than the simplistic, almost moralistic tales that are often repeated. As Waller puts it,

“Writers weaned on the romantic tropes of great-man history have not

Continued on page 15

Monthly Meeting

The 874th Meeting of the Northeastern Section of the American Chemical Society

Jointly with the Medicinal Chemistry Group

Symposium: *New Approaches on Depression*

Organized by the Medicinal Chemistry Division
Northeastern Section, American Chemical Society

Thursday – December 14th, 2006

Wellesley College Club,
727 Washington St (Rt. 16), Wellesley, MA
Sponsored by Sepracor Inc.

Program

- 2:00 pm** Introductory Remarks
Liming Shao, Ph.D., Chair of Medicinal Chemistry Division
- 2:15 pm** *Differentiating Antidepressants of the Future: Novel Approaches to the Treatment of Depression*,
Lee E. Schechter, Ph.D., Therapeutic Area Head/Director of Depression and Anxiety Research Neuroscience Discovery, Wyeth Research)
- 3:00 pm** *Dominant-Submissive Relationships in Paired Animals for Antimanic and Antidepressant Drug Testing*
Ewa Malatynska, Ph.D. (Johnson Pharmaceutical Research & Development)
- 3:45 pm** Coffee Break
- 4:05 pm** TBD
- 4:50 pm** *Broad Spectrum Antidepressants: Molecules, Mice, And Men*, Phil Skolnick, Ph.D., D.Sc. (hon.) (Chief Scientific Officer and Executive Vice President, DOV Pharmaceutical, Inc.)
- 5:40 pm** Social Hour
- 6:30 pm** Dinner
- 7:30 pm** *Glutamatergic Modulators for the Treatment of Mood Disorders*, Carlos A. Zarate, Jr., M.D. (Chief Mood Disorders Research Unit Associate Clinical Director, Laboratory of Molecular Pathophysiology National Institute of Mental Health)

Dinner reservations should be made no later than noon, Thursday, December 7, 2006. Please call or fax Marilou Cashman at 800-872-2054 or e-mail at [Mcash0953\(at\)aol.com](mailto:Mcash0953(at)aol.com). Please specify vegetarian. Reservations not cancelled at least 24 hours in advance must be paid. Members, \$28.00; Non-members \$30.00; Retirees, \$15.00; Students, \$10.00.

THE PUBLIC IS INVITED

Directions to Wellesley College Club: Take Route 128/195 to exit 21B-22 and proceed west on route 16 through the town of Wellesley. Turn right at the entrance to the College across from the golf course and parking lot. The club is the first building on the left inside the entrance. For more detailed directions go to <http://www.wellesley.edu/Collegeclub/directions.html>.

Speakers

Speaker: Phil Skolnick, Ph.D., D.Sc. (hon.)

(Chief Scientific Officer and Executive Vice President, DOV Pharmaceuticals, Inc.)

Biography

Phil Skolnick was born in New York City, where he attended Stuyvesant High School. After graduation he went on to Long Island University and The George Washington University School of Medicine, where he received a Ph.D. in Pharmacology in 1972. He then moved to the NIH, where he spent 22 years in a variety of positions of increasing responsibility, ending as a senior investigator and Chief of the Laboratory of Neuroscience of the National Institute of Diabetes and Digestive and Kidney Diseases. In 1997 he moved to Eli Lilly, where he was a research fellow in Neuroscience until 2001, when he left to become the Chief Scientific Officer and Vice President at DOV Pharmaceuticals. He was promoted to Senior Vice President in 2003. Dr. Skolnick was on the faculty at the Uniformed Services University of the Health Sciences while at the NIH, on the faculty of the Indiana University School of Medicine while at Eli Lilly, and has been a Research Professor of Psychiatry at the New York University School of Medicine since 2001. Dr. Skolnick has received a number of prestigious awards and lectureships and also received honorary Doctor of Science degrees from Long Island University in 1993 and the University of Wisconsin, Milwaukee in 1995. Dr. Skolnick has served and serves on the editorial board of a number of journals, published several books and scholarly articles and also holds several patents.

Abstract

Broad Spectrum Antidepressants: Molecules, Mice, And Men

The majority of antidepressants in current use inhibit the uptake of serotonin (5-HT) and/or norepinephrine (NE). Both preclinical and clinical studies indicate that a molecule capa-

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Symposium

Continued from page 5

ble of inhibiting the uptake of 5-HT, NE and dopamine (DA) (triple reuptake inhibitors that are also referred to as broad spectrum antidepressants) will be superior to current therapies in one or more dimensions, including speed of onset, efficacy (defined here as an increase in the proportion of patients exhibiting a meaningful clinical response, including remission), and side effect profile. The central tenets supporting this hypothesis are derived from evidence linking deficits in dopaminergic transmission to anhedonia, and the role of dopamine, and more specifically, the mesocorticolimbic pathways subserved by dopamine, in cognition, reward, and incentive-driven, goal oriented behaviors. This lecture will review preclinical and clinical studies that support this hypothesis, and summarize recent findings with a family of azabicyclohexane triple reuptake inhibitors.

Speaker: Carlos A. Zarate, Jr., M.D.
(Chief Mood Disorders Research Unit Associate Clinical Director, Laboratory

of Molecular Pathophysiology National Institute of Mental Health)

Biography

Carlos Zarate received an M.D. from the Catholic University of Cordoba (Argentina) School of Medicine in 1985 and did internships in cardiovascular surgery and general medicine. His residency in Adult Psychiatry was at the Massachusetts Mental Health Center/Brockton Veterans Administration Medical Center, where he was Chief Resident from 1991 to 1992. He then spent several years as a Research Fellow in Psychiatry and Epidemiology at McLean Hospital in Belmont, Massachusetts. He served on the faculty of both Harvard Medical School and the University of Massachusetts Medical School before moving to the Washington D.C. area and NIMH in 2001, where he also serves on the faculty of both Howard Medical School and as a Clinical Professor of Psychiatry at George Washington University. He is on the Editorial Board of Journal of Clinical Psychiatry and Atlantic Psychopharmacology. He has given over 200 invited presentations, published more than 100 original papers

and has written a number of book chapters and reviews.

Abstract

Glutamatergic Modulators for the Treatment of Mood Disorders

It is clear that for a number of patients with mood disorders, current pharmacotherapy is generally insufficient. In spite of adequate treatment, patients continue to have recurrent mood episodes, residual symptoms, functional impairment, psychosocial disability and significant medical and psychiatric comorbidity. There is increasing evidence that, although not classical neurodegenerative disorders, severe mood disorders are associated with regional impairments of structural plasticity and cellular resilience. This suggests that effective treatments will need to provide both trophic and neurochemical support, which serves to enhance and maintain normal synaptic connectivity, thereby allowing the chemical signal to reinstate the optimal functioning of critical circuits necessary for normal affective functioning. For many refractory patients, drugs mimicking 'traditional' strategies, which directly or indirectly alter monoaminergic levels may be of limited benefit. Newer "plasticity enhancing" strategies that may have utility in the treatment of mood disorders include glutamatergic modulators such as inhibitors of glutamate release, NMDA antagonists, AMPA potentiators, and enhancers of glutamate uptake.

Speaker: Lee E. Schechter, PhD

(Therapeutic Area Head/Director of Depression and Anxiety Research Neuroscience Discovery, Wyeth Research)

Biography

Lee Schechter began his academic training at Upsala College in East Orange NJ, where he received a BS in Biology and Environmental Studies in 1977. After working for both the EPA and local government in New Jersey, he spent a year at the Institute of Experimental Pathology and Toxicology at Albany Medical College. He then went on to the Department of Pharmacology at the Medical College of Pennsylvania, where he earned a



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Ph.D. in Pharmacology in 1989. His next stop was the Institut nationale de la sante et de la recherche medicale (INSERM) in France, where he was a postdoctoral fellow and visiting scientist in Cellular and Functional Neurobiology from 1988-1990. Since 1993 Dr. Schechter has been at Wyeth Research in Princeton New Jersey, where he is currently the Therapeutic Area Head and Director of Depression and Anxiety Research. Dr. Schechter has also been active at the Medical College of Pennsylvania since his Ph.D. work there, working as a tutor and lecturer, and has been an adjunct Instructor since 1991. The author of numerous patents, book chapters and original manuscripts, Dr. Schechter has also given lectures in both the U.S. and Europe.

Abstract

Differentiating Antidepressants of the Future: Novel Approaches to the Treatment of Depression.

Depression is a devastating psychiatric illness with estimates of prevalence reaching 21% of the world population. The World Health Organization has predicted that by the year 2021 depression will only be second to ischemic heart disease in regards to disease burden of the health care system. Although the past decade has resulted in clear advances in our understanding of major depressive disorder, several issues still remain regarding treatment, while the etiology and pathogenesis of the disease remain essentially unknown. Indeed abnormalities

in monoaminergic neurotransmission appear to be involved based upon the mechanism of the previously developed array of efficacious antidepressants which include the monoamine oxidase inhibitors (MAOIs), selective serotonin reuptake inhibitors (SSRIs) and the serotonin norepinephrine reuptake inhibitors (SNRIs). While these drugs have provided significant advances to the treatment of depression there are still unmet clinical needs in terms of efficacy and side effects. The design of new antidepressant medications is clearly a challenging area and current drug development efforts are evaluating multiple new targets and strategies which range from subtype selective approaches to combination therapies. From a treatment perspective this would include strategies that target symptomatic therapy, while other new exciting approaches are exploring potential disease modifying effects based upon the finding that depression may have neurodegenerative underpinnings. Taken together this presentation will discuss the differentiation of antidepressants of the future and the scientific rationale behind novel drug development efforts.

Speaker: Ewa Malatynska, Ph.D.
(Johnson Pharmaceutical Research & Development)

Biography

Ewa Malatynska first began working on antidepressants in graduate school, where she developed a new behavioral test for antidepressant activity, the clonidine reversal of dominance behavior test. Her postdoctoral work at the University of Arizona focused on the allosteric modulation of GABA stimulated $36Cl^-$ uptake and resulted in the discovery of antidepressant interactions with the complex. In subsequent work at The Ohio State University as a NARSAD Young Investigator, she demonstrated differences between the chronic and acute actions of antidepressants at the GABA-stimulated chloride ionophore complex and demonstrated differences in the function of this complex between dominant and submissive rats treated with antidepressants. She was

appointed Assistant Professor at Indiana University School of Medicine in 1996 and promoted to tenured Associate Professor in 2002. Her work at Indiana University was on development of dominant-submissive relationship based model of mania and depression; in addition, she continued her earlier work on affective disorders and the interaction of the GABA receptors and known antidepressants. In 2002 she accepted a position as a Principal Scientist at Johnson and Johnson Pharmaceutical Research and Development, where she is continuing her research on the mechanism of action of antidepressants and applying that to the development of new antidepressants.

Abstract

Dominant-Submissive Relationships in Paired Animals for Antimanic and Antidepressant Drug Testing

This presentation discusses dominant-submissive relationships (DSR) formed between paired animals, mice or rats in a food competition test. We are using dominant behavior for antimanic and submissive behavior for antidepressant drug testing in the reduction of dominant behavior model (RDBM) or the reduction of submissive behavior model (RSBM), respectively. In our experiments, Sprague-Dawley rats or C57Bl/J6 mice were food-restricted, randomly paired and placed in an apparatus allowing them to compete for a food reward. A fraction of rat and mouse populations tested developed dominant-submissive relationships over a two-week period, which was stable for at least three weeks. The experimental conditions have to be adjusted for mice as compared to rats. Sprague-Dawley rat dominant behavior is sensitive to antimanic drugs. Submissive mice, similar to rats, are sensitive to antidepressants of different classes. The utility of the model to estimate and compare activity onset time for various antidepressant and antimanic drugs will be discussed as well as attempts to dissect molecular differences between dominant and submissive animals to further understanding of underlying mechanism of drug activity. ◇

Chemists in the Community at SF ACS Meeting

By Lee Latimer

On Saturday September 9th at the San Francisco ACS National Meeting, 120 meeting attendees invested 4-5 hours each in the first Chemists in the Community service project at a national meeting. Organized by members of the Santa Clara Valley and California Sections and ACS Staff, the groups of volunteers were bused to one of four sites: the San Francisco Zoo, Heron's Head Park, the San Francisco Food Bank or Fort Funston in Golden Gate National Recreation Area. The locations were identified and coordinated by Hands-on Bay Area, a local nonprofit group with branches in other major cities. As an added aspect President Ann Nalley chose this effort as one of her Presidential Events.

A special aspect of the event was the broad participation of Council

members and ACS governance including President Nalley, Past President Bill Carroll, President Elect Katie Hunt, Executive Director Madeleine Jacobs and members of the Board of Directors who made a special effort to rearrange their schedules to be able to participate and meet members. A lot of dirt and weeds were moved and a record number of boxes were filled at the Food Bank! A video of the effort at one of the sites is on the ACS website chemistry.org.

All agreed they had a great time working together and plan to do it in other cities where meetings are held, such as Chicago and Boston in 2007.

Lee Latimer, Councilor, California Section, Co-chair for the organizing committee for Chemists in the Community for the Fall 2006 National Meeting. ◇

2007 National ACS Award Winners From NESACS

Seven NESACS chemists will receive ACS awards at the national meeting in Chicago in March 2007.

ACS Award in Pure Chemistry sponsored by Alpha Chi Sigma Fraternity and the Alpha Chi Sigma Educational Foundation, **Xiaowei Zhuang**, Harvard University.

ACS Award in the Chemistry of Materials sponsored by E. I. du Pont de Nemours & Company, **Robert S. Langer**, Massachusetts Institute of Technology.

Award for Volunteer Service to the American Chemical Society sponsored by the American Chemical Society, **Morton Z. Hoffman**, Boston University.

Herbert C. Brown Award for Creative Research in Synthetic Methods sponsored by the Herbert C. Brown Award Endowment, **David A. Evans**, Harvard University.

F. Albert Cotton Award in Synthetic Inorganic Chemistry sponsored by the F. Albert Cotton Endowment Fund, **Christopher C. Cummins**, Massachusetts Institute of Technology.

Nobel Laureate Signature Award for Graduate Education in Chemistry sponsored by Mallinckrodt Baker, **Anirban Banerjee** (student), Rockefeller University; **Gregory L. Verdine** (preceptor), Harvard University.

The Priestley Medal sponsored by the American Chemical Society, **George M. Whitesides**, Harvard University. ◇



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Call for Nominations

James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry

Nominations are invited for the 2006 James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry. The Norris Award, one of the oldest awards given by a Section of the American Chemical Society, is presented annually by the Northeastern Section. The Award consists of a certificate and an honorarium of \$3,000.

Nominees must have served with special distinction as teachers of chemistry at any level: secondary school, college, and/or graduate school. Since 1951, awardees have included eminent and less widely-known but equally effective teachers at all levels.

The awardee for 2006 was Professor Brian P. Coppola of the Department of Chemistry of the University of Michigan.

Nominations should focus on the candidate's contributions to and effectiveness in teaching chemistry. The nominee's curriculum vitae should be included. Seconding letters are also an important part of a nominating packet. These may show the impact of the nominee's teaching in inspiring colleagues and students toward an active life in chemistry and/or related sciences, or may attest to the influence of the nominee's other activities in chemical education, such as textbooks, journal articles, or other professional activity at the local or national level.

Materials should be of 8½ by 11 inch size. The nomination packet

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www.nesacs.org/seminars

Call for Nominations

Philip L. Levins Memorial Prize

Nominations for the Philip L. Levins Memorial Prize for outstanding performance by a graduate student on the way to a career in chemical science should be sent to the Executive Secretary, NESACS, 23 Cottage St., Natick, MA 01760 by **March 1, 2007**.

The graduate student's research should be in the area of organic analytical chemistry and may include other areas of organic analytical chemistry such as environmental analysis, biochemical analysis, or polymer analysis.

should not exceed thirty pages and should not include books or reprints or software.

Please direct questions about the content of the nomination to the 2007 Chair of the Norris Award Committee. The chair will be appointed in December 2006. For more information about

Nominations may be made by a faculty member, or the student may submit an application. A biographical sketch, transcripts of graduate and undergraduate grades, a description of present research activity and three references must be included. The nomination should be specific concerning the contribution the student has made to the research and publications (if any) with multiple authors.

The award will be presented at the May 2007 Section Meeting. ◇

the Norris Award, see www.nesacs.org

Send nomination packets (as hard copy, or electronically in Adobe PDF format) to Ms. Marilou Cashman, NESACS, 23 Cottage St., Natick, MA, 01760. email: [mcash0953 \(at\)aol.com](mailto:mcash0953@at.aol.com).

The deadline for nominations is **April 15, 2007**. ◇

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Making the Connection

Tips On How To Successfully Select, Hire and Retain Employees

Megan Driscoll, Jennifer Sass, and Scott Szczesny.
PharmaLogics Recruiting, 220 Forbes Road, Braintree, Massachusetts.
www.pharmalogicsrecruiting.com

There are several key components that will need to coalesce to make a successful hire. First, a hiring manager needs to successfully attract, select, and hire the right candidate. Once the candidate has been hired, not only does the candidate have to live up to the hiring company's expectations, but in order to turn that new hire into a lasting employee, the company has to live up to the new hire's expectations as well. The company must then develop the new employee and assess their success. Finally, once the candidate has settled into his or her position, the company must retain that new employee and ensure they are successful. The first step in the process of finding the right candidate begins with communication. The hiring manager must make sure that everyone affected by the hire is in agreement with the job

description, specific responsibilities and the skills required. Hiring managers should ask these key questions: Does everyone in the group understand how the new hire impacts their work? Do my superiors agree with the requirements for the open position? Is the Human Resources liaison aware of what the hiring manager is looking for? Finally, if the open position is a management role, do the employees that will report to this person know what they are looking for in a manager? Once the hiring manager has spoken with and gathered information from all of these parties, it will be easier to write a thorough and effective job description.

A job description should include the critical requirements and experience that a candidate must possess in order to be considered for the opening

as well as a summary of key responsibilities. It is crucial to write a fresh job description for every opening and keep it clear and concise. If there are too many requirements, it may discourage the right candidate from applying. A great job description identifies not only the critical experience necessary, but also the skills that would be considered "nice to have." Once the job description has been written and approved, it is time to post the opening on the proper websites and search engines. Of course, the first posting is going to be on the company website. Many candidates "follow companies" and regularly check industry specific news as well as the websites of companies that interest them. If these potential candidates see an opening that is appropriate for their background, they may apply directly. This is a great situation because the



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ANALYSIS FOR THE CHEMICAL ELEMENTS

Making Connection

Continued from page 10

candidate is not only interested in the specific position posted, but also in the company itself. Company website job postings are also easy to maintain and keep track of because they are filtered into the corporate database.

A company may also want to post the opening on appropriate and popular job boards. Search engines can be a good resource in generating large volumes of candidates. If the opening is entry-level, these job sites can be quite helpful by often giving a hiring manager an enormous amount of interested, and often relevant, candidates. But when looking for senior level candidates, these sites can often be frustrating and time consuming. Because there are going to be a huge number of applicants who are not appropriate for the job, rifling through masses of resumes often requires more of a time commitment than many hiring managers in the pharmaceutical industry have the ability to give. Since senior level job descriptions are extremely specific in terms of years of experience, and contain multiple experience requirements, searching or counting on job boards to produce the perfect candidate is almost like “finding a needle in a haystack.” While posting an opening on major job boards can be positive and helpful dependant on the level, it does not address the problem of how to attract potential candidates that are not actively looking for new opportunities. These types of candidates are many times the most valuable, as they are usually happy where they are, and are only willing to leave for the perfect opportunity. There are two approaches to finding candidates that are not applying on-line.

The first approach may seem very obvious, but is sometimes taken for granted. Before sourcing in any other way, smart hiring managers always do internal sourcing first. Hiring from within the company is always a great option that should never be overlooked. There are two reasons that hiring within is beneficial: First, hiring from within the company reduces the

learning curve significantly. Many times a candidate’s ability to fit in to a company’s corporate culture becomes a big part of the reason for hiring them. When a candidate comes from within, it is apparent that he or she will have the right personality to work within the organization. Second, hiring internally is also a great tool in retaining current employees. Before posting a job externally, hiring managers should consider all of the employees within the group and envision them in the role trying to be filled. When managers pass over current employees and choose to hire from outside rather than promote from within, the employees passed over may become frustrated and therefore look for opportunities for advancement elsewhere. If there are no appropriate candidates in the group, be sure to consider other parts of the company where qualified candidates might exist. Bottom line, hiring managers should work with the appropriate Human Resources partner to make sure that the opening is properly marketed internally. The second approach to finding candidates not necessarily on the market is networking. Hiring managers should reflect back on previous work experiences and colleagues to see if there is anyone that sticks out that could be a good fit for the position. This is where keeping an active network can pay off. Contacting old colleagues, professors, managers, and friends can lead to referrals and potentially the perfect candidate. Tasking the entire team to network can also help uncover the right candidate. Hiring a known commodity has its advantages because people within the company are already aware of their strengths as well as the areas where they will need development and mentoring. The “inside scoop,” is invaluable.

If internal sourcing and networking does not work, using a recruiter is another viable option, especially if the opening is a senior role. There are several reasons why recruiters are beneficial to companies. The recruiter does all of the filtering before submitting resumes. When a hiring manager receives a resume, the candidate has already been qualified in terms of hav-

ing the appropriate background and interest in the position. This saves time and allows human resources to focus on other important tasks. Recruiters are also able to identify and attract candidates that are not even looking for a job. These are candidates that would never have known about the opening because they are not going to company websites nor are they looking at job postings on the Internet. PharmaLogics Recruiting estimates that roughly nine out of ten people that accept new jobs in the pharmaceutical industry are not actively looking for new opportunities. Recruiters are also able to provide the company with information about the candidate that a company would not be able to find out on their own, with regard to relocation concerns, salary expectations, etc. Good recruiters have wonderful relationships with their candidates, spending hours of time getting to know them. The information recruiters have about candidates is often information that ultimately determines if the candidate will not only receive an offer from a company, but ultimately accept an offer from them. Hiring managers should keep in mind that finding the right recruiter is important. They should look for a recruiter that specializes in the same area for which he or she has an opening. Many recruiters are generalists and try to be a “one stop shop” for every kind of opening and, this defeats the purpose of using a recruiter at all. These types of recruiters cannot effectively screen candidates for the opening because it is likely that they do not fully understand the requirements themselves. For instance, if the opening is in chemistry, then find a recruiter that only specializes in chemistry placements. It not only ensures a smooth hiring process, but also a successful placement in a much shorter amount of time.

Once the “specialized” recruiter is identified, be very specific with what skills are important for the position.

For example:

Do not say: “I am looking for someone with good technical skills”

Do say: “I am looking for someone who understands Hits to Lead”

Continued on page 12

Making Connection

Continued from page 11

Specific details will help the recruiter narrow down the search to only the most qualified and relevant candidates. The hiring manager should also arm the recruiter with relevant selling points for both the position and the company. Remember, the best recruiters are going to proactively approach candidates who are not advertising their desire for a new position. Equipping the recruiter with strong, “selling points” as to why the organization is a great company to work for is a great resource. Also a detailed job description, facts about the group, and tidbits on the opportunity itself (i.e. size of the group, advancement opportunities, management responsibility, etc), help the recruiter paint a vivid picture to potential candidates. Once this is accomplished, the hiring manager can sit back and relax and only worry about choosing among all of the highly qualified resumes that are sent directly to his or her attention.

Now that the methods for gathering appropriate resumes have been established, it is imperative to consider the issue of timing in the process. Timing is everything when it comes to recruiting. It is not possible for a company to move too quickly through the interview process. The bottom line is that great candidates are not on the market very long and if, “you snooze you lose.” When going through the interview process, it is important to be mindful of how long each step takes. Here are some examples of common mistakes regarding timing that need to be avoided:

1) Conducting phone interviews with **all** of the candidates before inviting anyone in for a formal interview. Once a successful phone interview has occurred, it is good practice to extend an invitation for an onsite interview immediately. Do not wait until all of the phone interviews have been completed to express continued interest in any one candidate. Inviting someone in for an interview establishes that the candi-

date is qualified and goes a long way towards keeping the candidate’s interest level high. If a company waits too long after the phone interview to invite a candidate in, it can send a message to him or her that perhaps they did not meet the company’s expectations. It can also reflect poorly on the organization’s ability to make decisions. Remember that the candidate is evaluating their desire to work for the company throughout this process as well.

- 2) Waiting too long after a successful interview to move to the offer stage. If a candidate comes in for a formal interview, and a week goes by with no word of interest after the interview, the likelihood of getting the candidate on board dwindles significantly. Prepare all of the members of the interview team to give their feedback immediately after the candidate leaves. It often makes sense to schedule a debrief meeting to go over the positives and potential question marks of each candidate while the interview is fresh in everyone’s mind. Remember that the hiring manager is responsible for driving the interview process to completion. If it does take longer than a week for an offer to be presented, be sure someone is communicating with the candidate in the interim to keep them informed of the process as well as to keep their interest level high. This communication should come from the hiring manager, the Human Resource representative or the recruiter.
- 3) Many companies establish a minimum number of candidates that need to be interviewed before proceeding to the offer stage. While it is helpful to make comparisons amongst multiple candidates, be mindful that the first candidate may be the best. Again, timing is key. Do not risk losing the ideal candidate simply for the sake of meeting a pre-determined number of applicants.

Now that some timing mistakes have been identified, the actual interview

process is the next crucial step. The first step is to conduct a phone interview with out of town candidates or have a casual lunch with those that are local. Once the phone screen or lunch is complete, a formal face-to-face interview is the next step. If the candidate is coming in from out of town it is a good idea to have them in the night before and meet them at their hotel for dinner. This gives the candidate a sign that the company is thankful that they have taken time off to interview, and this is a great way to welcome them to the area. It also gives the hiring manager a chance to meet the candidate in a relaxed environment which leads to a better understanding of their personality and how they can fit into the group.

The actual face-to-face interview should be an efficient process as well. Whenever possible, aim to complete the process in one full day, as opposed to conducting a second round interview. Even if the candidate is local, they have likely taken at least one day off of work for the meeting. Completing the process in one day as opposed to breaking it up into multiple interviews is more efficient and cost effective for everyone involved. If given the choice, most candidates prefer interviewing on a Friday or a Monday, because it is easier to justify taking time off from work. This also helps with out of town candidates as it allows them the opportunity to come a day earlier or stay a day later to look around, see the city and get a sense of the housing that is available. Companies should support candidates spending additional time in the area, as it becomes important if they will be interviewing on site only once. Furthermore, it is less expensive to book an additional night in the hotel, as opposed to flying them in a second time.

When the interview day arrives, the hiring manager must make sure that all of the members of the interview team are prepared. He or she is responsible for making sure everyone has reviewed the CV, thought of appropriate questions, and understands the job description and the challenges of the open position. The hiring manager needs to assign someone to give the

Making Connection

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candidate a tour of the facility. Someone should also be tasked with discussing the benefits of working with the company, potential growth opportunities, health coverage, and how and when bonuses are paid. When an interview runs smoothly it reflects positively on the hiring manager and more importantly, the entire company. Conversely, there is nothing more frustrating for a candidate than showing up in someone's office for an interview and realizing that the person is reading their CV for the first time. It is also unprofessional to make candidates wait longer than a few minutes for someone on the interview schedule to arrive. The interviewing team should be aware of the schedule and agree to stick with it as closely as possible.

Once feedback has been gathered and the interest level has been established, it is time to move on to references. This should only be done after the completion of an interview, and when it has been determined that an offer is likely to be made to the candidate. The practice of "backdoor" reference checking is not professional (I assume this means asking people other than those listed by the candidate for a reference. I have had that happen a few times.) and should be avoided. Any candidate that comes in for an interview is making a confidential inquiry into a position. This is a vulnerable time for the candidate, as he or she does not want people to know that they are looking at other opportunities. Conducting a "backdoor" reference check jeopardizes that confidentiality because references are usually colleagues, former managers, and professors. It is well known that people talk and the pharmaceutical world is a very small! If there are any questions about what is or is not appropriate regarding reference checks, hiring managers should consult their Human Resources department.

Once the hiring manager and the rest of the team have identified the candidate of choice and references have been checked, the important offer

stage follows. This crucial stage can be exciting as well as stressful. If the company has communicated with the candidate effectively, executed the interview in a timely manner, and been honest with the candidate throughout the entire process, there should be no question that the offer and acceptance will come hand in hand. An offer is comprised of several different components. The base salary is the most important ingredient. On average, an offer includes a 5-15% increase over the candidate's current salary (this does not include cost of living adjustments for relocated candidates). Remember to account for any annual bonus as well. A good rule of thumb is to offer the candidate an increase in both base salary and total compensation. Additionally, a sign-on bonus is a great tool to use when the base salary cannot meet the candidate's expectations.

Relocation is another factor that demands careful consideration. There are many different components that can go into a relocation package. These components need to be established before the offer stage. Some important costs to consider are: the cost of the actual move, closing costs on each end, temporary housing, etc. If the company offers a lump sum to cover all of the moving costs, it is important to make sure the tax ramifications of the lump sum are considered.

If a company can understand a candidate's expectations and a candidate can understand the company's limitations, a negotiation should be successful. Once the offer letter is sent out, a hiring manager should always follow up to answer any questions.

The job as a hiring manager is not over once the candidate has been hired. It is time to ensure that the company lives up to the candidate's expectations and the candidate successfully meets the needs of the job. The first step in ensuring that both will happen is setting goals and expectations for the new employee. Making a list of goals for the first six months as well as for the first year is an excellent start. The hiring manager should then discuss each goal with the new employee so he or she fully understands what is expected

of them. Employees should know that an evaluation will be based on the success of accomplishing the goals that are outlined. It is also good practice to allow the new employee to write out a list of their expectations and personal goals. This will ensure that the new employee will be focused with firm goals in mind, as well as informing their hiring manager of what is important to them. For instance, if a hiring manager is aware that gaining experience in HPLC is something the employee desires to strive for, an opportunity may arise or be created that could facilitate the achievement of this personal goal.

Rewarding employees is an essential and excellent tool for retention. Many people think of rewards as monetary or tangible in some way, but non-tangible rewards are equally, if not more, important. There are two main reasons why employees either stay with their company or, conversely, choose to leave. The first is whether they have positive or negative feelings about their manager. The second is whether or not the employee feels there is growth potential within the company. It is interesting to note that neither of these reasons is related to money. Employees like to be recognized in front of their peers. A simple word of thanks or congratulations for their particular effort goes a long way. Here are two examples of how to incorporate non-tangible rewards:

Year-End Congratulations- What if at the end of the year, each employee received a list of all of things their hiring manager felt they accomplished and were doing exceptionally well on? What if this were posted publicly so everyone else would know how valuable each individual is to the company? How would this make employees feel? This goes beyond the yearly review because this is a simple recognition of only the positive contributions that person has made to the group.

Creation of Personal Path Forward- People want to feel like they have a place to go within an organization. They want to know that there is a

Continued on page 17

Student Affiliates Chapters Honored

The Society Committee on Education (SOCED) has announced the 2005–06 Student Affiliates Chapter Awards, which honor 34 outstanding, 55 commendable, and 75 honorable mention award-winning chapters. Among the chapters cited as commendable are those from Northeastern University, Boston (President, Amy Kallmerter; Advisor, Thomas Gilbert) and Suffolk University, Boston (President, Michelle Constante; Advisors, Doris Lewis and Angela Buffone). Plaques will be presented to the winning chapters during the 233rd ACS national meeting in Chicago, IL, in March 2007.

The Suffolk University SA Chapter will also be recognized by the ACS Green Chemistry Institute as a “green

NESACS Member Participates in Chemists in the Community

Paula Fox, a new member of the Northeastern Section from Peterborough, New Hampshire has been a member of the ACS National Committee on Community Service for two years. In addition to her involvement with National Chemistry Week activities she recently participated in the first Chemists in the Community Service project at the National Meeting in San Francisco on September 9, 2006. Similar community service efforts are planned at the Chicago and Boston meetings in 2007.

Paula thought the service project sounded like a neat idea. “It was a way to meet people at the meeting in an

chapter” for successfully completing green chemistry activities. ◇

informal and productive way.” She helped out at the San Francisco Zoo. Each month a number of community groups help with landscaping at the zoo. The ACS group was part of this larger effort. “The work wasn’t glamorous, but it was really needed. ACS made it very convenient. They had bus transportation from the Convention Center. The event was well-organized and people only had to do what they were comfortable doing.” —MPF ◇

Q. Exactly, how many awards and scholarships does NESACS sponsor?

A) One b) Two c) Many

www.nesacs.org/awards

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Book Review

Continued from page 4

only tended to exaggerate the clarity of our subjects' experiments. In the case of Semmelweis and Lind, many have also overstated the similarities between their ideas and modern orthodoxies. ... Blundering in with a ready-made template comprising a Eureka moment, a decisive experiment, and an ignorant opposition really won't do."

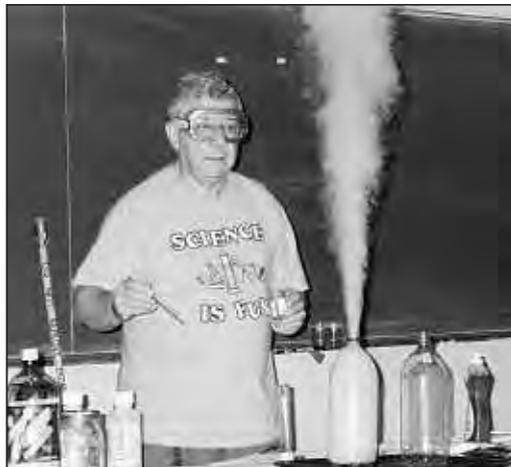
The third section of *Leaps In The Dark* ("Heroes Made To Measure") deals with cases of two people — Johann Weyer (1515-1588) and Philippe Pinel (1745-1828) — widely regarded as heroic figures who became the "fathers" of modern clinical psychiatry, Weyer by opposing the Inquisition and insisting that insanity was not the result of demonic possession, and Pinel by initiating the humane treatment of the insane by marching into two Parisian madhouses and ordering the unshackling of hundreds of brutalized inmates. Unfortunately, neither ever actually did what was attributed to him. Rather, Waller's analysis shows that both were made into heroic figures by members of an insecure profession (psychiatry) seeking to establish its credentials as a true scientific discipline.

Waller closes his book by examining cases of people falsely credited with scientific discoveries, which they either misappropriated from coworkers or for which they claimed undue credit ("Do-it-yourself Heroes"). Unlike the rest of the book, where the reasons for the misattributions of credit examined in the previous two sections, while wrong, are relatively benign, the two cases profiled here seem to illuminate the dark side of the scientific psyche, the deliberate "theft" of credit legitimately due co-workers by individuals intent on claiming the rewards for themselves. If there are real miscreants in *Leaps In The Dark*, they may be here: Robert Watson-Watt, the British scientist widely known as the sole inventor of radar, and Selman Waksman, discoverer of streptomycin, both of whom, Waller argues, used their positions to claim full credit — and the attendant financial rewards — for the

Brauner Memorial Lecture

Professor Bassam Z. Shkhashiri during the Phyllis A. Brauner Memorial Lecture given at Wellesley College on October 22, 2006.

Photo by Morton Z. Hoffman.



discoveries by minimizing or suppressing the contributions of a number of coworkers.

Leaps In The Dark made interesting and enjoyable reading. Waller has a clear and readable style, and convincingly supports his point that, although the *modus operandi* of science is effective at detecting and correcting errors of scientific fact or interpretation, whether intentional or unintentional, issues of credit and attribution are influenced by the social

context of the times. While Waller stands firmly on the side of science in the culture wars, rejecting the assertion that all of scientific knowledge is culturally determined, *Leaps In The Dark* makes it clear that "certain ideas have been much more likely to arise and to strike a sympathetic chord in certain times and places than in others. Social, economic, and political factors introduce a degree of contingency that must be factored into our accounts of scientific discovery." ◇

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September 2006 Meeting

Pictures Courtesy of Venu Neelagiri of CreaGen Biosciences Inc



Raj Rajur and Tomi Sawyer.



LR: Raj (SB) Rajur (Program Chair), (Speakers): Beverly A. Teicher, Michael Block, Dennis France, and Tomi Sawyer

October 2006 Meeting



photo by Morton Z. Hoffman

Amy Kallmerten (Northeastern University undergraduate), recipient of a NESACS Service certificate, flanked by Patricia Mabrouk (Northeastern University), at left, and Ann Nalley (ACS President)



Mukund Chorghade (NESACS Chair-Elect), Ann Nalley (ACS President), Harry Mandeville (Peptimmune, Inc.)

photo by Morton Z. Hoffman



*NESACS Board Member, Cathy Costello introducing Dorothy Phillips.
photo by James Phillips*



*Professor Doris Lewis, Suffolk University and Dorothy Phillips recipient of the Henry A. Hill award for service to the Northeastern Section ACS.
photo by James Phillips*

BUSINESS DIRECTORY

NESACS Members Receive Awards

Professor David A. Evans of Harvard University and Professor Steven L. Buchwald of M.I.T. have received awards that recognize their contributions to chemistry. Evans is the 2006 Seaborg Medalist, and received his award on November 4 at a symposium at UCLA. He was cited for his research in the design of stereoselective reactions and the applications of these reactions to natural products synthesis. Buchwald, the recipient of the 2006 Siegfried Medal for his achievements in process chemistry, received his award at the Siegfried Symposium on September 21 at the University of Zurich, Switzerland. He was recognized for his work on the synthesis of fine chemicals and active pharmaceutical ingredients.

For more information, see September 18, 2006, issue of *C&EN* (p. 40). ◇

Making Connection

Continued from page 13

2 or 5-year plan in mind for them, but they also want to feel that this plan is flexible to include what they hope to do, and not what will be dictated for them to do. This applies to both the Research Associate and the Director of the Department. At every year's end, each employee should be asked what they hope to achieve over the course of the next upcoming year. The hiring manager should ask them what they are looking for in a 2-year plan. Although, not all of the employees' expectations are going to be met, giving them a path forward that accommodates some of what they are expecting is a great start. This will go a long way in giving the employee a feeling that the company supports their professional growth. A hiring manager

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might even learn a thing or two about new ways an employee can contribute to the organization.

In conclusion, successfully selecting, hiring, and retaining the right candidate is a multi-step process that every company should master and take seriously. Companies that practice good hiring techniques and maintain a healthy and positive work place, will retain employees and make a “positive” connection with each individual they hire. It is the pharmaceutical companies following these practices that engage more qualified candidates and ultimately are able to hire the best chemists in the world. Because this industry is reliant on the capability and success of the scientists themselves, having a strategy to successfully attract, select and retain those scientists is essential, and it all begins with making a successful connection. ◇

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Calendar

Dec 1

2006 Sukant Tripathy Annual Memorial Symposium
Wannalancit Mills, 600 Suffolk St., Lowell, MA 01854
8:30 a.m. – 4:30 p.m.
Speakers listed at
www.uml.edu/tripathysymposium

Dec 4

Prof. Scott Miller (Yale Univ.)
TBA
Brandeis Univ. Gerstenzang 122,
3:45 PM.

Mei Hong (Iowa State Univ.)
“Immobile Beta-Barrels, Rotating Helical Bundles, and Change Transport Through Lipid Membranes: Exploring Membrane Protein Structure and Dynamics by Solid-state NMR”
MIT, 56-114
4:30PM.

Dec 5

Prof. Eric Anslyn, (Univ. Texas, Austin)
“Organic Chemistry Approaches to Single and MultiAnalytes Sensing”
Tufts Univ. Pearson Chemistry Building P106
4:30 PM.

Dr. Andrzej Cieplak (Yale Univ.)
“Backbone Energy and Fold Stability in Proteins”
Univ. New Hampshire, Iddles Auditorium
Room L103
11:10 AM.

Prof. Steven Bruner (Boston College)
“Structural and Mechanistic Enzymology of Complex Natural Product Biosynthesis”
Boston College, Merkert 130
4:00 PM.

Dec 6

Dr. Amit Basu, (Brown Univ.)
“Glycolipid Interactions at Membranes”
Northeastern Univ. Hurtig Hall
Rm 129
12 Noon.

Jillian Buriak (Univ. of Alberta)
“Nanoscale Patterning of Semiconductor Surfaces via Self Assembly.”
Woodward Lecture Series, Harvard-MIT
Inorganic Chemistry.)
MIT, Room 6-120,
4:00 PM.

Dr. James D. Stuart, (U. Conn.)
“Analyses of Phenolic Endocrine Disrupting Chemicals in Marine Samples using SPE and both GC/MS and LC/MS”.
UMass Dartmouth Building Group II,
Room 115.
4:00 PM.

Dec 7

Dr. Loon-Seng Tan (Air Force Research Laboratory)
“TBA”
U.Mass Lowell, Olney Hall OH218
3:30 PM.

Prof. Christopher J. Bardeen (U. California)
“Energy Transport in Amorphous and Crystalline Organic Materials”
Physical Chemistry Seminar
Boston College, Merkert 130
4:00 PM.

Dec 11

Tomas Kirchhausen (Harvard Medical School)
“Chemical Biology of Membrane Traffic.”
Woodward Lecture Series, Organic Chemistry
Harvard Univ. Pfizer Lecture Hall,
12 Oxford St.,
4:15 PM.

Dec 12

Prof. Jeffrey S. Johnson (Univ. North Carolina, Chapel Hill)
“Polarity Reversal Catalysis: New Strategies and Applications”
Boston College Merkert 130
4:00 PM.

Dec 13

Dr. Vesa Nevalainen, (UMass Dartmouth)
“Aldol-transfer reactions - a short history of”
UMass Dartmouth Building Group II,
Room 115.
4:00 PM.

Dec 14

Wilfred van der Donk (Univ. Illinois, Urbana-Champaign)
TBA
MIT, 6-120
4:30PM.

Please check NESACS website and university websites for late breaking changes.

All notices for the Calendar should be sent to

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