The American Society of Pharmacognosy

The ASP Newsletter
Volume 50, Issue 3

55th Annual Meeting a Huge Success

By Dr. Ikhlas Khan

The 55th American Society of Pharmacognosy Annual Meeting and the 14th Oxford International Conference on the Science of Botanicals (ICSB) in Oxford, Mississippi, was a rousing success with nearly 600 attendees representing 39 countries for five days of workshops and lectures covering the topic of natural products and their impact on humankind.

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50th Anniversary ASP Newsletter

IN THIS ISSUE: FALL 2014

EDITOR'S CORNER

Greetings from China, where I am spending my sabbatical year at the Chinese University of Hong Kong. This autumn has been an eventful one for our Society. In this issue, ASP President Phil Crews writes about his vision for the Society. This is an exciting time for ASP, as demonstrated by an extremely strong Annual Meeting with more than 500 attendees. The Society is also looking into the way it presents itself to the world through a formal year-long exercise with graduate students at the Virginia Commonwealth University, as described by Dr. Barry O'Keefe in a related article. President Crews' detailed address to members does a terrific job updating everyone on the status of many issues within the Society, and I hope everyone will take some time to carefully look it over.

ASP Fellow Dr. Bill Gerwick writes about his experience attending two conferences this past August to further collaboration between United States and Chinese natural product scientists. I have been to a number of international conferences recently where there has been strong representation by Chinese scientists, and I think Bill's points on the growing importance of China on the international stage of natural products research are very germane. Consider this year's ASP Conference in Mississippi, where a significant number of participants were originally from Asia.

We recognize the three award winners from this year's Annual Meeting with respective articles. Dr. Rachel Mata was the winner of the Farnsworth Award, and her significant contributions to science and the Society are mentioned in the article. She is the first female to win the Society's highest research award. Dr. Ray Cooper won the Tyler Prize, and his career in the field of botanicals is described. Finally, the Suffness Award for a junior investigator was given to Dr. Roger Linington, and his metabolomics approach to pharmacognosy was a tour-de-force of how mathematical modeling with new instrumentation can lead to cutting edge research in our field.

I was saddened to learn about the untimely death of ASP member Dr. Nigel Veitch, Senior Phytochemist at the Jodrell Laboratory, Royal Botanic Gardens, Kew. He was well known by a number of ASP members, and his paper, "Six New Isoflavones and a 5-Deoxyflavonol Glycoside from the Leaves of *Ateleia herbert-smithii*," in the *Journal of Natural Products* was awarded the 2003 ASP Jack L. Beal Award.

Our regular columnists continue to provide a key infrastructure to the *Newsletter*. Dr. Georgia Perdue's column on the happenings of Washington are useful for many members. Dr. Dan Kulakowski continues to interview new members, and profiles Dr. Rupika Delgoda in this issue. Ms. Devhra BennettJones' article, "From the Archives," takes a look at the site of the 2014 ASP meeting, Oxford, Mississippi, and takes an unflinching look at the 50th Anniversary of the Freedom Summer, which focused on Mississippi and other southern states.

I wish everyone a productive autumn season.

Dr. Edward J. Kennelly

Erratum: *Our introduction to the summer* Newsletter's *"Behind the Scenes in Pharmacognosy" article incorrectly stated the affiliation of Drs. Dale Nagle and Yu-Dong Zhou as the National Center for Natural Products Research, School of Pharmacy, University of Mississippi, (UM), Oxford, Mississippi. Their correct affiliation is the Department of BioMolecular Sciences (formerly the Department of Pharmacognosy), University of Mississippi.*

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55th Annual Meeting a Huge Success

ASP members enjoy Island Night at 2014 Annual Meeting. Above left, left to right: Douglas Kinghorn, Mark Blumenthal, Yoshinori Asakawa, and Geoffrey Cordell. Above right, James McChesney (center) receives "Outstanding Contribution in Natural Products Research Award" from Kate Yu (far right) of Waters Corporation.

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The meeting showcased a number of disciplines relating to natural medicines, consisting of the discovery, characterization, synthesis, biosynthesis and mechanism (of action) of natural product chemicals with drug-like attributes from a variety of natural resources, including plant botanicals. The goal of linking these meetings was to join these two natural product communities and encourage new research opportunities.

There were many informative lectures presented at this year's meeting, but we kicked off the event with a presentation from the inspirational Dr. Rachel Mata (Professor, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico) who received the Norman R. Farnsworth Research Achievement Award, ASP's highest honor. Other highlights included presentations from Dr. Ray Cooper (Visiting Professor, Hong Kong Polytechnic University, Hong Kong), recipient of the Varro Tyler Prize Award and Dr. Roger Linington (Associate Professor, University of California, Santa Cruz, Santa Cruz, California), recipient of the Matt Suffness Young Investigator Award. Dr. Kate Yu, Senior Manager, Pharmaceutical Business Operations at Waters Corporation, presented the company's "Outstanding Contribution in Natural Product Research Award" to Dr. James McChesney (Founder and Principal, Ironstone Separations, Inc.) for the recognition of his contributions in the education, research, and development of natural products.

We have also received many compliments on our varied and entertaining array of social activities and excursions, which began with an opening reception at the Lyric Music Hall in downtown Oxford (including a surprise performance from The King himself: Elvis!) and continued with Island Night on the Oxford Conference Center grounds. We were treated to two Oxford ICSB traditions: India Night featuring traditional food and music, and the ICSB Outdoor Games Tournament and Barbecue. With over 50 participants for the Young Investigator Event at Boure's on

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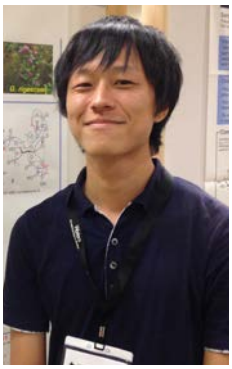

Participants at the 55th Annual ASP Meeting in Oxford, MS, left to right: Shi Sun, Shi-Biao Wu, Robin Marles, Atbar Ata, and Yoshihiro Suyama.

55th Annual Meeting a Huge Success

Participants enjoy Island Night at the 55th Annual Meeting in Oxford, MS., above left, as they come to Oxford from 39 countries, including a large number from Mexico, above right.

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the Oxford Square, a good time was had by all! We finished off our festivities with a closing banquet featuring a plated dinner for nearly 500 people, the always amusing ICSB closing presentation by Dr. Ikhlas Khan, and a roast of outgoing ASP President Dr. Brad Moore.

We would like to thank the organizing committee, scientific committee, the speakers, exhibitors, and each of the attendees for helping to make the 55th American Society of Pharmacognosy Annual Meeting and the 14th Oxford International Conference on the Science of Botanicals in Oxford, Mississippi, such a fantastic meeting! On behalf of the Scientific Organizing Committee, it was a privilege and a pleasure to see you all in Oxford, Mississippi, and we look forward to another great meeting July 25–29, 2015, in Copper Mountain, Colorado. ■

Participants at the 55th Annual ASP Meeting in Oxford, MS, left to right: Leng Chee Chang, Ray Cooper, Chinni Yalamanchili, Hellen Oketch-Rabah, and Jimmy Yuk.

Past President McAlpine Becomes ASP Treasurer

By Dr. Amy Keller

Past ASP President Dr. James B. McAlpine has taken over the ASP Treasurer duties from Dr. Guido Pauli for a five year term beginning in August. Dr. Nam-Cheol Kim will remain as the Assistant Treasurer, and Ms. Laura Stoll has been promoted to ASP Business Manager.

Dr. McAlpine told the *Newsletter,* "I am grateful for having someone as organized as Guido Pauli to follow. On the other hand, one would think that someone as old as me would have enough sense not to embrace the responsibility involved." The job of ASP Treasurer is both broad and exacting, encompassing the accounting of ASP expenditures on things like the Annual Meeting and the *Journal of Natural Products*, as well as keeping statistics on ASP Membership and records membership dues and renewals.

Dr. McAlpine's goals for the position include keeping the Society's solvency, sound financial base, and reinstating the Society's once-held nonprofit tax status, thereby having membership fees be tax deductible. Another aspiration of Dr. McAlpine's is to "encourage local chairmen of our Annual Meetings to make attendance at the meetings less expensive for graduate students and post-doctoral fellows, thereby encouraging attendance by these young pharmacognosists." Overall, Dr. McAlpine will work to manage the Society's money wisely and fairly for overall benefit to the ASP.

The Society thanks Dr. Pauli for his service to the ASP and welcomes Dr. McAlpine as our new Treasurer. ■

ASP President Crews Addresses Members

By President Phil Crews

It is a great honor to now take the office of the ASP president for the 2014-2015 term. Thanks to the membership for the election outcome announced in June, 2013, that paved the way to this fascinating development.

The inner workings of our society are complex, which complicates my task to hit the ground running. But, this is mitigated by the more than 55 years of ASP tradition and community spirit. My first step has been to re-read our Constitution and By-Laws. It is now clear to me that the robust structure initially set in place in 1959 has undergone constant improvement by the action of our members. Currently, we have some twenty committees, populated by dozens of dedicated ASP constituents. I plan to work closely with these groups to insure that our Society operates effectively and exceeds the *Statement of Purpose* for ASP, which was elegantly stated years ago.

One goal for this year is to add new strategies and improve past paradigms. Not to be forgotten is the obvious benefit of continuing to emphasize the excitement of natural products-based science being carried out by more than 600 ASP members. The talks and posters at each ASP Annual Meeting clearly demonstrate that our scientists are engaged in significant research and development, education, and service to others. But, how can we do this better? Also, how can we make outcomes based on natural biosynthetic products more conspicuous?

There is no obvious formula. I need your help. As a first step, please now share your thoughts, success stories, and insights with me and other elected ASP officers. I believe that increasing the volume of dialog will result in elevated reverberation of inspirational outcomes. Engaging in shared discourse is a pathway to make our society even more prominent. Furthermore, this extends the message of past ASP President Brad Moore who stated "… the ASP has an opportunity to increase its worldwide foot print…"

President Crews addresses ASP members.

The talks and posters at each ASP Annual Meeting clearly demonstrate that our scientists are engaged in significant research and development, education, and service to others. But, how can we do this better?"

We are already a venerable organization, with the membership receptive to diversity of thought and scientific strategies.

Clear to me at this early stage is that a one year term for an ASP president is perhaps too short. However, the robust administrative structure in place for ASP has helped to shorten my learning curve. I am now ready to introduce some fresh thinking and provide a forum for action. I want to move ahead at a fast clip but am also aware of possible pitfalls. Here are some new plans to avoid trouble, based on introducing new infrastructure and making some administrative manipulations. On August 12, we appointed Ms. Laura Stoll for 2014-2015 as a full time Business Manager. She has accepted the position and is busy working through a task list designed to support both our committees and membership. Dr. James B. McAlpine (a past ASP President) has taken over as Treasurer for a five year term and Dr. Nam-Cheol Kim will continue as Assistant Treasurer. Finally, the executive committee is now constituted as a group of four members.

We are in the midst of an exciting era for exploring the bounty of molecular structures produced by nature. This continues to be evident annually to those browsing through the ASP Annual Meeting vendor exhibits. Stunning arrays of new strategies are continuing to appear for core tools used by everyone, including nuclear magnetic resonance spectroscopy (NMR), mass spectrometry (MS), and compound separation technologies. Also, ASP meeting workshops provide valuable hands-on type experience. Much fundamental research is continuing in many labs to expand research horizons, especially through the use of molecular tools. The pro-

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There is no obvious formula. I need your help. As a first step, please now share your thoughts, success stories, and insights with me and other elected ASP officers.

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gram directors at United States federal agencies are engaged in an important role to promote new research ventures. As just one example, many academic scientists at our recent meeting were still reliving the call to think out of the box by submitting proposals organized in response to new National Institutes of Health (NIH) and National Science Foundation (NSF) sponsored initiatives.

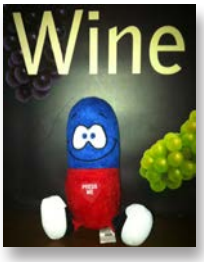
It is important to briefly focus on two uplifting developments. First, the bedrock for ASP continues to be solid. Our co-publishing of the *Journal of Natural Products* (*J. Nat. Prod*.) with the American Chemical Society (ACS) is increasing in its success. In part due to the efforts of Editor-In-Chief, Dr. A. Douglas Kinghorn, the impact factor of *J. Nat. Prod* jumped last year by about 20%, and revenues generated from the this joint arrangement are an important source of Society funds. The science presented at the Annual Meetings continues to be stimulating. Thanks to the effective management and wise fiscal planning, the two most recent Annual Meetings [teams led by Co-Chairs Dr. Ray Cooper & Mr. Mark O'Neil-Johnson (2013), followed by Chair Dr. Ikhlas Khan (2014)], were well attended (>500 participants each) and together generated greater than $120,000 in revenues.

Ms. Tiffany Culver and Mr. Laurence Niadj, joint curators of the historic ASP gavel.

They represent the many examples of future professionals that will change the face of ASP.

I want to encourage our younger members to be more active in ASP. The ability of ASP to remain vibrant in the future is dependent having our next generation of luminaries involved early in their careers in the society. This appears to be proceeding nicely. For example, the two PhD candidates, Ms. Tiffany Culver (BS, 2012, Texas A&M University, Commerce, Texas) and Mr. Laurence Niadj (BS 2014, University of California, Santa Cruz, Santa Cruz, California) shown here, are cheerfully engaged in joint curatorship of the historic ASP Gavel. They represent the many examples of future professionals that will change the face of ASP. Be sure to chat with them about their science and career plans next summer at the ASP meeting. Last August, I also viewed first-hand how peer-mentoring among the younger members is thriving. There were more than 60 individuals at the Younger Members Event organized at the Annual Meeting. The well-received panel discussion presented at this gathering must be maintained in the future as a standard tool for networking.

There is one final issue to review and it pertains to the Society name. A concern, raised last year by Past President Moore, is whether or not the term "pharmacognosy" is still relevant for the 21st century. The ASP masthead is based on the classic definition of pharmacognosy: "the study of the physical, chemical, biochemical and biological properties of drugs, drug substances or potential drugs or drug substances of natural origin as well as the search for new drugs from natural sources." However, the lay public and professionals from many scientific areas are unaware and even mystified by the term "pharmacognosy." Thanks to Dr. Barry O'Keefe, we have just partnered with the Brandcenter at the Virginia Commonwealth University (VCU), Richmond, Virginia, and this group will take on the project of providing branding and marketing advice to us. This project will begin in early September and will involve discussions and analyses for the entire academic year at VCU. I look forward to sharing the progress of these discussions in subsequent newsletters. Also, I foresee a cheerful outcome and look forward to a celebration and implementation of the VCU team analyses. In Santa Cruz, the merriment will be inspired by the photo shown here. First, a toast, followed by pushing the PRESS ME button on the "happy pill" stuffed creature (which activates joyful tones).



In summary, here are a few items on the list of priorities that I want to address for the coming year. (a) The current ASP mission statement is not comprehensive. (b) The ASP statement on i-sites such as Wikipedia does not seem to reflect the progression of our science in today's world. (c) ASP's administrative structure needs to be fine tuned to meet the standards of a multimillion dollar society. (d) ASP no longer has non-profit status, which needs to be re-worked. (f) ASP outreach tools may not be in tune with those expected by our emerging junior scientists.

Finally, thanks for the opportunity to represent all of you as ASP President. Be assured that I, the other elected officers, and committee members, will do our best to promote the interests of ASP. Now, take a moment to mark your calendar for the next ASP meeting July 25-30, 2015, at the Copper Mountain, Colorado, resort, chaired by Dr. Robert Cichewicz. I look forward to having face-to-face conversations on the topics discussed above. ■

Mata Honored with Farnsworth Award

By Drs. Nicholas H. Oberlies and Mario Figueroa

At the ASP Annual Meeting in Oxford, Mississippi, Professor Rachel Mata of the Universidad Nacional Autonoma de Mexico, Mexico City was awarded the ASP Norman R. Farnsworth Research Achievement Award, the Society's top research prize. Dr. Mata is the first female ASP member to be presented this honor.

Dr. Rachel Mata

Dr. Mata was born in Caracas, Venezuela, and became Mexican by naturalization. She received her Pharmacy degree at Central University of Venezuela (UCV), Caracas, Venezuela, in January 1972. After two years as a lecturer of Pharmacognosy at the same school, she joined the graduate program in the School of Pharmacy at Purdue University, where she earned her MS (1976) and PhD (1979) degrees, under the direction of ASP member Dr. Jerry L. McLaughlin.

After Purdue, she first returned to UCV. Her husband found a job as a Professor at the National Autonomous University of Mexico (UNAM) in 1982. Thus, she left Venezuela and began post doctorate training in that same year at the Institute of Chemistry at UNAM, under the direction of Dr. Alfonso Romo de Vivar Romo, giving her the first steps into the national scientific field in Mexico. In November 1984, Dr. Mata was appointed Professor at the School of Chemistry at UNAM, where she has developed an exceptional career both in scientific research and education throughout the last 30 years.

Dr. Mata's research interests are in the area of natural products and molecular biodiversity in drug discovery. She has consolidated a research team of innovative scientists at the School of Chemistry, UNAM, that studies the chemistry and pharmacology of medicinal Mexican flora. As a major contributor on this area of research, her studies have given scientific validity to many of those generalized practices of Mexico's alternative medicine based on plants, and have led to the discovery of numerous compounds whose biological properties provide opportunities on the development of medicinal or agrochemical products.

Because of the innovative biosynthesis and the restricted taxonomic distribution, some of these products have attracted biogenetic and chemical taxonomy research and organic synthesis investigations. Furthermore, studies developed by Dr. Mata have enriched multidisciplinary research in the natural medicinal product field, both at national and international levels. Moreover, she has contributed to the tutelage of scores of students and postdoctoral researchers, strengthening the foundation of basic research in Mexico. Besides publishing over 160 manuscripts, this includes the training of over 50 undergraduate and over 70 graduate students (both MS and PhD).

While Dr. Mata has had an illustrious career, there are probably three areas where she had made the largest contribution to science. First, she has studied calmodulin inhibitors for decades, and the book chapter "Recent Advances in the Search of Novel Calmodulin Inhibitors from Selected Mexican Plants and Fungi" (Mata, R. et al. in *Bioactive Compounds from Natural Sources, Second Edition, Natural Products as Lead Compounds in Drug Discovery*, Corrado Tringali, C., Ed; CRC Press: Boca Raton, 2011; p 451-496) summarizes part of her extensive work. Second, she has studied antidiabetic compounds from plants for at least 10 years, and the publication by Guerrero-Analco J., et al., Antidiabetic properties of selected Mexican copalchis of the Rubiaceae family. Phytochemistry. 2007, 68, 2087-2095 exemplifies the relevance of her research.

Finally, one of her newest projects is to document the scientific information about Mexican flora. While this is a relatively

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Dr. Mata's research interests are in the area of natural products and molecular biodiversity in drug discovery.

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new project, it is unprecedented and will serve as a scientific and historical reservoir of information for years to come. The manuscript by Rivero-Cruz, B., et al. Qualitative and quantitative analysis of the active components of the essential oil from *Brickellia veronicaefolia* by nuclear magnetic resonance spectroscopy. *J. Nat. Prod.* 2006, 69, 172-1176, illustrates some of the information included in the World Health Organization-type monographs developed by Dr. Mata.

Dr. Mata accepts her award.

Besides these scientific contributions, she has been a loyal member of the ASP for decades. Approximately 25% of her publications have been in the *Journal of Natural Products (J. Nat. Prod.)*. She has served on the Editorial Advisory Board of *J. Nat. Prod*. for years, and she was one of the co-organizers for the ASP Annual Meeting in Oaxaca, Mexico, in 2001. Dr. Mata's development as a scientist has spanned decades of diligent, persistent inquiry. Moreover, while that is an accurate statement, as a very humble person, she might not wish for this to be noted, instead desiring to simply be measured by her scientific credentials. You can always see her at ASP Annual Meetings, typically with a large group of energetic students in tow, laying the foundation for the next generation of engaged scientists. ■

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JACS Publishes Virtual Issue Featuring Natural Products

By Dr. Amy Keller

This year, the *Journal of the American Chemical Society* (*JACS*) published a virtual issue on the JACS website entitled, "All Natural- the Renaissance of Natural Products Chemistry." In total, 22 articles were chosen from *Organic Letters, The Journal of Organic Chemistry*, and *JACS* that illustrate the vitality, diversity, and applicability of contemporary natural products research.

This virtual issue is guest edited by former ASP President Dr. Ted Molinski. In his editorial, Dr. Molinski highlights several seminal contributions that natural products research made to the field of chemistry. Dr. Molinski detailed prescription drug discoveries from marine natural products research, compounds isolated from plants used in traditional Chinese medicine, as well as those compounds already in promising clinical trials.

Papers were chosen for this issue that integrate the use of molecular genomics, computational chemistry, and advanced nuclear magnetic resonance spectroscopy in natural products research. Also featured are isolated compounds from diverse sources that have shown promising bioactivity against malaria and cancer, just to name a few. ■

The virtual issue may be accessed at:
http://pubs.acs.org/JACSbeta/jvi/issue29.html

Cooper Receives 2014 Tyler Prize

By Dr. Edward Kennelly

ASP member Dr. Ray Cooper is the 2014 Tyler Prize awardee. The prize is given to a scientist who has made a significant contribution in the field of botanical research and is named in honor of ASP's first President, the late Dr. Varro Tyler.

ASP President Phil Crews noted, "Dr. Ray Cooper is a distinguished member of our ASP community. Here are two impressive points at the top of my list about Ray. First, his 2014 Varro Tyler Award lecture, tracing the past, present, and future of botanical medicines, was full of gems. Second, his reach is international as he divides his time between science at the Hong Kong Polytechnical University and consulting in St. Louis, Missouri, in the United States."

Dr. Cooper receives the Tyler Prize

Dr. Cooper received his PhD in organic chemistry from the Weizmann Institute of Science in Israel and did postdoctoral training with ASP Fellow Dr. Koji Nakanishi at Columbia University and at The Squibb Institute for Medical Research, Princeton, New Jersey. Dr. Cooper began his professional career at Schering-Plough Corporation, and in the ensuing decades he moved to a number of other pharmaceutical and dietary supplement companies, including Pharmanex Inc, Shaklee Corporation, Shaman Pharmaceuticals, Herbalife International, and PhytoScience LLC. He has more than 100 publications in the area of botanicals and natural product chemistry.

Dr. Cooper's award lecture was presented at the 2014 ASP Annual Meeting in Oxford, Mississippi, and was entitled, "Natural Products & Botanical Medicines: Lessons Learned and Future Challenges." Dr. Cooper gave seven lessons that he has learned over his more than 30 years working in natural products. He drew extensively from examples of natural product discoveries that he has been involved in, including *Cordyceps*, a parasitic mushroom found at high altitudes on the Tibetan plateau used to increase VO_2 max, to red yeast rice used to lower cholesterol.

The lesson of the red yeast rice, entitled, "Too Much Science Can Get You Into Trouble!" was especially instructive, since the research resulted in a dispute with the United States Food and Drug Administration (FDA), which ultimately banned its sale in the United States. Dr. Cooper headed research and develops programs for Pharmanex staffed with PhD-trained scientists in China and the United States to bring several proprietary traditional Chinese medicines to market, including the red yeast rice product Cholestin™. In 1994, Cholestin was shown to display clinical efficacy for lowering cholesterol. By 1996, Cholestin, standardized to monacolins and free of citrinin toxin, was being widely sold in the United States as a dietary supplement. However, by 2001, Cholestin was banned by the FDA, although it is available in other countries. Other red yeast rice products continue to be sold in the United States.

When asked by the *Newsletter* how he felt about winning the Tyler Prize, Dr. Cooper stated, "Delightfully surprised, very humbled to be selected, and very honored. For the Society to give me the award is personally a thrill, but I wish to thank friends and colleagues that I have had the privilege and pleasure to work with over the years."

Dr. Cooper is now working as a Visiting Professor at Hong Kong Polytechical University. In his lecture, he also highlighted his research on Traditional Chinese Medicine (TCM). He noted there are a number of challenges facing TCM, including, "TCM [are] researchers resistant to "Western" approaches of science [and there is a] need to encourage designing and applying rigorous evidence-based methods, eliminating the idea of a separate TCM."

Dr. Cooper's successes in natural products chemistry and botanical product development give him a unique voice in advocating for more rigor in TCM and other herbal products. His final lesson in the Tyler Prize lecture sounded like it could be a title of Dr. Tyler's popular books on herbal remedies: "Lesson #7 The Industry Needs Science - The Voice of Reason in the Sea of Insanity." Dr. Cooper himself fondly recalled that Dr. Tyler played a similar role in the United States dietary supplement market, especially after the publication of his popular books "The Honest Herbal" and "Herbs of Choice," where he attempted to lay out the science of a given herb, without pulling any punches, and doing so in a language understandable to consumers. This allowed them to make their own informed choices.

The ASP congratulates Dr. Cooper on his achievement. ■

The Matt Suffness Award: A Continued History

Editor's Note: *This issue of the* Newsletter, *we continue our ongoing series on winners of the ASP Matthew Suffness Award by focusing on the 2014 award winner Dr. Roger Linington, Associate Professor in the Department of Chemistry and Biochemistry at the University of California Santa Cruz, Santa Cruz, California. In the early 1990s, former ASP President Matthew Suffness was a pivotal player in developing what was then called the Young Investigator Award, conceived as a mechanism to highlight the achievements of some of our younger members as they established independent careers. Recognizing that our younger members are not so fortunate as to have known Dr. Suffness, we thought a series of reflections by previous winners of the Suffness Young Investigator Award would help provide them with a sense of the man, his vision, and his contributions. We hope to draw broader attention to the award itself and, hopefully, inspire members to nominate deserving individuals for the award in the years to come.*

By Dr. Amy Keller

At the ASP Annual Meeting this summer in Oxford, Mississippi, Dr. Roger Linington was awarded the ASP Matt Suffness Award. The award recognizes young investigators and showcases their work via the accompanying research presentation. Dr. Linington told the *Newsletter,* "It is a great honor to have been selected as the 2014 Suffness award winner. The ASP has been a big part of my scientific career, and I have seen many amazing presentations at Annual Meetings over the years that have taught me to think broadly about the origins and applications of natural products. It has been an amazing opportunity to be able to present some of our work to this audience, and to receive so much feedback and encouragement from other ASP members."

Dr. Linington in the field.

MR. STEVE CLABUESCH

Dr. Linington's work ultimately aims to gather as much information in the initial screening of compounds as possible, in order to provide the best-informed, or "function-first" approach to future compound development. This is done by using screening and broad metabolomics aimed at identifying bioactive compounds and their mechanisms of action at the start of the screening process. Thus, optimal compounds can be chosen for further investigation due to structure characteristic or bioactivity. Dr. Linington's award presentation described work from his laboratory on the integration of mammalian cell phenotypic imaging with high-resolution liquid chromatography-mass spectrometry (LC-MS) analyses linking compounds to phenotypes. The success of this approach was illustrated with examples of compound discoveries.

Although Dr. Linington never met Dr. Suffness, he read several of Dr. Suffness' publications and came away with an understanding of his research and directions. "In particular, I was struck by how many of the issues that he identified as challenges to the field still remain obstacles to efficient natural products discovery today," observed Dr. Linington. He continued, "It is clear that the field is undergoing a technical revolution, as high throughput analytical, screening and genomic tools vastly increase the level of detail that can be applied to the global analysis of natural products libraries. It is my hope that together these new tools will fundamentally change the ways in which we approach natural products science, and that the ASP and its membership will be at the forefront of these exciting new discoveries!" ■

Dr. Linington's work ultimately aims to gather as much information in the initial screening of compounds as possible, in order to provide the best-informed, or "function-first" approach to future compound development.

Younger Members Network

By Dr. Brian Murphy

At this summer's ASP Annual Meeting in Oxford, Mississippi, the Younger Member Event (organized by Mr. Gray Dale and Ms. Jennifer Taylor at the University of Mississippi) was held at Bouré, a trendy bar and restaurant in the heart of Oxford's historic Courthouse Square. The purpose of this event was to afford younger ASP members a chance to interact with junior faculty, government, and industry professionals, and to facilitate networking amongst each other in an informal setting.

Each of the 80 attendees split up into smaller groups that rotated through one of six stations in what some termed a "chemistry speed dating" format. Drs. Kevin Tidgewell, Assistant Professor, Duquesne University, Pittsburgh, Pennsylvania, Dr. Jason Kwan, Assistant Professor, University of Wisconsin, Madison, Wisconsin, and Dr. Brian Murphy, Assistant Professor, University of Illinois at Chicago, Chicago, Illinois, led discussions focused on life as a professor in academia. Discussion topics of interest to the students were grant writing, how to build and manage a research group, and interviewing tips to help them acquire a position at an academic university.

Dr. Amy Lane, Assistant Professor, University of North Florida, Jacksonville, Florida, shared her experiences teaching and running a research laboratory at a predominantly undergraduate university. Dr. Peter Kozel, National Center for Complementary and Alternative Medicine, National Institutes of Health, Bethesda, Maryland, shared his expertise as a Scientific Review Officer (SRO), and discussed potential careers in government and how to write successful grant applications. Dr. Jeremy Beau, Research Scientist II at Bayer CropScience, Research Triangle Park, North Carolina, offered advice to students interested in careers at larger companies, while Dr. Eduardo Esquenazi shared his unique experiences as the founder of Sirenas, a San Diego-based marine drug-lead discovery company.

Overall the meeting was a success, as evidenced by the crowd of 60 or so that chose to forego the free bus ride home in order to continue networking for the remainder of the night. Some students contributed valuable suggestions to the committee to lengthen the event in order to include longer small group discussion periods; expect this change at the 2015 ASP meeting in Colorado. We look forward to seeing you there. ■

ASP Members Recognized for Research Longevity

By Dr. Amy Keller

ASP Past Presidents Drs. Alice Clark and Charles Hufford were recently recognized in *Pharmacy Matters*, an online newsletter of the University of Mississippi's School of Pharmacy, for continuing one of the longest antifungal research projects funded by the National Institutes of Health (NIH). Their work on anti-fungal compounds of natural origin began in 1984 in response to opportunistic infections plaguing those suffering from acquired immunodeficiency syndrome (AIDS), cancer, and other diseases. Early research resulted in the identification of many compounds that targeted *Candida albicans*, a common organism causing a broad spectrum of problems.

Drs. Clark (left) and Hufford

UM COMMUNICATIONS

ASP President Dr. Phil Crews told the *Newsletter,* "Past Presidents Alice Clark (1994-1995) and Charles Hufford (1996-1997) have made many significant contributions to the ASP and to natural products research in general. Significantly, Dr. Hufford has been the principal or co-principal investigator on grants or contracts totaling more than 20 million dollars. Also, he has published over 140 scientific publications dealing with all aspects of natural products chemistry. Dr. Clark's research has focused on the discovery and development of new antifungal drug candidates. Since 1984, she has received continuous research funding from the NIH. Thus, it is well deserved and fantastic to see both of these Ole Miss scientists recognized formally in *Pharmacy Matters."*

As the work has continued, contemporary directions include targeting fungi that are resistant to pharmaceuticals and focusing on compounds that may work in combination with standard treatments. Successful compounds have shown a variety of mechanisms, including localizing drugs inside the fungi for maximum efficacy and potentiating drug bioactivity. Dr. Clark, University of Mississippi's Vice Chancellor for Research and Sponsored Programs, expresses gratitude to the NIH and Program Officer Chris Lambros, as well as the multitude of collaborators she has worked with throughout the years. Please read the original article at http://www.olemiss.edu/projects/pharmacy/enewsletters/2014/june/2.html. ■

ASP Brand Innovation Project Underway

By Dr. Barry O'Keefe

In recent years, there has been much discussion in the ASP business meetings about how best to position the ASP for the future, such as how best to increase membership, improve the Society's organization, and possibility of changing the name of the Society. The ASP has decided to get a more professional, outside opinion on such issues by engaging the Virginia Commonwealth University (VCU) Brand Center to undertake a "brand innovation project" with the ASP.

The VCU Brand Center is perhaps the top graduate program in the country in the area of corporate branding. Previous clients for brand innovation projects include Audi AG, The Coca-Cola Company, Microsoft Corporation, Home Box Office Inc., and the City of Richmond, Virginia. Their willingness to take on a small client such as the ASP was directly related to their enthusiasm for the type of science in which ASP members engage.

Specifically, the brand innovation project involves three or more teams of graduate students and faculty mentors who work on the assignment of optimizing the ASP "brand." The teams will consist of creative brand managers, communication strategists, copywriters, art directors and creative technologists (specializing in digital interfaces). These teams will then compete to provide the ASP with an optimal strategy for enhancing the ASP brand. They will work with the ASP on an initial briefing of what the leadership of the ASP sees as pertinent goals for the project and then they will explore, using focus groups, interviews with a variety of ASP members, and database analysis.

The goal will be to objectively evaluate the current status of the ASP brand, both in the scientific and lay communities. Each team will then develop specific strategies and recommendations for enhancing the ASP brand and present these to ASP leadership at their location in Richmond, Virginia. The presentations will review the factors driving the current status of the ASP brand and provide actionable recommendations for bringing the proposed brand strategies to fruition. ASP representatives will then pick a "winning" strategy from among the competing teams.

The process will begin over the coming academic year with the expectation that the results of the competition will be presented during the next ASP business meeting at the Annual Meeting in Copper Mountain, Colorado. The VCU brand center will be granted access to the ASP member directory to allow them to survey a cross-section of ASP members for their views on a variety of subjects. We do ask that members be forthcoming if contacted for their opinions to improve the results of the Brand Center's surveys. The ASP can then choose from any of the ideas suggested by any of the presenting teams and decide whether or not to put them into action.

The ASP Brand Innovation Project is an unusual and exciting opportunity to get a professional evaluation of our Society as a whole and how best to position the Society for continued growth and impact in the future. ■

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The ASP Brand Innovation Project is an unusual and exciting opportunity to get a professional evaluation of our Society as a whole and how best to position the Society for continued growth and impact in the future.

ASP Award Winners

The *Newsletter* wishes to recognize and congratulate all ASP award winners.

Norman R. Farnsworth Research Achievement Award
Dr. Rachel Mata
Universidad Nacional Autonoma de Mexico, Mexico City, Mexico

Varro Tyler Prize for Botanical Research
Dr. Raymond Cooper
The Hong Kong Polytechnic University
Hong Kong

2013 Arthur E. Schwarting Award
Dr. Yi-Qiang Cheng
University of Wisconsin, Milwaukee, Wisconsin

2013 Jack L. Beal Award
Dr. Dong-Chan Oh
Seoul National University, Seoul, Korea

Matt Suffness Young Investigator's Award
Dr. Roger Linington
University of California at Santa Cruz, Santa Cruz, California

D. John Faulkner Travel Award
Dr. Xinyu Liu
University of Pittsburgh, Pittsburgh, Pennsylvania

ASP Student Research Award
Dr. Tamam E. El-Elimat
University of North Carolina, Greensboro, North Carolina

The Kilmer Prize
Dr. Khaled H. Almabruk
Oregon State University, Corvallis, Oregon

ASP Research Starter Grants
Dr. Michael Bradaric
Chicago State University, Chicago, Illinois
Dr. Benjamin Philmus
Oregon State University, Corvallis, Oregon
Dr. Becky L. Williams
Utah State University, Vernal, Utah

ASP Undergraduate Research Grants
Mr. Edem Tchegnon
University of North Carolina at Greensboro, Greensboro, North Carolina
Mentor: Dr. Nicholas Oberlies
Mr. Matia Saeedian
University of California, San Diego, La Jolla, California
Mentor: Dr. Chambers C. Hughes

Travel Awards

Lynn Brady Student Travel Award
Ms. Kehau Hagiwara
University of Hawaii at Hilo, Hilo, Hawaii

ASP David Carew Student Travel Award
Mr. Long Xia
Virginia Polytechnic Institute and State University, Blacksburg, Virginia

ASP Waqar H. Bhatti Student Travel Award
Ms. Amber Gunderwala
University of the Sciences, Philadelphia, Pennsylvania

ASP Jerry McLaughlin Student Travel Award
Ms. Danielle Demers
University of South Florida, Tampa, Florida
Ms. Mayuramas Sang-ngern
University of Hawaii at Hilo, Hilo, Hawaii
Dr. Yang Liu
University of Illinois at Chicago, Chicago, Illinois

ASP Travel Award for Active Members
Dr. Edyta Małgorzata Grzelak
University of Illinois at Chicago, Chicago, Illinois
Dr. Ulyana Muñoz-Acuña
The Ohio State University, Columbus, Ohio
Dr. Joo-won Nam
University of Illinois at Chicago, Chicago, Illinois
Dr. Shi-Biao Wu
Lehman College, City University of New York, New York, New York

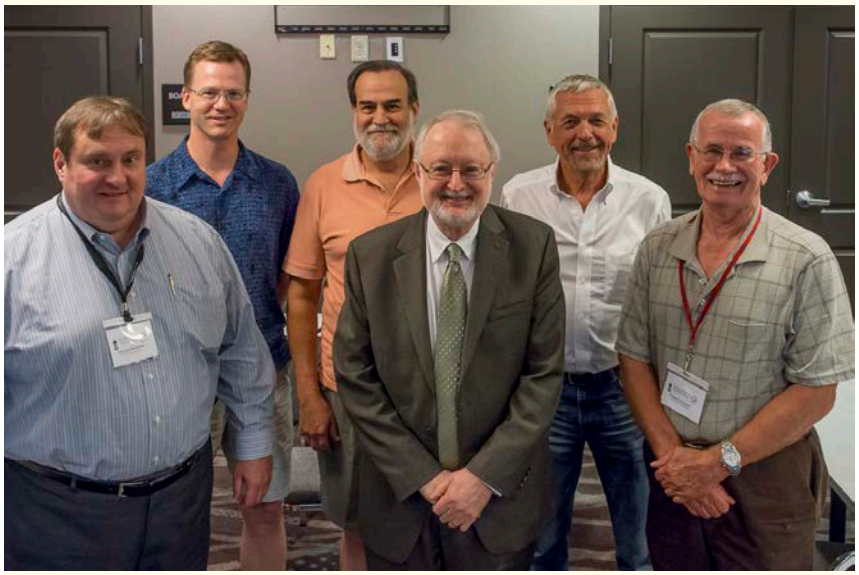
Graduate Student Travel Award
Ms. Nicole Eggers
The Ohio State University, Columbus, Ohio
Ms. Yan Sheng
Oregon State University, Corvallis, Oregon
Ms. Jacqueline Fries
University of South Florida, Tampa, Florida
Mr. Rahul M. Shah
University of the Sciences, Philadelphia, Pennsylvania
Mr. Abraham Madariaga Mazon
Universidad Nacional Autonoma de Mexico, Mexico City, Mexico
Mr. Vincent P. Sica
University of North Carolina at Greensboro, Greensboro, North Carolina
Mr. Dongdong Wang
Griffith University, Brisbane, Australia
Ms. Karina Szymulanska-Ramamurthy
University of Illinois at Chicago, Chicago, Illinois

J. Nat. Prod. Impact Factor Rises

By Dr. Edward Kennelly

The *Journal of Natural Products* (*J. Nat. Prod.*) has achieved its highest-ever impact factor score of 3.947, in the new "Journal Citation Reports Thompson Reuters" 2013 Impact Factor that was released in the summer of 2014. *J. Nat. Prod.* is co-published by the American Chemical Society and the ASP.

ASP President Phil Crews commented, "At the Annual ASP Meeting last summer, everyone celebrated the continuing rise in the *J. Nat. Prod.* impact factor which is now at 3.947. Cheers to our senior editor, Dr. A. Douglas Kinghorn (Professor and Jack L. Beal Chair, College of Pharmacy The Ohio State University) who has led the rise of the journal for the last 20 years. His insights and creativity in developing a constant stream of new strategies for articles, special issues and well cited reviews continues to be spectacular!"



Members of the *Journal of Natural Products* editorial team, front (left to right) Steven Swanson, Douglas Kinghorn, Daneel Ferreira; back (left to right) Philip Proteau, John Cardellina, and Cedric Pearce. DR. GUIDO F. PAULI

The 2013 impact factor was calculated as the total number of citations generated by *J. Nat. Prod.* articles published in 2011 and 2012, divided by the total number of citable articles published during that same two-year time period. On average, a *J. Nat. Prod.* article published from 2011-2012 generated almost four citations in the scientific literature.

The new *J. Nat. Prod.* 2013 impact factor represents a rise of about 20% from 3.278 to 3.947 when compared with 2012. The total number of citations in 2013 surpassed 20,000 for the first time (20,791 in 2013 vs. 19,898 in 2012). Dr. Kinghorn noted, "These figures are both very respectable and very encouraging for the future."

Dr. Kinghorn began editing *J. Nat. Prod.* in January 1994. The first impact factor of *J. Nat. Prod.* was in 1997 (1.432 with 3,634 cites). Under the leadership of Dr. Kinghorn, the impact factor has almost tripled from this original value.

Dr. Kinghorn told the *Newsletter,* "The editors of *J. Nat. Prod.* are very pleased with the Impact Factor and Total Number of Cites figures for 2013 in this year's evaluation by Thompson Reuters. It is very gratifying that the Impact Factor rose by about 20% to its highest ever level of 3.942 when compared with the previous year. Another encouraging statistic is that we had over 20,000 citations of the journal this year for the first time, showing that other scientists are frequently accessing our scientific content. I attribute these excellent figures in large part to the quality and specialized expertise of our Associate Editors and the high standards they expect before a manuscript is accepted for publication in the journal." ■

ASP Foundation Donors

The ASP Foundation would like to acknowledge and thanks its donors.

Dr. Cindy Angerhofer
Dr. John Beutler
Dr. John Cardellina
Dr. Guy Carter
Dr. Gordon Cragg
Dr. Richard Fitch
Dr. Beatrice Gehrmann
Dr. Douglas Kinghorn
Dr. David Kingston
Dr. Robert Krueger
Dr. Kirk Manfredi
Dr. Jim McAlpine
Dr. Bradley Moore
Dr. Nicholas Oberlies
Dr. John Porter
Dr. Richard Powell
Dr. Otto Sticher

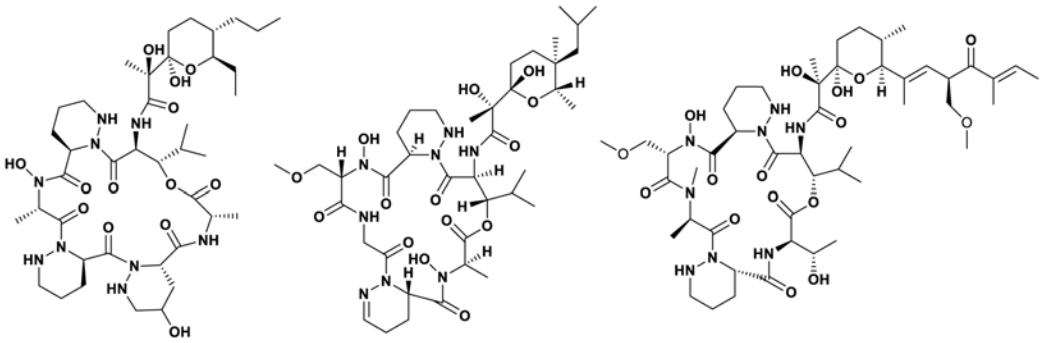
Hot Topics in Pharmacognosy: Where Does One Find Novel Antimicrobials Today?

By Dr. David Newman

As we all realize, the search for novel antimicrobials (antibacterial and antifungal agents in my lexicon) has now largely moved from "big pharma" into the realm of small pharma, non-profits and academia, exemplified by Cubist Pharmaceuticals and other companies of similar or smaller size, plus very interesting input from a number of academic consortia. In addition, the large predominately terrestrial microbial collections of yesteryears have been distributed to a number of smaller groups. For example, the Merck collection is now with a non-profit and the Lilly collection has been dispersed to a number of smaller companies. Two of the other main collections in the United States, those of Bristol Myers Squibb and Pfizer (first Lederle, then Wyeth), appear to be just stored and not utilized.

However, in the last 10 to 15 or so years, there have been some extremely interesting reports of studies related to antibacterial and antifungal agents that have been identified as a result of studying the interactions between insects, bacteria, and fungi. In addition, of course, there are increasing number of reports of antimicrobial agents coming from studies of shallow and deep sea microbes. These organisms are frequently isolated from "muds" and not necessarily from studies of commensals of invertebrates.

In the late 1990s, a series of papers from Dr. Cameron Currie's group[1, 2] identified the "apparently symbiotic relationship" between the leaf-cutter Attine ants in South America, their fungal gardens that they cultivated for food, and the production of a bacterial antifungal agent effective against a rapidly growing fungus identified as an *Escovopsis* species. This was originally thought to be a generalized example of tripartite symbiosis, and in the example that I will discuss below, it almost certainly is. However, the generalized example does not hold when extended to other published examples in this geographic area, as demonstrated by the excellent recent review by Dr. Ulrich Mueller,[3] a collaborator of Dr. Currie in some of the earliest studies. In the wider examples given by Dr. Mueller, a plethora of bacteria associated with the ant produce a number of both known and previously undescribed antifungal agents in response to the challenge by *Escovopsis* species in attacking the ants' fungal farms in other parts of the New World.



1. Dentigerumycin 2. Aurantimycin B 3. Azinothricin

However, in the following case, there is no doubt about the symbiosis. In 2009, ASP Fellow Dr. Jon Clardy working with Dr. Currie, published an extremely interesting paper[4] showing that the *Pseudonocardia* strain covering the ant body in this particular area in Panama, produced an antifungal agent directed against the attacker (*Escovopsis* sp.); however, this had little to no effect upon the basidiomycota that were the ant's food source. The compound, named as dentigerumycin (**1**) contained the unusual pyrazine amino acids that had been reported earlier in the anti-

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In the late 1990s, a series of papers from Dr. Cameron Currie's group[1, 2] identified the "apparently symbiotic relationship" between the leaf-cutter Attine ants in South America, their fungal gardens that they cultivated for food, and the production of a bacterial antifungal agent effective against a rapidly growing fungus identified as an *Escovopsis* species.

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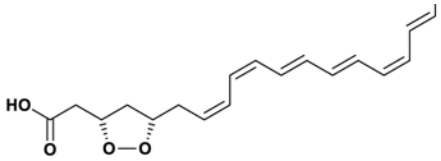
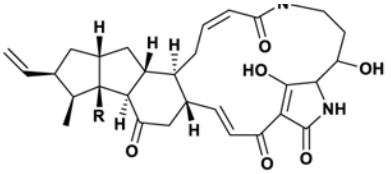
tumor aurantimycin and azinothricin molecules, but the arrangement of substituents within the depsipeptide rings differed (see structures **2, 3**).

Continuing the studies with the Currie and other related laboratories, the Clardy laboratory then turned their attention to the interplay between the southern pine beetle (SPB) and its microbes. The SPB has a mutualistic relationship with a species of the fungus *Entomocorticium*, which acts as a food source for the beetle larvae. However, there is a "hitch-hiker" in this process; a mite attaches itself to the chitin exoskeleton of the SPB and brings along another faster-growing fungus, *Ophiostoma minus*. Thus if this latter fungus is allowed to grow, the larvae lose their food source. In this case, from the rampant growth of actinomycetes observed in the system, two morphotypes were isolated and cultivated. One produced a novel antifungal agent named mycangimycin (**4**) which had the unusual peroxo substitution reminiscent of artemisinin, and it exhibited antiplasmodial activity comparable to this agent.[5] The other morphotype did not reveal any antifungal agent until a different metabolomics strategy was used. Then, a series of novel antifungal agents, the frontalamides (**5,6**), were isolated from this morphotype.[6]

These are just a few of the examples that have been published in the last few years, and for further information, the excellent reviews from the Clardy[7] and Hertweck[8] groups should be read. They demonstrate that we have not even brushed the surface of the possibilities for sourcing novel agents, particularly naturally occurring structures that demonstrate antifungal activity. Even today, physicians are still using amphotericin (aka "ampho-terrible") as a drug frequently of last resort. ■



4. Mycangimycin



5. Frontalamide A, R = OH
6. Frontalamide B, R = H

...We have not even brushed the surface of the possibilities for sourcing novel agents, particularly naturally occurring structures that demonstrate antifungal activity

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US-China Symposia Stimulate New Joint Research Initiatives

By Dr. William Gerwick, Chair, ASP Fellows

Two significant symposia were held this August; the First United States-China Summit in Marine Natural Product Sciences in the coastal city of Yantai, China, and the First China-United States Symposium for Marine Biopharmaceutical Research and Industry at Ningbo University, Ningbo, China. These were co-organized by myself and attended by several ASP members, including ASP Fellows Drs. Chris Ireland and Raymond Andersen. In general, the goals of both the Summit and ensuing Symposium were to further personal relationships between United States and Chinese scientists, thereby establishing new collaborative bi-national and bidirectional research and educational initiatives.

Over the past couple of decades, we have witnessed an explosion in the development of research science in the People's Republic of China. Gone are the days of poorly equipped laboratories in rundown buildings, modestly trained faculty, or poor educational standards. The modern scientific community in China has access to world-class sophisticated instrumentation housed in modern buildings. The faculty is equally advanced in their approaches and underlining training, often the result of years spent in doctoral or postdoctoral programs in the United States, Germany, or other Western countries. As a result, they are engaged in a renaissance of world-class research and edu-

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Main speakers and organizers of the China-United States Symposium for Marine Biopharmaceutical Research and Industry held in Ningbo University, Ningbo, China, from right to left: Dr. Shan He (Ningbo University), Yang Zhang (Shanghai Juke Biotech Park), Dr. Dale Nagle (University of Mississippi), Dr. Hendrik Luesch (University of Florida), Dr. John MacMillan (University of Texas Southwest Medical Center), Dr. Xiaojun Yan (co-organizer, Ningbo University), Dr. William Gerwick (co-organizer, Skaggs School of Pharmacy and Scripps Institute of Oceanography, UC San Diego), Dr. Lena Gerwick (Scripps Institute of Oceanography, UC San Diego), Dr. Roger Linington (UC Santa Cruz), Bing-Nan Han (Shanghai Jiao Tong University), and three unidentified Ningbo University faculty.

Over the past couple of decades, we have witnessed an explosion in the development of research science in the People's Republic of China.

As a result, they are engaged in a renaissance of world-class research and education as they mentor a new generation of Chinese scholars within the country.

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cation as they mentor a new generation of Chinese scholars within the country.

Unfortunately, we scientists in the West know relatively little of this scientific revival in China, and there can be antiquated and incorrect perceptions that Chinese science is somehow less rigorous or precise than that performed elsewhere. The reasons for this are many, but generally stem from the relatively little meaningful contact we have with each other. We may know the names on the papers, but in few cases do we know the people, their inspirations, capacities, and passions.

It was with this goal in mind, to overcome lack of knowledge of one another on both a personal and professional level, that this pair of high-level symposia were held in Yantai and Ningbo, China, in the fields of marine natural products science and marine biotechnology. A vision was created from these meetings that, while the Pacific Ocean may separate our two countries, study of that very same body of water and its unique life forms can serve as the inspiration to bring us together through collaborative research programs, personnel exchanges, and additional binational scientific meetings.

The Yantai conference was attended by 15 researchers from leading research institutions across the United States (Oregon State University, University of California, University of Florida, University of Hawaii, University of Illinois Chicago, University of Mississippi, University of Texas, University of Utah, and the University of Wisconsin), three international researchers, and more than 50 Chinese scientists in the field of marine natural products. Over 30 plenary talks were featured on diverse topics in the search for new pharmaceuticals from the sea, novel methods of detection and isolation of bioactive compounds, and meeting the supply needs of natural products through advanced chemical synthesis, biosynthesis, and fermentation approaches. The two-day Ningbo Symposium featured six United States scientists, an equal number of Chinese scientists and business leaders, and an audience of more than 100 on how to accelerate the advancement of innovative marine natural products into the marketplace.

United States scientists were invited to participate in this Chinese national government- and industry-hosted event on the basis of their accomplishments and spirit of innovation in the natural products sciences, as well as their interests in developing new international cooperation research projects. An exceptional group of young, mid-career, and senior United States scientists were brought together to meet and interact with their peers in China so as to initiate a new dynamic of international cooperation and collaboration. Travel costs for the United States scientists, most of whom reported on their National Institutes of Health supported research, were from a mixture of private donors and universities interested in promoting greater awareness between scientists in the two countries as well as engagement in science diplomacy.

The Yantai Summit was co-chaired by Mr. Wen Zhang of the Second Military Medical University of Shanghai, Shanghai, China, and the Ningbo Symposium by Professor and Dean of Marine Sciences Dr. Xiaojun Yan of Ningbo University. Chinese participants came from top-level institutions throughout China, including Institute of Oceanology Chinese Academy of Sciences in Qingdao, Nanjing University in Nanjing, Ningbo University in Ningbo, Peking University in Beijing, Qingdao Ocean University of China in Qingdao, the Shanghai Institute of Organic Chemistry at the Chinese Academy of Sciences in Shanghai, Shanghai Second Military Medical University, and the South China Sea Institute of Oceanology at the Chinese Academy of Sciences in Guangzhou.

Several new research collaborations between academic scientists in the two countries were established over the course of the week. Additionally, the interface between United States academics and Chinese biotechnology industries was strengthened through collaborative arrangements created during the joint meetings, for example, with the Shandong Jiejing Group Co, Ltd., Rizhao City, China, the largest producer of sodium alginate in the world.

Broad communication on the results of these meetings in China has helped to fuel momentum for these new initiatives, and stable funding was identified to continue both the United States-China Summit on Marine Natural Products and China-United States Symposium on Marine Biotechnology. In this regard, tentative plans are in place for a Second United States-China Summit to occur at the Scripps Institution of Oceanography, University of California, San Diego Campus, La Jolla, California in August 2016. ■

It was with this goal in mind, to overcome lack of knowledge of one another on both a personal and professional level, that this pair of high-level symposia were held in Yantai and Ningbo, China, in the fields of marine natural products science and marine biotechnology.

Behind the Scenes in Pharmacognosy: Pesticides of Natural Origins

This year, the Journal of Natural Products (J. Nat. Prod.*) published "Bioactive Dihydronaphthoquinone Derivatives from* Fusarium solani,*" work from the laboratory of ASP member Dr. Fumio Sugawara, Professor in the Department of Applied Biological Science at the Tokyo University of Science, Tokyo, Japan. Dr. Sugawara's work targets the discovery of pesticides from natural products. We are grateful to Dr. Sugawara for sharing his laboratory's project in more detail, including the group's fondness for barbeque. Please read the online article (*J. Nat. Prod.*, 2014, 77 (9), pp 1992–1996. doi: 10.1021/np500175j).*

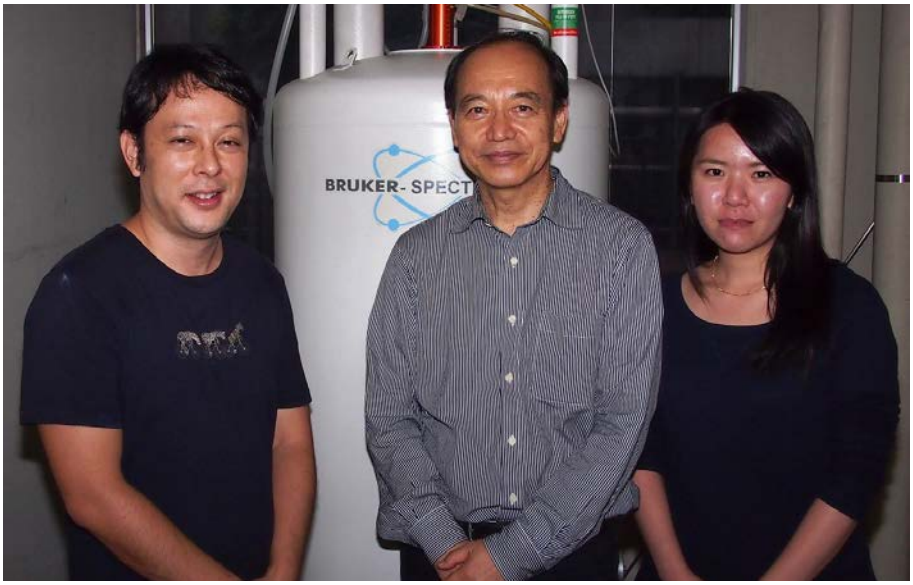
By Dr. Amy Keller

How did you become interested in bioactive fungal compounds?
My major was pesticide chemistry when I was a graduate student in the mid-1970s. My research goal is to develop "biological pesticides" using fungi and also "natural product pesticides."

Who in your laboratory carried out the research?
Assistant Professor Dr. Shinji Kamisuki directs structural determination and organic synthesis, and I direct phage display and protein identification including computer analysis.

Could you provide a brief explanation of the work and results in your own words?
In the mid-1990s, most natural products we isolated were "known compounds" as usual. We tried so many laboratory techniques to get "new compounds." The answer was simple. We sterilized tissues of collected organs to "kill common fungi" by 60% alcohol or 5% acetic acid before fungal isolations. As a result, it was possible to obtain a lot of "new compounds." For example, former graduate student Mr. Kenji Takemoto, who joined my laboratory for three years to finish his thesis, isolated 50 compounds including 13 new compounds (25%!) from 14 strains of isolated fungi.

Please explain to our members the differences in cells used for the cytotoxicity measurements. What do your results tells us about bioactivity of the compounds?
New dihydronaphthoquinone derivatives, karuquinone A, B, and C, and three known compounds were isolated.



From left to right: Dr. Shinji Kamisuki, Dr. Fumio Sugawara, and Ms. Pei Thing.

Mr. Kenji Takemoto.

These compounds were tested for cytotoxicity against common three human cancer cell lines (HeLa, HuH-7, and HCT116) and a human umbilical vein endothelial cell (HUVEC) line. Karuquinone A exhibited the strongest cytotoxic activity and induces apoptosis in cancer cells through the generation of reactive oxygen species.

What is a favorite nonscientific activity of your lab?
We love to barbeque (BBQ), as the university has a nice BBQ facility in a Japanese garden.

What is your lab's motto or slogan?
Think!

What is your greatest extravagance in the lab?
An antibody to detect natural product binding protein. ■

Meet a New ASP Member

In our autumn issue of the Newsletter, *we meet new ASP Member Dr. Rupika Delgoda, Executive Director of the Natural Products Institute at the University of West Indies, Mona, Kingston, Jamaica. Dr. Delgoda shares her enthusiasm about the recent ASP Annual Meeting, as well as for organizing TEDxJamaica. We warmly welcome Dr. Delgoda to the ASP and look forward to seeing her at future Annual Meetings.*

By Dr. Dan Kulakowski

How did you hear about the ASP?
A fellow attendee at a European natural products conference recommended the ASP, and I followed up doing web searches.

Why did you join ASP?
This summer's ASP Annual Meeting held in Oxford, Mississippi, this summer was one of the best natural product conferences I have been to. It had a wonderful blend of excellent international scientists, passionate interest groups, and impactful presentations. I have found several colleagues with whom I share overlapping research interests, and it has been truly rewarding to learn and discuss the potential for collaboration. In hindsight, I should have joined the ASP a long time ago.

Do you belong to any other scientific societies?
Yes, I am a member of the International Society for the Study of Xenobiotics (ISSX), the International Society for the Development of Natural Products (ISDNP), and I attend meetings of Microsomes and Drug Oxidation (MDO) and CYP450 conferences, whenever possible.

Dr. Rupika Delgoda

MS. DIANA CHEN

What are your current research interests in pharmacognosy?
I am passionate about several projects, one of them being the investigation of potential herb-drug interactions. Island wide surveys indicate that 80% of prescription users also co-medicate with herbs, which highlights the need for awareness of safety in Jamaica. As such, we undertake in vitro investigation of cytochrome P450 enzyme inhibition by commonly used herbal medicines, and we plan to embark on clinical evaluations of those that demonstrate potency at the in vitro level.

Another current project involves the establishment of bioactivity assays in the hope of searching for and validating novel uses of ethnomedicines and endemic resources, particularly given the region's rich biodiversity both in terrestrial and marine resources. Developing nations such as Jamaica have, as their largest bottleneck, the ability to conduct biological assays. We now have projects on cell culture based anti-proliferative assays, chemopreventive assays, and the identification of mechanisms for insecticide resistance by disease-carrying mosquitoes, to name a few.

What is your scientific background?
My first degree was in Chemistry (BS, First Class Honours), from the University of Papua New Guinea, Port Moresby, Papua New Guinea. I then completed a PhD in Pharmacology at the University of Oxford, Oxford, United Kingdom, where my research focused on structural studies of arylamine N-acetyltransferase (NAT), under the supervision of Dr. Edith Sim. My interest in drug metabolism was further cemented when I undertook a postdoctoral fellowship under the tutelage of Dr. Gordon Roberts, at the University of Leicester, Leicester, United Kingdom, where I undertook NMR-based CYP450-ligand interaction studies. I have since taken an interest in searching for natural ligand interactions with CYP450 enzymes and their biological implications.

What would you like to achieve through your membership?
I would like to nurture and develop an international network of peers in the field of natural products that allows for the exchange of ideas and provides opportunities for collaboration. In addition, I would like to be aware of current trends in natural product development throughout the world. I would also like to use it as a platform for developing an awareness and interest in pharmacognosy in the Caribbean by introducing it to colleagues, graduate students and interest groups in the region.

What do you like doing in your spare time?
I am a mother of two young children and the concept of "spare time" is alien. I enjoy spending time with them, engaged in their academic work, music, dancing, sports, and traveling. I also enjoy organizing TEDxJamaica events, photography, and meditating.

What are you currently reading?
I am currently reading *Molecular and Cellular Toxicology* by Dr. Lesley Stanley. ■

I have found several colleagues with whom I share overlapping research interests, and it has been truly rewarding to learn and discuss the potential for collaboration.

New ASP Members

Welcome to ASP!

ASP would like to welcome new members. The Society's main objectives are to provide the opportunity for association among the workers in pharmacognosy and related sciences, to provide opportunities for presentation of research achievements, and to promote the publication of meritorious research. New members include 14 domestic full members, 9 international members, and 5 associate members. We look forward to meeting you and learning more about you and your work. More about ASP membership can be found at: www.pharmacognosy.us/member-directory/membership-information/.

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Lesniewicz Memorial Speaker: Memory Elvin-Lewis

By Drs. Amy Keller and Dan Kulakowski

On August 29, the College of Pharmacy, University of Illinois at Chicago (UIC), Chicago, Illinois hosted the Alan Lesniewicz Memorial Lecture entitled, "Understanding Traditional Healing Plants of Tropical Rainforests in Northern South America," delivered by Dr. Memory Elvin-Lewis, Professor, Department of Biology at Washington University, St. Louis, Missouri.

The talk detailed her career, stretching from dental school to the rainforest with husband Dr. Walter Lewis (in attendance), and to Washington University. Also discussed were her collaborations with scientists in the United States, Peru, and Colombia, as part of the International Cooperative Biodiversity Group (ICBG) program.

Dr. Elvin-Lewis explained how her career shifted from being a trained epidemiologist in a dental program to becoming an esteemed pharmacogonocist. This was especially inspiring for the younger investigators and graduate students in the audience. It seemed as though her success was not due to her specialty and training as much as her dedication to collect good data and follow her passion. This is reflected in the revelation that the Lewis' classic textbook *Medical Botany: Plants Effecting Human Health* was written in response to the "flower children" using many outdated pharmacopoeias.

Dr. Elvin-Lewis first became a pharmacognocist after observing the use of plants used for dental health and teeth staining in Ghana. Some of these plants were taken back to the laboratory, extracted, and tested for potential antimicrobial activity. This laid the groundwork for her future findings in pharmacognosy, which, she insisted, could not have been possible without the partnership of indigenous healers and patients.

Her casual demeanor made the presentation feel like a conversation with the audience, and her sharing of small anecdotes (such as jaguars visiting the group house at night, her favorite river fish, and how to cook exotic rainforest mammals) provided those at the College of Pharmacy true insight into field work experiences. A quote that grabbed a number of people in this part of the seminar was, "You have to be a truly honorable enemy to get your head shrunk."

Dr. Elvin-Lewis delivers the Lesniewicz Memorial Lecture.

DR. DAN KULAKOWSKI

"You have to be a truly honorable enemy to get your head shrunk."

After the lecture, students and postdoctoral researchers from the Pharmacognosy department led tours through the UIC Dorothy Bradley Atkins Medicinal Plant Garden. They identified plants and discussed their traditional uses and the modern pharmaceuticals deriving from them. It was a suitable backdrop for those gathered around to listen to a few more entertaining anecdotes and scientifically enlightening stories from Dr. Elvin-Lewis and her husband. ■

Conference Calendar

The *Newsletter* is pleased to announce the following upcoming conferences and meetings. The events portrayed here reflect what listings and notices the *Newsletter* has specifically received. For a more extensive calendar, please visit the ASP website at www.phcog.org. If you have a conference or event you would like mentioned, please send us relevant information, including any graphics or appropriate fliers, at asp.newsletter@lehman.cuny.edu.

2014 David J. Slatkin Symposium: Dr. Barbara Timmermann

November 14-15, 2014

Chicago State University

Chicago, Illinois

www.pharmacognosy.us/calendar-of-events/2014-david-j-slatkin-symposium/

56th ASP Annual Meeting

July 25-29, 2015

Copper Mountain Resort & Conference Center

Copper Mountain, Colorado

asp2015.org/

Phytochemical Society of Europe

April 27-30, 2015

Murcia, Spain

www.phytochemicalsociety.org/

Gordon Research Conference: Natural Products

July 26-31, 2015

Proctor Academy
Andover, New Hampshire

www.grc.org/programs.aspx?id=11732

Joint meeting of the Society for Economic Botany (SEB) and the Indigenous Plant Use Forum (IPUF)

June 28-July 2, 2015

Clanwilliam, Western Cape, South Africa

www.econbot.org/

63rd International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA)

August 23-27, 2015

Budapest Congress Center

Budapest, Hungary

ga2015.hu/

In Memoriam: Nigel Veitch

By Dr. Amy Keller

ASP member Dr. Nigel Veitch, Senior Phytochemist at the Jodrell Laboratory, Royal Botanic Gardens, Kew, Richmond, United Kingdom, passed away unexpectedly this September at the age of 49.

Noted for his extensive work on plant flavonoids, Dr. Veitch was recognized with the 2003 ASP Jack L. Beal Award for "Six New Isoflavones and a 5-Deoxyflavonol Glycoside from the Leaves of *Ateleia herbert-smithii*," along with co-authors Polly S.E. Sutton, Geoffrey C. Kite, and Helen E. Ireland, in the *Journal of Natural Products* (66(2), 210-216. doi:10.1021/np020425u). Dr. Veitch, born in Madrid, Spain, received a BA (Honors) in 1988, and a MA and PhD in 1992, all at the University of Oxford, Oxford, United Kingdom.

Dr. Nigel Veitch

ROYAL BOTANIC GARDEN KEW

Dr. Veitch was a European Molecular Biology Organization (EMBO) Visiting Research Fellow at the University of Copenhagen, Copenhagen, Denmark, in 1989, a Harmsworth Senior Scholar at Merton College, Oxford, United Kingdom from 1989–1991, and a Visiting Lecturer at the School of Biological Sciences, University of Sussex, Brighton, United Kingdom, from 1997–1999. Dr. Veitch also served on the editorial boards for *Biochemical Systematics and Ecology, Phytochemistry Letters,* and *Biochemical Journal.*

Dr. A. Douglas Kinghorn, Professor and Jack L. Beal Chair, College of Pharmacy, The Ohio State University, Columbus, Ohio, and Editor of the *Journal of Natural Products*, told the *Newsletter*, "Nigel Veitch was an excellent all-round natural products researcher who published a large number of collaborative research articles and also wrote regular reviews on the chemotaxonomy of the isoflavonoids and other flavonoids from plants. His published work was always meticulously prepared, and in 2003 he was one of the earliest recipients of the Jack L. Beal Award for best paper published in the *Journal of Natural Products* by a younger corresponding author. His passing at such a relatively young age is a very great loss to the field of phytochemistry in general, and especially to his colleagues in the United Kingdom"

At the Royal Botanic Gardens, Dr. Veitch had expertise in nuclear magnetic spectroscopy (NMR), which he employed toward the elucidation of compound structure and bioactivity via enzymatic binding in plants and fungi. Dr. Veitch was particularly interested in the Fabaceae, and focused on the phytochemistry of this family with emphasis on flavonoids and compound profiling. He continually updated two reviews in N*atural Product Reports* at the request of the Royal Society of Chemistry. The most recent publishing of the first, entitled "Isoflavonoids of the Leguminosae" appeared in 2013 (*Nat. Prod. Rep,* 24, 417-464), and the second, entitled, "Flavonoids and their glycosides, including anthocyanins," was updated in 2011 (co-authored with Dr. Renée J. Grayer, *Nat. Prod. Rep,* 25, 555-611). In addition to science, Dr. Veitch was musically inclined, participating in chorale concerts and playing the piano at home. ■

"Nigel Veitch was an excellent all-round natural products researcher who published a large number of collaborative research articles and also wrote regular reviews on the chemotaxonomy of the isoflavonoids and other flavonoids from plants."

Brief News From Washington

By Dr. Georgia Perdue

- An NIH funded study has shown that **dihydroartemisinin-piperaquine is very effective as a year-round malaria preventive treatment in young children aged 6 to 24 months because it reduces the risk of getting malaria.** "Year-round preventive measures are badly needed" in places like Uganda, where the study was carried out, and where malaria rates are very high year-round." The study was conducted by Dr. Grant Dorsey and his colleagues at the University of California, San Francisco, California, and researchers with the Infectious Diseases Research Collaboration at the Makerere University College of Health Sciences in Kampala, Uganda.
- In late August, the drug company Sanofi announced it was ready to distribute large quantities of its **semisynthetic artemisinin malarial combination drug** to six countries in Africa. Sanofi and its partner, global health non-profit PATH, began producing the compound in 2013. According to Sanofi, "… the goal is [to] complement agricultural Artemisia production…." because the plant is slow-growing. The company hopes this effort will provide greater availability of the drug. (Some of this information was provided by *Drug Industry Daily* via *FDA News*).
- **The National Institute of Allergy and Infectious Diseases (NIAID) has launched several Phase 1 clinical trials with an NIAID/GlaxoSmithKline (GSK); one of them (VRC 207) tests an experimental Ebola vaccine developed by the Public Health Agency of Canada, licensed to NewLink Genetics Corporation, to prevent Ebola virus disease.** "The first injections were given September 2 at the NIH clinical center," said NIAID Director, Dr. Anthony Fauci, at his September 14 Advisory Council meeting. "Ebola virus started in a child who came to the Liberia/Sierra Leone border. It exploded [from there]." Sobering statistics noted by Dr. Fauci: there are "5,000 cases of Ebola, which could explode to 20,000 by the end of September; 2,800 deaths [which could reach] 10,000, a marked underestimation ….[s]omething very dramatic needs to be done. It is a 'Perfect Storm' in these countries." According to a statement issued by NIAID, the vaccine was designed by NIAID's Dr. Nancy Sullivan, Chief, Biodefense Research Section. She collaborated with researchers at the United States Army Medical Research Institute of Infectious Diseases and Okairos, a Swiss-Italian biotechnology company acquired by GSK in 2013. Additional trials are expected to be carried out in the United Kingdom, Gambia, and Mali. Dr. Fauci said NIAID started work on Ebola vaccine back in 2003. "…the burden is laid heavily on Dr. Fauci," National Cancer Institute (NCI) Director, Dr. Harold Varmus, told the National Cancer Advisory Board in September.
- **Natural clays from a volcanic deposit near Crater Lake, Oregon, have been found to be effective in killing antibiotic resistant bacteria** say National Science Foundation (NSF)- funded researchers at Arizona State University, Phoenix, Arizona. NSF quoted lead researcher Dr. Lynda Williams, a bio-geochemist, and colleague Dr. Keith Morrison, as saying they hit "pay dirt" [in… Oregon]. "The most effective antibacterial clays are those from the Oregon deposit…. **Samples from an area mined by Oregon Mineral Technologies proved active against a broad spectrum of [antibiotic resistant bacteria]… Methicillin resistant *Staphylococcus aureus* (MRSA) and …Expanded spec-**

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trum beta-lactamase (ESBL)- producing organisms." "…antibacterial clays…buffer pH [which is key]… to their… being alternatives to conventional antibiotics." Dr. Williams added, "[c]lay minerals have been sought for medicinal purposes for millennia." "[G]reen clays … historically … used in France in mineral baths … have … antibacterial properties… used to treat Mycobacterium ulcerans," which causes Buruli ulcers, very common in Africa.

- **NIH and NSF are collaborating in NSF's Innovation Corps (I-Corps) program to accelerate biomedical research innovations into the marketplace.** This program is intended to train NIH-funded researchers to "evaluate their scientific discoveries for commercial potential…." NIH institutes participating are NCI, National Center for Advancing Translational Sciences (NCATS), National Heart, Lung, and Blood Institute (NHLBI) and National Institute of Neurological Disorders and Stroke (NINDS).
- In late July, GSK **applied for approval of the "world's first vaccine, RTS, S against malaria for children in Africa.** The company conducted Phase III trials at 13 African research centers in Gabon, Ghana, Kenya, Malawi, Mozambique, Nigeria, and Tanzania. The vaccine has been developed by GSK and the nonprofit PATH Malaria Vaccine Institute (MVI) with funding from the Bill and Melinda Gates Foundation provided to MVI.
- NIAID announced in June that its scientists have modified a **10-year old experimental malaria vaccine** which has parts of two key complex malaria parasite proteins, AMA1 and RON2. The vaccine **protected mice from a lethal form of malaria**; "…a similar approach could be used in the next-generation human vaccines. In nature, malaria parasites use [this] complex to invade red blood cells."
- **Funding Alert: NIAID will provide funding for the development of novel therapeutics for select pathogens. R21/R33 "phased innovation awards"** start out as a two year R21 award for milestone-driven proof of concept studies with potential for three additional years of support to further develop the project under an R33 award. **Application due date: October 20; earliest start date, July 2015.**
- Recently **NIAID, the Food and Drug Administration (FDA) and members of big Pharma held a workshop, *"Developing New Antibacterial Products; Charting a Course for the Future."*** According to Dr. Fauci, big Pharma is "heavily involved" in the development of new antibacterial products.
- **In mid-August, NIAID** issued a statement that an experimental chikungunya vaccine had yielded positive results. NIAID Director, Dr. Fauci, stated "… it may be just a matter of time before this illness gains a foothold …[in the United States because] the two species of mosquito that spread the …virus are found in parts of the… United States [already]." In September, Dr. Fauci said there are 600,000 cases in the Caribbean. "We are hoping it will calm down in the winter."
- In June, Pennsylvania State University, State College, Pennsylvania, announced its researchers have found that **leelamine, isolated from pine bark, showed activity against melanoma** by targeting protein pathways. Stay tuned.
- In early June, NIH director Dr. Collins, told his Advisory Committee that NIH was in a "time of relative budget peace….The budget is $700 million lower than 2012." Dr. Collins noted that **interest in biomedical research in both houses of Congress "has never been stronger." Just before the August recess, the Senate appropriated $200 million for NIH!**
- At the June joint meeting of the National Cancer Advisory Board (NCAB) Board of Scientific Advisors (BSA), NCI Director, Dr. Varmus said NCI expects to award the same number of Research Project Grants (RPGs) as in 2013. NCI's Dr. Douglas Lowy, Deputy Director for the Center for Cancer Research, told the Boards that **mortality from liver cancer is going up 20% faster than other cancers to which obesity and fibrosis are contributing factors.** Globally, it is the number two cancer killer. He also noted that NCI has a proposal for the Common Fund, (which emanates from the NIH Director's office), focusing on pulmonary fibrosis and liver cancer. During a discussion about NCI and the Common Fund, it was noted that **molecular libraries are now available to investigators. The small molecule repository includes 1,956 natural products.**
- At the September NCAB meeting, Dr. Douglas Lowy discussed the **20-year old NIH Technology Transfer program currently under review to decentralize it.** NCI accounts for 40% of technology transfers; 20% are from its intramural program. This new program will now go to the institutes; 11 of them want to join NCI's program. "This should make it easier for the pharmaceutical and biotechnology industries [to deal] with only two offices, NCI and the NIH." **Dr. Harold Varmus noted that NCI will receive three quarters of all royalties!**
- In July, PCAST co-chair Dr. Eric Lander presented a snapshot of some key points and solutions to be included in the forthcoming report on antibiotic resistance, expected to be released this fall. A select few include:
  - a task force be formed with its office in the White House to give the "plan standing" and ensure it stays on top of its progress and helps keep the spotlight on its progress
  - strengthen state and local public health surveillance; may require additional federal funding
  - provide high end technology surveillance to determine the origins of the bacteria;
  - apply the genomic revolution to figure out why the bacteria are tolerant to antibiotics and not just resistant
  - create a new infrastructure for clinical trials
  - look into the FDA approval process to find a way to hasten antibiotic approval for focused microbes for patients with antibiotic resistance
  - provide co-funding for projects dealing with serious antibiotic resistance because it is so expensive to develop antibiotics
  - international cooperation is imperative, e.g., World Health Organization (WHO). ■

From the Archives:
50th Anniversary of Mississippi Freedom Summer: 1964-2014

By Ms. Devhra BennettJones

As the Society's members traveled to this summer's Annual Meeting, hosted by the University of Mississippi (UM) in Oxford, Mississippi, the conference coincided with the 50th Anniversary of Mississippi Freedom Summer. While 1964 was significant in the communication strategies of the American Society of Pharmacognosy with the advent of its *Newsletter*, that year there were vital national and international developments which imminently influenced the scope of history, leaving remaining legacies.

In 1964, hundreds of volunteers convened in Mississippi to end the denial by the state to allow African Americans the opportunity to vote, hold elected offices, and receive an education. On June 29, 1964, the Civil Rights Act passed 73-27 in the United States Senate. President Lyndon B. Johnson (1908-1973) signed it on July 2, making it the law of the land. In response to the significant efforts of the Freedom Summer volunteers and legislation, many of the legal and social barriers were removed, paving the way today for over 1,000 elected Mississippi officials of African heritage. In the *ASP Newsletters* of 1964, there is no mention of the society or its members taking a stand on the Civil Rights Act or Freedom Summer.

Long-term ASP member and past president Dr. Alice Clark, Vice Chancellor for Research and Sponsored Programs at UM, began her career in Oxford in the mid-1970s. Dr. Clark graciously agreed to answer questions about how Mississippi has changed over time. She is exceptionally qualified to expound on perceptions of social and cultural transformation.

Please describe the process you went through in deciding to move to this area to study and work. What was your community like growing up?

I grew up in Pensacola, Florida, which is the home of a navy base. I attended public school and from my earliest memories remember being exposed to a wide variety of people – people from all different parts of the country and the world. I first came to the UM to pursue my doctorate in pharmacognosy. I completed a post-doctorate at the University of Texas at Austin, Austin, Texas, before returning to UM to become a Research Associate in the Department of Pharmacognosy, and I joined the faculty soon after. Later I moved into administration, first as the director of the National Center for Natural Products Research and now as Vice Chancellor for Research and Sponsored Programs. I always loved the inherent interdisciplinary science of Pharmacognosy, and it is a privilege to serve the university in my role as Vice Chancellor.

What differences have you seen between the campus and outside of the campus, in the city of Oxford?

As for changes on our campus and in the area since I first arrived here, the UM is much larger and more diverse than it was in the 1970s. In the 1970s, it was a small campus; in 2012-2013, there were over eighteen thousand here on the Oxford campus alone! The infrastructure has grown as well. The City of Oxford has expanded from a very quiet small town to what is today a thriving community with access to many amenities one would typically find in a much larger city, such

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The records of the Annual Meetings and the archived *Newsletters* themselves serve the ASP members as a snapshot of their Society's history.

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as a large arts community, award-winning restaurants, public transportation, and much more. It has grown and developed while retaining many traditional charms.

What have been some of the positive surprises you have faced in your career at UM?

I continue to be surprised by the excellence of the people here and the positivity of faculty and staff members in general. UM was once again this year included in a list of the Chronicle of Higher Education's "Great Colleges to Work For." I believe this is rooted in the kindness and generosity that is so often felt between people here. That spirit of warmth is felt even among those who may not know one another. We have a saying: "Welcome to Ole Miss, Where Everybody Speaks."

What have been some of the challenges you have faced in your career at Ole Miss?

Regarding challenges, I believe most challenges we face are opportunities for growth, and because of that potential for growth, those big challenges can be extremely rewarding. I would speculate that anyone who has worked at a university for a long time has seen many challenges as a natural consequence of the way American universities have changed and grown over the last few decades. A practice I started early in my career was to keep a folder of "big ideas" whenever I encountered a challenge with potential for positive change. Even when a task is extremely overwhelming – and even before you recognize just how hard it could be to pull off – the process of visualizing a big idea can be empowering.

In 2008, UM hosted the first presidential campaign debate with President Barack Obama and Senator John McCain. What was it like to be on campus at that time?

It was an honor – a very exciting and invigorating event for our campus and for the larger community as well. There was a feeling of pride in being the setting for a critical national event and a historical one at that.

While the Jim Crow laws ended in the mid-1960s, what remnants of this social phenomenon did you observe when you arrived for your studies in the mid-1970s?

What improvements have you seen up to the present? Was Mr. James Meredith ever a topic of conversation then, or now?

Mississippi, like many other places, struggles with remnants of the Jim Crow era, and this can be seen in persisting disparities in health and poverty. Our role as an academic institution is to contribute to research and scholarship on these disparities and how remnants of this history are still affecting our society today. Hopefully, this research informs policy where relevant and needed. Additionally, the University of Mississippi is extremely fortunate to be home to the William Winter Institute for Racial Reconciliation, an organization that works in communities and classroom to support racial equity, understanding and more. We also are home to the McLean Institute for Community Service and Public Engagement, an institute that is leading remarkable service throughout the state and region. James Meredith continues to be a very important topic of conversation at the University of Mississippi. Understanding our past is essential to building an inclusive environment for today and for the future.

UM continues their tradition of supporting and empowering students and faculty. In 2006, four African Americans earned Ph.D.'s in mathematics, and in 2012, the student body elected Kimbrely Dandridge as their president, making her the first African American female to hold the position.

The Freedom Summer in Mississippi was a transitional experience for the state and our nation. ■

Mississippi, like many other places, struggles with remnants of the Jim Crow era, and this can be seen in persisting disparities in health and poverty. Our role as an academic institution is to contribute to research and scholarship on these disparities and how remnants of this history are still affecting our society today.

James McAlpine, Treasurer
The American Society of Pharmacognosy
3149 Dundee Road, #260,
Northbrook, Illinois 60062

ASP Membership

Full Membership

Full membership is open to any scientist interested in the study of natural products.
Current membership dues and Journal of Natural Products subscription rates can be found at **www.pharmacognosy.us**.

Associate Membership

Associate membership is open to students of pharmacognosy and allied fields only. These members are not accorded voting privileges.
Current membership dues and Journal of Natural Products subscription rates can be found at **www.pharmacognosy.us**.

Emeritus Membership

Emeritus membership is open to retired members of the Society who maintained membership in the Society for at least five years.
Current membership dues and Journal of Natural Products subscription rates can be found at **www.pharmacognosy.us**.

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Honorary members are selected by the Executive Committee of the American Society of Pharmacognosy on the basis of meritorious service to pharmacognosy.

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Additional information about membership may be obtained by writing to the Treasurer of the Society:
James McAlpine, Treasurer, The American Society of Pharmacognosy,
730 Benson Lane, Green Oaks IL 60048. Email: treasurer@pharmacognosy.us