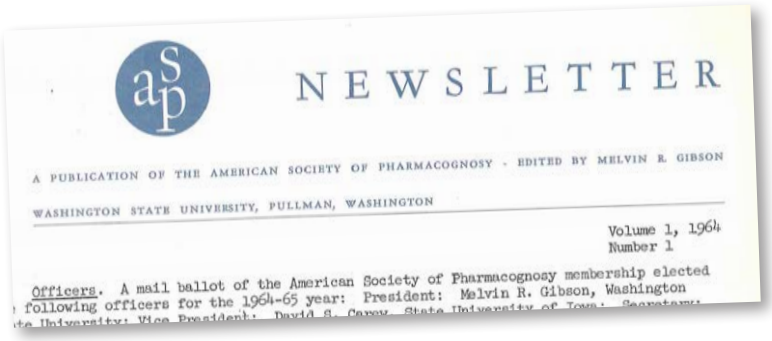
Celebrating
The American Society of Pharmacognosy
The ASP Newsletter
Volume 50, Issue 1
50th Anniversary ASP Newsletter

ASP Commemorates 50 Years in Print

By Ms. Devhra BennettJones

This year marks the 50th year of continuous publication of the *ASP Newsletter.* The path to this significant achievement was paved by tenacious editors, reliable writers, and the support of the ASP members.

The *Newsletter* began as a 'News and Events' section in the March 1963 issue of *Lloydia*. In 1964, ASP Vice President Melvin Gibson launched the first *Newsletter* replacing the 'News and Events' section of the journal. Dr. Gibson served as the editor until 1969, when Dr. Ralph Blomster assumed the role.


asp NEWSLETTER

A PUBLICATION OF THE AMERICAN SOCIETY OF PHARMACOGNOSY · EDITED BY MELVIN R. GIBSON

WASHINGTON STATE UNIVERSITY, PULLMAN, WASHINGTON

Volume 1, 1964
Number 1

Officers. A mail ballot of the American Society of Pharmacognosy membership elected following officers for the 1964-65 year: President: Melvin R. Gibson, Washington

Masthead of the Inaugural ASP *Newsletter* from 1964.

The first *ASP Newsletter* was organized by sections dedicated to the new officers, the ASP Annual Meeting, grant awards, updates about individual ASP members, information regarding pertinent publications, new ASP members, professional job openings, academic offerings, abstracts information, international events, and an Editor's note. The newly elected 1964-65 officers were Dr. Melvin R. Gibson, President; Dr. David P. Carew, Vice President; Dr. Rolf S. Westby, Secretary; Frank A. Crane, Treasurer; and Harold E. Bailey, Executive Committee. 1964 marked the tradition of including the Editor of *Lloydia* in the Executive Committee.

The *ASP Newsletter* has continuously functioned as a messenger about the status and developments regarding the ASP Annual Meeting. In 1964, it was held at the University of Pittsburgh, Pittsburgh, Pennsylvania, with the late Dr. Norman Farn-

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IN THIS ISSUE: SPRING 2014

EDITOR'S CORNER

This year, 2014, marks the 50th Anniversary of the ASP *Newsletter*. The Society itself had a wonderful Golden Anniversary celebration in 2009, but the *Newsletter* did not begin with the Society's founding, but started 5 years later. All of us at the *Newsletter* are pleased to commemorate the 50th Anniversary for the entirety of 2014 through a series of special articles. As the *Newsletter* continues to evolve in the digital age, it is fascinating to look back at old issues, which have all been scanned by the Lloyd Library & Museum. These are available online at www.lloydlibrary.org/archives/inventories/asp*newsletter*s.html.

In this issue of the *Newsletter*, our lead article looks back at the very first *Newsletter* (Volume 1, Number 1), published in 1964. Ms. Devhra BennettJones, an Archivist at the Lloyd Library and a regular contributor to the *Newsletter*'s "From the Archives" series, gives us a wonderful introduction to the history of the ASP *Newsletter* and recounts the highlights of the first issue, edited by Dr. Melvin Gibson.

In the ASP Fellow's series, Dr. David Kingston also reflects on the ASP and the *Newsletter* and relates some of the things he values about both. As Editor, I was heartened to read Dr. Kingston's appreciation for the extensive obituaries we run on ASP members. I consider honoring the memory and scientific careers of deceased members as one of the most important aspects of our mission at the *Newsletter*.

With all the focus on the *Newsletter*'s history, I would be remiss if I did not highlight another critical role for the *Newsletter*: disseminating information about the Annual Meeting to ASP members. I hope everyone will look at our article by Dr. Ikhlas Khan about the 55th Annual Meeting in Oxford, Mississippi, the first week of August. It promises to be a scientifically rich gathering with great southern hospitality. Please see www.asp2014.org for more information.

ASP Assistant Editor, Dr. Amy Keller, interviewed Dr. Barbara Gerratana at the NIH-NIGMS about her vision for natural products research at the institute. Dr. Gerratana has an extensive scientific background in natural products synthesis and enzymology, and her portfolio at NIGMS includes grants involving natural products. Furthermore, ASP member and NIH-NCCAM Program Officer Dr. Craig Hopp discusses several new NIH-NCCAM natural product initiatives that have hit the streets recently. His work has also been important in shaping NCCAM's perspective on pharmacognosy research.

Other regular columns include "Behind the Scenes" where we learn about the bioavailability of compounds from the plant used in Brazilian cachaça. We also meet new ASP member Dr. Shi-Biao Wu, well known to me since he works in my laboratory, but new to the Society.

As I write this Editor's Corner, New York is starting March with another winter storm. While this *Newsletter* is designated our "Spring" issue, it may be some time in coming to the northeast part of the United States. In the meantime, keep well wherever you are, and thoughts of warm summer nights in Oxford, Mississippi, may be especially appealing to some of us right now.

Dr. Edward J. Kennelly

EMPLOYMENT SERVICE

The Society offers a placement service to aid our members in seeking positions or employees. This service is available only to ASP members and is free to both the applicant and the employer.

For more information see the services website.

www.pharmacognosy.us/?page_id=163

NEWSLETTER STAFF

Edward J. Kennelly, Ph.D.
Editor-In-Chief

Amy C. Keller
Assistant Editor

Nancy Novick
Design & Production

The contribution deadlines are:

Spring Issue Feb. 15
Summer Issue May 18
Fall Issue Aug. 18
Winter Issue Nov. 17

Please send information to:

Edward J. Kennelly, Ph.D.
Editor In Chief, *ASP Newsletter*
Department of
Biological Sciences
Lehman College, CUNY
250 Bedford Park Blvd. West
Bronx, NY 10468
718-960-1105

asp.newsletter@lehman.cuny.edu

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sworth serving as the Chairman of the Scientific Program Committee. The speakers presented papers on alkaloids of *Vinca* spp., *Catharanthus* spp., *Schizozygia caffaeoides,* and *Voacanga* spp., among others. The ASP Executive Committee announced that the 1965 Annual Meeting would be held at the University of Rhode Island, Kingston, Rhode Island.

The *Newsletter* has also been a source of information about grantees and grantors throughout its 50-year history of publication. As it is crucial today, grant funding played a significant role in the research activities of ASP members in 1964. The *Newsletter* highlighted the recipients, fund amounts, and topical focus of the year's grantees. ASP members Drs. Robert Benedict, Lynn Brady, Paul Larsen, Leo Sciuchetti, John Staba, and Varro Tyler received grants totaling $353,452. They studied higher fungi, cardiac glycosides, lysergic-acid-type alkaloids, and the medicinal activity of plants in the United States Northwest. Their grant awards were equivalent to a value of $2,665,749 in 2014 United States currency.

Over the years, the personal news section has provided congratulations and details of ASP members' career achievements. In 1964, Dr. James Robbers was appointed Assistant Professor of Pharmacognosy at the University of Houston, Houston, Texas. Dr. E.H. Duao moved from the University of Texas to Associate Professor of Pharmacognosy at Loyola University, Chicago, Illinois. Dr. Gordon Svoboda received an exemplary citation from the University of Wisconsin, Madison, Wisconsin, for his phytochemistry research, and he was appointed to the American Pharmaceutical Association's Committee on Research Achievement Awards. Dr. Edward Mika of the University of Illinois, Chicago, Illinois, was promoted to Associate Professor of Pharmacognosy. Balkrishena Kaul and Jammu-Tawi performed as Research Technologists at the University of Nebraska, Lincoln, Nebraska, in 1964. Dr. Herbert Jonas worked with Roger Romani at the University of Southern California-Davis, Los Angeles, California, on the irradiation effects upon tomatoes. Dr. Jonas spent the Spring and Summer of 1964 teaching pharmacognosy at the Free University of Berlin, Berlin, Germany.

The inaugural issue of the *Newsletter* provided networking prospects among the ASP membership, including information about new job opportunities. In 1964, Leonard Carr, Assistant to the President of Super-A Fertilizer Works, Inc., of Mayaguez, Puerto Rico joined the ASP. He offered members a gateway to work with interested parties on growing tropical plants of economic value in Puerto Rico. In 1964, Assiut University, Assiut, Egypt, provided a lectureship in pharmacognosy through Fulbright sponsorship. The job description reflected global employment biases in the 1960s, "The responsibilities would involve teaching the chemistry of vegetable drugs two hours a week and the biogenesis of medical plant constituents one hour a week, as well as supervision of research in pharmacognosy. They want a male over forty years of age."

THE NEW *ASP NEWSLETTER* SERVED THE MEMBERS THROUGH INFORMING THEM ABOUT RECENT PUBLICATIONS. IN 1964 THE FOLLOWING BOOKS WERE RELEASED:

Progress in Chemical Toxicology, Volume 1, edited by Dr. Abraham Stolman. The text contained chapters by ASP members, Drs. Arthur Schwarting and Varro Tyler

Carbon—14, a Comprehensive Annual Bibliography of Applications in Chemistry, Biology and Medicine, Volume 1

Enzyme and Metabolic Inhibitors, Volume I, General Principles of Inhibition by Dr. J. Leyden Webb

Fatty Acid Metabolism in Microorganisms by Klaus Hofmann

Plant Physiology, Volume 3, Inorganic Nutrition of Plants edited by F.C. Steward

Selected Botanical Papers edited by Irving William Knoblock

Families of Flowering Plants of Southern Africa by Herbert Parkes Riley

Aquatic Plants of the Pacific Northwest by Albert Steward, LaRea Dennis, and Hell Gilkey
Symptoms of Virus Diseases in Plants by L. Bos

Tissue Cultures in Biological Research by G. Penso and D. Balducci

Les Maladies des Plantes Maraicheres by C.M. Messiaen and R. Lafon

Recent Plant Breeding Research: Svalog, 1946-61 by E. Akerberg and A. Hagberg

The Chemistry of Natural Products, Volume 2

Chromatographic, Volume 1 edited by Rodolfo Paoletti and David Kritchevsky

Analytical Methods for Pesticides, Plant Growth Regulators, and Food Additives edited by Gunter Zweig; *Lehrbuch der Allgemeinen Pharmakognosie* by Ernst Stenegger and Rudolf Hansel

Handbook of Poisoning by Robert H. Deisbach

Biogenesis of Natural Compounds edited by Peter Bernfeld

Antibiotic-Producing Microscopic Fungi by V.I. Bilai

The books and collections of essays released in 1964 offered the ASP members a broad scope of scholarship to choose from. The members were also informed about a new scholarly journal. Benjamin Stone of The College of Guam heralded the publication of Micronesica*, which focused on ecology and plant taxonomy.*

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As it continues to do so today, in 1964 the *Newsletter* functioned as a method to publicize academic educational opportunities. In the United States, "Dr. Seldon Feurt has announced that the Department of Pharmacognosy, University of Tennessee, under the chairmanship of Dr. Elmore H. Taylor, has been approved to offer the graduate program leading to the Ph.D. degree." In Lebanon, "Dr. Charles I. Abou-Chaar, American University of Beirut, has reported on the course in plant chemistry required of senior students at his university. In addition to the pharmacognosy course and a general botany course, the students also take an introductory course in plant taxonomy. The course in plant chemistry complements the course in pharmacognosy and allows for a more 'in depth' study of the chemistry of plants."

The new *Newsletter* featured sections concerning abstracts and recent publications. While the art of abstracting has waned with the development of the Internet and search engines, it played a significant role for scholarship in 1964.

> "Biological Abstracts' new Systematic Index has been further revised for 1964 to allow much greater specificity and depth in searching. Originally introduced in April 1963 as an added indexing aid for taxonomists, the machine-generated tool leads the botanist, zoologist, microbiologist, and biomedical researcher to papers listed according to the systematic classification of the organism under investigation. Specific taxonomic information categorized under the phylum, class, or order is readily found using the new index. In addition, the life scientist can, if necessary, further supplement his search by checking needed family, genus, or species names in the Subject Index. BA staff editors are adding many taxonomic key words to the Subject Index to provide even greater depth. Thus, through use of one or both indexes, the biologist can rapidly find needed references to papers in his field."

In addition to this announcement, the *Newsletter* published a call from George Hocking on behalf of the *Excerpta Botanica* outlining their abstracting needs for *Excerpta Botanica, Section A – Taxonomica et Chorologica*.

The year 1964 saw the inaugural meeting of the first World Congress of Jewish Pharmacists. They met August 23-30 in Jerusalem, Behovoth, and Tel Aviv, Israel. "The aims of the Congress are to present scientific achievements in the pharmaceutical sciences and will include reviews, symposia, and research contributions; to form the foundation of the World Union of Jewish Pharmacists with the aim of promotion the cause of international pharmacy; to review the pharmaceutical developments in Israel and their place in the improvement of public health." That year, representatives from the organization attended the cornerstone ceremony of the new Pharmacy School at Hebrew University, Jerusalem, Israel.

The first *Newsletter* closed with an "Editor's Note" from Dr. Gibson. He wrote:

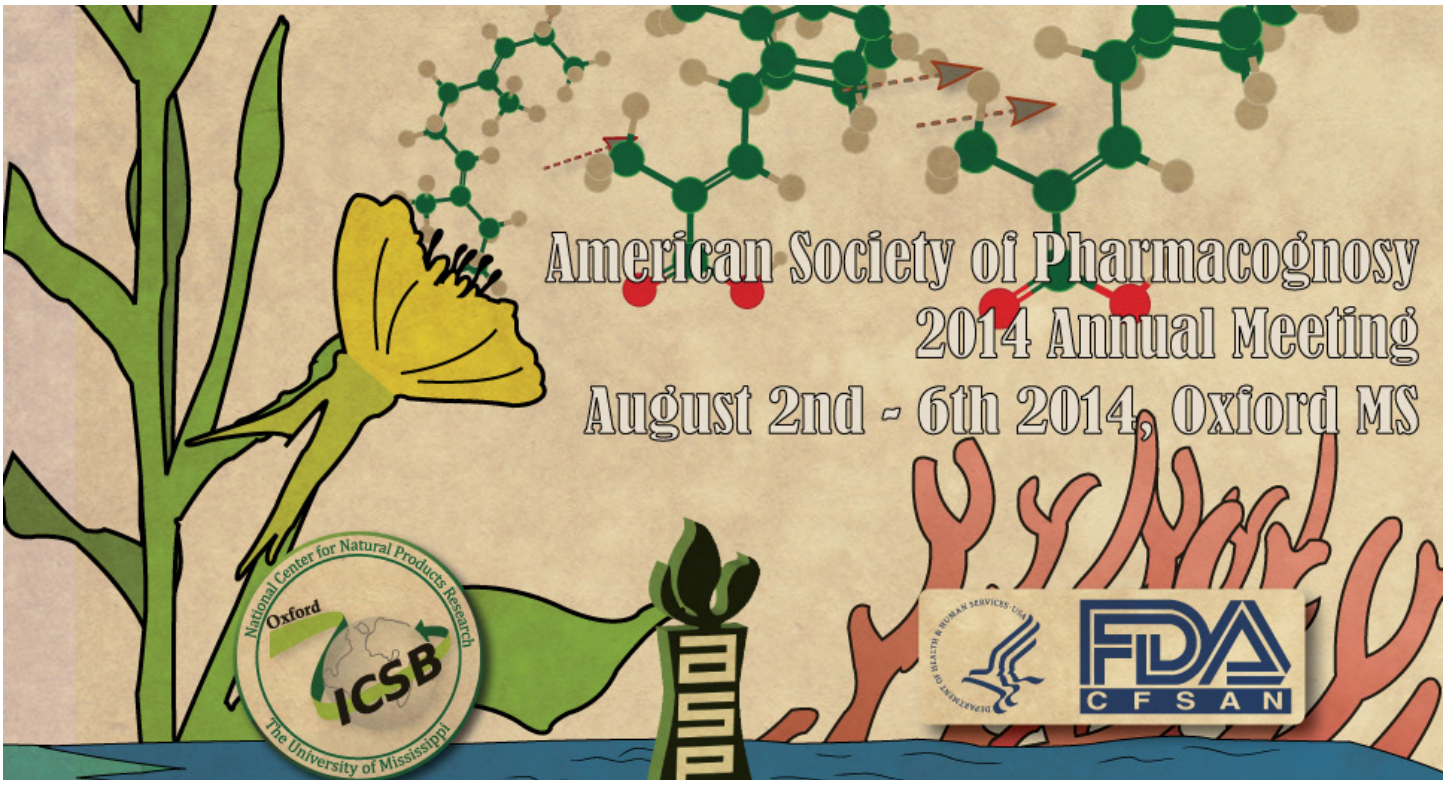
> The Executive Committee of the American Society of Pharmacognosy has provided the funds for three issues of the *ASP Newsletter* during 1964. Whether this publication continues beyond 1964 depends upon its value to the Society members. It can only be as valuable as the members make it. Items for publication will be solicited approximately three weeks before a deadline for each issue, however, items may be submitted at any time from now until early May for the next issue. The source of all material will be recognized in the *Newsletter*. The response to requests for items for this current issue was disappointingly small. This *Newsletter* replaces the "News and Events" section of *Lloydia*.

Dr. Gibson's remark regarding whether the *Newsletter* continued is noteworthy considering that 2014 is the 50-year Anniversary of the publication! Long-term ASP member, Dr. James Robbers, reflected on the value of the *ASP Newsletter*. "Looking back on 50 years of the *Newsletter*, I think the Society has been very fortunate that Melvin Gibson, the originator and first Editor, had the foresight to see the advantages of communicating professional information among our members. It has been the glue that helped make our Society successful and the hard working Editors who succeeded Gibson should be congratulated for their dedication." Bravo for the 1964—2014 *ASP Newsletter* Editors, contributors, and readers in commemorating this long-standing publication. ■

Editor's note: The Lloyd Library and Museum has scanned the majority of the issues of the ASP Newsletter. *They are available at http://www.lloydlibrary.org/archives/inventories/aspnewsletters.*

Whether this publication continues beyond 1964 depends upon its value to the Society members. It can only be as valuable as the members make it.

ASP 55th Annual Meeting: A Southern Soirée



By Dr. Ikhlas Khan

We would like to encourage y'all to attend the Annual Meeting of the American Society of Pharmacognosy, to be held in Oxford, Mississippi, August 2-6, 2014. We are also pleased to announce that this year's meeting will be a full joint meeting between the ASP and the International Conference on the Science of Botanicals (ICSB). The organizing committee is working hard to prepare not only an informative scientific program, but also a diverse and entertaining agenda of social events to make sure your visit to Oxford really does provide you the "South's warmest welcome!"

Our scientific programs will include general symposia and poster sessions from participants' submitted abstracts, as well as invited oral presentations and four optional technical workshops. The theme of the meeting is "Natural Products' Impact on Humankind: For the Betterment of Health, Agriculture and the Environment." The symposia will focus on the areas of Contributions of Natural Products, Biosynthesis/Biotechnology, Marine Natural Products, Agriculture Chemical/Biotechnology, Frontiers of Discovery through Instrumentation, Natural Product Synthesis, Phytochemicals, Botanicals, Traditional Medicine, and Ecology and Environmental concerns. If you would like to contribute a poster or an oral presentation for this meeting, we will be accepting abstracts through April 15, 2014, through our web portal.

Oxford, Mississippi has been named as one of "America's 100 best small towns" by *USA Today*, and is a place with deep roots of culture, history, and a strong tradition in the arts and literature. There will be plenty of opportunity to experience the richness of our town, with the opening reception and other events on the historic town square and a tour on Oxford's own classic double decker bus, imported from England in 1994. Our opening mixer will be a Mississippi Blues Night at the Lyric Theater on the downtown Oxford square, followed by an "Island Night" on Sunday at the conference center following the first poster session.

Tuesday we will have an ICSB favorite, the "Indian Night," featuring a delicious dinner of Indian cuisine, as well as the Young Investigators event following the final night of poster sessions. Wednesday will be a busy day, with the double decker bus tours, tours of the National Center for Natural Products Research on the University of Mississippi campus, our traditional ICSB outdoor games, BBQ and live band, and optional excursions to the Casinos in Tunica, Mississippi, or to Beale Street in downtown Memphis, Tennessee. The optional excursions are dependent on a minimum number of the participants, so be sure to book them when you register online, if you are interested. The final day of the conference will conclude with a delightful dinner banquet, featuring the perennial hit, a closing presentation from Dr. Ikhlas Khan which never fails to entertain.

Memphis International Airport is the main airport for travel to Oxford, and you can book our shuttle services to and from the

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conference through the on-line registration portal. The meeting will be housed at the Oxford Conference Center, a venue with over 25,000 square feet of space, and we have reserved blocks of rooms at four area hotels with special conference rates of $139 - $159 per night. Two of these, the Hampton Inn Oxford, and the soon-to-be completed TownePlace Suites are located on-site, just a short walk from the Conference Center itself. These rooms are limited in number and will be reserved on a first-come first-served basis, so be sure to book your accommodations early. You should also be sure to register for the meeting as soon as possible, as we are offering special lowered rates for early registration. The deadline to register at these special rates is May 15, 2014.

Please be sure to visit our site at *asp2014.org* for detailed information on registration, abstract submission, hotel and travel bookings, and all other available information and updates about the upcoming meeting. If you have any additional questions, be sure to contact us through our webpage or by emailing 2014asp@gmail.com. We are excited to be presenting this meeting for all of you, and we look forward to your participation and to being able to provide you with true southern hospitality. ■

INVITED SPEAKERS PRESENTING AT THE 2014 ASP-ICSB ANNUAL MEETING:

Dr. Gordon Cragg, Special Volunteer at NIH, Bethesda, Maryland

Dr. Jon Clardy, Harvard Medical School, Harvard University, Boston, Massachusetts

Dr. Valerie Paul, Smithsonian Marine Station, Fort Pierce, Florida

Dr. Joe Chappell, University of Kentucky, Lexington, Kentucky

Dr. Stephen Duke, USDA, University, Mississippi

Dr. Geoffrey Cordell, University of Illinois at Chicago, Chicago, Illinois

Dr. Lars Bohlin, University of Uppsala, Uppsala, Sweden

Dr. Otto Sticher, ETH-Zurich, Zurich, Switzerland

Dr. De-an Guo, Shanghai Institute of Materia Medica, Shanghai, China

Dr. Rudolf Bauer, University of Graz, Graz, Austria

Dr. D. Craig Hopp, Program Officer, NCCAM/NIH, Bethesda, Maryland

Dr. Ron Quinn, Griffith University, Australia

Dr. Yoshinori Asakawa, Tokushima Bunri University, Tokushima, Japan

Dr. Bradley S. Moore, Scripps Institution of Oceanography, University of California San Diego, La Jolla, USA

Dr. William Helferich, University of Illinois Urbana-Champaign, Champaign, Illinois

Dr. Emily Balskus, Harvard University, Cambridge, Massachusetts

Dr. Dennis Lubahn, University of Missouri, Columbia, Missouri

Dr. Sean F. Brady, Rockefeller University, New York, New York

Dr. Richard Van-Breeman, University of Illinois College of Medicine, Chicago, Illinois

Dr. Eric W. Schmidt, University of Utah, Salt Lake City, Utah

Dr. Floyd Ski Chilton, Wake Forest School of Medicine, Winston-Salem, North Carolina

Dr. Yi Tang, University of California Los Angeles, Los Angeles, California

Dr. William T. Cefalu, Pennington Biomedical Research Center, Baton Rouge, Louisiana

Dr. John Owen, Dow AgroSciences, Indianapolis, Indiana

Dr. Joseph R. Pawlik, University of North Carolina Wilmington, Wilmington, North Carolina

Dr. Ana Lucia Cordova, Marrone Bio Innovations, Davis, California

Dr. May R. Berenbaum, University of Illinois at Urbana-Champaign, Champaign, Illinois

Dr. Joel R. Coats, Iowa State University, Ames, Iowa

Dr. Mark Hay, Georgia Institute of Technology, Atlanta, Georgia

Dr. William Reynolds, University of Toronto, Toronto, Canada

Dr. Gary Martin, Merck, Summit, New Jersey

Dr. Roberto Gil, Carnegie Mellon University, Pittsburgh, Pennsylvania

Dr. Mary Ann Foglio, CPQBA-Unicamp, Brazil

Dr. Bill Gurley, University of Arkansas for Medical Sciences, Little Rock, Arkansas

Dr. Kate Yu, Waters Corporation, Milford, Massachusetts

Dr. Lourival Possani, National Autonomous University of Mexico, Mexico City, Mexico

Dr. Hermann Stuppner, University of Innsbruck, Innsbruck, Austria

Dr. Nicholas Oberlies, University of North Carolina at Greensboro, Greensboro, North Carolina

Dr. James McChesney, Ironstone Separations, Inc., Oxford, Mississippi

Dr. Weidong Zhang, Shanghai Mainland Pharmaceutical Co., Ltd, Shanghai, China

Dr. David S. Pasco, University of Mississippi, Oxford, Mississippi

Dr. Luis Manuel Peña Rodríguez, Centro de Investigación Científica de Yucatán, Yucatán, Mexico

ASP Fellows Series: Reflections on the *ASP*

By Dr. David Kingston

My introduction to the ASP and the *Newsletter* came relatively late in my career. After graduating in 1963 from the University of Cambridge, Cambridge, United Kingdom, where my PhD dissertation was on "Pigments of the Aphididae" under Lord Alexander Todd (Nobel Prize for Chemistry winner) and Dr. Don Cameron, I worked as a postdoctoral associate at Massachusetts Institute of Technology, Cambridge, Massachusetts (where I met my wife), and then spent two more years as a North Atlantic Treaty Organization (NATO) Fellow at the University of Cambridge.

My first faculty position in the United States began in 1966 in the Chemistry Department at State University of New York, Albany, New York, where I worked on both mass spectrometry and natural products projects. I then moved to Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, Virginia, in 1971, and the lack of a high resolution mass spectrometer in the chemistry department refocused my research on natural products. I was fortunate to receive R01 funding for a project on the isolation and structure elucidation of potential anticancer natural products, and it was this project that led to my involvement with the ASP.

Coming as I did from the United Kingdom, and moving in chemistry rather than pharmacy circles, I had not heard of the ASP or its journal *Lloydia* until someone mentioned Dr. Jonathan Hartwell's review articles on plants used against cancer. I immediately went to the Virginia Tech library and was pleased to find that it maintained a subscription to *Lloydia,* and this led to the discovery that the journal was co-published by the ASP. This was all new to me and very exciting; here was a scientific society dedicated to the study and discovery of bioactive natural products! So I joined the ASP in the early 1970s and attended my first ASP Annual Meeting in Chicago, Illinois, in 1974.

I found the ASP to be a society with a wonderfully supportive group of members who encouraged me and helped me in my career. As one example, Dr. Norm Farnsworth kindly invited me to give a lecture at the University of Illinois at Chicago, Illinois, in my pre-tenure year (although he could not resist the opportunity to "roast" me over one of my publications that he had refereed!), and other members reached out to help in other ways. As a result, many of my best friends are ASP members, and I looked forward to the Annual Meetings not only for their scientific content, but also for the friends that I would meet.

I also attribute much of my scientific success to the assistance I have received from fellow ASP members. Dr. Hartwell gave me early support and encouragement in my studies of potential anticancer agents from plants, and Dr. John Douros and ASP member Dr. Matt Suffness were huge supporters of my work from within the Natural Products Branch of National Cancer Institute. After Dr. Suffness' lamented early death, ASP members Drs. Gordon Cragg and Dave Newman have continued to be strong advocates for natural products and supporters of my work. I was also fortunate be named the ASP Research Achievement Award winner in 1999 and to have been invited to present lectures at several ASP Annual Meetings. These recognitions were all very much appreciated and were important in my recognition by Virginia Tech, where I am privileged to be able to continue my research. So the ASP has made a huge impact on my career, and it has been my privilege to have been able to serve the Society as a member of the Executive Committee, as President from 1988-1989, as Associate Editor of the *Journal of Natural Products* (*J. Nat. Prod.*) from 1983-1998, and in other ways.

Dr. David Kingston

MS. SARAH LOGAN WALLACE

The mention of my presidency reminds me of one amusing facet of my installation at the Annual Meeting. The outgoing President was ASP Honorary Member Dr. Yuzuru Shimizu, probably the shortest person to serve as President, while I am one of the tallest persons to have served in that capacity. So we set

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This was all new to me and very exciting; here was a scientific society dedicated to the study and discovery of bioactive natural products!

I found the ASP to be a society with a wonderfully supportive group of members who encouraged me and helped me in my career.

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the record for the greatest height difference between successive ASP Presidents! Another bonus of serving from 1988-1989 was that my term ended during the International Meeting in Bonn, Germany, so Dr. Farnsworth was much more restrained in his traditional roast of the outgoing President than he normally was, and my wife and I were spared the customary embarrassment.

The *ASP Newsletter* has been an important part of my enjoyment of the ASP, and writing this article has given me the pleasurable opportunity to browse through the older back issues of the *Newsletter*, volumes 1-41 of which are archived at the Lloyd Library. The first issue, edited by Dr. Melvin Gibson and consisting of four typed pages, ended with the following Editor's Note: "The Executive Committee of the American Society of Pharmacognosy has provided funds for three issues of the *ASP Newsletter* during 1964. Whether this publication continues beyond 1964 depends upon its value to the Society members. It can only be as valuable as the members make it." Fortunately for all concerned, the *Newsletter* was found to be valuable, and its publication continues to the present, with 2014 marking the 50th year of publication.

The *Newsletter*, as its name implies, initially served as a way to inform the ASP membership of news items of interest, such as the next ASP Annual Meeting, other meetings of interest to the membership, information on ASP awards, and reports from the previous ASP Meeting. In recent years it has expanded and diversified significantly. It is now a full color professional document of up to 30 pages. The last issue of 2013 contained President Brad Moore's thoughtful Presidential Address, photographs from the Annual Meeting in St. Louis, Missouri, articles on the ASP Research Achievement, Tyler, and Suffness award winners, and an article on ingenol-3-angelate, a new natural product anticancer drug. It also included an article on the history of the Biosphere 2 research facility by my former student Dr. John Berger, a helpful (and sobering) section by Dr. Georgia Perdue titled "Brief News From Washington," and various items of ASP news. This is truly an excellent example of what the *Newsletter* has become.

One aspect of the *Newsletter* that is especially poignant to me is the listing of obituaries of ASP members. One of the realities of my "senior status" is that many of my former friends and role models have passed away, and the *Newsletter* helps to keep their memories alive. I treasure the obituaries of such luminaries as Drs. Matt Suffness, Bill Pelletier, John Faulkner, Dick Moore, Monroe Wall, and Norm Farnsworth, as a reminder that we all stand on the shoulders of others.

The *Newsletter* is not all serious stuff, however. The latest one has a link to a video on the effects of ipecac, which carried the warning "Sensitive viewers, like our Editor-in-Chief and our Layout Editor, may not wish to view the video," and the May 1972 issue, edited by Dr. Ralph Blomster, carried the item: "Scientific Definitions by a Genius Who has Read One Too Many Research Papers:"

"Unusually High Purity… Composition unknown except for the exaggerated claims of the supplier."

"Missing Data … Specimens were ruined when they accidentally fell on the floor."

"Handled with Extreme Care During the Experiments … not dropped on the floor."

"Typical Results are Shown …Only the best results are reported."

"Three of the Samples Were Chosen for Detailed Study … as the results on the others made no sense they were ignored."

The improvement in the quality of the *Newsletter* has been a steady one, with former Editors Drs. Joy Reighard (now Dr. Joy Baumgardner) and Renuka Misra making important contributions, and much credit is due to the current Editor Dr. Edward Kennelly and his Assistants Dr. Amy Keller and Ms. Nancy Novick for their hard work in producing this excellent publication. Since ASP members no longer receive *J. Nat. Prod*. with their subscription, the *Newsletter* is a really important link to the membership, and it will continue to be a key benefit of membership in the future. As important as the Newsletter is to ASP members, it also depends on them for articles and news items of interest. As the first *Newsletter* stated, "It can only be as valuable as the members make it."

So on this 50th Anniversary of the first issue of the *ASP Newsletter*, I offer my thanks and congratulations to the past Editors and to the present Editor and his Assistants, and I wish them a long and enjoyable tenure. ■

Fortunately for all concerned, the *Newsletter* was found to be valuable, and its publication continues to the present, with 2014 marking the 50th year of publication.

Program Officer Gerratana Speaks to *Newsletter*

By Dr. Amy Keller

Dr. Barbara Gerratana has been Program Director for the Biochemistry and Biorelated Chemistry Branch in the Division of Pharmacology, Physiology, and Biological Chemistry at the National Institute of General Medical Sciences (NIGMS) at the National Institutes of Health (NIH) since December 2012. Many ASP members may be familiar with Dr. Gerratana since her portfolio includes all proposed natural product research with the exception of synthetic methodology.

Dr. Barabara Gerratana

Dr. Gerratana studied Chemistry as an undergraduate at the University of Pavia, Pavia, Italy. She received a PhD in Biochemistry, specializing in mechanistic enzymology in the laboratories of Drs. Perry A. Frey and William W. Cleland at the University of Wisconsin, Madison, Wisconsin. Dr. Gerratana relates, "At that time, natural products biosynthesis seemed like a 'candy store' for an enzymologist and, to some extent, it is still. Thus, I moved to the Johns Hopkins University to do a post-doc with Dr. Craig A. Townsend and then to the Department of Chemistry and Biochemistry at the University of Maryland, College Park, Maryland, to start my independent research career in natural products biosynthesis, and mechanistic and structural enzymology."

A professional acquaintance, NIGMS Program Director Dr. Warren Jones, notified Dr. Gerratana about the position at NIGMS and she applied. "The basic science mission of NIGMS and the appreciation for chemistry, enzymology, and biotechnology perfectly fit my interests in science. Serving as an NIGMS Program Director enables me to continue my commitment to those scientific communities." Additionally, she cites her passion for basic science, a need to serve the community in a different way, and a broader outlook and impact on the science, as her reasons for the change in career direction.

In terms of a broader outlook, NIGMS is focusing on long term research areas including studies of the biosynthesis of natural products, the development of new synthetic chemistry methodologies for compounds inspired by natural products, the development of biotechnology and chemical tools for the discovery and production of natural products and related analogs, and investigations of the biological role of natural products, especially in microbial communities and host and microbiome interactions. When asked about long term goals of natural product research, Dr. Gerratana told the *Newsletter,* "NIGMS has general and specific investments in this area (an example of targeted investment is the "Genomes to Natural Products" RFA GM-14-002)."

NIGMS is focused on training future scientists, recruiting and retaining women, underrepresented minorities, and people with disabilities. This is detailed in the NIGMS "Strategic Plan for Biomedical and Behavioral Research Training" 2011. Part of the NIGMS training strategy are two very successful workshops, career development for graduate students in chemical biology and another on mentoring for new faculty in organic and biological chemistry. Dr. Gerratana discussed NIGMS research approaches, mentioning that "NIGMS focuses on fostering research through investigator-initiated discovery. Whether through single investigator research or collaborative research, NIGMS believes the best research ideas come from the research community. We expect working scientists to be in the best position to move science forward."

Dr. Gerratana told the *Newsletter,* "In my vision of the future, organic chemists will be inspired by the chemical diversity and novelty encoded in nature. Medicinal chemists will have nature's chemical catalog at their disposal, enabling them to easily build any natural products and to work on chemical or biological production of analogs. Enzymologists will marvel at and study the catalytic solutions adopted by nature. Microbiologists will study how biochemical pathways and secondary metabolites affect microbiomes and human health."

Dr. Gerratana believes that the funding mechanism will be directed by science, and some approaches will need to reach beyond individuals or academic laboratories. She oversees the NIGMS Enzymological and Biotechnology portfolios of diverse funding mechanisms, including R01s. She sees the need for functional assignments of genome sequences, likely through an automated and high-throughput experimental technology. "If it were possible," she mentions, "such a technology would impact not only the natural product community, but the entire biomedical research enterprise. Other agencies have recognized this potential and invested in this area. An example is the Defense Advanced Research Projects Agency (DARPA) 'Living Foundries: 1000 Molecules program."

Specifically, Dr. Gerratana is excited about proposals in biotechnological and computational solutions to functional genomics (including natural products operons), basic studies of regulatory mechanisms for production of natural products, research on the chemistry and biochemistry regulating the human microbiome and its impact on human health, synthetic biology approaches to understanding complex biological systems, in vivo approaches

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Speedie Awarded Remington Medal

By Dr. Amy Keller

Dr. Marilyn Speedie, Dean of the University of Minnesota College of Pharmacy, Minneapolis and Duluth, Minnesota, was awarded the 2014 Remington Medal by the American Pharmacists Association (APhA). Dr. Speedie has been a long-time member of ASP and served in the Executive Committee twice, from 1986-1989 and from 1996-1999. The Remington Medal, begun in 1918 in honor of pharmacist Joseph P. Remington, honors achievements, contributions, and service of pharmacists.

Dr. Speedie, who will be honored at the APhA Annual Meeting and Exposition taking place in Orlando, Florida, March 28-31, 2014, told the *Newsletter*, "It feels wonderful to receive the Remington Medal. I have tried during my career to maintain and honor my scientific roots, while teaching and building an outstanding college, as well serving the pharmacy profession and the patients we take care of, all without spreading myself so thin that I lost all impact. Receiving the Remington Award from APhA is an incredible honor and means, I hope, that I have succeeded in having an impact in all three arenas. It is very gratifying."

ASP President Brad Moore tells the *Newsletter*, "I am thrilled that Dr. Speedie has been recognized with this important award. She was one of the first women to serve on the ASP Executive Committee and was an early influence in expanding the reach of the ASP to include antibiotics research together with past ASP President Heinz Floss. It is now very gratifying to see how her scientific roots in natural products research influenced her career in pharmacy education and service."

Dr. Speedie earned her BSPharm degree in Pharmacy as well as PhD in Medicinal Chemistry and Pharmacognosy at Purdue University, West Lafayette, Indiana. She served as faculty member at the University of Maryland School of Pharmacy, Baltimore, Maryland, prior to her current position. Dr. Speedie was fundamental in having scientists with PharmD degrees considered principal investigators by the National Institutes of Health (NIH), facilitated the administration of paid pharmaceutical counseling by pharmacists in Minnesota, worked towards the general consideration of pharmacists as health care providers, and ushered in an entry-level PharmD Program and an internet PharmD Program at the University of Minnesota.

When asked about her proudest achievement, Dr. Speedie related, "My proudest personal professional achievement was expanding the college to the University of Minnesota, Duluth, in order to meet a severe shortage of pharmacists in the state. It involved envisioning a solution to a problem, developing and selling a plan, raising support for it, and finally, implementing the expansion. We have succeeded in producing many more pharmacists for rural Minnesota communities and have a wonderful group of faculty and students in a Duluth. 'One college, two campuses' is our mantra and we have succeeded in truly building one outstanding, #3 ranked, college. I also am very proud to have mentored and seen five Minnesota faculty move into deanships around the country. They are all doing very well."

Dr. Marilyn Speedie

Dr. Speedie wants younger ASP members to know, "that there is no conflict between our science and our profession. You do not have to choose one or the other. If you are not a pharmacist, please learn about and honor this constantly evolving profession that is rising in its ability to serve patients. If you are pharmacy trained, value your association with the profession." ■

Program Officer Gerratana Speaks to *Newsletter*

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to study transient formation of enzymatic complexes, and in vivo approaches to measure enzyme kinetics.

Dr. Gerratana relates, "… this is an exciting time to work in natural products. Advances in DNA sequencing, DNA synthesis, synthetic biology, and analytical microscale chemistry can be leveraged for natural product discovery. New technologies enable applications and knowledge discovery projects in areas of interest to ASP members, for example, they will facilitate the identification of the active ingredients in herbal remedies and regulation of such products, and the production of natural products.

Her words of advice to younger ASP members, include "… find solutions to current problems by seeking collaborations outside your familiar circle and to others, just get ready to take advantage of what biotechnology is making possible!" ■

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 previous award winner Dr. Taifo Mahmud at the Department of Pharmaceutical Sciences at Oregon State University, Corvallis, Oregon. In the early 1990's, 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. Taifo Mahmud

I received the Matt Suffness Young Investigator Award from the ASP in 2006, just several months before I submitted my dossier for tenure and promotion. It was an extremely exciting but humbling moment for me, as I believe there are many talented and capable young scientists in this community. Nevertheless, this award came just at a perfect time, and it has positively impacted myself and my career in many different ways. It certainly has helped promote my research program and laboratory at Oregon State University (OSU), which was relatively new at that time. OSU has historically been one of the hubs for natural products research in the nation, starting back in the 1960s.

Dr. Taifo Mahmud.

MS. JILL WELLS

When I joined OSU faculty in 2003, many natural products chemists known to the ASP community such as members Drs. George Constantine, Bill Gerwick, Mark Zabriskie, and Phil Proteau were on the faculty. While I was excited to join the pack, quite often people asked me if I was one of Dr. Gerwick's graduate students. This misperception eventually disappeared when he moved to San Diego, California, two years later, but I am not sure if that was a fair trade.

Receiving the Matt Suffness Award has also reenergized my commitment to the field of natural products chemistry. I studied natural products chemistry from two prominent natural products chemists, Isao Kitagawa and Motomasa Kobayashi, at Osaka University, Osaka, Japan. I then did my postdoctoral training in natural products biosynthesis with ASP member Dr. Heinz Floss at the University of Washington, Seattle, Washington. Therefore, natural products research has been my lifelong passion. However, being recognized by the ASP with the Matt Suffness Award was beyond my expectation and has elevated my affection for the natural products field and its community to a different level.

Whereas I had never met Dr. Suffness in person, I have heard about his extraordinary dedication to young scientists from Drs. Floss and John Cassady, a former Vice President for Research at OSU. Dr. Cassady was a National Institutes of Health postdoctoral fellow in Dr. Morris Kupchan's lab at University of Wisconsin, Madison, Wisconsin, when Dr. Matt Suffness did his doctoral degree in the Kupchan lab. So, my acceptance of the Matt Suffness Young Investigator Award seemed to be especially meaningful for him as well. The evening after I received the Award, Dr. Cassady and his wife Nancy had kindly invited me and ASP member Dr. C.-J. Chang to dinner at a nice restaurant in Crystal City (Washington D.C.). In the same year, Dr. Cassady was awarded Honorary Membership in the ASP. What a proud moment to be part of the ASP and the natural products family at OSU. ■

...Being recognized by the ASP with the Matt Suffness Award was beyond my expectation and has elevated my affection for the natural products field and its community to a different level.

Behind the Scenes in Pharmacognosy: The Spirit of Cachaça

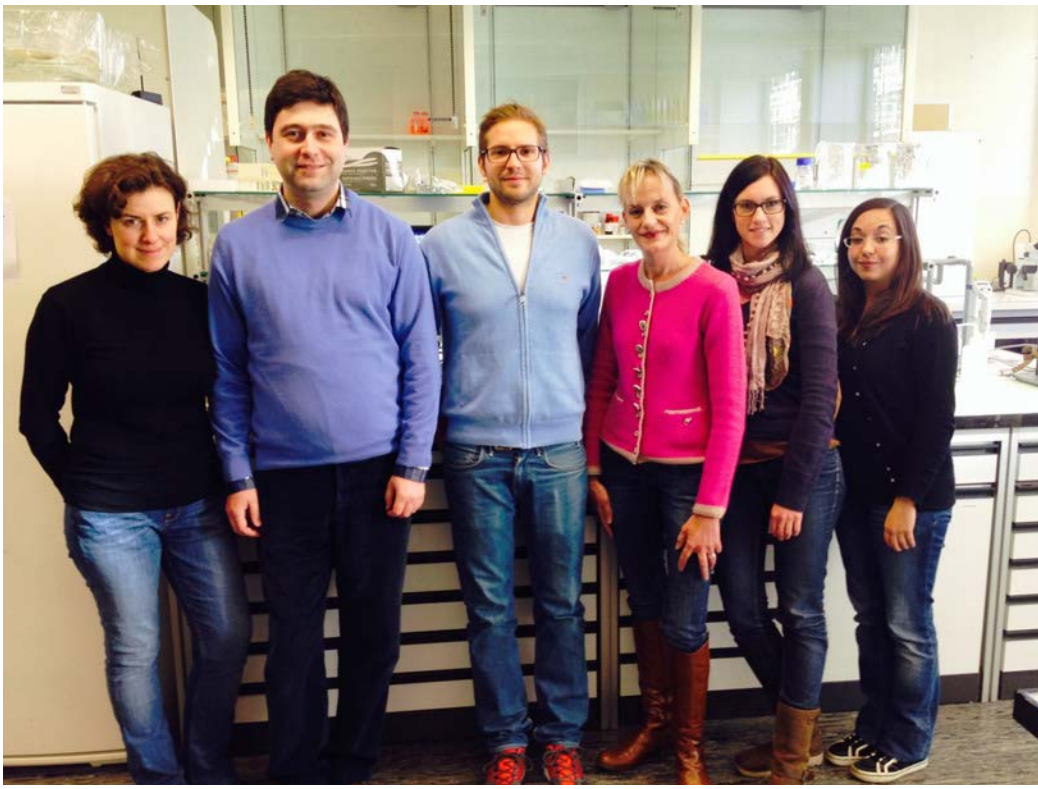
This March, the Journal of Natural Products (J. Nat. Prod.) *will publish a special issue dedica-ted to ASP Honorary Member Dr. Otto Sticher. This issue will include an article from the labora-tory of ASP member Dr. Veronika Butterweck in the School of Life Sciences, Institute for Pharma Technology, at the University of Applied Sciences Northwestern Switzerland, Muttenz, Switzerland. The article, "Evaluation of Intestinal Permeability of Vicenin-2 and Lychnopholic Acid from* Lychnophora salicifolia *(Brazilian Arnicão) Using Caco-2 Cells" describes work done on* Lychnophora salicifoli, *an ingredient in Brazilian cachaça. We appreciate Dr. Butter-weck taking the time to describe her laboratory's work in more detail. Please read the online article in* J. Nat. Prod., *November 26, 2013; doi: 10.1021/np400674t.*

By Dr. Amy Keller

How did you become interested in compounds from *Lychnophora salicifolia* and cachaça?

Lychnophora salicifolia, commonly known as "arnica," is used as an anti-inflammatory agent and as a flavoring agent in the Brazilian traditional spirit "cachaça." The *L. salicifolia* project was initiated by my colleague Dr. Norberto Peporine Lopes, Departamento de Física e Química, Faculdade de Ciências Farmacêuticas de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, Brazil. The phytochemical work on this plant and its compounds has been performed in his group.

One of the major focuses of my lab is on drug absorption, pharmacokinetics and herb-drug-interactions. Knowledge of the absorption characteristics and pharmacokinetics of a compound is essential for the correct in vivo interpretation of in vitro activities that are sometimes the basis of therapeutic claims. Thus, Dr. Lopes and I decided to bring our expertise together and start col-laborating on the absorption characteristics and pharmacokinetics of active compounds from "cachaça" to correlate these data with the observed pharmacological effects.



From left to right: Ms. Mila Rusanova, Dr. Krasimir Rusanov, Mr. Jonas Wedler, Dr. Veronika Butterweck, Ms. Fabienne Thoenen, and Ms. Sheela Verjee.

ANDREAS NIEDERQUELL

Who in your laboratory carried out the research?

The experimental work was carried out by first author Ms. Dayana Rubio Gouvea and Mr. Ar-thur de Barros Bello Ribeiro, two graduate students from Dr. Lopes' group who joined my lab in Basel, Switzerland, for four months in 2012 to carry out the absorption studies in Caco-2 cells. For their stay in Switzerland, both students were financially supported by the Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES).

Could you provide a brief explanation of the work and results in your own words?

Herbal medicines are multicomponent mixtures that contain several active compounds, thus, the determination of pharmacokinetic parameters is relatively complex. However, the pharmacologi-cal importance of vicenin-2 and lychnopholic acid depends on their availability for intestinal absorption and subsequent interaction with target tissues.

In this work, the absorption characteristics of vicenin-2 (a flavonoid C-glycoside) and lych-nopholic acid (a sesquiterpenoid) was investigated using Caco-2 cells. It was observed that lych-nopholic acid crosses the Caco-2 cell monolayer by passive diffusion. On the other hand, vicen-in-2 was not transported, suggesting no absorption of this compound in Caco-2 cells.

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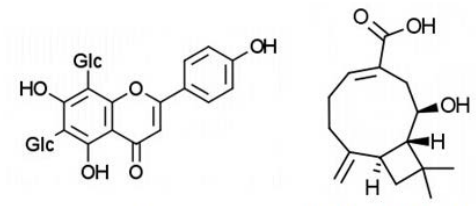
What implications might this work have on natural product science and health research in general?

It is necessary for the rational use of any drug to have a good understanding of the concentrations that will be achieved in the body after its administration. Of particular interest is the question to what degree and how fast the therapeutic agent is absorbed. Whereas there is usually detailed information available about the pharmacokinetics and biopharmaceutics of synthetic drugs, this is usually not the case for natural compounds. It cannot be emphasized enough that knowledge of the pharmacokinetics of a compound is important for the correct interpretation of its pharmaco-logical effects. Our data could be used to predict the potential of drug development. Since ly-chopholic acid showed good permeability in the Caco-2 model, it might have a high absorption rate in vivo, thus it is a potential candidate for further drug-development studies. However, the C-glycoside vicenin-2 did not cross the cell monolayer and potential drug-likeness therefore can be excluded.



Vicenin-2 and lychnopholic acid

What is a favorite nonscientific activity of your lab?

We enjoy getting together for a traditional Swiss cheese fondue. This is a lot of fun, especially when it is cold outside. Very yummy!

What is your lab's motto or slogan?

Never give up!

What is your greatest extravagance in the lab?

The latest Olympus Live Cell Imaging system based on an Olympus IX-83 inverted microscope. Very cool! ■

NCCAM Announces New Funding Initiative

By Dr. D. Craig Hopp

The National Center for Complementary and Alternative Medicine (NCCAM), in conjunction with the Office of Dietary Supplements (ODS), recently released a Funding Opportunity Announcement (FOA) entitled, "Center for Natural Products Innovation and Technology (U41)" (RFA AT-14-006). As the (NCCAM) has a strong interest in supporting research on improving natural product methodologies, the goal of this initiative is to challenge the research community to develop innovative solutions to some of the long-standing methodological obstacles that have plagued natural products research. Topics of interest for this FOA include:

- Innovative approaches for better characterization of network level pharmacological interactions between complex mixtures and complex biological systems
- Novel chemoinformatic technology for fingerprinting of complex mixtures
- Methodologies which can identify active components with reduced reliance on bioactivity guided fractionation
- Tools to quickly identify biological targets for natural products
- Novel approaches for rapid dereplication of active components in complex mixtures
- Innovative methodologies to detect contaminants or adulterants in complex mixtures
- Development of high content phenotypic assays capable of capturing multiple mechanisms of action
- Tools which can qualitatively and/or quantitatively establish presence of multiple active constituents (i.e. synergism) in a complex mixture.

This FOA was released simultaneously with the reissue of the ODS Botanical Research Centers FOA (RFA OD-14-001). NCCAM and ODS envision these two groups of grantees working together synergistically to advance the field of natural products research. However, the U41 grantee is not required to limit their focus to natural product sources typically associated with NCCAM. The technology being developed within the U41 could involve work with marine or microbial natural products as well as plant derived mixtures. The main point is that the technology should be broadly applicable.

NCCAM encourages the ASP community to consider applying for either of these programs. Please take a look and feel free to contact NCCAM program staff, Dr. Craig Hopp (hoppdc@mail.nih.gov) or Dr. John Williamson (williamsonjs@mail.nih.gov), with any questions.

Field Notes in Pharmacognosy: Adventures at the South Pole

By Dr. Bill Baker

There is little doubt that travel to exotic forests and coral reefs to collect samples is among the perks that natural product chemists hold most dear. Some years ago when I was approached by Dr. Jim McClintock to work with him in Antarctica, I first envisioned majestic icebergs, cloud-shrouded frozen mountains and penguins. After all, even 25 years ago, before *Happy Feet* and *Frozen Planet* brought the white continent into all our living rooms, the stories of Mr. Ernest Shackleton and Mr. Robert Scott and other hero-explorers had left many of us with lasting impressions of both the beauty and the brutality of Antarctica.

But then I thought, 'are there sponges in Antarctica?' After more than a dozen 'trips to the ice,' as we call our field work in Antarctica, and 500 polar dives, I can assure you there are not only sponges, but corals, tunicates, and the entire repertoire of algae and invertebrates that marine natural products chemists have found as productive areas of study over the years. While many Antarctic adventures will remain vivid, enchanting and unforgettable, perhaps none of them were as eventful as our field camps in the shadows of the transantarctic mountains of McMurdo Sound.

To be sure, most of our 'field work' involves working out of one of the two National Science Foundation (NSF) laboratories on the coast of Antarctica: McMurdo Station (77° 51' S, 166° 40' E), which is due south of New Zealand, or Palmer Station (64° 46' S, 64° 03' W), which is due south of Chile. While the NSF maintains one other Antarctic station, the Amundsen-Scott Station at the South Pole, it is of little use as a support facility for scuba diving, as it 900 miles from the closest open (unfrozen) sea. Field work can also be done on one of NSF's two dedicated polar ships, the R/V Nathanial B. Palmer (NBP) or the R/V Lawrence M. Gould (LMG). In all of these facilities, scientists occupy dorm rooms, eat in a common area (the 'galley', from the maritime history of the Stations), and for such a remote location, work in amazingly well equipped laboratories.

So, now try to imagine a remote field camp. How can you get

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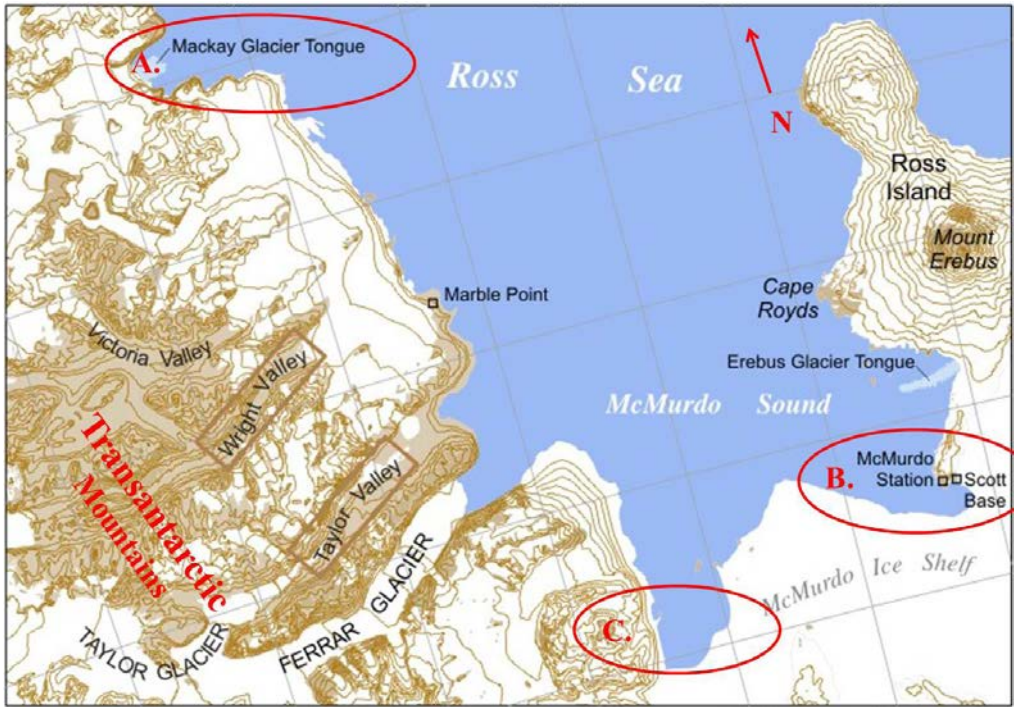

A. Granite Harbour. B. McMurdo Station. C. Planet Earth's southern-most ice-free sea.

...before *Happy Feet* and *Frozen Planet* brought the white continent into all our living rooms, the stories of Mr. Earnest Shackleton and Mr. Robert Scott and other hero-explorers had left many of us with lasting impressions of both the beauty and the brutality of Antartica.

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more remote than McMurdo Station, the world's southern-most marine lab? Well, you set up a field camp at one of a number of sites along the western coast of McMurdo Sound. We spent a week or more one year conducting recognizance flights in a helicopter along the continental coast, looking for cracks in the sea ice that could provide suitable (e.g., 30-40 m) dive profiles, before settling on Granite Harbour. About 90 miles to the northwest of McMurdo Station, Granite Harbour, home to the Mackay Glacier Tongue (see map), was the ideal location due to innumerable sea ice cracks that met our criteria.

Scuba diving in McMurdo Sound has its issues. The Sound is covered with ice in winter, as well as much of spring and fall, by what is referred to as the annual sea ice. This ice sheet forms as the winter air temperatures drop to daily means of -20 °C or lower, freezing the ocean to 3 or 4 m thickness. During the Austral summer, especially during January and February, temperatures rise sufficiently for the annual sea ice to diminish to the extent that vehicles (tracked vans for transporting divers and their gear to dive sites) cannot safely travel upon it. So most scuba activities occur in November and December. However, that annual sea ice forming a great platform to drive your dive team to your dive site has to be breached in order to dive. There are a number of ways to do that, but it is not uncommon to seek out cracks in the sea ice through which to slip into the ocean depths.

Setting up camp in such a remote area is no trivial matter. We needed not only tents to sleep in, but a larger community tent in which we could set up our galley, social area, and laboratory. We needed a generator to power our dive compressor and facilities for storage of fuel and other items that needed to be separated from living quarters. And, we needed transportation to move divers and dive equipment between dive sites, for which we used snowmobiles (skidoo's). Marine invertebrates collected during dive operations could be left in a shady area where they quickly freeze in the sub-zero air temperatures. All of the equipment and supplies, not to mention food for two weeks for the 8-10 person field team, were transported to the site by helicopter.

Camp life was hectic. Typically two dive teams were prepared to dive each day, and each dive required at least two team members who tended divers, helping them into their equipment, then into the water, and watching the activities topside until they could assist the divers out of the water. Dives took place twice per day, morning and afternoon. Field team members not diving that day were maintaining the camp, fueling generators or filling scuba tanks, or perhaps cooking or cleaning. Sleeping on the frozen sea ice proved awesomely serene, what with pops and cracks of the ice and the occasional high-pitch whistle of the Weddell seals in the ocean under us.

Scuba diving in the Antarctic out-of-doors relied heavily on

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PHOTOS BY DR. BILL BAKER

Preparing to dive at a crack in the annual sea ice with Skidoo transporters behind us.

Sleeping on the frozen sea ice proved awesomely serene, what with pops and cracks of the ice and the occasional high-pitch whistle of the Weddell seals in the oean under us.

Field camps were always intense, but the new flora and fauna afforded the project, not to mention the camaraderie and experiences of remote Antarctica, made them the highlight of a field season.

Still life with sponges, Granite Harbour.

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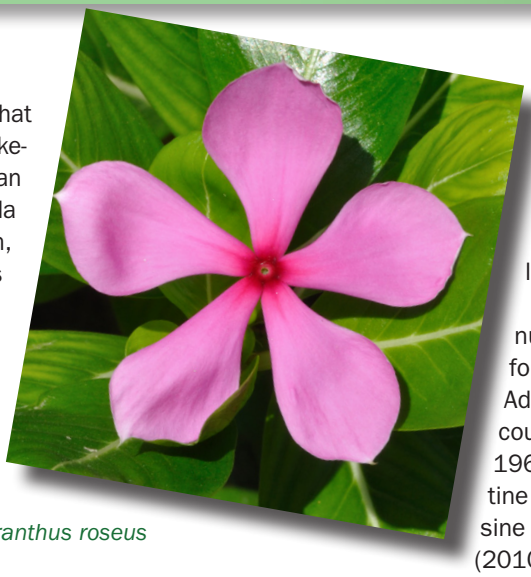
good weather. When still, summertime air temperatures could sometimes feel downright tropical, but the near constant winds across McMurdo Sound were problematic. Wind could chill a diver before he got in the water, and once chilled, the -1.8 °C water temperature would only aggravate the problem. At one of our favorite dive sites, based on the diversity of invertebrates we found, we started off one afternoon building a wall of snow blocks to break the wind. About the time the wall was completed, the wind had shifted and approached from a new direction, requiring a new segment to the wall. We eventually encircled the dive site with snow blocks, creating what looked like a dive igloo.

Granite Harbour was our most remote field camp, though in other times we camped at New Harbor, due west of Cape Royds. Field camps were always intense, but the new flora and fauna afforded the project, not to mention the camaraderie and experiences of remote Antarctica, made them the highlight of a field season. ■

Building a dive igloo.

Hot Topics in Pharmacognosy: Serendipity and the Attuned Mind

By Dr. David Newman



Catharanthus roseus

Experiments leading to a drug series that changed the diagnosis of childhood leukemia from a death sentence to better than 80% survival started in 1949 in Canada at the University of Western Ontario (London, Ontario). Researchers were intrigued by reports from Jamaica that extracts of the rosy periwinkle (*Catharanthus roseus*, then *Vinca rosea*) were used as a tea to control diabetes. Oral administration experiments on diabetic and normal rats and rabbits showed no effect on either blood sugar levels or glucagon, but a proprietary formulation known as Vinculin had been marketed in the United Kingdom as a treatment for diabetes.

However, when dosed intravenously, the rats succumbed within a week and on necropsy, showed signs of septicemia (blood poisoning) although the injected fluid was sterile. Analyzing blood counts and blood chemistries, it became obvious that the white blood cells were being significantly depressed; this was performed over 60 years ago without the knowledge or techniques now available.

In 1955, the laboratory commenced a more thorough investigation using a bioactivity linked isolation and finally using gradient elution on Woehlm alumina (which took the writer back to his days as a technician in the same time period), followed by crystallization of the sulfate salt. This resulted in "vinleukoblastine" (VLB, now known as vinblastine). The enriched crude fractions gave activity (carcinostatic) against a transplantable sarcoma in rats and against a mammary carcinoma in DBA/JAX mice.[1]

Just to show that Mother Nature has a sense of humor, an independent study by Svoboda et al. at the Lilly Company was started because of the company's insulin franchise and evidence from ethnobotanical reports of the use of *C. roseus* extracts in Indonesia during World War II as a treatment for diabetes. [2,3] Continued studies by the Lilly group demonstrated the cytotoxic activity of the extract against lipocytes, and they reported the alkaloids leurosine and VLB approximately a year after Noble et al.[2,3] Interestingly for a paper in 1959, there is mention of the use of nuclear magnetic resonance (NMR) as part of the analytical techniques used. These papers were closely followed by another in 1960 demonstrating the in vivo activity of both leurosine and VLB in a mouse model of acute lymphocytic leukemia in DBA/2 mice.[4]

Since these original publications, the number of approved (meaning launched following approval by the Food and Drug Administration or its equivalent in other countries) derivatives of VLB (launched in 1963 or 1965; sources differ) and vincristine (launched in 1963) has risen to vindesine (1979), vinorelbine (1989), vinflunine (2010), and a recent liposomal formulation of vincristine (2013), 50 years after the base compound was approved in the United States.

Currently there are three variations on the vincas at varying stages of clinical development. The liposomal variation of vinorelbine is in Phase I with Tekmira Pharmaceutical Company, 12'methylthiovinblastine is also in Phase I against solid tumors with Albany Molecular Research, Inc. and Bessor Pharma, LLC, and the most advanced is Vintafolide, a conjugate of desacetylvinblastine hydrazide-folate (see structure) from Endocyte, Inc., now licensed to Merck and with a Phase III trial currently recruiting against platinum resistant ovarian cancer (NCT01170650).

Thus, 50 years after the first approval of the base compounds, these very active natural products are still being used as the basis for novel antitumor drugs, and in addition to these approved and clinical trials candidates, there are 12 preclinical candidates shown in the Integrity™ database as of February 2014; of these, perhaps 6 to 7 are still viable.

For people who wish to read further on the subject, a recent review article by Christian Bailly[5] from Pierre Fabre should be consulted, as this company has devoted very significant resources to the vinca alkaloid based drugs in more recent times. In addition, work up through 2009 was covered extensively by Roussi et al.,[6] and their review is also worth reading. ■

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6. Roussi, F., Gueritte, F. and Fahy, J. The Vinca Alkaloids, in Anticancer Agents from Natural Products, Eds., Cragg, G. M., Kingston, D. G. I. and Newman, D. J., Taylor and Francis, Boca Raton, FL, 2nd Edition, pp. 177-198, **2012**.

Meet a New ASP Member

In our first issue of 2014, ASP is pleased to welcome many new members to the society. One of our new members is Dr. Shi-Biao Wu, postdoctoral researcher in the laboratory of ASP Newsletter *Editor Dr. Edward Kennelly. Dr. Wu related his passion for researching bioactive compounds in foods for the treatment of chronic diseases. We also congratulate Dr. Wu on the recent birth of his son and welcome him to the ASP.*

By Dr. Dan Kulakowski

How did you hear about the ASP?
I have known about ASP for quite some time through my PhD supervisor Dr. Jin-Feng Hu and postdoctoral mentor Dr. Kennelly. In 2012, I attended the 8th International Congress on Natural Products Research (ICNPR) joint meeting of ASP and its sister societies and saw the importance and organization of the Society.

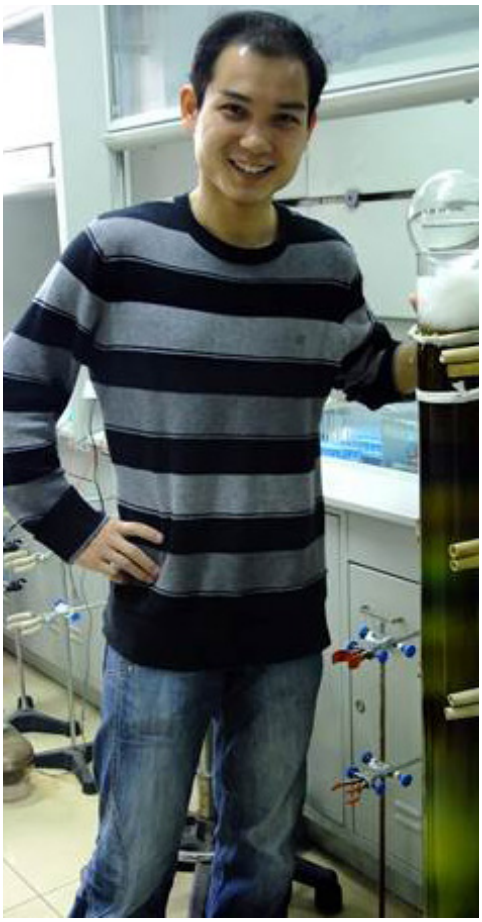
Why did you join ASP?
I joined ASP because it is recognized as a premier organization committed to natural products research.

What is your scientific background?
I received my BS degree from China Pharmaceutical University in Nanjing, China. From 2006 to 2011, I was getting my PhD in the lab of Dr. Hu at East China Normal University, Shanghai, China. My doctoral dissertation was about isolation and structure elucidation of new bioactive natural products from seven medicinal plants. Many of these compounds have human health benefits, including anti-tumor and anti-Alzheimer's activity. After receiving my doctorate, I continued postdoctoral training in the United States in Dr. Kennelly's laboratory at the City University of New York, New York, in July, 2011. There, I focused my research on the analysis of food nutritional components for the prevention of chronic human diseases. I have taken part in an NIH-funded grant which focused on plant polyphenols and their benefits for the treatment of chronic obstructive pulmonary disease (COPD).

What natural organism most interests you?
Right now, I am interested in the edible fruits and other crops which are beneficial for human health.

What are your current research interests in pharmacognosy?
My current research interests are focused on analysis of food nutritional components for the prevention of chronic human diseases. I have studied the metabolite profile of jaboticaba (*Myrciaria cauliflora*), an edible Brazilian fruit, and found some markers to distinguish jaboticaba and false jaboticaba. The difference between fresh fruit extracts and processed commercial products (e.g. juices, jams, and wine) of edible *Myrciaria* spp. were part of my studies, and I found that some processing techniques may change or degrade bioactive constituents (such as anthocyanins or depsides) in the fruits. My research projects also involved other dark-colored fruit, such as blueberry and cranberry, as well as other vegetables, fruits and crops, including eggplant, bitter melon, guava, guaraná, hops, and their related species and cultivars.

I have also gained expertise combining liquid chromatography-mass spectrometry (LC-MS) analysis with multivariate statistical tools to study secondary metabolites and create and assess hypotheses concerning chemical, morphological, evolutionary, biosynthetic, and health benefits relationships. I have used this strategy to find marker metabolites that contribute to various distinctions in wild eggplant species (*Solanum* spp. including the potato, tomato, and other species), such as phylogenetic sections, New World from Old World, spiny from not spiny, and edible from inedible. In this project, I also established a *Solanum* metabolic database (SMD) for the first time. This database is now available online at ftp://ftp.solgenomics.net/projects/ solanum_metabolites and has been integrated into the SolCyc database (http://solgenomics.net/tools/solcyc/index.pl).



Dr. Shi-Biao Wu in the laboratory

MR. ZHEN ZHANG

What would you like to achieve through your membership?
As an ASP member, my goals are to expand my scientific interactions with natural product scientists and to be an ambassador of natural products research everywhere.

What do you like doing in your spare time?
My favorite things are music and movies; I also enjoy sharing my spare time with my family, especially my son Michael Wu, born earlier this year. ■

New Members of ASP 2014

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 4 domestic full members, 3 international members, and 7 associate members. We look forward to meeting you and learning more about you and your work.

ACTIVE MEMBERS

Dr. Frederick Simon Golec, Jr.
Merion Station, Pennsylvania

Mrs. Arunporn Itharat
Pathumthani, Thailand

Mr. Kou-san Ju
Urbana, Illinois

Dr. Liva Harinantenaina Romuals Rakotondraibe
Columbus, Ohio

Ms. Flavia Santos
Brazil

Dr. Naglaa Gamil Shehab
Dubai, United Arab Emirates

Dr. Sunny Sunassee
Frederick, Maryland

ASSOCIATE MEMBERS

Mr. Domenick A. Barbo
Honolulu, Hawaii

Mr. Joe Cannistra
Iowa City, Iowa

Hatice Demiray
Bornova-Izmir, Turkey

Mr. Adel K. Hussein
Brooklyn, New York

Mr. Michael Mullowney
Chicago, Illinois

Britt M. Sager
Center City, Minnesota

Ms. Elizabeth A. Yancey
Tampa, Florida

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.

247th American Chemical Society National Meeting & Exposition

March 16-20, 2014

Dallas, Texas

http://www.acs.org/content/acs/en/meetings/spring-2014.html

ASP 55th Annual Meeting

August 2-6, 2014

Oxford, Mississippi

http://www.pharmacognosy.us/calendar-of-events/future-asp-meetings/

Phytochemical Society of Europe

April 27-30, 2014

Piatra-Neamt, Romania

http://www.ccb-stejarul.ro/PSE2014.html

Gordon Research Conference: Medicinal Chemistry

August 3-8, 2014

New London, New Hampshire

http://www.grc.org/programs.aspx?year=2014&program=medchem

Society for Economic Botany & Society of Ethnobiology

May 11-14, 2014

Cherokee, North Carolina

http://cms.gogrid.econbot.org/index.php?module=content&type=user&func=view&pid=46

Phytochemical Society of North America 53rd Annual Meeting

August 9-13, 2014

Raleigh, North Carolina

http://www.psna-online.org/2014meeting.html

In Memoriam: Rosemary J. Powell

By Dr. Douglas Kinghorn

The Editors and Office Staff of the *Journal of Natural Products (J. Nat. Prod.)* are very saddened to note the passing of our friend and colleague, Mrs. Rosemary J. Powell, on December 31, 2013. For 23 years, Mrs. Powell served as the very capable Editorial Assistant to her husband, ASP member Dr. Richard Powell, when he was Associate Editor of the journal. Mrs. Powell died at her home in Bradenton, Florida, after bravely fighting a recurrence of cancer that had affected her for over a decade.

Richard and Rosemary Powell

DR. GUIDO F. PAULI

Mrs. Powell was a very lively and highly motivated person, who became expert in the use of the Paragon Plus Environment database system of the American Chemical Society, used for the submission and processing of manuscripts published in *J. Nat. Prod.* She was always ready with positive suggestions of how to improve on the utility of this system on behalf of the journal as it was being refined.

For many years, Mrs. Powell accompanied her husband to the Annual ASP Meetings when she would also attend the Editorial Advisory Board meetings for the journal. Ms. Lisa Dush, *J. Nat. Prod.* coordinator in the Editor In Chief office, says, "Rosemary had a very sharp eye and wit, and even after her decades with *J. Nat. Prod.* she was always keen to improve just about anything, whether it was some technical aspect of our database system or the grammar in a standardized letter. She ran her office more efficiently than any of us, and she was one of the most helpful people I have known. I think all of us, from editors to assistants, were aided by Rosemary at some point, and no one can take her place."

An Associate Editor of *J. Nat. Prod.,* Dr. Cedric J. Pearce relates, "I do not recall exactly when I first met Rosemary—it was a while ago at one of the Annual ASP Meetings—but what I do remember were her very funny comments, and that she made me laugh. In my first year as an Editor with *J. Nat. Prod.,* Rosemary helped me a great deal as I got up to speed. When I was initially appointed, she contacted me to let me know that if I had any questions about day-to-day matters as we set up an office in North Carolina, she would be happy to help us. At the ASP meeting in St. Petersburg, Florida, in 2010, Rosemary was even more generous, and equally funny, as she offered great advice on some of the more time-consuming activities and regaled me with anecdotes of how she and Dick would carry out their editorial duties in the old "snail-mail" days. This included apparently "terrorizing" the post office on a routine basis with an armful of manuscripts that needed to be shipped to places all over the world; as I recall the PO eventually restricted her access to their services to a weekly schedule! Since then, she also commented on a number of issues which we faced as a group, also with a lot of humor and a great deal of style."

Mrs. Powell served *J. Nat. Prod.* in an exemplary manner for nearly a quarter of a century, and she will be greatly missed by us all. ■

" I think all of us, from editors to assistants, were aided by Rosemary at some point, and no one can take her place."

Brief News From Washington

By Dr. Georgia Perdue

- The budget deal, **Consolidated Appropriations Act (H.R. 3547),** reached by Congress in mid-January, gives the **National Institutes of Health (NIH) a 3.5% increase,** albeit $714 million less than 2013. **The increase will help restore funding for 385 more grants; the sequester had forced NIH to drop 722 grants.** The **National Science Foundation (NSF) received $7.2 billion**, a 4.2% increase, but $82 million less than pre-sequester levels. The **Food and Drug Administration (FDA) received a $2.5 billion increase and release of its $1.79 billion from frozen user fees, for a total of $4.4 billion.**
- At the February **National Center for Complementary and Alternative Medicine (NCCAM) Advisory Council meeting, Dr. D. Craig Hopp,** NCCAM's Program Officer, talked about **"Restructuring the Natural Product Portfolio."** Its focus seems to be shifting NCCAM's natural product work to a more scientifically vigorous portfolio and away from the greater emphasis on clinical trials of stand-alone botanicals. **The primary interests include Interaction and Methodology:** careful evaluation of **Interactions** between **natural products (NP) and pharmaceuticals; how NPs interact with each other and with the microbiome, and between genetics/epigenetics; the differences in gut microflora may play a part in the biological action of NPs. "Microbial… metabolites** [are] unstudied and unknown and play an unknown role in bioactivity." In the area of **Methodology,** Dr. Hopp pointed out that "many bioassays are incompatible with NP extracts. [There is a need] to develop high content, high throughput assays compatible with NP extracts." Two other areas of lesser interest are **Exploration and Resilience.** Details to follow. **Funding opportunities are being developed**. Stay tuned.
- **Funding Alerts:** In December, 2013, the NIH **Office of Dietary Supplements (ODS) and NCCAM reissued an RFA-OD-14-001, Botanical Dietary and Supplement Research Centers (P50)**. The letter of intent is due **April 6, 2014;** the application due date is **June 6, 2014.** The scientific merit review is in September-October; earliest start date is **July of 2015. ODS and NCCAM** also issued an **RFA-AT- 14-006 Center for Advancing Natural Products Innovation and Technology (U41). Its purpose is "to improve…and strengthen technologies and methods used in natural products research."** Letter of intent is due **May 27, 2014;** application due date is **June 27,** 2014; earliest **start date is March of 2015.**
- At the December meeting of the **Advisory Committee to the Director (ACD) of NIH,** NIH Director Dr. Francis Collins said the "…[this] is not an easy time to be at NIH with its tight resources. We have to figure out how to keep the ship moving in the right direction." He noted that **Mr. Bill Gates,** of the Bill & Melinda Gates Foundation, **gave the NIH David E. Barnes Global Health Lecture in December, 2013, "Why the Future Needs Biomedical Innovation."** "It drew one of the largest crowds ever." Mr. Gates also saw firsthand the high throughput screening research for new tuberculosis drugs.
- **New action in sight to improve "Reproducibility of Published Research." Dr. Lawrence Tabak,** NIH Principal Deputy Director, provided an update and solution to this problem. Two titles of articles say it all: *Trouble in the Lab and How Science Goes Bad.* **The main focus of NIH has been on preclinical research papers.** A sampling of possible causes for this problem:
  - **Cartoon biology** – overemphasis on the "wow" and little detail on the science; results cannot be reproduced
  - **Chance** –experiments done without appropriate replication
  - **Poor experimental design or poor reporting on experiments**
  - **Inadequate reporting of resources used,** e.g., cell lines or bacterial strains
  - **Perverse reward incentive**—a Chinese university awarded $30,000 to a researcher for publishing results. Dr. Tabak said, "in my day it was publish or perish."

  Dr. Tabak asked ACD members to become more involved

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by being on editorial boards or advisors to such boards, raising community awareness, providing more stability in the early careers of scientists, and enhancing formal training etc. **By spring, the NIH Office of Intramural Research will unveil a pilot on a new mandate on research integrity as it relates to experimental biases, study design, and ethics training,** a course required for all NIH intramural scientists. **The Office of Extramural Research will then make this information available on a website for adoption by researchers around the country.** Reaction of ACD members to the new plan included: "impressed at the comprehensiveness and intensity of the response since our last meeting; Wow! This is great! Congratulations!"

- At the end of January, 2014, the **President's Council of Advisors on Science and Technology** (PCAST) **discussed the reproducibility of research. Dr. Glenn Begley,** former head of Oncology at Amgen, now Senior Vice President of R&D, TetraLogic Pharmaceuticals, Malvern, Pennsylvania, said Amgen [scientists] "could not reproduce 47 of 53 published experiments … not a unique experience." AstraZeneca [had the same experience]. **"Most shocking was that 12 investigators could not reproduce their own data."** His criticisms included: scientific sloppiness; poor experimental design; poor reagents; poor analysis. "The vast majority want to do the right thing but do not know how." "…institutions should [insure] post docs and PhD students are appropriately trained." "Reviewers and editors of top tier journals repeatedly tolerate poor quality science; change will come from them." **Dr. Donald Berry,** Department of Biostatistics, MD Anderson Cancer Center, Houston, Texas, said "in any study things untold are more important than those told." "In one study the placebo beat the cancer agent" [without explanation]. **Dr. Donald MacArthur,** Assistant Professor, Harvard Medical School and Massachusetts General Hospital, Boston, Massachusetts, noted that small sample sizes increase the probability of false positives. "There is no requirement for independent replication." One of his many recommendations includes working in consortia for greater access to sample sizes and internal peer review to help detect errors before publication. **Editors-in-Chief, Dr. Marcia McNutt** from *Science and Nature*'s **Dr. Philip Campbell** agree that "journals are the first to know when research is not reproducible and have an obligation to alert the research community." *Science* is adding review members and "explicit guidelines authors have to follow for preclinical studies." Dr. Campbell said there will be a review this spring of several measures recently put in place. He noted that many believe, "if you publish a paper in *Nature* you are on your way to a career future."
- **The FDA approved only 27 new drugs in 2013** compared to 39 in 2012. The agency cited fewer New Drug Applications (NDAs) submitted: 32 last year compared to 41 in 2012.
- In December of 2013, the FDA granted **"fast track" status to the promising antimalarial drug Tafenoquine, an 8-aminoquinoline derivative being developed by GlaxoSmithKline and Medicines for Malaria Ventures.**
- **Merck's new sublingual drug Ragwitek for ragweed allergies, a pollen extract from *Ambrosia artemisiifolia,*** passed the first FDA hurdle when a majority of the nine member advisory panel agreed on the efficacy and safety of the drug. It is expected that FDA will accept the panel's advice and approve the new drug, which is **only for ages 18-65.**
- In highly publicized events and press, the **NIH** announced the launch of the **new Accelerating Medicines Partnership (AMP) with the pharmaceutical industry, nonprofit organizations, and the Foundation for the NIH,** to accelerate the discovery of new medicines for Alzheimer's disease, type II diabetes, and auto immune disorders. Pharmaceutical companies signing on include Biogen Idec, Bristol-Myers Squibb, Eli Lilly and Company, GlaxoSmithKline, Janssen Research and Development (a part of Johnson and Johnson), Merck, Sanofi, and Takeda Pharmaceutical Company. According to an NIH statement "a critical and groundbreaking element of the partnership is the agreement that **the data and analyses generated will be made publicly available to the broad biomedical community."** NIH hopes this t**hree to five-year project** will "set the stage for broadening AMP" to other diseases and conditions. For more details www.nih.gov.
- **The NSF** reported that researchers at the Chicago Botanic Garden, Glencoe, Illinois, supported by an NSF Long Term Research on Environmental Biology grant, have some **disturbing data about the narrow leaved purple coneflower, *Echinacea angustifolia*.** Native to the once sprawling tall grass prairie and the North American Great Plains, its habitat is now disappearing; it is restricted to the small "prairie remnant." Pollination and aphids are also problems. Stay tuned for its fate!
- **A Chinese traditional herbal medicine, Tianqi, which contains 10 Chinese medicinal plants,** is reported by researchers at the Tang Center for Herbal Medical Research, University of Chicago, Chicago, Illinois, **to reduce progression of prediabetes to diabetes. One of the plants in the mixture, HuangLian, Rhizoma Coptidis, contains berberine, considered the active ingredient.** Stay tuned.

"Most shocking was that 12 investigators could not reproduce their own data." His criticisms included: scientific sloppiness; poor experimental design; poor reagents; poor analysis. "The vast majority want to do the right thing but do not know how."

Guido F. Pauli, Ph.D, 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**.

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Associate membership is open to students of pharmacognosy and allied fields only. These members are not accorded voting privileges.
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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**.

Honorary Membership

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

Present Honorary Members are:

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Additional information about membership may be obtained by writing to the Treasurer of the Society:
Guido F. Pauli, Ph.D, Treasurer, The American Society of Pharmacognosy,
3149 Dundee Road, #260, Northbrook, Illinois 60062. Email: gfp4asp@gmail.com