



THE AMERICAN SOCIETY OF PHARMACOGNOSY

THE ASP NEWSLETTER VOLUME 42 ISSUE 2

ASP Annual Meeting in Washington, D.C. August 5 - 9, 2006

by Tawnya McKee

Please join ASP this summer at the Annual Meeting for an exciting series of presentations covering contemporary developments in natural products chemistry, biosynthesis, drug discovery, herbal drugs, and NIH Road Map initiatives. The theme of this year's conference is "Natural Products on Target", and the symposia include:

1) *Chemical Biology of Natural Products: Molecular Targets and Molecular Methods*

2) *Synthetic and Biosynthetic Pathways to Natural Product Diversity*

3) *Clinical Evaluation of Herbs and Supplements: Trials, Toxicology, and Drug Interactions*

The pre-meeting workshops, *Botanicals as New Drugs* and *Alternative Careers for Natural Products Scientists*, will be held on Saturday, August 4th. Also, the two scheduled post-meeting workshops are *AOAC Dietary Supplements Methods Validation* and *Countercurrent Chromatography in Natural Products Analysis*.



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Dr. William Fenical Receives 2006 ACS Ernest Guenther Award

by Ted Molinski

The Ernest Guenther Award in the Chemistry of Natural Products, the highest honor accorded by the ACS for lifetime achievements in natural products chemistry, was given to current ASP president, Dr. William Fenical of the Scripps Institution of Oceanography, University of California, San Diego. The award ceremony was held on March 26, the first day of the spring ACS National Meeting in Atlanta, Georgia, and attended by ACS registered conference attendees, executive officers of the Division of Organic Chemistry, representatives from Chemical Abstracts Services, and the Givaudan Group, the financial sponsor of the award. Later, attendees at an invitation-only black-tie banquet helped congratulate Dr. Fenical and other ACS award recipients being honored at the national meeting. Celebrations continued elsewhere in Atlanta during the week with friends and family, including Dr. Fenical's wife, Fran Fenical, son Scott, and daughter-in-law Lynette.

The award symposium, co-sponsored by Merck Inc., Chiron Biosciences, and Nereus Pharmaceuticals, was held immediately before the ceremonies. Scientific presentations on the theme of microbial natural products were delivered by invited speakers and ASP members Drs. Jon Clardy (Harvard *continued on page 3*

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.phcog.org/employment.html

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Editor's Corner

As I write this column, the deadline for the 2006 Annual Meeting poster abstracts has just past, and the meeting is right around the corner. In this issue, we highlight the many activities planned for this year's meeting, including a special symposia and associated workshops. We also have an insider's guide to D.C. written by a younger member, which provides many interesting options on how to spend your free time while at the meeting. I want to thank the organizers of the 2006 Annual Meeting for providing *The Newsletter* with so much information.



In this issue, we introduce a new column, "Behind the Scenes in Pharmacognosy". The goal of this column is to interview an ASP member about a recent publication. ASP member Dr. Gil Belofsky kindly participated in this new column by answering questions about his research on the smoke tree that was published earlier this year in the *Journal of Natural Products*. We are continuing our column "Meet a New ASP Member", and meet Christina Almonte, a full member from Smithfield, Rhode Island. Also, there are articles highlighting the achievements of two long-term members, Dr. William Fenical and Dr. Norman Farnsworth.

This is the second issue of the *The Newsletter* that I have edited. I appreciate all the helpful feedback from the last issue, and encourage members to continue to give me your input. This issue has many more articles than the first, and I thank everyone for providing materials in a timely manner. If you would like to contribute an article to *The Newsletter*, our next deadline will be August 18. I look forward to seeing you at the Annual Meeting.

Early Registration Deadline Extended

New Deadline June 15, 2006



The new early registration deadline for the 2006 ASP Annual Meeting is Thursday, June 15, 2006. This year's meeting will be held from August 5 to 9, 2006 in Washington, DC. See you there!

Dr. Fenical Receives Ernest Guenther Award

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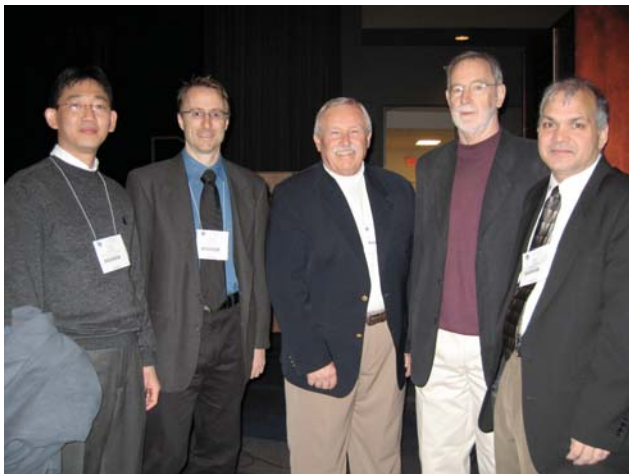
University), David Rowley (University of Rhode Island), Taifo Mahmud (Oregon State University), and Sheo Singh (Merck, Inc.) to the early Sunday morning audience. Prior to these events, a representative of CAS presented to Dr. Fenical the traditional tribute given to ACS awardees, a bound collation of abstracts from the recipient's publications.

Dr. Fenical is well known in the scientific community as a pioneer in marine natural products chemistry. After receiving his doctorate in chemistry in 1968 from University of California, Riverside, Dr. Fenical joined the Scripps Institution of Oceanography (SIO), University of California (UC) San Diego in 1974, where he pursued his developing interests in the chemistry of halogenated terpenoids and lipids from algae. Over nearly four decades, Dr. Fenical expanded his scientific investigations into the chemistry and chemical ecology of soft corals (gorgonians), ascidians, sea squirts (tunicates or ascidians), and marine microbes. This extraordinary scientific journey can be recounted in more than 300 peer-reviewed publications and other works. Dr. Fenical's research has enjoyed long-time support from NIH, including funding from an NCI National Cooperative Drug Discovery Grant that brings together the efforts of academic researchers and pharmaceutical companies in natural products investigations.

Most recently, the research groups of Dr. Fenical and long-time associate Professor Paul Jensen at SIO have made ground-breaking discoveries of new genera of marine bacteria from deep-ocean sediments scooped from thousands of meters beneath the waves. The *Salinispora* may be the first described true marine-associated *Actinomycetes*. Under fermentation conditions, different species of this genus have already yielded exotic compounds such as salinosporamide A, a potent inhibitor of human 26S proteasome that is recognized as a valid target for cancer chemotherapeutics. Nereus Pharmaceuticals will advance salinosporamide into Phase I clinical trials in 2006. Although Dr. Fenical has held the rank of Professor of Oceanography at SIO since 1983, he was accorded a rare and special UC honor in 2005: the title of Distinguished Professor.

The Ernest Guenther Award consists of an inscribed document and a \$5,000 check. Prior to the presentation and Dr. Fenical's award address, a Givaudan representative briefly recounted the history of the award by noting it was established in 1948 by Fritzsche Dodge and Olcott Inc., in commemoration of the 75th anniversary of the founding of the company. Since 1992, the Givaudan Group has continued to support the award. Although traditionally the award has been given to synthetic organic chemists who've excelled in the total synthesis of natural products, past Ernest Guenther Awards have also been bestowed upon members of the ASP who are actively involved in isolation and discovery of novel compounds from nature. Among these natural products 'all stars' are Koji Nakanishi (1978), Kenneth Rinehart (1997), Paul Scheuer (1994), Jon Clardy (1995), John Daly (2002), and last year's recipient, Satoshi Omura.

As Dr. Fenical approaches his 65th birthday this year, he is in a position to enjoy the recognition of his peers and fitting tributes from two major scientific societies, ASP and ACS, whose memberships sustain natural products chemistry.



Dr. William Fenical (center), the 2006 ACS Ernest Guenther Award recipient, with ACS symposium participants (left to right: Drs. Taifo Mahud, David Rowley, Jon Clardy, and Sheoh Singh).

Dr. William Fenical in the News

by Amy Keller

In addition to being awarded the prestigious Ernest Guenther Award, Dr. Fenical was also showcased in the *Los Angeles Times* on May 18, in an article entitled "Neptune's Medicine Chest" by *Times'* staff writer John Balzar. This article profiles the work of Dr. Fenical and those in his laboratory at Scripps Institution of Oceanography. Mr. Balzar's article goes on to describe the field of ocean natural product chemistry and Dr. Fenical's immense contribution to it. In addition to identifying new ocean species, Dr. Fenical's lab has also isolated and researched two compounds from marine organisms that are currently being tested in human clinical trials for use as anticancer drugs.

Among the details about Dr. Fenical's work at Scripps and the company he helped found called Nereus Pharmaceuticals, the article also takes the reader through a typical collection day on Dr. Fenical's boat, the Osprey. Scientists and students alike collected samples and enjoyed a fresh cooked meal, collected and prepared by Dr. Fenical himself.

Although the article showed a fun side of research, it also served to underscore the ongoing and tireless research for anticancer drugs from ocean organisms that remains central to Dr. Fenical's laboratory and work.

The 2005 Schwarting and Beal Awards for Best Papers in JNP

by A. Douglas Kinghorn

In 2001, the Foundation Board of the American Society of Pharmacognosy began a new initiative as a result of the Arthur E. Schwarting and Jack L. Beal Awards for best papers in the *Journal of Natural Products*. In this manner, two former distinguished editors of the journal are fondly remembered. The Schwarting Award is open to all papers published in the journal within a given year (either in print or electronically). In turn, the Beal Award is awarded to younger investigators [i.e., persons within 12 years of receiving their Ph.D. degree or within 10 years of gaining their first professional appointment (e.g., Assistant Professor or equivalent position in industry or government)]. A two-tier process was used to determine the winners for papers published in *J. Nat. Prod.* in 2005, with editors Drs. Daneel Ferreira, William H. Gerwick, A. Douglas Kinghorn, and Richard G. Powell having nominated two papers each for the Schwarting Award and one each for the Beal Award. ASP President Dr. William Fenical appointed an ad hoc committee (Drs. Jack Rosazza, Chair, Ben Shen, Yuzuru Shimizu) to make the final selections. The winners are as follows:

2005 ARTHUR E. SCHWARTING AWARD

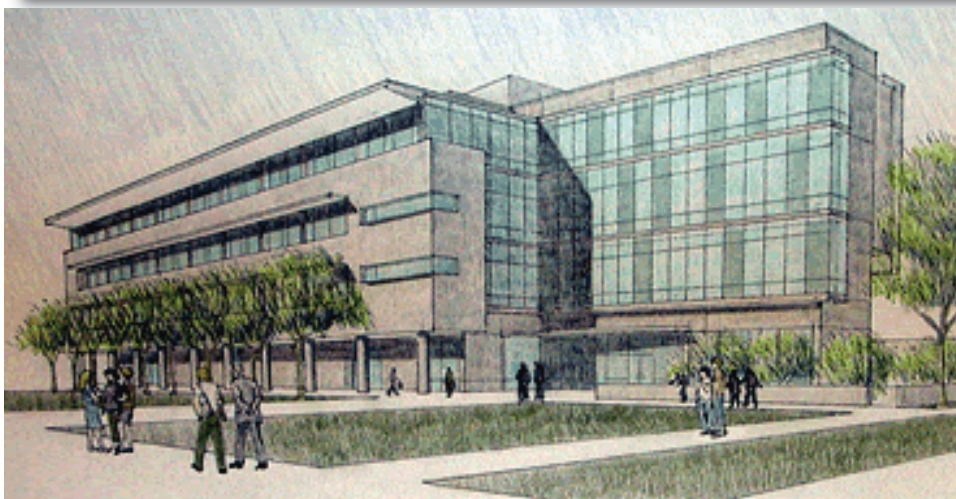
Omar E. Christian, Jennifer Compton, Keisha R. Christian, Susan L. Mooberry, Fredrick A. Valeriote, and Phillip Crews.* Using jasplakinolide to turn on pathways that enable the isolation of new chaetoglobosins from *Phomopsis asparagi*. *J. Nat. Prod.* 2005, 68, 1592-1597.

2005 JACK L. BEAL AWARD

Andrea J. Bourdelais,* Henry M. Jacocks, Jeffrey L.C. Wright, Paul M. Bigwarfe, Jr., and Daniel G. Baden. A new polyether ladder compound produced by the dinoflagellate *Karenia brevis*. *J. Nat. Prod.* 2005, 68, 2-6.

The corresponding authors* of these papers will be invited to attend the Banquet at the 47th ASP Annual Meeting to receive a check and a plaque in honor of this achievement. The above-mentioned papers may be accessed freely from the [home page](#) of the *Journal of Natural Products*. Congratulations to Drs. Crews and Boudelais and to their co-authors!

New Pharmaceutical Sciences Building at UC San Diego



by Tadeusz Molinski

Twenty years after its conception, the Skaggs School of Pharmacy and Pharmaceutical Sciences (SSPPS), located at the University of California, San Diego (UCSD), has a new home. At a dedication ceremony on May 2, 2006 the doors of the new Pharmaceutical Sciences Building were officially opened. Amid colorful banners fluttering on a cool spring day, the audience of 400 invitees including faculty,

pharmacy students, deans, and vice chancellors listened to speeches delivered by the Chancellor of UCSD, Marye Anne Fox, Vice Chancellor of Health Sciences, Edward Holmes, President Emeritus of the UC system and UCSD Professor, Richard Atkinson, Claudia Skaggs Lutrell of the Skaggs Research Foundation, third year student Danielle Mahfood, and Founding Dean of SSPPS, Palmer Taylor. Design and construction of the Pharmaceutical Sciences Building was supported by State of California funding, the Skaggs Research Foundation for the education center, and the NIH for core analytical laboratory space.

The vision for pharmacy education to be coordinated with medical education at UCSD was conceived almost 20 years ago by principals including Dean Taylor and Richard Atkinson, and nurtured through tight State budgets and shifting priorities. It crystallized with a \$30 million gift from the Skaggs family through the Skaggs Research Foundation that will be used for faculty recruitment, core research facilities, and curricular programs. In the meantime, the founding class of 2006 was admitted and received instruction in various buildings around campus over the course of four years. On June 3, 24 students will graduate with the first Pharm. D. degrees earned at SSPPS.

SSPPS is developed around a strong research theme for both faculty academic programs and student training. Included is the initiation of a combined Pharm.D.-Ph.D. program. The pharmacy building has 76,150 feet of assignable space for instruction, research, and administration and includes laboratory space for chemistry, biology, pharmacology, and bioinformatics, core analytical facilities in mass spectrometry, high-field nuclear magnetic resonance, spectroscopy, and a vivarium. Faculty recruitment is ongoing, but already a commitment to an important research theme, marine natural products and drug discovery, has begun. Through a campus-wide partnership with the Department of Chemistry and Biochemistry, the Scripps Institution of Oceanography (SIO), and the UCSD Moores Cancer Center, SSPPS has recruited three academic scientists whose names are familiar to members of the ASP: William Gerwick (former Professor of Pharmacy at Oregon State University and President of the ASP from 2002-2003), Tadeusz Molinski (Professor of Chemistry, from UC Davis), and Bradley Moore (Professor of Pharmacy, recruited from University of Arizona).

The unique relationships between SSPPS and other UCSD research programs will strengthen and expand an already impressive track record in natural products established at SIO by Dr. William Fenical (who holds an adjunct appointment in SSPPS) and the late Dr. D. John Faulkner. The Department of Chemistry and Biochemistry continues to support additional joint appointments with SSPPS.

Out, About, In, and Around the District of Columbia

By Daniel Fabricant

When most people picture Washington D.C., famous monuments and museums spring to mind. Among these, the new National Museum of the American Indian is located on the National Mall near the U.S. Capitol Building. It showcases both traditional and contemporary art from various native nations and includes a cafe serving traditional Native American fare. The National Gallery of Art, also on the National Mall, will be exhibiting works by Henri Rousseau and Venetian



painters in addition to their permanent collection. Also, the National Geographic Museum at Explorer's Hall at 17th and M Streets hosts lectures and live events in conjunction with their exhibits. And for some peace and quiet amidst bucolic surroundings, visit the U.S. Botanic Garden, also located on the National Mall, and stroll around the National Garden and other exhibits located inside.

While most picture museums and famous buildings in D.C., the city has plenty of open spaces for outdoor oriented types. Don't go home without viewing Washington's waterfront and several major sights from an appropriate vantage: rowboat, canoe, or kayak. Or, let someone else play captain on a river cruise on the Potomac or Anacostia Rivers. Equally fun is pedaling a two or four seat boat around the Tidal Basin before visiting the Jefferson and Franklin Delano Roosevelt Memorials. Great Falls is only 15 miles from D.C. for those that like a little rougher terrain.

Outdoor entertainment is popular in D.C. Outdoor concerts are frequent in the summertime at Wolf Trap National Park for the Performing Arts, or you can head over to a military band concert held at Arlington National Cemetery. If outdoor music is not your thing but you still want to get outside at night, look for updates for Screen on the Green; during this series, people blanket the National Mall grounds on summer evenings for free screenings of classics such as *The Graduate* under the stars.

Other places of interest that you may not be familiar with are Glen Echo Park and the International Spy Museum. For the artists of the bunch there is the Torpedo Factory in Old Town Alexandria that serves as a studio for many local, aspiring artists. Open air markets are abundant in the D.C. summer. Eastern Market and the Dupont Circle Farmer's Market have a bit to offer with food, live music on occasion and bargains (items that may have just fallen off the back of a truck).

D.C. is a town of neighborhoods and some are quite "spirited", if you get my drift. So to that end, here are some popular spots for local flavor:

Adams Morgan

The Reef -Great rooftop seating in D.C.'s most diverse neighborhood.

Pharmacy Bar - Relaxed environment and you can't beat the name.

Dupont Circle

Lauriol Plaza- Great for outdoor dining and socializing.

Sign of the Whale- Great pub and you may run into a K Street lobbyist or two.

The Brickskeller- The largest list of fermented *Humulus* natural products in the U.S.

Georgetown

Clyde's- A D.C. institution.

Tony and Joe's- The waterway is a great place to sit outside and watch the action.

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More Out, About, In, and Around the District of Columbia

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Chadwick's- Great neighborhood spot with a sister restaurant in Alexandria.

Chinatown/Whitehouse

Tony Cheng's- See your dinner swimming a few moments before it's cooked to your liking

Georgia Brown's- Great southern hospitality.

Shelly's- Take Norm for a cigar.

Hotel Washington- Go to the rooftop deck for a great view of D.C.

Alexandria/Arlington/Crystal City

Birchmere- Live entertainment.

Dr. Dremo's- Strange name but award winning local brewery.

Sine Irish Pub- Good Craic.

Basin Street Lounge- In the heart of Alexandria is New Orleans style jazz.

Capitol Hill

Bullfeathers- A good chance you'll run into a Senator or Representative.

Hawk and Dove- A good mix of politics and sports.

The Dubliner- One of the best Irish pubs in D.C.

These are all easy to reach by Metro and will get you into fun neighborhoods that should have something of interest. Enjoy and if you need any other D.C. suggestions, feel free to email dfabricant@nfpa.org

Adam Kavalier and Amy Keller contributed to this article

ASP Annual Meeting in Washington, D.C. August 5 - 9, 2006

A more complete description of the meeting schedule, scientific program and registration information can be found on the ASP Annual Meeting [website](#).

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Travel Tips: For arrival by air, there are three major airports serving the Washington, D.C. area. We strongly recommend that you fly into Ronald Reagan Washington National Airport (DCA) which is across the river from Washington, D.C., and one mile from the hotel. From the airport you can use the direct hotel shuttle service or ride the Metrorail one stop to the hotel. Dulles International Airport (IAD) is 26 miles west of Washington, D.C. and access to the hotel will cost approximately \$20-\$75 one way. The third airport is Baltimore/Washington International Airport (BWI) which is 45 miles from Washington, D.C. Travel to the hotel from this airport will run between \$20-\$70 one way. For more detailed travel directions, please see the meeting [website](#).

Travel around Washington is easy and economical through the use of the Metrorail system and detailed maps will be included in your welcome package. D.C. traffic is very bad and we do not recommend driving, especially during morning or evening rush hours. Parking can also be a challenge and there is no free on-street parking anywhere near the hotel. The hotel does have an underground parking garage which costs \$16 per day.

Hotel: There are two Marriott hotels in the Crystal City region. The ASP 2006 meeting is at the Marriott Crystal Gateway, 1700 Jefferson Davis Highway. Do not confuse this with the Crystal City Marriott, located at 1999 Jefferson Davis Highway. If you are accessing the hotel from the Metrorail, make sure to follow signs to the correct hotel. Directions to the hotel are posted on the housing link of the ASP meeting web site. Hotel reservations must be made by July 14 to qualify for the discounted meeting rate and for online registration instructions visit their [website](#). Students attending the meeting qualify for a special housing discount and up to four students can share one hotel room.

We look forward to seeing you there!

Associated Workshops at the ASP Annual Meeting

The organizers of the 2006 ASP Annual Meeting would like to highlight the special programs associated with the upcoming ASP Annual Meeting, especially those geared toward younger members, students, postdoctoral scientists, and young professionals. These programs include Saturday and pre-meeting workshops and a two day post-meeting course offered at the meeting hotel. Also, a one day conference on countercurrent chromatography (CCC) workshop will be offered. Please consult the meeting [website](#) for details and be sure to sign up for the workshops and courses when you register.

Bucking the System: Non-Academic Careers for Natural Products Scientists Saturday, August 5, 11:00am - 4:00pm

ASP - FDA Workshop: Developing Botanicals as "New" Drugs
Saturday, August 5, 2006
11:00 am - 4:00 pm

Single Laboratory (In-House) Validation of Analytical Methods for Dietary Supplements Thursday and Friday, August 10-11, 2006

CCC in Natural Product Analysis
Thursday, August 10, 2006

A one-day workshop on Thursday, August 10, 2006 entitled "Countercurrent Chromatography of Natural Products" will be held by CCC2006. This [workshop](#) is free for ASP members. Transportation to the meeting site from the Crystal Gateway Marriott will be organized by [CCC2006](#) or can easily be achieved by [Metro](#).

In addition to the ASP events, all student and postdoctoral registrants will receive tickets to the special YMC working lunch co-sponsored by BioBotanica on scientific writing and publishing.

Younger Members Working Luncheon
Sponsored by BioBotanica
Sunday, August 6 12:00pm - 1:30pm

The ASP Organizing Committee looks forward to seeing you at the Annual Meeting in August!



March Issue of JNP Honors Dr. Norman Farnsworth



by Amy Keller

The March 2006 issue of the *Journal of Natural Products* was in honor of Dr. Norman Farnsworth, Research Professor of Pharmacognosy and Distinguished University Professor at the University of Illinois at Chicago. The issue contains 17 full articles, 14 notes, nine contributed reviews and a festive editorial detailing the distinguished career of Dr. Farnsworth. He is one of the founders of the American Society of Pharmacognosy and is largely credited with leading the field of pharmacognosy into the science it currently is, through founding both ASP and the journal preceding *Journal of Natural Products*. Dr. Farnsworth continues to educate graduate students and conduct research, among many other significant achievements. As the *Journal of Natural Products* Editor-In-Chief, Dr. Douglas Kinghorn, observed,

“In 2006, Norm will have served a total of 45 continuous years as a member of the Editorial Advisory Board of *Journal of Natural Products* and its predecessor, *Lloydia*. The other Guest Editors, Harry Fong and Geoff Cordell, and myself wish to celebrate Norm’s long association with the journal through this special issue in his honor. We are delighted by the response shown by Norm’s colleagues and former postdoctoral and graduate students in terms of the submission of papers, and feel that the content of this special issue reflects the multifaceted approach Norm has adopted to research and service in the field of Pharmacognosy in his distinguished career. We hope that all who know Norm will treasure this special issue of the journal for many years to come.”

In discussing this special issue with *The Newsletter*, Dr. Farnsworth notes how pleased he was to see so many former and present colleagues’ contributions. When asked about the future of pharmacognosy as a science, Dr. Farnsworth sees it contributing greatly to the future of natural product research. He also mentions, “My definition of pharmacognosy is that branch of science dealing with the botany, chemistry, biochemistry and pharmacology (including clinical studies) of all natural products. It is the only single term that encompasses every aspect of natural products research. The *Journal of Natural Products* will continue to be the major outlet for “pharmacognosy” research due to its high quality content. It is interesting that every editor of the journal, since being under the auspices of the ASP, i.e. Arthur Schwarting, Jack Beal, Jim Robbers and Doug Kinghorn, are pharmacognosists by training.”

Dr. Farnsworth is especially honored to be the first pharmacognosist to receive a dedicated issue of the *Journal of Natural Products*. When speaking of this particular recognition, he notes, “My body of work should be dedicated to all of the faculty, post-docs, graduate students and others who have made my career so productive.”

This special issue can be purchased from the [ACS](#).



New Members of 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 13 domestic full members, seven international full members, and nine associate members. We look forward to meeting you and learning more about you and your work.

Full Members

Professor Dora Akunyili
Abuja, Nigeria

Christina Almonte
Smithfield, Rhode Island

Bruce Bouche
Westlake Village, California

Dr. Reimar C. Bruening
Boston, Massachusetts

Dr. Jose Augusto Cabral
Manaus, Brazil

Dr. Jingqiu Dai
Oxford, Mississippi

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The ASP Newsletter is going online



The Newsletter is moving to an electronic distribution system. If you have received a hard copy of *The Newsletter*, it means that the Society does not have an e-mail address for you. Please let ASP know your email address immediately by contacting David Slatkin at asphcog@aol.com. The leadership of ASP has decided that next year no paper copies of *The Newsletter* will be sent to the membership.

Meet a New ASP Member

ASP welcomes many new members to The Society this year. Among them is Christina Almonte. Possessing a diversity of experiences, including travel to the Amazon, Ms. Almonte took time out from starting her own business to answer a few questions for *The Newsletter*. We are grateful to her for granting us the opportunity to get more acquainted with her and her work.

What are your research interests in pharmacognosy?

I have a bit of attention deficit disorder with research, because of my driven desire to find the cure for cancer. I have had this drive since the age of 13, and thus my interests in various fields of research, pharmaceuticals, and the business world have varied in order to hone my skills for the research of cancer. My dream of starting my own business to contribute to the ongoing research is now becoming a reality.

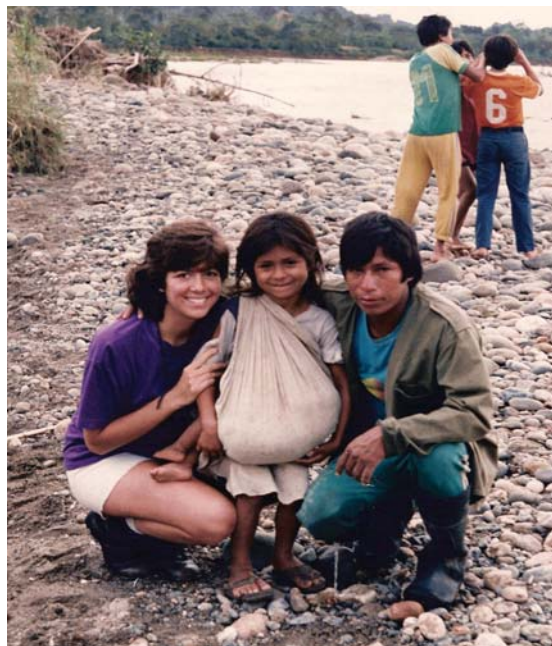
I am currently in the initial development stage of a new company, Universal Providence, LLC with product testing and community negotiations. Universal Providence, LLC was established to meet two independent needs in very different worlds. First off, innovative commercial products that utilize medicinal plants from around the world will enable impoverished indigenous communities an opportunity for economic sustainability in the present day. Secondly, Universal Providence's innovative nutraceutical products will reach and aid people around the world in various therapeutic areas.

Why did you join ASP?

I joined ASP specifically because of the credible ongoing research it supports and reports in the *Journal of Natural Products*. I like having the ability to keep updated with the news that is offered in this field as I also share a mutual interest with ASP in preserving biodiversity and the rain forests.

What is your scientific background?

My background includes a BS in Microbiology and minor in Chemistry from the University of Rhode Island, 1991. I had a special inner desire to work with plants and persuaded ASP member Dr. Yuzuru Shimizu in the Pharmacognosy Department to take me under his wing to study the last two



Christina Almonte (left), on a 1989 trip in Ecuador. Ms. Almonte notes, "Although I have changed quite a bit, my heart for these people has only grown fonder and I refuse to age!"

years of my degree. During the last years of my degree, I had the good fortune to travel to the rainforest of Ecuador to study under Dr. Bradley C. Bennett. We worked with the Quichuan Indians in the Amazon basin, identifying and collecting medicinal plants for the National Cancer Institute.

I later worked with the Natural Product Drug Discovery group in Research and Development at Bristol Myers Squibb Company, under Dr. Sal Forenza working with the Plant Chemical Dereplication group.

What would like to achieve through your membership?

My interest in joining the ASP, is to stay connected to the ongoing activities of this field of science. I believe the field of pharmacognosy is fascinating and I hope my company will be another voice to contribute to the success of this highly important field.

2009 - Celebrating the 50th Anniversary of the ASP's Founding

by Roy Okuda

In just three years, the American Society of Pharmacognosy will celebrate the 50th anniversary of the Society's founding. From a humble start at the University of Illinois, Chicago with a few dozen faculty members and graduate students, the ASP today encompasses 1,200 members from throughout the world, and is responsible for the premier journal in the field, the *Journal of Natural Products*.

We will mark the Golden Anniversary of the ASP with a meeting in Honolulu, to be held June 27 to July 1, 2009 at the Sheraton Waikiki. In addition to our usual scientific program, we are planning special presentations to both commemorate where the Society has been and where we hope to go in the future. By holding the meeting in the Pacific, we expect to attract colleagues from Pacific Rim countries for professional and social interchange.

A number of additional activities are being planned to mark the occasion. We encourage you to get involved in this once-in-a-lifetime milestone for ASP. In the coming months in *The Newsletter*, and at the ASP meeting, additional details will be provided.

One such project, entitled the ASP Photo Archive, ASP member Dr. John Beutler is managing. He is collecting any photos that you may have which are relevant to the ASP from over the past 50 years. Photos from all ASP meetings are of interest, in particular, photos from the earliest years of the Society. Digital images are easiest, but Dr. Beutler can scan prints and slides. We can also use photos of ASP members in the field or laboratory, but be sure to add a caption. The photos may be used in the 2009 program or in an on-line gallery.

Another project is to collect the program books for all of the 50 Society meetings. Thanks to ASP member Dr. George Constantine, we have the programs for the 7th, 9th and 10th ASP meetings. However, we need most of the books prior to 1985. Other paperwork, such as the business meeting, is also quite interesting and amusing.

Yet another project in development is a book on the history of the ASP. There will be other ways to contribute or become involved in celebrating the Golden Anniversary of your Society. If you have any ideas, please pass them along.

The ASP 50th Anniversary Committee consists of: ASP members Drs. Roy Okuda (Chair), Gordon Cragg, Norman Farnsworth, and Nick Oberlies.



In Memoriam: Dr. Donald E. Nettleton, Jr.

The ASP community was saddened to learn of the death of long-time ASP member Dr. Donald Nettleton from a stroke on February 24, 2006, at the age of 75.

Dr. Nettleton was born March 16, 1930, in New Haven, Connecticut. He graduated from Yale University in 1952 and received a doctorate from Rice University in 1956. In 1957, Dr. Nettleton married Rachel Post and they lived in Jordan, New York for 40 years before moving to Aloha, Oregon in 1999. Dr. Nettleton was a Senior Chemist for Bristol-Myers Squibb in natural product research. He was Secretary of ASP for several years and often attended the annual meetings with his whole family.

He was noted for his love of opera, fishing, stamp collecting, and plant photography. His wife, Ms. Rachel Nettleton, asked that anyone interested in Dr. Nettleton's numerous labeled slides of plants from the upstate New York region should contact her at rachelnettleton@hotmail.com.

Survivors include his wife, daughters Mignon Schriek, Rebecca Bates, Jilda Nettleton, Norina Nettleton, and five grandchildren. Donations may be sent to:

Nature Park of Tualatin Parks and Recreation
Tualatin Hills Foundation, c/o Joan Anderson-Wells
15655 SW Millikan Blvd., Beaverton, OR 97006

Providence St. Vincent Hospice and Palliative Care
3601 SW Murray, Suite 40
Beaverton, OR 97005

Behind the Scenes in Pharmacognosy

Clearing the Air on the Smoke Tree

by Amy Keller

In January of this year, the article entitled, "Metabolites of the 'Smoke Tree', *Dalea spinosa*, Potentiate Antibiotic Activity against Multidrug-Resistant *Staphylococcus aureus*" appeared in the *Journal of Natural Products* 69th volume. *The Newsletter* interviewed first author and ASP member Dr. Gil Belofsky, who graciously gives us insight into an interesting study.

How did you become interested in plant metabolites?

My first experience with plant metabolites and natural products chemistry was at Colorado State University in Frank Stermitz's lab. At the time I loved the idea that chemistry could be involved in what is essentially natural history. The "old school" naturalists style of study always appealed to me, but until I started work in this area, I never thought it was something chemists could do for a living. The idea of doing field work was also a big attraction, and still is.

That was when I got my master degree, back in 1987 and, not surprisingly, Frank's influence is clearly seen in the *Dalea* work. He and Kim Lewis pioneered the research that one molecule, acting as a pump inhibitor, could work in concert even with a weak antibiotic to overcome certain resistance mechanisms.



Dr. Gil Belofsky collecting in Tallgrass Prairie Preserve near Pawhuska, OK. He says, "I'm not smiling because I know chiggers, ticks, and who knows what else are crawling on me."

Who in your laboratory carried out the research?

The chemistry work was done at The University of Tulsa, and the bioassay work at the Northeastern University. The plant material was collected in California's Anza-Borrego Desert by an undergraduate, Mr. Kavon Azadi, who is now in medical school at The University of Oklahoma, and me. During the trip the SUV got stuck on a boulder and was only extricated after extensive digging in the sand. The next day, still congratulating myself on the engineering of the rescue, I backed into a telephone pole and crushed the back end of the vehicle. D'oh! The chemistry side of the lab work was done by Roberto Carreno, now in graduate school in Biochemistry at the University of Houston, and me. Roberto did large portions of the extraction, isolation, and initial 1D NMR work and I did some of the final isolation and all the 2D NMR work. As a professor at The University of Tulsa, I still very much enjoyed working in the lab myself. It kept me closely involved, and in many ways was essential given the time and experience limitations of the undergraduate researchers. Despite this, I was always pleasantly surprised at how much some of the undergraduates were able to accomplish.

The bioassay work was done by Anthony Ball as part of his Ph.D. thesis work, and Dr. Gabriele Casadei who was working as a postdoctoral fellow in the laboratory of Professor Kim Lewis at Northeastern. Dr. George Tegos, formerly of the same laboratory, consulted on the project from his current position at Harvard University Medical School's Wellman Laboratories at Massachusetts General Hospital.

Could you provide a brief explanation of the work and results in your own words? In what way are the data in your paper new?

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Behind the Scenes in Pharmacognosy

(from left to right) Anthony Ball, Kim Lewis, Gil Belofsky, George Tegos, Roberto Carreno, and Gabriele Casadei.



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A growing body of evidence suggests that many plant phenolic compounds such as flavonoids, benzofurans, chalcones, etc. have the ability to interact with so-called "efflux pumps", such as Nor A, that play a key role in expelling antibiotics as a mechanism of resistance in bacteria such as *Staphylococcus aureus*. The concept is that if the pump is inhibited, even a weak antibiotic can penetrate and stay inside the cell, leading to cell death. This was elegantly demonstrated in Stermitz and Lewis' earlier work (*Proc. Natl. Acad. Sci. U.S.A.* 2000, 97, 1433-1437). This paper is really a follow-up on our laboratory's earlier paper on pump inhibitors from *Dalea versicolor* (*J. Nat. Prod.* 2004, 67, 481-484). With the *D. spinosa* work (*J. Nat. Prod.* 2006, 69, 261-264), we were able to further investigate the chemistry of the genus *Dalea*, in addition to finding new compounds with this interesting activity. My colleagues also expanded their biological testing to further determine the extent that the compound(s) activity may be attributed specifically to NorA-associated effects, or to inhibition of other efflux pumps known to be present, but historically less studied. We achieved somewhat limited success in that effort, but it was a start in that direction.

I thought it would be interesting to look at *D. spinosa*, the largest member of the genus and the only real tree, and also had the idea that compounds residing in bark over long periods of time may be metabolized (or oxidized) to some interesting variations of the phenolic compounds present in other *Dalea spp.* The results suggested that this may be true with the discovery of the aldehyde compounds described in the paper. Structurally, one might speculate that they result from the oxidative cleavage of a coumestan or pterocarpan.

What impact does this research have?

Plant phenolics aren't going to blow anyone away with their structural complexity, but they are diverse, bioactive, and perhaps underutilized in standard medical practice. They are ubiquitous in herbal therapies of course. One interesting aspect of the work to me is that, not having the test capacity to do "full-on" bioassay guided fractionation, we just went after interesting chemical signatures, in this case the aldehyde signals in the NMR.

Determination of synergistic effects is one of the major challenges in our field. This kind of research hopefully adds to the knowledge of how to elucidate such effects in mixtures. Stermitz, for example, used a method of screening for antimicrobials in which each fraction being tested was "spiked" with a weak antimicrobial, and increased activity relative to "unspiked" fractions was observed. This resulted in the isolation of a pair of compounds, the original antimicrobial and the pump inhibitor, working in synergy. With the increased prevalence of resistance in *S. aureus* even to "last resort" drugs like vancomycin, we may not have to discover a whole new arsenal of drug. We may just need to pair them up with pump inhibitors or other substances that allow us to overcome the resistance mechanisms.

The ASP Newsletter is moving to electronic distribution. If you receive the Newsletter via post, please see page 10 for details concerning your future deliveries.

David J. Slatkin, Ph.D., Treasurer
The American Society of Pharmacognosy
3149 Dundee Road, #260
Northbrook, Illinois 60062

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Emeritus membership is open to retired members of the Society who maintained membership in the Society for at least five years. Dues are \$10.00 per year. These members receive the ASP Newsletter. Emeritus members may subscribe to the Journal of Natural Products at the Full Member rates.

Honorary Membership

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:
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