



# THE AMERICAN SOCIETY OF PHARMACOGNOSY

THE ASP NEWSLETTER VOLUME 43 ISSUE 3

## ASP President Baker Charges Members: "Get Involved!"

by Dr. Bill Baker

I would like to offer my sincere thanks to the ASP membership for giving me the opportunity to serve the Society as its President. These are big shoes to fill as my predecessors have brought considerable wisdom, purpose, and effort to this position, resulting in the strong and influential Society we now enjoy.

My own ambitions for the year are driven by my belief that, we, the community of Pharmacognosists, can always do more: more for our membership, more for our science, and more for the larger society, that global community in which we live and in which natural products chemistry has such a profound role.

In that regard, I am committed to the membership drive initiated by President Roy Okuda. Roy and I both believe that there is a larger constituency than we have yet to tap into, a constituency which could mutually benefit the ASP with its 'new blood', and itself benefit from participation in The Society, with its wealth of historical and professional scientific resources.



ASP President Bill Baker at the Marr Glacier.

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**New 2008 ASP Travel Grant Deadline December 15, 2007**

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## ASP Interim Meeting: April 12-16, 2008

by Dr. Troy Smillie

The National Center for Natural Products Research (NCNPR) within the School of Pharmacy at The University of Mississippi is excited to announce the 7<sup>th</sup> Annual Oxford International Conference on the Science of Botanicals (ICSB) and the American Society of Pharmacognosy 4<sup>th</sup> Interim Meeting, to be held on April 12-16, 2008.

The conference is also being co-sponsored by the Shanghai Institute of Materia Medica/CAS, China, The Council of Scientific and Industrial Research (CSIR - India), and the Society for Medicinal Plant Research (GA).

The conference will be held in scenic Oxford Mississippi which is located approximately 70 miles south of Memphis Tennessee. Since its inception the ICSB has been supported by a cooperative agreement between the NCNPR and the Center for Food Safety and Applied Nutrition (CFSAN) of the United States Food and Drug Administration (FDA).

The purpose of this conference is to review, discuss, and explore methods for determining the identity, purity, quality, and processing of plants, commonly known as botanicals. Topic areas will include such issues as authentication, cultivation, collection, and post-harvest practices for producing quality plant material, and chemical, and toxicological methods for quality and safety assessment that lead to the preclinical evaluation of the botanicals.

Additionally, there will be dedicated sessions focused on current pharmacognosy techniques, issues and discoveries. Contributed presentations, both oral and poster, are invited. Each session will open with a plenary speaker outlining the current approaches, limitations, and research needs of the topic area. Speakers will be leading researchers from industry, academia,

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## Editor's Corner

GUIDO PAULI



This *Newsletter* summarizes many of the myriad activities at the ASP Annual Meeting in Portland, Maine in July. With close to 500 attendees, it was a great success on the scientific and social fronts. Thanks to the organizers for their hard work, and congratulations to our many award winners that are highlighted in this issue.

Two ASP meetings will occur in 2008. The Interim ASP meeting, to be held in Oxford Mississippi from April 12-16, is especially designed for students and others who may not be able

to travel to Greece for our 2008 joint meeting with the European pharmacognosy groups. An article on the Mississippi meeting appears on the front page of this issue.

We hope many members will be able to attend the 2008 Athens meeting from August 3-9. To whet your appetite, Dr. Nick Oberlies wrote a delightful and informative article on how you can start to prepare for this conference. Dr. Oberlies anticipates many questions, and explains everything from how to get to Athens to how not to be pegged for a tourist by ordering a gyro.

In August, I traveled to the Lloyd Library and Museum in Cincinnati, Ohio to visit the archives of the first president of the ASP, Dr. Varro Tyler. Dr. Tyler's records were recently donated to the Lloyd by his wife. Most of the records are from the last years of his life, a time in which he traveled extensively, presenting talks mostly in the area of the safety and efficacy of herbal dietary supplements. In one correspondence, he calls it his "grateful dead tour."

Lloyd Archivist Anna Heran and Lloyd Director Maggie Heran were gracious hosts during my two days at the Lloyd. They especially encourage ASP members to use the resources offered by the library. Two articles in this *Newsletter* relate to the Lloyd. One article describes the Lloyd, which recently reopened to the public after a major renovation. The other article, "From the Archives", describes items pulled from Dr. Tyler's materials.

Also, ASP member Dr. Georgia Perdue has written her first column for the *Newsletter*. In our last issue, we introduced Dr. Perdue, and many ASP members already are familiar with her work in natural products, especially from her years as Editor of the newsletter *Washington Insight*. We welcome Dr. Perdue and look forward to her occasional columns for the *Newsletter*.

At the ASP Annual Meeting, I had the opportunity to meet with many of the stakeholders in the *Newsletter*. While we have heard many positive comments on the changes in the *Newsletter*, we also want to continue to enhance the *Newsletter*. We are beginning to implement some of the suggestions from this meeting in this *Newsletter*, and will continue with other changes in the next few issues. If you have any comments, please be sure to contact us at [asp.newsletter@lehman.cuny.edu](mailto:asp.newsletter@lehman.cuny.edu).

## 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](http://www.phcog.org/employment.html)

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

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## ASP President Baker: “Get Involved!”

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My second initiative this year, which I mentioned during my closing remarks at the Banquet in Portland, is to get the membership more involved in their Society. In response to my call for community involvement, I am happy to report that there have already been volunteers. For those of you who have not yet come forward, I am still looking to hear your ideas.



Current ASP President Bill Baker with former Presidents Roy Okuda and William Fenical.

Some of the more ambitious of you may be motivated to organize a future meeting or to participate through membership on a committee, as many already have. Some of you may be more comfortable participating by attending our annual meetings and encouraging your students and colleagues to join you. Next year's meeting is in Athens, Greece - a perfect venue to renew your commitment to the ASP in the shadow of Europe's grand traditions in pharmacognosy.

Your participation can start by your voicing thoughts or bringing initiatives of interest to the Society to our attention. Recruiting new members would be an excellent way to become more active! I welcome all such comments and suggestions and I point out that you know how to contact me ([bjbaker@cas.usf.edu](mailto:bjbaker@cas.usf.edu)), so there is no excuse.

There are many ways to participate in your American Society of Pharmacognosy; it is, after all, a Society of its members. Get involved!

## ASP Interim Meeting: April 12-16, 2008

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nonprofit institutions, and government.

For more information, please see the web pages for the conference, [www.oxfordicsb.net](http://www.oxfordicsb.net). Registration information can be found at [www.outreach.olemiss.edu/events/ICSB/index.html](http://www.outreach.olemiss.edu/events/ICSB/index.html).

Please contact Dr. Ikhlas Khan, [ikhlan@olemiss.edu](mailto:ikhlan@olemiss.edu), or Dr. Troy Smillie, [tsmillie@olemiss.edu](mailto:tsmillie@olemiss.edu), for more information.





# 49<sup>th</sup> Annual Meeting: Athens, Greece August 3 - 8, 2008

by Dr. Nicholas H. Oberlies

Now that the Annual Meeting for 2007 is behind, it is time to start thinking about the Annual Meeting in 2008, which will be held in Athens, Greece from August 3 to 8. In our next *Newsletter*, I will provide more specific details about the scientific aspects of the meeting. Such details will be finalized after the Gesellschaft für Arzneipflanzenforschung, otherwise known as the Society for Medicinal Plant Research (GA), meeting in September. In this issue, I have tried to answer some of the questions I anticipate regarding this meeting.

## How many people will be attending?

It is hard to say at this time for certain, but I would predict over 750 participants. This meeting is being held in collaboration with the French Association Francophone pour l'Enseignement et la Recherche en Pharmacognosie (AFERP), German (GA), Italian Società Italiana di Farmacologia (SIF), and European Phytochemical Society of Europe (PSE) equivalents of the ASP. There is not a Greek equivalent to the ASP, rather the main organizer of the meeting, Professor Leandros Skaltsounis from the Faculty of Pharmacy in Athens, has close ties to AFERP, who are the actual sponsors of the meeting.

## Will there be special travel grants for attending the meeting?

Yes. You should stay tuned to the ASP website for announcements about the deadlines for submitting abstracts and travel grant applications. Most of the deadlines will be earlier than in previous years (December 15, 2007), so as to accommodate both the Interim Meeting in April and the Annual Meeting in August.

## Where can I get information about the 2008 Annual Meeting?

The ASP website will be continually updated as new information become available: [www.phcog.org/AnnualMtg/Athens.html](http://www.phcog.org/AnnualMtg/Athens.html).

## What is the temperature like in Athens in August?

It will be hot. It is not as humid as our past meeting in North Carolina and not as hot as our meeting in Phoenix. But, it will be hot. The main hotel for the conference has air conditioning.

## What is Athens like? Is it a hard city to get around?

I have been to Greece about a half dozen times, and my last trip was during the Olympics in 2004. One of the greatest improvements in Greece, largely due to the Olympics, has been transportation. Athens, like many ancient European cities, was not designed originally for modern conveniences like cars, subways, or trams. However, in preparation for the Olympics, they made monumental improvements to the transportation infrastructure in all of Greece, especially Athens.

There is a new airport, which is reminiscent of modern airports in other major cities. There is a train that will take you from the airport into the heart of Athens. There are two new Metro lines, and they improved the older "Electrico" (similar to the 'El' in Chicago). There are new trams and even the roads have been improved. I still would not advise anyone to rent a car and try to drive in Athens. Even my cousins, who have lived there their entire lives, try to avoid driving in Athens. But, public transportation is easy to use, safe, and will get you to most points of interest.

Also, the added bonus of using the new Metro lines is that every stop has museum quality antiquity pieces on display. Usually, these were items that were discovered as the tunnels were dug. It makes for a fascinating way to pass the time. I will try to get a link to the transportation map of Athens posted on the ASP website as the conference approaches.

## How can I get to Athens? Will airfare be expensive?

You can fly directly to Athens on Olympic airlines out of New York (JFK). USAir has a new route direct out of Philadelphia too. There are also many options that involve a connection in Europe. I have flown there on Alitalia via Milan, Swiss Air via Geneva, and



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# 49<sup>th</sup> Annual Meeting: Athens, Greece August 3 - 8, 2008

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several different options via London (Heathrow). August is a busy time in Greece. Many Europeans vacation there during the month of August. So, it is advisable to make your travel plans as early as possible. United States citizens do not need any special visas for traveling to Greece, just a valid passport.



## **Should I take a few extra days and make this a vacation?**

**ABSOLUTELY.** Greece is stunningly beautiful. From secluded beaches to rocky mountain landscapes, from mainland villages to unique island cultures, there is something for everyone to see in Greece.

The best information I have seen for travel around Greece comes from Matt Barrett's Greek Travel Guides, <http://www.greektravel.com/>. Even though I have been there several times, I still reference his website when planning trips. He has both the general information that you can find in almost any travel guide, and he interlaces this information with first hand knowledge of how to make the experience even better. There is even a section on the website with helpful hints on finding discount airfare to Greece.

I know that the meeting organizers will have some suggested ideas of places to see while in Greece that I will discuss in a future *Newsletter*. Therein, I will also add some suggested ideas from my own trips. If anyone else has ideas to share about places to see in Greece, feel free to e-mail me directly. One of my cousins in Greece has a saying that roughly translates to: there are beautiful views at every vista. What he means is that there are many different things to see in Greece; just when you think you saw the most beautiful view ever, you turn the corner and find another one.

## **What is Greek culture like? What about language barriers?**

I read somewhere that there are only about 10 million people in the world who speak Greek fluently. Thus, Greeks are used to conversing in many different languages, and almost everyone I have met has at least a rudimentary understanding of English. In fact, many of them, especially in the larger cities, speak English rather fluently. That being said, Greeks are very flattered if you attempt to learn and use even a modest amount of Greek. I will try to post some sayings in Greek that you can download from the website as we get closer to the conference. Due to the regulations of the European Union, much of the signage in Greece is written in both English and Greek. In short, I don't think anyone should have any language barrier problems.

As far as culture, Greeks are generally very friendly people. They realize that tourism is a major industry for their country, and thus, they are used to the site of tourists. Like most cultures, they like to be treated with respect. They are very family oriented. They talk a lot with their hands, sometimes with voices raised. This does not mean that they are yelling. Rather, they are just emphasizing a point.

## **What is the food like?**

The food is wonderful. My mouth is watering at the thought of fresh feta over a "peasant salad" (which is tomatoes and cucumbers mixed with olive oil, vinegar, and oregano). You will not find gyros, unless you are in the most touristy of tourist destinations. Rather, you will find lots of shiskabobs of chicken, pork, or lamb. If you are near the sea, you will find all manner of sea food, especially fried squid (calamari).

The coffee is strong, like what many Americans call "Turkish coffee." You can drink the water. If you order a lemonade, you might end of getting a Sprite. There are three main beers in Greece, Mythos, Heineken, and Amstel. Many places will have a house table wine that was made locally, sometimes on the premises. In particular, retsina is very good on a hot day. It is wine that has been poisoned with pine resin. It is an acquired taste, but something you should at least try. Ouzo is very good too, and this is not drunk like a shot, but rather, sipped with a cold ice cube just floating in the glass.

## **Do you have any final thoughts?**

A scientific meeting in Greece is going to be a nice treat. The meeting organizers are planning an in-depth scientific program, and there should be something there for all manner of natural products, from herbs to drug discovery, and from plants to marine to microorganisms. Greece is a unique and beautiful country populated with kind, honest souls. Take the opportunity to make this a special trip for you and your family.

## 50<sup>th</sup> ASP Annual Meeting

**Fifty Years of Natural Products and Beyond:  
Celebrating the Golden Anniversary of ASP**



Diamond Head from The Sheraton Waikiki, the meeting venue.



Red Hibiscus

Check the ASP website for updates: [www.phcog.org](http://www.phcog.org)

## 51<sup>st</sup> ASP Annual Meeting



by Dr. Todd R. Daviau

You are cordially invited to participate in the 51<sup>st</sup> Annual Meeting of the ASP at the TradeWinds Island Resorts, Saint Petersburg Beach, Florida from Saturday, July 10 to Wednesday, July 14, 2010. The symposium will focus on scientific advances relating to natural products.

Florida's Beach is where you want to be! The beautiful peninsula, close to everything yet miles away, is located on Florida's West coast. The area is bordered by the Gulf of Mexico to the west and by Tampa Bay to the east. Surrounded by miles of pristine white sand beaches, Saint Petersburg offers unspoiled landscapes, beautiful vistas, succulent seafood, such as the local favorite, grouper, and outdoor adventures such as boating, fishing, and SCUBA diving.

The TradeWinds Island Resorts is made up of two properties. The Island Grand is the TradeWinds classic, Florida beach experience while the Sandpiper Hotel and Suites is a slightly more intimate setting. It is tropical yet traditional, casual yet crisp, with a hint of the island tropics. It is complete in its offerings, yet individual in its attention, and will offer special rates for participants of the ASP meeting. Please mention your affiliation when booking a room. Additional information about other hotels and local information can be obtained through the Convention and Visitors Bureau of Pinellas County (Tel: 727.464.7200 / 877.352.3224 or at [www.FloridasBeach.com](http://www.FloridasBeach.com)).

The ASP offers a number of travel grants to students who wish to attend the meeting and present a poster or a short lecture. Information on how to apply can be found on the ASP website [www.phcog.org/awards/awardgrant.html](http://www.phcog.org/awards/awardgrant.html).

Additional information will be updated on a special website created for the meeting, [http://www.magellanbioscience.com/ASP%202010/ASP2010\\_home.html](http://www.magellanbioscience.com/ASP%202010/ASP2010_home.html). General questions in regards to the meeting can be addressed to Dr. Todd R. Daviau at [tdaviau@magellanbioscience.com](mailto:tdaviau@magellanbioscience.com).



# 48<sup>th</sup> ASP Annual Meeting: A Grand Success

by Dr. Stefan Gafner

JAMES LYLES



The gorgeous Maine coastline.

The 48<sup>th</sup> Annual Meeting of the ASP took place in Portland, Maine, from July 14-18, 2007 with 482 attendees. The theme of this year's meeting was "Natural Products: Research, Development, and Use", a reflection of the broad scope of current research in pharmacognosy, from crude drugs to commercial products.

The scientific program was organized into five symposia. The first symposium, entitled "Investigations of Commercial Botanicals", gave an update on current research of medicinal plants, including several talks on the antiadherent and antioxidant properties of cranberry (*Vaccinium macrocarpon*).

The plenary talks in the "Marine Toxins" symposium focused on the issues surrounding algal blooms with reports on the toxic components of such blooms from the North American east coast and the Mediterranean coast, presented by ASP member Dr. Mark Hamann

and Dr. Patrizia Ciminiello.

"Natural Products: Unique Sources, Unique Techniques", the third symposium, gave evidence of the creativity of natural products researchers, looking for new molecules from sources such as microbes growing in acid mine waste, or from marine gliding bacteria, frogs, worms or spiders.

In the forth symposium, "Medicinal Chemistry of Natural Products", ASP member Dr. Tom Prisinzano talked about *Salvia divinorum* and the quest for novel opioids while Dr. Richard Taylor presented the evolution of polyketide inhibitors of eukaryotic protein synthesis. The invited lecturers, Dr. Christoph Schempp and Dr. Daniel Maes, who spoke in the symposium entitled "Botanical Personal Care Products", were from both a basic science and practical point of view, respectively. This symposium filled a gap by representing an industry where botanicals are very prominent, but research presentations are unfortunately very scarce in meetings focusing on the science of natural products.

In two additional special symposia, we heard presentations from ASP members Dr. Lester A. Mitscher, recipient of the Norman R. Farnsworth Research Achievement Award, and Dr. Jerry McLaughlin, recipient of the Varro Tyler Prize, both looking back at long and very successful careers. Both presentations were spiked with some wisdom obtained after all the years. In particular, Dr. Mitscher's spicy correlation of the four parts of Count von Moltke's cross with academia members will resonate with certain deans of colleges for quite a while!

In total, we enjoyed 54 oral presentations and 317 posters over our four days together. The contributed oral communications gave a vivid proof of the variety of research going on in the field of natural products, and were organized into "Biosynthesis/Synthesis", "Microbial Natural Products", "Marine Natural Products", and "Molecular Targets and Strategies". All the abstracts of the ASP meeting can be accessed through the ASP website, at [www.phcog.org/AnnualMtg/2007/Presentations2007.html](http://www.phcog.org/AnnualMtg/2007/Presentations2007.html).

Associated with the meeting were three workshops. The excellent workshop, "Contribution of Pharmacognosy to the Quality of Clinical Trials of Botanicals & Dietary Supplement" comprised lectures by a number of international experts in the field of herbal medicines. This workshop was organized by ASP member Dr. Ray Cooper and came as a result of the work of the ASP Clinical Pharmacognosy Committee. The second workshop on Saturday, "Modern NMR Methods for Organic Structure Elucidation" was organized by ASP members Drs. William Reynolds and Eugene Mazzola. Over 60 people attended the clinical pharmacognosy workshop, and 42 participants registered for the NMR workshop.

The two-day class on "Optimization and In-house Validation of Analytical Methods for Dietary Supplements" was organized and supported by the Office of Dietary Supplements (ODS). A total of 36 people attended, of which 10 students were awarded a travel grant from ODS.

The social program started with the traditional Saturday evening reception, held at the historic Eastland Park ballroom. On Monday evening, over 500 people participated in a typical Maine "surf and turf" dinner, including the obvious



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## 48<sup>th</sup> ASP Annual Meeting: A Grand Success

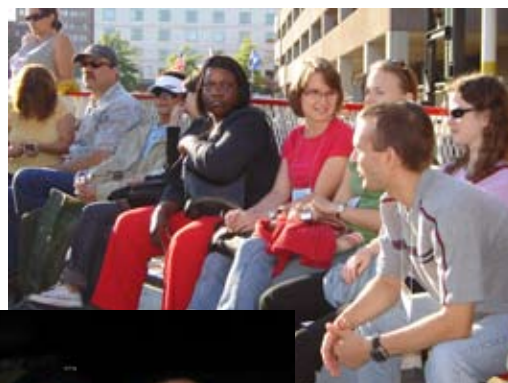
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Maine lobster on the menu, which was held on Peak's Island in Casco Bay. Luckily for the organizers, the weather was perfect and people could enjoy a memorable sunset.

More than 120 registrants had chosen to join one of the three optional activities on Tuesday afternoon, with more than 60 alone participating in the whale watch cruise in Kennebunkport.

The ASP meeting closed with the traditional banquet on Wednesday evening, where President Roy Okuda led us through the awards ceremony, including the presentation of two new honorary members of the ASP, Professor Geoffrey Cordell from the University of Illinois at Chicago, and Professor Otto Sticher from the Swiss Federal Institute of Technology, Zurich.

The total number of participants at the meeting was 482, including 178 ASP members, 57 nonmembers, 122 students, 63 post-doctoral researchers, 31 one-day registrations, and 31 invited speakers and honorary members from the United States and 24 other countries from 5 continents. The meeting was framed by 14 exhibition booths presenting books, standards, extracts and analytical instrumentation of interest to the natural products community.





# Clinical Pharmacognosy Workshop Review

by Dr. Ray Cooper

A one-day workshop entitled, "Clinical Pharmacognosy: Contribution of Pharmacognosy to Clinical Trials of Botanicals and Dietary Supplements" took place at the ASP Meeting, Portland, Maine, on Saturday, July 14, 2007. The purpose and function was to continue and extend the information flow on critical and current scientific issues related to botanical preparations and clinical trials of dietary supplements. The program committee consisted of ASP members Drs. Ray Cooper, Marilyn Barrett, and Jim McChesney, and Dr. Joerg Gruenwald.

There has been concern recently over the quality of botanical preparations that are tested in clinical studies, since poor quality product can lead to ambiguous, incorrect or non-reproducible results. At the workshop, attended by over 65 people, scientific leaders and experts in academia, government, and industry addressed several critical issues facing the dietary supplement industry, particularly aspects related to clinical pharmacognosy. The all-day workshop included four sessions covering the characterization of clinical phyto-preparations, clinical studies on botanicals, safety of botanical preparations in reference to the new adverse events legislation, and new directions and routes of entry to the market for botanicals such as medical foods, and new botanical drugs.

The purpose of the workshop was to address important scientific issues facing pharmacognosy, clinical scientists, and those in the dietary supplement and nutrition industry. The workshop received a generous gift from the National Institutes of Health (NIH) Office of Dietary Supplements (ODS), and other small donations. There were 17 speakers from Asia, the United States and Europe. It was a pleasure to hear of the new directions being taken in China led by Dr. De-an Guo on modern Traditional Chinese Medicine (TCM)-based drug discovery and the importance to strike a careful balance between the traditional practitioners and the need for modern standards.

Marguerite Klein gave a talk on the National Center of Complementary and Alternative Medicine (NCCAM) and presented guidelines for substances to be tested in clinical studies using a reproducible test product. ASP member Dr. Steven Dentali addressed botanical standards and approaches to characterizing their consistency, and he stressed the importance of including chemical and biological profiling, and exploring approaches to linking a chemical signal with a biological effect with clinical relevance. Examples of the plants needing quality in preclinical research included St Johns wort, presented by Veronika Butterwek and black cohosh, presented by Richard Van Breeman who offered a review of botanical authentication through phase I clinical evaluation.

The session on clinical studies on botanicals reviewed issues and challenges facing investigators of clinical trials and current examples of transforming knowledge of prior human experience to obtain a reproducible and desired endpoint in a clinical study. Examples included the four case studies of Iberogast, a standardized curcuminoid extract from the rhizomes of turmeric, green tea as a therapeutic intervention in HIV-1 infection, and mode of action of valerian and hops supported by clinical evidence. The work on Iberogast highlighted the painstaking pre-clinical work necessary to development of a multi-component drug.

Session 3 reviewed the impact of new legislation on adverse event (AE) reporting, such as the need for industry compliance and reporting. The industry is required to monitor all products in the marketplace and log all AEs. There will be challenges in collecting, assessing, evaluating post-market surveillance AEs, and assessing how strong the evidence has to be. Presentations focused on *mandatory* adverse event reporting for dietary supplements with new challenges for the industry, followed by a practicing doctor's perspective by Dr. Tieraona Low Dog, who discussed adverse event reporting for botanical products; and shared concerns over the structure of the current adverse event databases and suggestions of how best to collect and store information in the United States system. There was a European perspective on risk assessments of herbal medicinal products with particular emphasis on kava, suggesting that regulatory agencies may be using very limited information to make safety warning statements. ASP member Dr. Joe Betz from the ODS offered some approaches to designing clinical trials.

The concluding session offered perspectives on botanical drugs, medical foods and dietary supplements, as there is a clear difference in the business model for entry into the market, and significant resources will be needed to obtain a new drug application (NDA) for a botanical drug. Only one NDA has so far been awarded for a topical green tea extract. To address these issues, ASP member Dr. Jim McChesney offered some perspectives on botanical drugs followed by a detailed overview by Dr. Bruce Burnett at Primus Pharmaceuticals on medical foods, supplements, and functional foods. Dr. Joerg Gruenwald spoke of botanical drugs, medical food, and dietary supplements from a European perspective.

No workshop would be complete without the thoughts of Honorary ASP member Dr. Norman Farnsworth, who offered his perspectives on the industry in general, and challenged the industry to step up its science and quality standards. He reiterated the call for more diligence by journal editors to insist on well-documented details on sourcing and standardization of products, components, and ingredients under study.

The program committee's desire was to present information on the science required to achieve better quality botanical products, a successful clinical outcome of herbal preparations, and setting clinical endpoints on studies. It is hoped that threads of this workshop will be further explored at the next ASP Interim Meeting in April 2008.

## Younger Members' Luncheon

by Amy Keller

The Younger Members' Luncheon, entitled "Obtaining Funding from Private Sources", was held at the 48<sup>th</sup> ASP Annual Meeting in Portland, Maine. Organized by the ASP Younger Members Committee, chaired by Dr. Scott Baggett, the workshop consisted of a panel of ASP members knowledgeable in the multifaceted process of obtaining funding, including grant writing, where to seek funding, and the value of having preliminary data.

Speakers included ASP members Drs. John Beutler, Richard Fitch, Nicholas Oberlies, and Tom Prisinzano, who offered advice on grant writing and obtaining funding. Also speaking were ASP members Dr. Phil Proteau, who spoke on ASP Awards and Dr. Edward Kennelly, who talked about the ASP employment service.

In addition, Dr. Baggett presented a valuable overview of various internet resources listing private funding, including The Foundation Center and Science Magazine. This year's Young Members' Luncheon was sponsored by Bionovo and Biobotanica.

For more information, contact Dr. Baggett at [ymc\\_asp@coolplantchemicals.com](mailto:ymc_asp@coolplantchemicals.com).



Speakers at the luncheon: Dr. Scott Baggett (front) and Drs. John Beutler, Tom Prisinzano, Nicholas Oberlies, and Richard Fitch (left to right).

## ASP Fellows Update: 2007

by Amy Keller

The report of the 2<sup>nd</sup> year of the ASP Fellow's Committee, presented at the ASP 48<sup>th</sup> Annual Meeting Business Meeting in Portland, Maine, 2007, defines the Fellow designation as an active role within the ASP. The first ASP Fellows are the previous recipients of the ASP Norman R. Farnsworth Research Achievement Award. The current active ASP Fellows are Drs. Koji Nakanishi, Heinz Floss, George Pettit, John Daly, Sidney Hecht, David Kingston, Jon Clardy, Norman Farnsworth, William Fenical, and Richard Moore.



Dr. Norman Farnsworth

Fellows will serve as an advisory body to ASP, as well as advocates for the Society, pharmacognosy, and natural products research. Existing Fellows will nominate candidates, and discuss their appointment in a closed session, to be ratified by the Executive Committee at the ASP Annual Meeting.

Although non-ASP members may be Fellows, the position is a lifetime term, and Fellows must be ASP members within a year of the Fellow designation to retain the position. Fellows may be removed in cases of misconduct, or letter of resignation.

During the past year, three candidates were unanimously recommended for ASP Fellowship. Their names were submitted to the Chair of the Awards Committee.

# 2007 ASP Award and Grant Recipients

Congratulations to all ASP award and grant recipients!

## Norman R. Farnsworth Research Achievement Award

Lester A. Mitscher  
University of Kansas



## Varro Tyler Prize for Research in Botanicals

Jerry L. McLaughlin  
Purdue University



## Research Starter Grants

Wendy Kelly  
Georgia Tech

Robert Cichewicz  
University of  
Oklahoma

Sergei Dzyuba  
Texas Christian  
University

## Kilmer Prize

Sandeep Jain  
University of Louisiana at Monroe

## Student Research Grant

Lukasz Kutrzeba  
University of Mississippi

## Undergraduate Research Awards

Wenhao Cedric Kuo  
Hawai'i Pacific  
University

Thomas Burdick  
University of Illinois at  
Chicago

Evan Savage  
Hamilton College

## Travel Grants for Active Members

Peter Katavic  
University of Iowa

Ben Clark  
University of  
California San Diego

Young-Won Chin  
The Ohio State  
University

## D. John Faulkner Travel Award

Roger Linington  
University of California, Santa Cruz

## Lynn Brady Travel Awards

Xiumei Wu  
Oregon State University

Jun Qi  
Virginia Polytechnic Institute

Hong Jia  
University of Mississippi

## Student Travel Awards

Shunyan Mo  
University of Illinois  
in Chicago

Katie Wimmer  
University of North  
Carolina, Wilmington

Carla Sorrels  
University of  
California San Diego

Adam Jones  
University of  
California San Diego

Sampada Karkare  
Virginia Polytechnic  
Institute

## Nature's Sunshine Travel Award

Ye Deng  
The Ohio State University



## 2007 Norman R. Farnsworth ASP Research Achievement Award

by Dr. James McAlpine

ASP member Dr. Lester A. Mitscher was awarded the 2007 Norman R. Farnsworth ASP Research Achievement Award at the 48<sup>th</sup> ASP Annual Meeting in Portland, Maine, and honored the meeting participants with a talk entitled, "Co-evolution: Microbes, Mankind and Pharmacognosy." The following article is the introduction of Dr. Mitscher given by Dr. James McAlpine at the annual meeting, on July 17, 2007.

Les Mitscher was born in Detroit on August 20, 1931, to second generation Czech immigrants, blue-collar tradesmen, who very successfully instilled in him the work ethic that has led to this award. His father encouraged him to become a pharmacist, and Les graduated with a B.S. in Pharmacy from Wayne University in 1953. Fortunately for science, his instructors saw the light in, and behind, his eyes, and convinced him to proceed to graduate school. In 1958 he graduated with a Ph.D. in Organic and Physiological Chemistry from what had then become, Wayne State University. His graduate studies, under the tutelage of Carl Djerassi, had been in the applications of optical rotatory dispersion and circular dichroism, applied mainly to steroids, which he synthesized.

He joined Lederle Laboratories as a Senior Scientist, and was subsequently appointed Group Leader of their tetracycline project. After nine years in industry he returned to academia as an Associate Professor at Ohio State University, rapidly rising to the rank of Professor. In 1975 he was appointed as Distinguished Professor, to fill the Chair of Medicinal Chemistry of the prestigious department built by the late Professor Smismán at the University of Kansas (KU). He officially retired from the full-time staff at KU last year, a situation which allows him to work full-time for little financial remuneration.

Les wears many hats. As well as being a research scientist of the highest caliber, he is an excellent teacher and mentor to myriads of students, both undergrads and graduate students. He is an inventor of many patents, the author of over 250 scientific articles and numerous books and reviews, and has served on the editorial boards of several journals. He has frequently been called on to act as an expert scientific witness in judicial proceedings.

Les's family is a great joy to him, and he to them. He married Betty, his high school sweetheart, just after graduation and this year they celebrate 54 years of marriage that produced two sons and a daughter, who in turn gave them several grandchildren.

I first met Les about 1970 when he was a consultant to Abbott Laboratories and I was a Postdoc at Northwestern University with my stipend being paid by Abbott. We were both visiting Abbott at the same time. Later as an employee at Abbott I had the responsibility of arranging Les's consulting visits and drawing up his schedule. This was a non-chore, as Les was so popular that his schedule would be filled by the time I sent out the announcement of his visit. His popularity lay mainly in the breadth and depth of his knowledge and his willingness to share it, but also in a very rare skill, which he has developed.

A scientist may come to Les with a proposal that is critically flawed. Les will find a way to overcome those flaws and transfer the revised proposal back to the originating scientist in such a way that the scientist believes that he/she thought of it in this scientifically sound form in the first place. I am yet to find another with this ability honed to the level Les has achieved.

The Norman R. Farnsworth ASP Research Achievement Award is specifically NOT for contributions to ASP, yet I would like to point out that Les is a past President of the Society and during his tenure he shepherded the *Journal of Natural Products* into the flock of ACS journals and ensured its growth and continuance.

Your award selection committee, in their nomination report, cited Les as a world expert in the fields of tetracyclines, macrolides, quinolones, and taxanes. He has indeed achieved an enviable record in all aspects of natural product science and its service of mankind and is most deserving of this award.



Drs. John Cassady, Les Mitscher, James McAlpine, and Roy Okuda.

AMY KELLER

## Dr. Jerry McLaughlin - Recipient of the 2007 Tyler Prize

by Dr. William Keller

ASP member Dr. Jerry McLaughlin was awarded the 2007 Varro Tyler Prize at the 48th ASP Annual Meeting in Portland, Maine, and honored the meeting participants with a talk entitled, "Paw-Paw and Cancer: Discovery to Clinical Trials".

In regards to receiving this award, Dr. McLaughlin related, "It is a great honor for me to win this award. Dr. Tyler was instrumental in my choice for pharmacognosy as an area of study, and he was an icon in the area of herbal products, and pharmacognosy as well. I am so happy to have received this award, and to me it is a culmination of my career. I'm retired now, so that means I can go fishing." Dr. McLaughlin mentions that the most rewarding aspect of his career has been getting the Nature's Sunshine Products' Paw Paw Cell-Reg dietary supplement on the market. He advises young ASP members to "think outside the box" with their research.

The following article is the introduction of Dr. McLaughlin given by Dr. William Keller at the annual meeting, on July 17, 2007. Dr. McLaughlin's research family is collectively known as the McLaughlinaceae.

When I think of Jerry, many things come to mind, and I'm going to share some of my thoughts with you over the next few minutes. One of Jerry's defining virtues has been his development of graduate students. I should know because I'm Number One, his first graduate student, that is. Now, what I am about to say gives me great pleasure because I have never had an opportunity to tell these stories before such a large and distinguished audience.

I first met Jerry in 1968. He was a young Assistant Professor at the University of Washington and I was a young student, not that much younger than Jerry, looking for a good professor and a good school so that I could pursue the dream of obtaining a Ph.D. Jerry invited me to join him as his first graduate student.

Everything looked good as Jerry received a B.S. in Pharmacy and earned a Ph.D. in Pharmacognosy, both at the University of Michigan. And the University of Washington had achieved an excellent reputation in the area of Pharmacognosy with legendary professors such as Tip Tyler and Lynn Brady.

I moved to Seattle in 1969 to begin my new educational adventure and life was good but sometimes very challenging. Now fellow McLaughlinaceae, you might remember Jerry as being demanding, but you should have worked for him in 1969. I know that I learned a lot about discipline, how to remain focused, and the will to properly complete a research project. These were rewarding times indeed!

My research involved phenylethylamines and trihydroxytetrahydroisoquinolines from cactus plants (that was pre-paw paw). I know that this is simple science by today's standards but back in the 1960's it was hot stuff that could present a great deal of difficulty.

After being awarded a Ph.D. in 1972, I moved to Louisiana and Jerry was at Purdue. We collaborated on many different projects over the years which gave me an appreciation for the great diversity associated with pharmacognosy.

In the early 1980's, Jerry started a research passion involving the Annonaceous acetogenins. He has remained dedicated to this area and in just a few minutes I know that we'll hear a lot about some of his significant acetogenin discoveries.

In 1999, Jerry retired from Purdue to accept the position of

Vice President and CSO at Natures Sunshine Products (NSP), a Utah based nutritional supplement company. Jerry and I were reunited in 2001 when he hired me to head the Health Sciences and Educational Services Department at NSP. We enjoyed nearly 3 years of working together on the natural products that are formulated to give the high quality nutritional supplements that our company sells. Again, at NSP Jerry was in charge and I derived great benefit from his wisdom.

I apologize for the personal aspect of this introduction but I'm sure that comments similar to mine would be echoed by all members of the McLaughlinaceae. It's a tribute to Jerry as to how he shaped and influenced the careers and lives of all his graduate students. And, of course, this translates to exceptionally good science.

Before inviting Jerry to present his Tyler Prize lecture, I would like to say that I cannot think of anyone more deserving of this award based on his intense research effort and his special relationship with the late Tip Tyler.

Please help me welcome Professor Jerry McLaughlin as the recipient of the 2007 Tyler Prize.



Drs. John Cassady, Jerry McLaughlin, and Roy Okuda.



McLaughlinaceae

AMY KELLER

AMY KELLER

# Acceptance Speeches of ASP Honorary Member Recipients

*At the 48<sup>th</sup> ASP Annual Meeting awards banquet in Portland, Maine, Drs. Otto Sticher and Geoff Cordell were awarded Honorary Membership in the ASP. Dr. Sticher and Cordell's acceptance speeches appear below.*

*Congratulations to both Honorary Members and best wishes for the years ahead!*

GUIDO PAULI



Dr. Otto Sticher

**Dr. Otto Sticher:** Standing here in front of you is a very special and emotional moment for me. I want to thank the ASP and especially the selection committee and the individuals who nominated me for this outstanding recognition of honorary membership. I would like to thank Bill Keller, whom I have known for a long time as one of my colleagues and as secretary of the ASP, for his kind words of introduction. I am pleased to be the third Swiss citizen receiving this honor. Robert Hegnauer was one of the two previous individuals. He was one of my closest friends and sadly passed away on April 14 of this year, as you may have read in the last *ASP Newsletter* (Vol. 43, Issue 2). I last met him upon a visit at his home in Leiden, the Netherlands, this past December. At the time he was still in good spirits and we had an interesting scientific discussion all afternoon. In 1978, I had the opportunity to award him the honorary membership of the Society for Medicinal Plant Research (GA) in my function as president. I will always keep him in memory as a very good friend and as Dr. Scheffer wrote in his obituary as a person "who has always been ready to help and inform those who asked his advice."

My first contact with the ASP and with distinguished ASP members goes back to two international meetings held in Europe in 1970: the International Symposium for Pharmacognosy and Phytochemistry in Munich, Germany, and the first ASP/GA joint meeting in Vienna, Austria. In 1979, I attended an ASP meeting in the USA for the first time. It was the 20<sup>th</sup> annual meeting held at Purdue University in West Lafayette. Tip Tyler gave the welcome address as dean of the School of Pharmacy and Pharmacal Sciences of Purdue University. Among others, well known ASP members Ken Rinehart and Bill Pelletier held plenary lectures. Since these meetings, I have attended 18 further annual ASP and joint meetings and had the pleasure to serve in various functions over a period of several years. I was a member of the board of directors of the ASP Foundation (1994-2002), member of the advisory board of *Journal of Natural Products* (1994-2003) and member of the USP Committee of Experts on Dietary Supplements (2000-2005).

Over all of these years discussions with ASP members were always fruitful and social events at the meetings gave opportunities to bond closer contacts. My wife and I got acquainted with many individuals and many of their spouses and partners. Unfortunately, some are deceased, some have retired, but many others are still active and participated in this year's meeting. I have always appreciated the meetings very much due to the high scientific level, the professional organization, the cooperativeness among participants, and the excellent possibilities to meet friends.

Thus, Doug Kinghorn and Bill Keller from the United States came to the ETH in Zurich, as guest professors. Also several of my Ph.D. students found post doc positions in one of the research groups in the USA, such as the Universities of Texas at Austin, Illinois at Chicago, Oregon State, Utah, and Mississippi. Additionally, colleagues from the United States came to our research group in Zurich. Among these individuals I would like to mention Jimmy Orjala and Ikhlas A. Khan.

Robert Borris was probably the first ASP member I met in Zurich during his time as a post doc with Manfred Hesse. Over the years, several other individuals such as Geoff Cordell, Harry Fong, David Kingston, Tip Tyler, Richard Schultes, John Cassady and their families, as well as Norman Farnsworth, John Pezzuto, Heinz Floss, Eloy Rodriguez, Cindy Angerhofer and Ted Molinski visited us in Zurich or presented lectures. Last but not least, I would like to mention that the chairman of the local organizing committee of this meeting, Stefan Gafner, is originally from Switzerland and studied Pharmacy in Berne and continued to Lausanne for his Ph.D.

Thank you all again for the great honor I received from the ASP.

**Dr. Geoff Cordell:** Good Evening and let me express my sincere thanks to Doug Kinghorn for nominating me and for the generous introduction. Thanks to the Honorary Membership Committee members for recommending this award, and sincere thanks to the Executive Committee for approving the award.

I feel very, very deeply flattered, very honored, and very grateful to be given this award by the American Society of Pharmacognosy. It is without doubt the highlight of my research and academic career and I am humbled to be standing here accepting it.

First, let me offer my sincerest congratulations to Professor Otto Sticher for his recognition as an Honorary Member! You join an elite group of Swiss natural product scientists as Honorary Members of ASP.

There are lots of people here tonight and elsewhere in the world who deserve a very, very sincere "Thank You" from the depths of my heart for allowing me to be here. First and foremost of course is my family. I'd like to recognize my

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# Acceptance Speeches of ASP Honorary Member Recipients

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wife Anya. Anya has been an amazing, extremely understanding, and incredible supporter of what I have been trying to achieve in the past years. This commitment started when she carried a bouquet of *Catharanthus* flowers at our wedding. She has been on several wonderful trips with me to various parts of the world over the years, but for the most part she has stayed at home doing what she does so well, and with such consciousness....raising our family, and being deeply and very actively concerned for those who are stereotyped as “the other” in our society.

The second person I want to acknowledge is our daughter Amy, who recently graduated from Boston University in Hospitality Administration and has started to work at a very fine dining restaurant in Chicago. Her passion is really good food. I only wish she could be here tonight.

I do want to thank my mother and father who bought me my first chemistry set when I was 11 years old. I guess I never looked back from that.

Pharmacognosy has been good to me, very good; actually very, very good. As a rather poor kid in London, I dreamed of visiting places like the Hagia Sophia in Istanbul and Machu Picchu, and the Pyramids at Giza, and the Grand Palace in Thailand, the Potala Palace in Tibet, and the Great Wall of China, places I saw in magazines. Over the years, I’ve been able to find a pharmacognosy-related excuse to visit all those places, and many more that I couldn’t ever have dreamed of.

But I didn’t start in pharmacognosy, in fact I nearly didn’t start in research at all. My father, as a member of the working class in England, wanted only the very best for me: a job that he couldn’t have, namely working for Her Majesty’s Government as a civil servant. It would be job security for life.

After finishing the Finals exams for my Bachelor’s degree at Manchester University I had a job all lined up at the Patent Office in London, earning the princely sum of \$2,000 per year. Then, one June afternoon in 1967, I was asked to meet with the Professor of Organic Chemistry. That was Professor Arthur J. Birch, known for the Birch reduction and the development of the acetate hypothesis. He recommended that I should stay on at Manchester and do research. My first, very inspiring lectures on natural products had been from Birch. That meeting was one of the most crucial in my life. It changed my direction in life forever. I eventually worked on what became my favorite natural products, indole alkaloids, for my Ph.D., and I continued working on alkaloids as a postdoc at Massachusetts Institute of Technology (MIT), before joining Norm Farnsworth and Harry Fong, who had recently moved to Illinois from Pittsburgh. The rest, as they say, is history.

Over almost 35 years at Illinois I have been very, very fortunate indeed to have had some truly amazing research collaborators. Some of them have been at UIC, others have been at various institutions in the US, and others in many different countries around the world. There have been some fabulous graduate students, some of whom are here today, and there have been some terrific post docs. I won’t name them all those collaborators, but I will pick out a few special colleagues who have been critical to my research in the past.

Over the years at UIC we built up the finest pharmacognosy group in the world, with Norm, Harry, Doug, Doel Soejarto, John Pezzuto, Cindy Angerhofer, and Chris Beecher among others. There were many halcyon days.

I want to mention Monroe Wall and Mansukh Wani for their collaboration over 15 years on the NCCDG program. We could have been rival groups competing for funds, instead we were collaborators. Thank you for your great collaboration.

Matt Suffness, with whom I wrote a chapter on anticancer alkaloids for *The Alkaloids* book series with over 2000 references! And of course Gordon Cragg....for a lasting friendship and some great travels together to meetings all over the world, and for supporting our NCCDG efforts for many years.

So many amazing people from the ASP in my life. Dave Slatkin, John Cassady, Jack Rosazza, Dave Kingston, Jim McChesney, Chris Ireland, I can’t mention you all, but you are probably in the infamous deck of cards! Thank you most sincerely for your counsel, and your friendship, and your support over all of the years that we have known each other.

Let me also thank the many, many fabulous, hospitable, truly lovely people around the world who have looked after me at various scientific meetings and on many, many travels.

Those were some snippets from my life in pharmacognosy and the ASP. The next part is about you and what we should be doing next.

For the younger scientists here today, I want to encourage you to think out of the box. Find those aspects of pharmacognosy research that are relevant and yet different. Consider taking the path less trodden. You may be amazed to find that there is money out there for your research. Since I retired, I have chosen to work in three areas outside the



Dr. Geoff Cordell

ARA DERMARDOSIAN

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## Acceptance Speeches of ASP Honorary Member Recipients

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traditional areas of pharmacognosy: working with a periodontist and oral medicine specialist on plants used for oral pain; studying vegetables as chemical reagents, as I discussed at the ASP meeting last year, and some new methods for the detection of biologically active natural products in the field, which I hope to tell you about in the future.

As many of you know, I am also very concerned about larger health care issues involving plants, about our scientific influence, and about our social responsibilities. I believe that we, as a professional Society, have been too meek. We must engage in the current global public health dialogue centered on access to medicines. We must assume a more aggressive role, collaborating with a broad range of political, public health, and medical professionals to address, scientifically, and from a regulatory perspective, the local priority health issues and the sustainable resources that will be used to address them. We must embrace the emerging concept of sustainable drugs for a global population. We must enhance our "voice" in society.

We have the opportunity to potentiate the vast amount of talent and expertise and experience available at these meetings. We can do a better job of harnessing the vast intellectual wealth in our Society; putting it to even better use for humankind. As Ajahn Chah would encourage us, we can go to the sixth step and higher.

I am specifically proposing that at the 50<sup>th</sup> ASP Meeting there is a think-tank session where people could come and express their ideas about the future of the sciences and technology of pharmacognosy and their impact on global health care and agriculture freely. These ideas could be correlated and presented at the following ASP meeting for discussion and further action as necessary. It could form the basis of a revolutionary idea, lobbying for funds to support our research efforts nationally and internationally. I see it as a very empowering process for us all.

Thank you again for this truly wonderful recognition. I am humbled, deeply honored, and eternally grateful. Safe travels to your homes around the world and may peace be with you all.

## Jack L. Beal and Arthur E. Schwarting Award Winners

by Amy Keller

The winner of the Jack L. Beal Award, "Synthesis of Salvinorin A Analogues as Opioid Receptor Probes", by K. Tidgewell, and others in the lab of ASP member Dr. Tom Prisinzano, was published in the *Journal of Natural Products* in June of 2006.



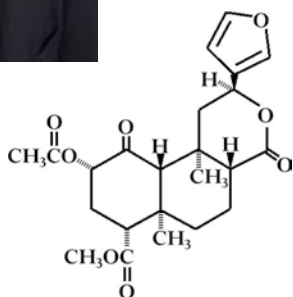
Dr. Tom Prisinzano

On receiving this honor, Dr. Prisinzano relates, "I never had the pleasure of meeting Dr. Beal but I am very humbled to be mentioned as a winner of an award named in his honor. I hope to honor his memory by continuing to contribute to natural products research and the American Society of Pharmacognosy."

The winner of the Arthur E. Schwarting Award is "Engineering of the Spinosyn PKS: Directing Starter Unit Incorporation" by L.S. Sheehan, et al, and appeared in the *Journal* in December of 2006.

The awards are named in honor of two past editors of the *Journal of Natural Products*. The Schwarting Award can be bestowed on any paper published in the *Journal* within a year, while the Beal Award is given to younger investigators as defined as being within 12 years of completing a Ph.D., or within 10 years of their first professional position.

The winners were determined through an initial nomination by the *Journal's* editors for each award, with the final winners decided by ad hoc committee appointed by past ASP President Dr. Roy Okuda.



## Sandeep Jain, Recipient of Kilmer Award

by Amy Keller

At the 48<sup>th</sup> ASP Annual Meeting in Portland Maine, July 14-18, 2007, graduate student Sandeep Jain was awarded the Kilmer Award for his work entitled, "Sipholane Triterpenoids: A Novel Class of P-gp Modulators". Mr. Jain is a Ph.D. student in the lab of Dr. Khalid A. El Sayed in the Department of Basic Pharmaceutical Sciences, College of Pharmacy, at the University of Louisiana at Monroe. Mr. Jain took time out of the Annual Meeting to tell us about his award-winning research.

### How did you become interested in natural products?

Ayurveda, a traditional medicine system of India, which is based on natural products, was a driving force that sparked my interest to go for Masters Degree in Medicinal Natural Products at the University of Mumbai, India. Later, I worked as a research scientist in a pharmaceutical company in India. In 2005, I joined the University of Louisiana at Monroe in order to further develop my expertise in natural products.

### Please describe your work in your own words.

I have been working on the Red Sea sponge, *Callyspongia siphonella*, since I began my doctoral program. Many triterpenoids have been reported from this organism including the sipholane triterpenoids. However, these compounds were never explored for their bioactivity, so our lab started working on them. We hypothesized sipholanes as possible anticancer hits based on the bioactivity reports of similar compounds in the literature.

We tested two new triterpenoids isolated from the sponge, known triterpenoids, and four new derivatives against the resistant human epidermoid cancer cells. We were looking specifically for the compounds' ability to modulate the activity of P-glycoprotein (P-gp), a protein integral to cancer cells' development of multi-drug resistance. Among the compounds tested, sipholenol A showed specific P-gp modulating activity, making this a potential compound of interest in chemotherapy research. Our lab is hoping to continue bioactivity research with sipholenol A and other sipholanes.

### What are the broader implications of your work?

Multi-drug resistance in cancer cells is a huge problem in chemotherapy, as cells that become resistant to one drug can become resistant to other unrelated drugs. Lots of people are working on P-gp modulators, but these compounds are not on the drug market yet, due to their toxic effects. Thus, there are a lot of reasons to develop these compounds.



Dr. John Cassady, Sandeep Jain, and Dr. Robert Krueger

AMY KELLER

## Lukasz Kutrzeba Wins ASP Student Research Award

by Amy Keller

At the 48<sup>th</sup> ASP Annual Meeting in Portland Maine, graduate student Lukasz Kutrzeba was awarded the ASP Student Research Award for his work entitled, "Biosynthesis of the Hallucinogenic Neoclerodane Diterpenoid Salvinorin A Proceeds via the Deoxyxylulose Phosphate Pathway". Mr. Kutrzeba is a student in the lab of Dr. Jordan Zjawiony from the Department of Pharmacognosy at the University of Mississippi, and took time to give ASP members a closer look at his work.

### Would you please describe how you determined the pathway by which salvinorin A is produced in a plant?

In order to discover which pathway is involved in biosynthesis of salvinorin A in the plant, we wanted to feed the plant with isotope-labeled precursors such as <sup>13</sup>C or <sup>2</sup>H. As usual in research, we faced several obstacles. The first one was how to feed the plant with glucose and have it survive more than three days. Once we went through that using plant cuttings, we were stuck with severe fungal and bacterial contamination. We had to develop sterile culture to overcome it and it took us a year to fully develop a method.

Once the method was developed, things went very quickly. Determination of the pathway of salvinorin A biosynthesis came by using 2% glucose in sterile medium. <sup>13</sup>C NMR was crucial in assigning a consistent incorporation pattern that predicted a pattern for DOXP pathway. Further labeling experiments brought even more results, in addition to those related to the DOXP pathway. Sterile culture arose as a crucial method in any feeding experiment with *Salvia divinorum*, which we are continuing.

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## Lukasz Kutrzeba Wins ASP Student Research Award

**How did you become interested in this compound and plant in general?**

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I started the project in July 2005, after the very talented Dr. Jeremy Stewart brought the salvinorin project to the lab during his thesis work. I am extremely proud that I could continue his work. Also, Dr. Franck Dayan from the United States Department of Agriculture's Agriculture Research Service in Oxford, Mississippi contributed greatly to this project.

Salvinorin A became a lead compound after discovery of its molecular target, the kappa opioid receptor. Its biosynthesis in plants remained unknown, so I decided to begin this project due to a high scientific interest around this compound.

**What are the broader implications of your work?**

Speaking about the broader aspect of our work, I must say that understanding the biosynthetic mechanism of salvinorin A production may be extremely helpful in combinatorial biosynthesis, which is a valuable tool in drug development. Genetic engineering will be our next step in determining particular steps of the pathway.



Dr. John Cassady, Lukasz Kutrzeba, Dr. Robert Krueger .

## ASP Awards at Intel International Science and Engineering Fair

by Dr. Roy Okuda

The Intel International Science and Engineering Fair (ISEF) was held May 13-18, 2007 in Albuquerque, New Mexico and since 2000, the ASP has funded awards of \$500 to Intel ISEF projects which were judged to be the best in the field of natural products. For 2007, the winners and their projects are:

Brandon Lew from Minneapolis, Minnesota for "Characterization of Anthocyanins in Purple Pod Coats of *Phaseolus vulgaris* cv. Blauhilde"

Michael Hagler from Lawrence, New York for "Sopholipids: A Novel Therapy for Asthma and Other Diseases of Altered IgE Regulation"

Liqing Yang, Yuzhou Gu, and Zhaoxin Wang from Shanghai, China for "Insecticidal Activity of Oleander Leaf Extract Against Diamondback Moth and Identification of Its Active Constituent"

Over 1,500 high school students from all United States and over 40 countries exhibited their projects, all of which had already received top honors at local or national science fairs. The students competed for over \$3 million in awards, including scholarships, trips, and cash awards.

The top awards included \$50,000 unrestricted college scholarships and trips to attend the next Nobel Prize ceremony in Stockholm, Sweden. A large number of professional societies joined the ASP to judge and give awards to students, including the American Chemical Society and the American Society for Microbiology.

The judges for 2007 were Drs. Rosie Bonjouklian, and past ASP President Dr. Roy Okuda. The awards for Intel ISEF were provided from the ASP Foundation, and in particular, we thank ASP treasurer, Dr. Robert Krueger, for supporting this effort, which is one of the few outreach activities of the ASP. In May 2008, Intel ISEF will be held in Atlanta, Georgia, and judges are needed. If you are interested to join the ASP Judging Team, contact Dr. Okuda at [okuda@jsu.edu](mailto:okuda@jsu.edu).



# The Renovated Lloyd Library and Museum

by Maggie Heran, MLS, Director

The Lloyd Library and Museum in Cincinnati, Ohio has undergone a \$250,000 renovation and reopened to the public on January 15, 2007. The Lloyd, which has had a long association with the ASP, including copublishing the *Journal of Natural Products (Lloydia)* for a number of years, houses many important collections in the field of pharmacognosy. The Lloyd continues to encourage ASP members to use its resources.

## Introduction to the Library

The Lloyd Library and Museum, a privately-funded independent research library, holds, identifies, acquires, preserves, and provides access to both historic and current books and journals, as well as archival materials, on a wide variety of disciplines that fall under the broad subject areas of natural history, botany, pharmacy, and medicine. The Lloyd's resources are, in fact, an eclectic blend of a host of related sciences and their history, including, but not limited to, chemistry, zoology, forestry, pharmacognosy, phytomedicine, ethnobotany, folk and traditional medicine, and alternative healing practices. In addition, the library holds materials on gardening, gardening history, horticulture, agriculture, cosmetics, perfumery, eclectic and sectarian medicine, and alchemy. With over 200,000 volumes and nearly 1,000 linear feet of archives, including papers of herbalists, pharmacists, chemists, pharmacognosists, and materials related to the founders of the library, the Lloyd Library's coverage of the works in its collection areas continues to be nearly comprehensive.

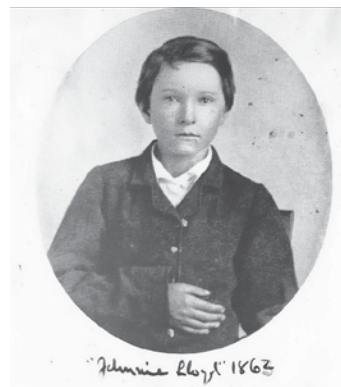
## History of the Library

The library is a product of the endeavors of three brothers, John Uri, Nelson Ashley, and Curtis Gates Lloyd, all of whom apprenticed as pharmacists in the latter half of the 19<sup>th</sup> century. Tradition holds that the nucleus of the library can be found in the two books John Uri, the oldest Lloyd brother, brought with him to Cincinnati in 1864 when he began his apprenticeship at W. J. M. Gordon and Brother. The books were Edward Parrish's 1864 edition of *A Treatise on Pharmacy* and George Fownes' 1864 edition of *A Manual of Elementary Chemistry, Theoretical and Practical*. As Lloyd's career grew, so too did his book collection. By 1885, the Lloyds owned their own pharmaceutical business, Lloyd Brothers, Pharmacists, Inc., where a portion of their manufacturing facility was dedicated to the growing library. The Lloyds became avid book collectors because they wanted the best resources close to hand in order to produce the highest quality Eclectic medicines, the products in which they specialized.

Eclecticism was one of many healing philosophies of the 19<sup>th</sup> century opposed to what was then called Regular Medicine whose practitioners adhered to a very harsh regimen of purging, bleeding, and blistering. While Eclecticism is not easily defined, its therapeutics relied heavily upon medicinal plant treatments which differed from other botanical preparations of the era by being more highly concentrated, using fresh rather than dried specimens, and emphasizing use of native American plants rather than the diverse materials used by other pharmacists.



John Uri, Nelson Ashley, and Curtis Gates Lloyd



John Uri Lloyd

By 1901, Lloyds' research collection outgrew its space in the manufacturing facility, then rapidly outgrew two other buildings before 1908 when a new building was erected near the pharmacy. This structure housed the library for nearly 75 years. It was 22 by 72 feet, with room initially for over 6,200 linear feet of shelving. By the end of its usefulness, it held some 11,500 linear feet of shelving containing about 98,000 volumes. The current building, designed with expansion in mind, was erected in 1970 with four floors and a basement equaling over 30,000 square feet of space.

The museum aspect of the Library was an outgrowth of the herbarium created by Curtis Gates Lloyd, who, in addition to being a trained pharmacist, became a well-known botanist and mycologist. The herbarium was divided and dispersed after Curtis' death, with the botanical specimens transferred to the University of Cincinnati and the mushroom specimens transferred to the U.S. Department

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# The Lloyd Library and Museum Renovated

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of Agriculture, where they are now part of the U. S. National Fungus Collections. Although these collections are no longer at the Lloyd, the library maintains its museum aspect by providing access to historic pharmacy implements, original artwork, book and art exhibitions, and artifacts, such as bottles from Lloyd Brothers, Pharmacists, Inc.

The library is indeed one of the Lloyds' most enduring legacies. And, as it grew, the Lloyds provided for its future. In 1898, John Uri Lloyd drew up Articles of Incorporation to insure the library's legal standing and establish its mission "to collect and maintain a library on botanical, medical, pharmaceutical, and scientific books and periodicals and works of allied sciences"; and in 1917, Curtis Gates Lloyd established the trust under which the library continues to operate.

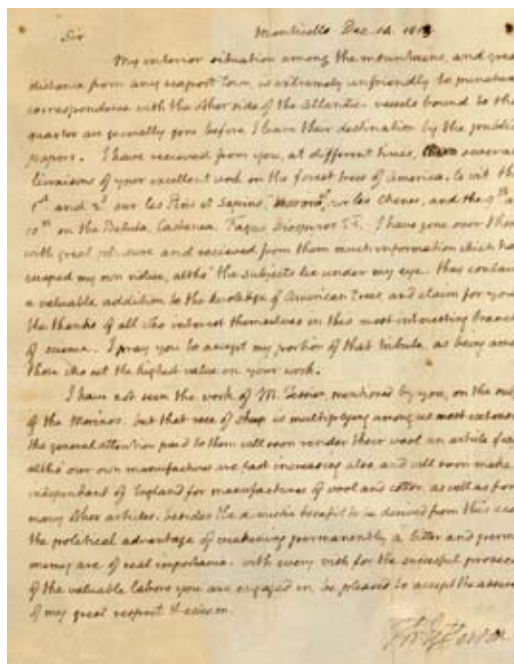
## The Collection

The Lloyds' collected a significant number of important fundamental resources upon which to build. They made purchases based on a keen knowledge of the key literature, both historical and contemporary, in their subjects of interest. The earliest catalog in the Lloyd's archives is handwritten by Curtis and dated 1893. A brief selection of the titles found in that catalog demonstrates that they collected with purpose and expertise, such as Jacob Bigelow's 1817 *American Medical Botany*, the first two editions of Benjamin Smith Barton's *Elements of Botany*, Dominique Chabrey's 1658 *Omnium Stirpium Sciagraphia et Icones* (a book once owned and annotated by Jean-Jacques Rousseau), over 70 entries of works by Linnaeus, William Woodville's *Medical Botany*, and one of the original 25 copies of Sibthorp's *Flora Graeca*.

With such an exemplary foundation, subsequent librarians ably followed the precedent set and continued to acquire rare, unique, and important resources to add to the collection. Among the hundreds of thousands of books and items acquired since 1893, some deserve special mention. The Lloyd acquired its oldest book in 1937. Commonly known as *Mesue Vulgare*, this edition of the *Antidotarium of Mesue* was printed in Venice in 1493. It is a list of drugs compiled by an Arabic physician who wrote the original manuscript sometime around the 10<sup>th</sup> century. It was the most popular compendium of drugs in medieval Europe and is considered the very first important pharmaceutical work ever printed. In 1927, the Lloyd purchased the 1857 English edition of François André Michaux's *North American Sylva* from Paris. Upon examining the book, a letter from Thomas Jefferson to Michaux was found within its pages. The letter is dated from Monticello December 14, 1813 and bears the signature of Jefferson. In it, he praises Michaux's latest publication on North American trees and discusses exporting of wool and cotton.



Bottles from Lloyd Brothers, Pharmacists, Inc.



Thomas Jefferson's Letter to Michaux.

## Pharmacognosy in Lloyd's Collections

Former Lloyd Library Director Michael A. Flannery wrote in his 1998 biography *John Uri Lloyd: The Great American Eclectic* that the Lloyds "had carefully selected materials that permitted any researcher to trace out the history of pharmacy and phytomedicine from its earliest beginnings to the present." Intricately woven into that history, in fact, almost inseparable from it, are the rudiments of pharmacognosy. Many classic herbals, often portrayed as early pharmacognostic works, can be found in Lloyd's stacks. Well-represented are such iconic names as Dioscorides, Petras Andreas Matthiolus, Otto Brunfels, and Hieronymus Bock. From those ancient tomes through to the 18<sup>th</sup> century and beyond, books important to pharmacognosy's history are held by the library. Works of notable 19<sup>th</sup> century scientists who significantly contributed to the discipline are also at the Lloyd, including those of Josef Moeller, Friedrich A. Flückiger, Alexander Tschirch, Arthur Meyer, Theodor W. C. Martius, and August Emil Vogt. The Lloyd also houses archival materials relevant to pharmacognosy's roots, including those of John Uri Lloyd, Lloyd Brothers, Pharmacists, Inc., herbalists, chemists, pharmacists, and pharmacognosists, most significantly Drs. Varro Tyler and George Hocking.

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# The Lloyd Library and Museum Renovated

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## Lloyd Library and the American Society of Pharmacognosy

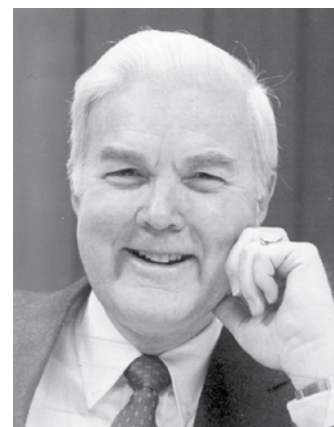
The connection between John Uri Lloyd, the library, and the field of pharmacognosy has been a substantial one for a number of years. This relationship was formalized in 1961 when ASP became co-publisher with the Lloyd Library of *Lloydia: A Quarterly Journal of Biological Science*, which the library began publishing in 1938, two years after John Uri Lloyd's death. In 1978, *Lloydia* changed its title to *Journal of Natural Products*; however, the library continued as co-publisher until 1995 when it terminated the partnership.

Nevertheless, ASP continues to acknowledge pharmacognosy's debt to both the library and its founder. ASP's website includes a significant section devoted to John Uri Lloyd, who is considered a pharmacognosy pioneer by the Society because he was a trail blazer in the modern use of plant extracts in medicine. It states "His love for plant medicine and his attention to detail was instrumental in continuing the search for new medicines from natural resources that is evident today." And, the Lloyd continues to honor its historic connection to ASP through excellent stewardship of its primary source materials, such as those mentioned above, and by collecting current publications on pharmacognosy and natural product development.

ASP and the Lloyd Library are poised to strengthen this relationship if and when ASP designates the Lloyd Library as the official repository of its archives. There are many compelling reasons for ASP to deposit its records with the Lloyd beyond their past association. First of all, the aforementioned pharmacognostic book and archival holdings of the Lloyd insure an appropriate contextual home for the Society's materials. Also, the library now has on staff a professional archivist, Anna Heran, with ten years experience in organizing, maintaining, and administering historical papers, records management, and archival programs. In addition, our building has modern HVAC and humidification controls, making it a safe environment for the collections we house. Additionally, the Lloyd Library is a research institution open to the public, complete with the appropriate technological infrastructure and outreach procedures necessary to provide access to and utilization of its resources by the worldwide scientific community.

Currently the Lloyd is in the planning stages of launching an initiative to expand its archival holdings and enhance its reputation as a place to conduct research on the history of natural product development as well as the natural health movement. Adding the ASP's archives during the development stage of Lloyd's proposed "Historical Research Center for the Natural Health Movement" will be a particularly significant catalyst toward achieving this goal.

Finally, Anna and I will soon become members of ASP and will be attending ASP's annual conferences. Look for us in Greece and Hawaii, as we'll be looking forward to meeting all of you.



Dr. Varro Tyler's archives are housed at the Lloyd.

## The Library Today

The Lloyd continues to add to these resources through purchase and donations of both contemporary and historic materials. Some recent acquisitions of note include the papers of Dr. George Rieveschl, Jr., the chemist who developed the well-known antihistamine Benadryl, several medicinal recipe manuscript books from apothecaries, both foreign and domestic, living in the 18<sup>th</sup> and 19<sup>th</sup> centuries, a scarce practical pharmacology handbook for physicians and surgeons published in 1783 by Johann Essich, Jean Prevost's 1666 *Hortulus Medicus Selectioribus Remediis*, and an 18<sup>th</sup> century book detailing the curative effects of French Vichy waters on diabetes.

Although the Lloyd does not have a natural constituency, such as institutionally connected faculty, students, or researchers, it serves a wide variety of clients locally, nationally, and internationally. From historians and philosophers of medicine and science to contemporary practicing herbalists, many rely on the depth of the Lloyd collection for both scholarly research and practical applications.

The Changing Exhibits program often features works of botanical illustrations, other visual arts, and those of historic importance, frequently accompanied by a related lecture. Recently, the library has also created space for a small gallery available for art exhibitions. Several area colleges and universities bring classes for orientation and special projects. The library also offers meeting space and group visits, as well as off-site presentations on the Lloyd's history and collections. In addition, the library now has a children's program, *The Young Naturalists Club*, designed to inspire children ages 6-10 and accompanying adults to learn about and use natural resources creatively and responsibly through hands-on activities.

Busy though we are, we are always pleased to welcome new researchers, such as *ASP Newsletter* Editor, Dr. Edward Kennelly, and hope to see many more pharmacognosists both make use of this remarkable library and donate their papers to it, thereby insuring their role in pharmacognosy's fascinating history.

## Black Cohosh Safety: A Workshop

by Dr. Edward Kennelly

A workshop on black cohosh safety was conducted by the National Institutes of Health, Office of Dietary Supplements (ODS) in Gaithersburg, Maryland on June 28, 2007. The one-day symposium, organized by ASP member Dr. Joseph Betz (ODS), had 15 invited speakers, including four ASP members, Drs. Joanne Barnes, Norman Farnsworth, Edward Kennelly, and Uwe Koetter.

The workshop centered around two central themes, "What do we know about black cohosh?" and "International regulatory perspectives: case reports and other pertinent data." Drs. Farnsworth and Kennelly described the preparation, phytochemistry, and adulteration of black cohosh in the United States. Dr. Koetter followed up with a discussion of the safety of marketed black cohosh products. In the afternoon session, Dr. Barnes discussed black cohosh safety data from the World Health Organization-Uppsala Monitoring Centre.

A number of regulators from around the world participated in the ODS-sponsored workshop. The regulatory authorities have recorded a handful of cases of liver toxicity associated with black cohosh. Almost all have been classified as 'possible' rather than probable.

Dr. Betz commented that, "the reports have triggered a series of actions by agencies that regulate botanical products as a special category of drugs. So far, the regulators are only mandating warning labels on cohosh products, and continue to allow the products to be sold."

Considerable information regarding the safety of black cohosh has become available since the last ODS-sponsored black cohosh workshop in 2004, so Dr. Betz felt it was time for an update. The 2004 workshop was organized around concerns about adverse effect of black cohosh on breast cancer. The more recent concerns are related to reports of association between black cohosh and adverse effects on the liver.

"The NIH Workshop on black cohosh was an excellent venue to learn first hand about the complexity dealing with a truly internationally used herb. Although it appeared that there is a common understanding about what black cohosh is, the conference revealed that there are several distinct plants with different compounds summarized under a common name. Also, it was very valuable to have opportunities for black cohosh and future research pointed out in front of so many experts," said Dr. Koetter.

BEI JIANG



## Master of Applied Natural Products

Massachusetts College of Pharmacy and Health Sciences has recently introduced a new part-time evening Master of Applied Natural Products (MANP) degree program, directed by Dr. Lana Dvorkin-Camiel. This unique program is geared towards working health care professionals who are interested in expanding their knowledge in the area of natural products, herbal and dietary supplements.

Consult the website for in-depth information on the program itself, admission requirements, faculty, and state-of-the-art facilities at [http://www.mcphs.edu/academics/programs/pharmaceutical\\_sciences/applied\\_natural\\_products/](http://www.mcphs.edu/academics/programs/pharmaceutical_sciences/applied_natural_products/).

Contact Dr. Dvorkin-Camiel at [lane.dvorkin@mcphs.edu](mailto:lane.dvorkin@mcphs.edu) if you have any questions regarding the program.



## In Memoriam: Norman Doorenbos

by Dr. Edward J. Kennelly

ASP member Dr. Norman John Doorenbos died on April 22, 2006 at the Rush Foundation Hospital in Meridian, Missouri at the age of 77.

Dr. Doorenbos was born May 13, 1928 in Flint, Michigan, and received his Ph.D. in medicinal chemistry from the University of Michigan in Ann Arbor. He had his first academic appointment at University of Michigan, and later moved to the University of Maryland, University of Mississippi, Southern Illinois University, and the University of Wisconsin. He went to Auburn as the Dean of the Graduate School in 1986, and remained there for the rest of his academic career.

Dr. Doorenbos was recruited to Ole Miss in 1965 from University of Maryland by Dean Charles Hartman. Dr. Doorenbos recalled in an article he wrote in 2004 for *Economic Botany* (58: 172-178) that he was not anxious to leave University of Maryland, as he established a well supported heterocyclic steroid research program with a number of doctoral students and postdoctoral fellows. Dr. Doorenbos wrote, "Charles Hartman, however, was persuasive." In 1966 his appointment at Ole Miss was extended to include chair and professor in the Department of Pharmacognosy.

In his 12 years at Ole Miss (1965-1977), Dr. Doorenbos helped to build the pharmacognosy research program. He was involved with projects on sumac, an economic botany garden, and the famous marijuana program. Faculty members he helped to recruit to Ole Miss include many familiar names in pharmacognosy, including Drs. Michael Corbett, Charles Hufford, Maynard Quimby, Larry Robertson, and Paul Schiff.

Dr. Hufford, ASP member and Associate Dean for Research and Graduate Programs at Ole Miss said, "Norman was responsible for creating the Pharmacognosy Department at Ole Miss and hired some excellent new faculty members during his tenure. He was a tireless worker for Pharmacognosy, an extremely excellent recruiter, and laid the foundation for a very successful natural products program at Ole Miss."

Dr. Doorenbos, at times referred to as "Dr. D.", was the author of hundreds of scientific research papers. He mentored over 60 Ph.D. students during his long and illustrious career.

ASP Secretary, Dr. Bill Keller, recalled Dr. Doorenbos' great oratory skills, "Norman's presentations could charm the birds out of the trees." ASP Treasurer, Dr. David Slatkin, was a student of Dr. Doorenbos, and noted, "He was a man committed to reducing the level of illicit drug use in children."

Dr. Doorenbos is survived by his wife, Judy M. Doorenbos, a sister, Virginia Adamson, a son, Dr. David Doorenbos, daughters Beverly, Phyllis, Donna, Alice, Gail, and Martha, and two stepdaughters, Mande Wildman and Lindsee Alexander, as well as ten grandchildren.



Dr. Norman Doorenbos

## This Is Not Your Father's NAPRALERT



By Dr. Edward Kennelly

The NAPRALERT relational database of the pharmacological and biochemical properties of natural products has just been updated and enhanced.

The database, which is now searchable via the internet at [www.napralert.org](http://www.napralert.org), includes ethnomedical information, pharmacological/biochemical information of extracts of organisms in vitro, in situ, in vivo, in humans (case reports, non-clinical trials) and clinical studies. Similar information is available for secondary metabolites from natural sources.

To date, more than 200,000 scientific papers and reviews are included in NAPRALERT, representing organisms from all countries of the world, including marine organisms. About 25% of the database is derived from abstracts and 75% from original articles.

The enhanced database now allows users to specify subtaxonomy when searching by organism. Users may now also refine an organism search by specifying the pharmacological activities (including clinical studies) of the organism.

The new "report card" functionality allows you to generate multiple reports and pay for all of them with a single credit card transaction.

Complex searches can be carried out by NAPRALERT staff. Please e-mail Professor Norman Farnsworth at [norman@uic.edu](mailto:norman@uic.edu) for more information.



## 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](http://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](mailto:asp.newsletter@lehman.cuny.edu).

### CMDD Symposium on Marine Natural Products

Ritz-Carlton, Seoul, Korea  
November 1-4, 2007

Center for Marine Natural Products and Drug Discovery,  
Seoul National University

[www.cmdds.or.kr/sub01/sub01\\_1.php](http://www.cmdds.or.kr/sub01/sub01_1.php)

### Interdisciplinary Studies in Tropical Chemical Biology, Pan American Advanced Studies Institute (PASI)

Tambopata Chemical Ecology Institute, Peru  
May 26-June 5, 2008

<http://crb.colostate.edu/home/PASI.htm>

### 1<sup>st</sup> International Conference on Agrochemicals Protecting Crop, Health, and Natural Environment

New Delhi, India  
January 8-11, 2008

International Union of Pure and Applied Chemistry  
(IUPAC)

[www.apchne2008.com](http://www.apchne2008.com)

### The 49<sup>th</sup> Annual Meeting of the American Society of Pharmacognosy/ 7<sup>th</sup> Joint Meeting of AFERP, ASP, GA, PSE, and SIF

Athenaum Intercontinental Hotel, Athens, Greece  
August 3-8, 2008

[www.phcog.org/AnnualMtg/Athens.html](http://www.phcog.org/AnnualMtg/Athens.html)

### The 4<sup>th</sup> Interim Meeting of the American Society of Pharmacognosy and 7<sup>th</sup> Annual Oxford International Conference on the Science of Botanicals

University, Mississippi  
April 12-16, 2008

[www.oxfordicsb.net](http://www.oxfordicsb.net)



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

### Full Members

Dr. Adetunji Aladesanmi  
Ile-Ife, Nigeria

Dr. Kimberly L. Colson  
Billerica, Massachusetts

Dr. Jong-Cheon Hahm  
Daejeon, South Korea

Miss Taofikat Jimoh  
Exeter, United Kingdom

Dr. Young Ho Kim  
Daejeon, South Korea

Dr. Evangeline Lausier  
Durham, North Carolina

Dr. Nathan Magarvey  
Jamaica Plain, Massachusetts

Dr. Richard Taylor  
Notre Dame, Indiana

### Associate Members

Dr. Srinivas Chakravartula  
Edison, New Jersey

Mr. Linlin Dong  
Chicago, Illinois

Mr. Robert Gordon  
Willingboro, New Jersey

## New Features for the *Newsletter*: How YOU Can Be Involved

*During the ASP Annual Meeting this year, we heard many exciting ideas for possible new features. There are several ways to become involved in the Newsletter and subsequently the Society. Please consider contributing to these new features as you see fit at [asp.newsletter@lehman.cuny.edu](mailto:asp.newsletter@lehman.cuny.edu).*

### Graduate and Undergraduate Student News

Do you know of some exciting news about a student in your laboratory? What about the completion of a thesis, acceptance of a publication, or the winning of an award by a student you know? We would like to begin publishing dissertation titles and news in the scientific lives of ASP student members.

### Message Board

There is interesting news all the time about pharmacognosy and natural products. Have you seen or heard something in the media that ASP members should know about? Please let us know, and help pass on information to Society members.

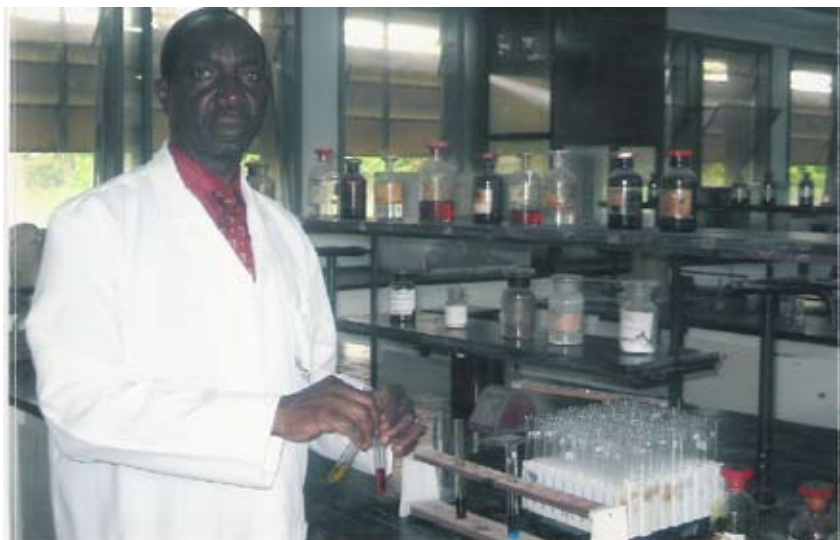
### Humor Page

The *Newsletter* would like to start featuring comic art, preferably related to natural product research or science in general. Do you like to draw comics? Please tell us if you are interested in drawing cartoons for the *Newsletter*.

## Meet a New ASP Member

by Dr. Diane S. Swaffar

ASP welcomes many new members from all over the world to the Society this year. We are especially delighted to feature our new member from Nigeria, Dr. Joseph Adetunji Aladesanmi. He is Professor and Head of the Department of Pharmacognosy at Obafemi Awolowo University in Nigeria, where he has been for 25 years. We are grateful to him for giving us the opportunity to get more acquainted with him.



Dr. Joseph Aladesanmi in the lab.

### Why did you join ASP?

I have my Ph.D. in Pharmacognosy (Phytochemistry) and I have been teaching pharmacognosy since 1982 and became a Professor of Pharmacognosy in 1996. I feel that I now need a good and wider international exposure for easier networking and to further my professional advancement.

### What are your research interests in pharmacognosy?

In the realm of phytochemistry I am especially interested in the scientific evaluation of folkloric claims on the Nigerian medicinal plants and traditional herbal medicines. My interests include biotechnology (microbial transformation of natural products) and activity-directed isolation and identification of biologically active compounds from crude drugs obtained locally. My research activities have the ultimate aim of drug development and development of functional foods and nutraceuticals.

### What is your scientific and academic background?

I obtained a B.A. in Biology from Olivet College in Michigan and a B.S. in Biology & Chemistry from the University of Massachusetts. My graduate work was conducted at the Massachusetts College of Pharmacy where I received my M.S. in Pharmaceutical Microbiology and Ph.D. in Pharmacognosy. I conducted postdoctoral research there on the phytochemical investigation of many *Dysoxylum* species and also did a sabbatical at the University of Arizona. I have also conducted phytochemical research in Germany under the German Academic Exchange Service (DAAD) program and at Tufts University, where I determined the major flavonoids in dry tea. For the last 25 years I have been researching biologically active compounds from Nigerian medicinal plants.

### What would you like to achieve through your membership?

I would like to project myself and the subject of pharmacognosy internationally as it is not being taught in many universities abroad, especially in the States where this very reputable Society is based. I hope to be able to form research collaborations with colleagues in the areas of natural products chemistry, biotechnology, and functional foods/nutraceuticals.

### What do you like doing in your spare time?

When I have spare time, I enjoy lawn tennis and jogging. I am also an avid farmer and grow corn, cassava, and many fruits and vegetables. I also enjoy aquaculture and bee keeping.

### Is there anything else that you would like other ASP members to know about yourself?

I have been an active member of the Nigerian Society of Pharmacognosy since 1983 and served as Secretary for several years. I am happy to report that my university will be hosting the Society's Annual General Meeting and Scientific Conference and I am the Chair of the Local Organizing Committee. I look forward to also becoming very active in the ASP, and I greatly appreciate this opportunity to get more international exposure so soon upon joining this society!



# Behind The Scenes in Pharmacognosy

## A Mint and So Much More

by Amy Keller

In June of 2006, the *Journal of Natural Products* awarded the Jack L. Beal Award to “Synthesis of Salvinorin A Analogues as Opioid Receptor Probes”, authored by Kevin Tidgewell and others in the laboratory of Dr. Tom Prisinzano. Dr. Prisinzano graciously answered our questions regarding this fascinating area of research.

**How did you become interested in *Salvia divinorum* and salvinorin A?**

I first heard about salvinorin A when I was a graduate student in the School of Pharmacy at Virginia Commonwealth University. Bill Devane was a new assistant professor in the Department of Pharmacology and was going to try and characterize its mode of action. He said it was a hallucinogen, but I was very skeptical since I was working in the laboratory of Richard Glennon, who was one of the world experts on the medicinal chemistry of hallucinogens, and it looked nothing like other hallucinogens. Then as a postdoctoral fellow at the National Institutes of Health (NIH), my mentor Kenner Rice asked me to purify salvinorin A he had inadvertently contaminated for a paper he was working on. I was then in the process of starting to find a job as a professor. After reading the 2002 PNAS paper by Roth et al (including my mentor Kenner Rice), which described the opioid activity of salvinorin A, I asked Kenner if he knew anyone doing structure-affinity relationships (SAR) on salvinorin A. His quote to me was, “No, but I think this would be a great project for you to work on.” The rest of the story remains to be written.



Peter Katavic, Matt Schmidt, Kevin Tidgewell, Herky the Superhawkeye, Anthony Lozama, Denise Simpson, and Tom Prisinzano (left to right). Not pictured: Wayne Harding, Kushal Shah, Pavitra Kannan, and Howard Cobb.

**Who in your laboratory carried out the research?**

The research was carried out by my graduate students Kevin Tidgewell, Anthony Lozama, my postdoctoral fellow Wayne Harding, undergraduate research assistants Pavitra Kannan and Kushal Shah, and a PharmD student Howard Cobb. In addition, our collaborators Chris Dersch performed the binding studies on the salvinorin A analogues in Richard Rothman's lab at the National Institute of Drug Abuse (NIDA) and the X-Ray crystal structure in the paper was done by Damon Parrish and Jeff Deschamps at the Office of Naval Research.

**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?**

Recently, salvinorin and several related compounds were shown to have affinity and activity at opioid receptors, the sites in the brain where morphine and other opioids work. There was little information as to how a diterpene interacts with receptors that previously had only been shown to interact with alkaloids and related amines. To begin to better understand how this is possible, we explored the SARs of salvinorin A and related diterpenes at opioid receptors. With one exception, all of the compounds in the paper were new derivatives of salvinorin A. The binding affinities and X-ray structure were also newly carried out. This work also indicates that salvinorin A and related analogues may not be binding in an identical manner to opioid receptors.

**What impact does this research have, and your research in general?**

Opioids, like morphine, are highly effective analgesics but are accompanied by side effects such as respiratory depression, constipation, tolerance, and dependence which limit their clinical usefulness. In addition, there are few medications available for the treatment of drug abuse. By researching salvinorin A and salvinorin related molecules, we may find novel treatments for pain without these side effects, as well as medications to treat drug dependence and other CNS disorders.

# Brief News From Washington

by Dr. Georgia Perdue



## Advisory Committee to the Director (ACD)

• **National Institutes of Health (NIH) Peer Review-** NIH Director Dr. Elias Zerhouni announced the formation of two committees to review the system which is the “cornerstone to the American system of funding. The goal is to fund the best scientists at a minimum of bureaucratic burden ...to maximize the productive time of our scientists and minimize the unproductive time.... [and] to make the system even better.” One committee is made up of ACD members, and the other of NIH staff. A report is due at the December meeting.

• The Office of Dietary Supplements has been placed in the new Division of Program Coordination, Planning and Strategic Initiatives (DPCPSI) mandated by Congress in the “complex” legislation, known as the **Reauthorization Act, the NIH Reform Act of 2006**, passed at the ninth hour the end of 2006. “Implementation of all the mandates in the bill is expected to take a year,” said Deputy NIH Director Dr. Raynard Kington.

• Two new successful awards are the **Director’s Bridge Award** to help established but vulnerable scientists who have less than \$200,000 from research grants, and the **Director’s Innovator Award** for new investigators less than ten years out of their Ph.D. It encourages “groundbreaking ideas .... and risk taking.” The application is only ten pages.

• Dr. Zerhouni has requested a **web-based system for reporting information about NIH extramural funding** “because, as a fellow scientist said, ‘Anecdotes tend to drive the agenda not the data. Data should drive the agenda. The plural of anecdotes is not data.’ We are not about anecdotes but scientific data.”

• All NIH-funded investigators will submit their **scientific papers** to the **National Library of Medicine (NLM)** no later than 12 months after publication so NLM can post them.

## National Cancer Institute (NCI) National Cancer Advisory Board and Board of Scientific Advisors meetings

• In September, NCI Director John Niederhuber will “personally review all **New Investigator grant applications** to assure all deserving applications are funded.”

• The lengthy, final report of the **Translational Research Working Group** was unveiled ([www.cancer.gov.trwg](http://www.cancer.gov.trwg)). The two-year effort of Drs. Ernest Hawk of NCI, Lynn Matrisian of Vanderbilt University and William Nelson of Johns Hopkins aims to lead to “more rapid progress in translating important research into new effective interventions.” The recommendations will not replace or interfere with discovery research but focus on the needs of the discoveries. There will be “no change in the current review process for investigator-initiated applications to RAID, RAPID or DCIDE.” **This fall, NCI will unveil a new plan** in the area of experimental therapeutics, drug discovery and drug development “so we can be a real resource, a real connector between the private sector and academia,” said Niederhuber, adding “It takes \$10-12 billion to develop a new cancer drug over 10-12 years. Our goal is to push that down to four years.”

• NCI is providing leadership to the **CEO Roundtable** and its **Life Sciences Consortium** consisting of many private sector entities. They are working on a common language for contracting “which will take expense and time out of the process,” the “highest priority for industry,” intellectual property issues to provide support in the “new age of discovery,” and antitrust issues.

• NCI is funding a **clinical trial with *Boswellia serrata*** ([cancer.gov/clinicaltrials/](http://cancer.gov/clinicaltrials/)) combined with a low-fat, arachidonic acid-free vegan diet in patients with newly diagnosed or recurrent high-grade gliomas. *Boswellia serrata* resin reduced inflammation in animal and human studies; it may cause apoptosis of the brain cells.

• On July 27, **Dr. Anthony Fauci**, Director of the National Institute of Allergy and Infectious Diseases, received the **2005 National Medal of Science** from President Bush for his pioneering work in “dissecting the mechanisms of pathogenesis of ...HIV... the underpinning for the current strategies for the treatment of the [disease].”

## FDA

• FDA issued **guidelines for the standardization of dietary supplement ingredients** to help improve safety.

# From the Archives

## The Archives of ASP's First President

In 2009, the American Society of Pharmacognosy will be celebrating the 50<sup>th</sup> anniversary of its founding. The Society is planning a number of ways to commemorate this auspicious occasion, including the ASP Photo Project and ASP Archives. The Newsletter has begun digging into these resources in order to publish items from the past and annotate them with member memories. ASP encourages all members to submit items to the ASP Photo Project and Archives. If you would like to suggest topics to be featured in "From the Archives", please forward them to the Newsletter.

by Dr. Edward J. Kennelly

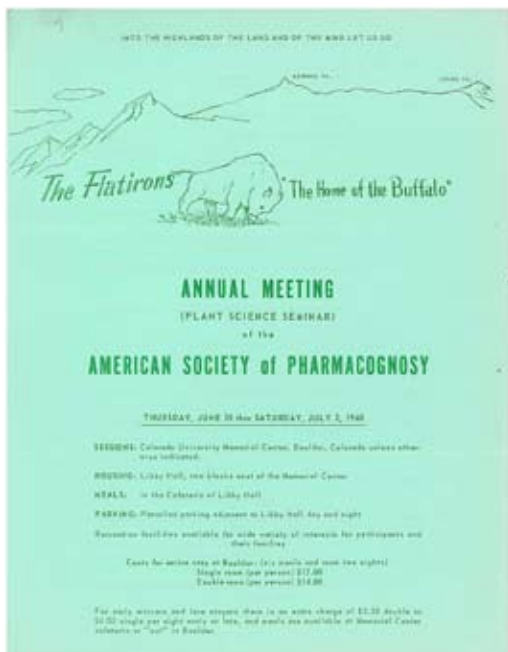
The Archives of ASP's first president, the late Dr. Varro Tyler, are housed at the Lloyd Library and Museum. I visited these archives in August, and met with Lloyd Director, Maggie Heran and Archivist Anna Heran. The Lloyd is enthusiastic about housing Dr. Tyler's archives, and is currently in discussions with ASP leadership to house additional archives related to the ASP.

In this installment of "From the Archives", we look at some of the materials in Dr. Tyler's archives related to the 1960 meeting in Boulder, Colorado. The founding meeting of the ASP was a year earlier at the University of Illinois at Chicago as part of the annual Plant Science Seminar. Dr. Tyler was the first ASP President (1959-1961). The front page of the turquoise-colored 1960 meeting schedule notes ASP's association with the Plant Science Seminar, suggesting that ASP leadership still had strong bonds to this group.

There are many differences in the organization of the 1960 meeting as compared to current ASP meetings. The Boulder meeting lasted just three days, beginning on Thursday, June 30, and running through Saturday, July 2, 1960. Current ASP meetings run for four days, typically from Sunday through Wednesday. There is no mention of a poster session at the 1960 meeting. In addition to research talks, presentations more pedagogical in nature were scheduled, such as David Carew's "What Should Be, or Should Not Be, in A Pharmacognosy Textbook". A panel discussion, entitled "Types of Research Appropriate to Pharmacognosy" took up much of Thursday afternoon, with

Drs. Arthur Schwarting, Heber Youngken, Frank Crane, and Edward Claus participating. One notable difference was that the cost of six meals and a single room for two nights was only \$17.00!

Many renowned pharmacognosists attended the 1960 meeting. The group photo below shows 56 attendees, and the notation on the back states it is from the Colorado meeting. ASP member, Dr. Norman Farnsworth wrote in an e-mail, "Tip is in the middle, second row, in back of Ray VanderWyk. His youthfulness was deceiving. I am in the third row, right, end, with a ring around my neck."





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