



THE AMERICAN SOCIETY OF PHARMACOLOGY

THE ASP NEWSLETTER VOLUME 43 ISSUE 1

Dr. Ramesh Pandey: 2006 CEO of the Year

by Amy Keller

Long-time ASP member, Dr. Ramesh Pandey, CEO of New Jersey-based Xechem International, Inc., was bestowed the CBS MarketWatch Reader's Choice 2006 CEO of the Year Award. Xechem is a company dedicated to drug development for "orphan" diseases, or those ailments that are rare enough to require special resources to treat. Nominations for the award are generated by MarketWatch's editorial staff, and readers are polled for their favorites.

Dr. Pandey, who came ahead in the poll of both Mr. Steve Jobs, CEO of Apple, Inc., and Mr. Warren Buffet, CEO of Berkshire Hathaway, said, "I am pleased to receive the recognition of CBS MarketWatch Reader's Choice 2006 CEO of the Year Award. It is an honor to be in the company of the giants of the American corporate world. On one hand, it is gratifying and I am thankful

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His Excellency President Olusegun Obasanjo, and Dr. Ramesh Pandey at the NICOSAN™ launching, Abuja, Nigeria.

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Mentoring in ASP

by Dr. Roy K. Okuda

In my opinion, one of the greatest attributes of the American Society of Pharmacognosy is that we place a very high value on our younger members and try our best to help them succeed. In simple terms, mentoring refers to any situation where one person acts as a "counselor" to another. We do this in a variety of ways. We offer grants and awards that recognize promise and encourage young scientists to work in our field, and we also support our younger colleagues in the wide range of mentoring that takes place.

Although we may not recognize it as such, a tremendous amount of mentoring takes place within the ASP and our membership. Formal mentoring includes the interaction between a faculty member and students and postdoctorals, or a senior scientist in an industrial or government lab and younger staff. The mentoring relationship often does not end once the junior person moves on to another position, and indeed the connection remains a lifelong situation. I have discussed this with others, and the consensus is that because most of natural products research involves both time in the field and the lab, when we have to cooperate and work in close quarters, our relationships tend to be very strong.

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EMPLOYMENT SERVICE

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

www.phcog.org/employment.html

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Editor's Corner



This issue of the *Newsletter* has a theme of mentoring, per the suggestion of ASP President Roy Okuda. When President Okuda pitched this theme to me, he emphasized what a great job ASP and its members do mentoring, both formally and informally, and I wholeheartedly agree. President Okuda discusses his view of mentorship in ASP in his lead article on the front page.

We then look at how mentoring has occurred and is occurring in one selected academic "family", the Floss-Moore-Winter lineage. Dr. Heinz Floss describes what mentoring has meant to him, starting with his German academic background, and ending with suggestions on how the United States academic system could be enhanced.

Dr. Bradley Moore has a unique perspective on mentoring, since he is the son of one of the great marine natural chemists, Dr. Richard Moore. Dr. Brad Moore discusses his interactions with Dr. Floss, as well as his father and others who have shaped his career.

Two younger members weigh in on mentoring as well. Ms. Jaclyn Winter, Dr. Brad Moore's doctoral student, describes her evolution in the understanding of what mentors do. Dr. Sara Crockett, former President of the Younger Members Committee (YMC), gives a fascinating history of the word "mentor", and goes on to describe what the YMC does to promote mentorship, especially at ASP Annual Meetings.

We are fortunate to have a complete academic genealogy of Dr. Floss, tracing back to two Nobel Laureates, among other great European scientists. We thank Dr. Vera Mainz for creating this complementary genealogy for use in this issue of the *Newsletter*.

Our other lead story describes the recent recognition of ASP member Dr. Ramesh Pandey as CEO of the Year by the CBS MarketWatch Reader's Choice poll. Congratulations to Dr. Pandey for this honor! Congratulations also to ASP member and *Journal of Natural Products* Editor, Dr. Doug Kinghorn, for two honors he has received in the past year.

I appreciate the feedback I have received in the past year that I have been *Newsletter* Editor. I especially appreciate those who have given me ideas for stories, and even more, those who have agreed to write stories for the *Newsletter*! I always look for ways to keep the *Newsletter* current and fresh, and I encourage members to continue to give me your suggestions.

Dr. Ramesh Pandey: 2006 CEO of the Year

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to the people who voted for me. On the other hand, we still have lots of work ahead of us."

In response to Dr. Pandey's award, the co-discoverer of paclitaxel and Honorary ASP Member, Dr. Mansukh Wani noted, "I have known Dr. Pandey for more than 30 years. I am very excited with the scientific progress he is making. I congratulate him for launching the breakthrough drug NICOSAN™ for the treatment of sickle cell disease in Nigeria and wish him success in his efforts to get the drug approved for use in United States, Europe, and eventually throughout the world. The Reader's Choice CEO of the Year Award is very well-deserved by Dr. Pandey."

Dr. Pandey hails originally from Ranikhet, in District Almora, Division Kumaon in Uttarakhand, India, located in the Himalayan foothills of North India. Dr. Pandey was exposed to traditional medicine at an early age, and his father attended the royal family of Kumaon as an Ayurvedic physician. After completing his initial education in Kumaon, Dr. Pandey received his Ph.D. from the National Chemical Laboratory at Pune University in Pune, India.

While working on treatments for antibiotics and cancer at Abbott Laboratories from 1983-1984, he was contacted by the drug company Lyphomed to work on the development of vancomycin, a compound used to treat severe bacterial infections. After a few years, Dr. Pandey successfully produced a version of it, and bought Xechem from another company in 1990 with the mission to make drugs that were unavailable on the market.

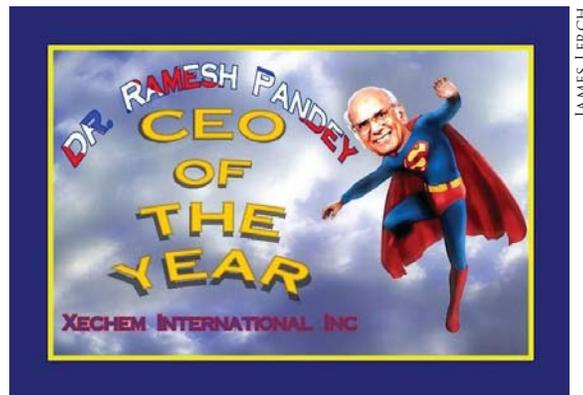
Soon after this, Dr. Pandey learned of a drug to treat sickle cell disease from a Nigerian delegation. Xechem took on the challenge of marketing the drug, and in addition, built a factory in Nigeria, and began classes at universities in Nigeria to ensure worker training. Xechem currently has a worldwide license for the drug, known as NICOSAN™ or HEMOXIN™ in the Western world, with plans to market to all of Africa within the next 3-5 years, and eventually in the United States and Europe.

In addition to these recent successes, Xechem also works in drugs from natural sources to treat diabetes, malaria, bacterial and fungal infections, cancer, and viruses. The company also developed a commercial process for producing paclitaxel in bulk using current Good Manufacturing Processes.

In a response to Dr. Pandey's recent award, Xechem stockholder Dean Petkanas noted, "While some might argue that a CEO must deliver financial performance for recognition, there are many who can point to this and say, job well done. The plight of the 5 million children and adults stricken with sickle cell disease in Nigeria, United States, and other parts of the world is severe. The loss of life has not been given a price tag. Of all the CEOs on the list, excluding their own direct contributions to charity, only one [Dr. Pandey] is actively pursuing the United Nations Millennium Development Goals on factors to change the scope of poverty and disease."

An ASP member since 1970, Dr. Pandey has been quite active in the society. He was the General Chair of the 43rd Annual Meeting of the ASP & 3rd Monroe Wall Symposium in New Brunswick, New Jersey, July 27-31 in 2002. Along with Dr. Pandey, the co-chairs were Drs. Renuka Misra and Robert Borris. The meeting was very well attended and included an honorary symposium dedicated to the co-discoverer of paclitaxel, Dr. Monroe Wall, entitled "Advances in Drug Discovery from Natural Products".

When not busy with his company, Dr. Pandey also serves as a member on the Statewide Advisory



Dr. Ramesh Pandey, Super CEO

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Dr. Ramesh Pandey: 2006 CEO of the Year

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Committee of the Board of Managers, New Jersey Agricultural Experiment Station, Rutgers, The State University of New Jersey, in the field of Biotechnology for the term 2002-2008. He also serves as a member of the New Jersey Technology Council (NJTC) Life Sciences Advisory board. Dr. Pandey has been a member and Paul Harris Fellow of the New Brunswick Rotary Club since 1996 and was President for the 1999-2000 term.

When addressing the future of Xechem, Dr. Pandey mentioned, "From a humanitarian point, we know we are making a difference. We think 2007 is going to be a new beginning in the life of the company."

Dr. Ramesh Pandey and Ms. Barbara Edelen contributed to this article.

Dr. A. Douglas Kinghorn Twice Honored

by Amy Keller

ASP Member and Editor of the *Journal of Natural Products*, Dr. A. Douglas Kinghorn, received two prominent awards recently from the American Association for the Advancement of Science (AAAS) and the University of London.

Dr. Kinghorn was elected into the Section on Pharmaceutical Sciences of the AAAS. He was officially recognized at the Fellows Forum on February 17, 2007, at the AAAS Annual Meeting in San Francisco, California. The AAAS, an global nonprofit organization dedicated to advancing science around the world, elects scientists based on their contributions to science and technology.

Along with Drs. Pradip Patel and James Gemmell, Dr. Kinghorn was also awarded a fellowship from the School of Pharmacy, University of London, at a dinner celebration at Goodenough College in London on May 31, 2006. Dr. Kinghorn was presented with a diploma of fellowship for his "distinguished contribution to the developments of all aspects of natural products and pharmacognosy".

The School of Pharmacy, University of London, was established in 1842, and is the only institution in the United Kingdom dedicated entirely to teaching and research in pharmacy and the pharmaceutical sciences. The Centre for Pharmacognosy and Phytotherapy, a unit headed by Professor Michael Heinrich, and staffed by three other faculty members, Drs. Simon Gibbons, Deniz Tasdemir, and Jose Prieto, with Emeritus Professor David Phillipson also a member.

In regards to this honor, Dr. Kinghorn stated, "I was on the faculty of the Department of Pharmacognosy, School of Pharmacy, University of London as a Teaching Fellow from 1971-1975, where I taught microscopy and electron microscopy to undergraduate pharmacy students. At this same time, I studied for my Ph.D. degree and worked on the phytochemistry of biologically active compounds from plants in the genus *Euphorbia*, under the supervision of Dr. Fred J. Evans. To be invited to join such an elite group of Fellows and Honorary Fellows, who are internationally recognized for their achievements in pharmacy education and the pharmaceutical sciences, is a very great honor for which I am very pleased."

Dr. Kinghorn was awarded his Ph.D. in 1975 and a D.Sc. in 1990, both from the University of London, and is Jack L. Beal Professor and Chair in the Division of Medicinal Chemistry & Pharmacognosy at the Ohio State University College of Pharmacy.

Dr. Kinghorn contributed to this article.



Drs. James Gemmell, A. Douglas Kinghorn and Pradip Patel.

Mentoring in ASP

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A great deal of mentoring, of the informal kind, takes place during our annual ASP meetings. Our poster sessions are incredibly noisy events, which is a terrific situation! The level of interaction that takes place would impress any scientist, and I am gratified to see the genuine interest between everyone present. Senior colleagues are seen in deep discussion with (often) younger poster presentors, and offer suggestions and encouragement. This is true mentorship! Conversations continue during our many coffee breaks and social events, and these informal, relaxed situations are very valuable periods for information to be exchanged.

For a number of annual meetings, the ASP Younger Members Committee (YMC) has organized forums on various topics which have attracted large audiences. The topics have included discussions on finding a job in industry, applying for grant applications, and scientific writing and publishing, and have involved panels of our senior members. These sessions represent another kind of mentoring, and the establishment of the YMC recognizes the importance of these key members of our Society. Kudos to Drs. Melany Puglisi, Sara Crockett, and Scott Baggett for their roles in initiating and promoting the YMC.

In my own life, I have been extremely fortunate to have had three of the best mentors in the field: Dr. William Fenical during my undergraduate years, the late Dr. Paul Scheuer as my graduate advisor, and Dr. Koji Nakanishi for my postdoctoral period. To help me learn the ways of the ASP, I have had key advisors including Drs. Yuzuru Shimizu and Len Worthen. I still consider all of them to be my mentors today, and feel fortunate to have benefited from their collective wisdom!

In closing, I salute everyone who has played the role of a mentor in connection to the field of pharmacognosy and the ASP. Your role has been crucial to the success of our field and this Society. To illustrate the impact, in this issue of the *ASP Newsletter* are a series of articles by colleagues from three "generations" of a mentor relationship by Drs. Heinz Floss and Bradley Moore, and graduate student Ms. Jackie Winter, which is just one example of many involving ASP members. Also, ASP YMC member Dr. Crockett takes us through a colorful history of mentoring. Eventually, all mentees can themselves become mentors, and I encourage you to help others when the occasion arises!

Mentoring in ASP

First Generation: In Praise of Academic Mentoring

by Dr. Heinz G. Floss

Academic mentoring, the guiding of young scientists to independence by their seniors, has a long tradition in the German university system in which I grew up. It is even formalized in a unique second "degree", the habilitation, through which the mentor and his or her faculty certify that the candidate is qualified to hold a professorial position. In German academic chemistry there are schools that arose from the influence of a series of outstanding mentors. My own pedigree, for example, traces from my mentor, Professors Friedrich Weygand to Richard Kuhn (Nobel Laureate, 1938), Richard Willstätter (Nobel Laureate, 1915), Alfred Einhorn, Wilhelm Staedel, Adolph Strecker to Justus von Liebig, mapped in the accompanying academic genealogy figure.

Having experienced the benefits of mentoring in my own development as a scientist, I naturally became a strong believer in this function of a faculty member. Professor Weygand's recipe for mentoring

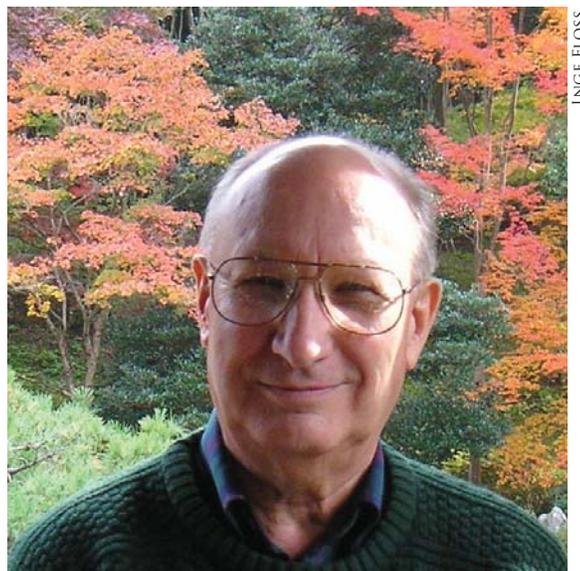
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his students, which I adopted, was rather simple: identify promising students that you believe have the potential to become good academics, point them in a general direction, provide them with resources and occasional feedback and encouragement, bail them out when they make their inevitable initial mistakes, and otherwise keep them on a very long leash. I cannot think of a better way to encourage independence.

In the American academic system, at least in the chemical and biochemical sciences, the role of mentor is usually divided between the Ph.D. and the postdoctoral advisor. Both as a doctoral and a postdoctoral student, the candidate is usually not pursuing truly independent research, and thus does not have the advantage of developing his or her own independent research while still benefiting from the advice of an experienced mentor. Nevertheless, the American system works well for students in leading research groups in the top academic institutions. Some of these groups, such as the Walsh group at Harvard or the Nakanishi group at Columbia in bioorganic/natural products chemistry, provide superb mentoring environments and many of their alumni are highly successful. This model requires students to mature very quickly and, once they land a faculty position, to start up their independent research program rapidly while the tenure clock is ticking.



Dr. Heinz Floss

On the other hand, many very promising students may require somewhat more time to get up to speed, for a variety of reasons, or may need the boost of some independent research accomplishments to land a faculty position in a strong research institution. For those students to succeed, an additional period of time during which they can develop their independent research under the wings and with the support of a senior mentor can be very helpful.

Based on these considerations, during my time as a faculty member I offered such an opportunity to several young scientists who I felt deserved it and could benefit from it. The first one was Dr. Ming-Daw Tsai, a student of mine at Purdue University, who is now a very prominent biochemist at Ohio State University. After his Ph.D. and some postdoctoral work, due mainly to language problems, he did not find a suitable faculty position. Since I was certain of his potential, I offered him the option of staying on at Purdue as a Research Assistant Professor for up to five years and, with initial financial support from my funds, to develop his independent research program. He accepted, accomplished in three years what I thought would take five, and obtained two grants for his research and then moved on to Rutgers University and then Ohio State.

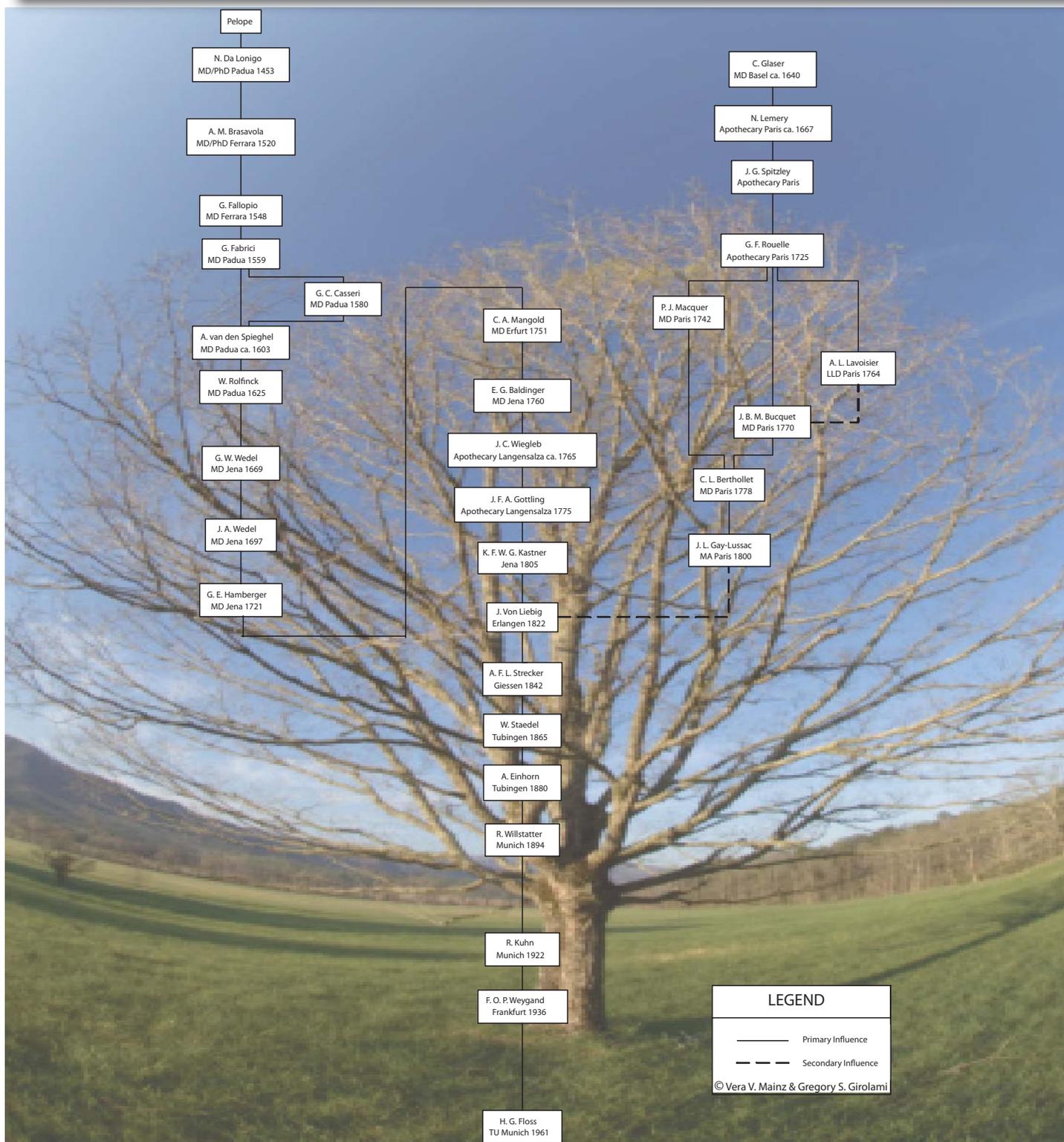
Two individuals who went through this same process more recently are Dr. Bradley Moore, now at the University of California at San Diego, and Dr. Taifo Mahmud, now at Oregon State University.

Dr. Moore was one of the hardest working and most productive people who have come through my lab. He made it all look so easy with his laid back attitude, even when he was swamped with work or things did not go as planned. The fact that he always ran around in sandals and a Hawaiian shirt, even during Seattle winter, further cultivated the impression that he was having fun as if he were on the beach rather than in the lab.

Apparently, in his early undergraduate years, before he joined the lab of his father, Dr. Richard

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Academic Genealogy of Dr. Heinz G. Floss



Drs. Vera Mainz and Gregory Girolami started the project that would end up as the Chemical Genealogy Database, www.scs.uiuc.edu/~mainzv/Web_Genealogy/, in the mid 1980's. Starting with research on their own academic ancestors, the project soon grew to encompass the faculty of the Chemistry Department of the University of Illinois at Urbana-Champaign, where Dr. Girolami is a Professor of Chemistry and Dr. Mainz is the director of several scientific instrument facilities. Personalized genealogies are available for a small fee. Contact Dr. Mainz at mainz@uiuc.edu.

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Moore, at the University of Hawaii, and really caught on to the challenges and joys of doing research, he did spend a lot of time on the beach. I remember a visit to Korea when I gave a talk, much of it on Dr. Brad Moore's thesis research. After the lecture, a young couple came up to me who had both worked in Dr. Richard Moore's lab. They couldn't get over the fact that Dr. Moore had done all this beautiful work, because when they knew him, they were convinced that he was just a beach bum!

Drs. Moore and Mahmud, after a two-year postdoctoral period, became Research Assistant Professors at the University of Washington and developed original research programs of their own. Both, in succession, also served part-time as my group managers. This gave them experience in administering a research group and justified their support from my grants. One problem we encountered in this approach is the fact that reviewers of NIH grants never recognized the independent status of these individuals; their NIH grant applications usually received low scores as "just another grant for Dr. Floss", but were funded as soon as they moved to tenure-track positions. Evidently, the problem was not with the quality of their proposals, but that the system does not easily accept a different route of coming up in the academic world from the prevalent one.

In today's world, where it takes beginning faculty members increasingly longer to develop a research program of critical mass and secure funding for it, whereas the timing of tenure decisions is unchanged, effective mentoring is more important than ever. The above model is one which, I believe, makes it easier for a young faculty member to hit the ground running and to build a convincing record in time for the tenure decision. As an alternative, departments which hire beginning faculty members should establish effective internal mentoring programs which provide both the resources and the guidance and feedback by a senior colleague to maximize the young scientists chances of success.

Mentoring in ASP

Second Generation: The Gift of Mentorship

by Dr. Bradley S. Moore

I am so lucky! We all are, really. In my profession, I have the daily opportunity of working with talented students, exploring new science with colleagues, and benefiting from the wisdom of teachers. Graduate students can begin this process with undergraduate charges and continue this lineage of mentorship as careers advance. I am sure that we can all look back at our own academic training and identify several influential individuals who have helped shape our lives and the choices we make at critical junctures. I have been very fortunate in that I can point to many such mentors who helped guide me in my own career and shaped the way I now interact with my research group at the University of California at San Diego.

As a student, I had the great fortune to study under two eminent natural product chemists, Professors Richard Moore, my father, at the University of Hawaii (B.S. 1989) and Heinz Floss at the University of Washington (Ph.D.1994). These influential scientists, who were each awarded ASP Lifetime Achievement awards, showed me, as role models, the joys and rewards of academic science. I saw that to be successful over a lifetime that you needed not only personal dedication to your science but the true support of your family, colleagues, and students. Growing up in an academic household, and being allowed to experience at an early age innovative research in my father's group in Hawaii, first prepared me for my future life in academics.

In my opinion, Professor Floss' greatest gift to his students was the gift of ownership. First as a graduate student (1990-1994), and later as a Research Assistant Professor (1996-1999) in his group in

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Seattle, I felt very fortunate to work alongside him as he empowered us with research independence and the resources and opportunities to succeed. Research projects truly became those of his students, and partnerships, both inside and outside of the group, were encouraged.

Professor Floss demanded excellence and pointed us in the general direction, but it was up to us to get there. Along the way, we became independent thinkers. At the same time, his door was always open to discuss inevitable problems, listen to crazy ideas, and chart new directions. It is thus no wonder why so many members of his group have gone on to successful positions in academia and industry.

His gift of mentorship was no more apparent than at his 70th birthday symposium in 2004, where many of his past group members helped celebrate Professor Floss' academic achievements. Not only were the presentations reflective of excellent science inspired by him the mood of the meeting itself was one of a family reunion. His research group had become a home away from home to many of its members as he and his wife, Inge, welcomed us with open arms. We had become his legacy.

As a Principle Investigator first at the University of Washington in Seattle, Washington, later at the University of Arizona (1999-2005), and now in San Diego, I have had the opportunity of building and directing research groups comprised of graduate students, and postdoctoral researchers from all over the world. While my formal training prepared me to conduct independent research, there is obviously much more to academic life than running experiments. Other activities such as classroom teaching,

grant writing, peer review, and group management are often thrust upon us with little experience as new junior faculty members. Hence, the mentoring of junior faculty by our senior colleagues is an important, yet often overlooked, practice. My early understanding of the system from my father and Professor Floss when I served as a Research Assistant Professor in his laboratory was instrumental in navigating me through the tenure process as an independent investigator in Arizona. Today I am truly fortunate to have past ASP Presidents, Drs. William Fenical and William Gerwick, as senior colleagues at the Scripps Institution of Oceanography who provide guidance, inspiration, and counsel on numerous issues.



Dr. Bradley Moore's Laboratory Group

Management of my own group and interacting with talented junior scientists such as 3rd year student Jackie Winter, a NIH predoctoral trainee, is one of the joys of my academic life. I have attempted to instill the openness, independence, and collaboration of the Floss research group in my own program. My group members are strongly encouraged to contribute to the research process beyond just the bench work in the form of proposal generation, progress reports, manuscript writing and revising, and the peer review process. I have high expectations for each of my group members.

My ultimate goal is to help my students reach and possibly exceed their personal goals, which can vary drastically from student to student. So my group often becomes an extension of my own family with mentoring often involving both professional and personal advise. In addition to working hard, my group is encouraged to play hard as it is often through play that we recharge our batteries that allow our scientific creativity to blossom. And what a better place than Scripps to work hard and play hard, given its storied research environment set on the Pacific Ocean.

Mentorship of our student and postdoctoral researchers does not end once they leave our programs

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and we end seeing them on a regular basis. While new mentors enter their lives and continue their edification, we still have a responsibility to continue fostering their careers. This is one of the rewards of academics - watching our students succeed independently and become colleagues. Mentorship never stops. Rather it responds to our needs whether we are students, new investigators, or full professors as life in the fast lane of academic research is often full of challenges that those before us can help us navigate.

Mentoring in ASP

Third Generation: A Mentee's Perspective

by Jaclyn M. Winter

Never in a million years would I have imagined that I would be attending graduate school in San Diego at Scripps Institution of Oceanography studying natural product biosynthesis! The past seven years have been quite an adventure in which I have been given the opportunity to travel across the country, and along the way, have had the privilege of encountering great mentors who pointed me in directions I would have never explored myself.

Like most teenagers, after graduating high school I really did not know what I wanted to do with my career. I was interested in the biological sciences and knew I was going to college to further my education. Yet coming from a family of accountants and nurses, I had no idea what was possible afterward. I enrolled at the State University of New York College at Fredonia (SUNY Fredonia) and throughout my undergraduate career was fortunate to interact and work for great faculty members in both the biology and chemistry departments.

For me, attending a small school for my undergraduate studies provided opportunities that I would not have encountered if at a larger university. As part of a small department, I was more than a number. Faculty knew me by my first name and, as I advanced toward my degree, I was treated more like a colleague and less like a student. As there were no postdoctoral fellows and only a handful of graduate students, it was up to the undergraduates to assist with the biology and chemistry labs, to teach review classes, to carry out research, and, most importantly, to help mentor more junior students.

Two particular professors who had a huge impact on shaping my future at SUNY Fredonia were Drs. Matthew Fountain and Mark Janik. I had the privilege of working in their laboratories where I was taught the basic skills and knowledge of molecular biology and organic synthesis, respectively. I appreciate that these professors took me under their wing at an early age. Not only did they provide me with a strong base and the necessary tools for graduate school, but they helped me realize that the next step in my career should involve studying science at the interface of chemistry and biology.

To be honest, when I first joined Professor Bradley Moore's lab, I had little knowledge of natural product biosynthesis and it was frustrating when every question I asked was answered with yet another



Ms. Jackie Winter and Dr. Bradley Moore

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question. I realize now that this was tough love and from this I have learned to investigate and actually think about a problem before asking for a quick answer. Shortly after joining Professor Moore's lab, I was given a research project, and the first couple of months were what I call my "why-is-nothing-working" period. However, no matter how frustrated or discouraged I became, Professor Moore was there to motivate or help point me in the right direction. Within a short time, most of the bugs were worked out, and I was quickly making progress. This was a great feeling!

What kept me going and pushing the bar higher was that the more excited I became about the project, the more supportive and enthusiastic Professor Moore became. As time passed, I needed less guidance and the project became more tailored to my own thoughts and ideas. There have been many instances where I have wanted to explore an interesting avenue or prove an outrageous hypothesis, and I have never been hesitant about doing so because I know Professor Moore trusts my judgment and has always said "who knows, give it a try".

As a graduate student, I have had the pleasure of working for Professor Moore for a year at the University of Arizona and now at the University of California at San Diego. At first I was hesitant about attending graduate school so far from home and not having any family close by for support, but soon after joining Professor Moore's lab, it became clear I was not alone. Most of the postdocs and graduate students were in the same situation and we have come to depend on each other and Professor Moore for encouragement, direction, and assistance both in and outside the lab. We are more than colleagues; we are a family. Sure we are a little dysfunctional at times, but what family is not?

I think the greatest attribute that I have gained from working in Professor Moore's lab is the belief that if you want to accomplish something, you can. If you believe in yourself and are persistent, the answers will eventually come. I have been given all the resources and opportunities by Professor Moore to succeed, and whether I do is entirely up to me. I am not sure what my future holds or where my journey will take me next, but I do know that I will have the support from all the faculty members who have guided me along the way and will be well prepared when it is time to enter the real world.

Mentoring in ASP

The Young Members Committee and Mentoring

by Dr. Sara Crockett

The term "mentor" first appeared in Homer's epic poem *Odyssey*, and referred to a friend of Odysseus, an ancient king of Ithaca, who was entrusted with the education of his son, Telemachus. In this context, the mentor was a trusted teacher and counselor, who guided his young pupil through the maze of higher education while Odysseus was off fighting the Trojan War and wandering around for 10 years prior to returning home. Can it only be coincidence that this length of time, during which Telemachus was receiving the wisdom of his mentor, corresponds to the general period of the undergraduate (4 years), masters (2 years) and doctorate (4 years) program?

Most, or perhaps all, of us who pursue a career in the sciences have been influenced at one point or another by a wonderful teacher or mentor. Most would also agree that such persons have not simply busied themselves in pouring streams of information into ears to fill empty heads, but are truly motivated by concern for the pupil. These people have filled the various roles of counselor, guide, and instructor. A quote by William Ward reads, "The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires." From this perspective, receiving inspiration from a mentor opens us to the potential of learning through a plethora of methods and thus, expands our horizons.

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A mentor, in both a historical and a modern sense, combines an array of special characteristics. First and foremost, the mentor is concerned with the fate of each student, and all other actions stem from this personal emotional investment. This does not mean that the mentor may act without regard to self-interest, and in fact many mentors have guided students upon academic and career paths toward the goal of remaking the student in his or her particular image. On the other hand, the image of a mentor who provides support (financial or other), connections (to people or information), and instruction (factual or in terms of strategy) is, overall, viewed positively.

One of the primary goals of the Young Members Committee (YMC) is to create a platform from which undergraduates, graduates, and young post-graduates can seek mentors within and connected to the American Society of Pharmacognosy. Each year, a panel discussion is held in an effort not only to instruct younger members on a particular topic such as grant-writing strategies, getting a job in industry, or scientific writing, but also to facilitate further communication with experts within the society. Similarly, each year an informal social event is held with the underlying goal of encouraging younger members to connect and communicate with one another, in addition to just having a good time. A mentor, from the perspective of being someone from whom one learns, and receives support and guidance, does not necessarily have to be someone much older than you!



NANCY BOOTH

Young Members connect at the 47th Annual Meeting.

I would also argue that the value of such interactions is not inherently dependent upon their duration. In the traditional sense, a mentor would guide his or her pupil through many years of instruction, but in reality, it may take only a brief connection with someone to change the path of your life. When I attended the International Conference for Ethnomedicine and Drug Discovery in 1999, I went against the instruction and wishes of my advisor and mentor, a molecular systematist, who viewed my attending the conference as a waste of time. From his viewpoint, he was acting as a mentor should, striving to promote the interests of someone continuing on in molecular systematics. I, however, motivated by a desire to learn more about the educational and career possibilities for a student interested in medicinal plants, attended the meeting. After a five-minute conversation with Dr. Maurice Iwu, an organizer who had provided the financial support that allowed me to attend the conference, he held both of my hands warmly in his and said sincerely, "We need more people like you in our field." Even such brief encounters can have profound significance.

So, while Odysseus was out touring the world, his wife Penelope was trying to convince several hopeful (and greedy) suitors that she really was not interested in another husband. When Odysseus returned, Telemachus helped him slay his mother's suitors, thus demonstrating that the training received from his mentor had not all come out of books! Although I hope that the completion of your degree(s) will not predispose you to violence, once you receive your academic accolades, you too may be called upon to go out into the world and travel uncharted waters. The training and guidance of a good mentor will, in part, enable you to accomplish this.

The YMC was formed from just such ambitions and hopes. We need good natural product chemists, good pharmacognosists, no, we just plain need good scientists in the future, and any effort that helps to bring eager students into connection with experienced mentors in our field of science is worth pursuing.

The 48th Annual Meeting of ASP

Get Ready for the Maine Event!

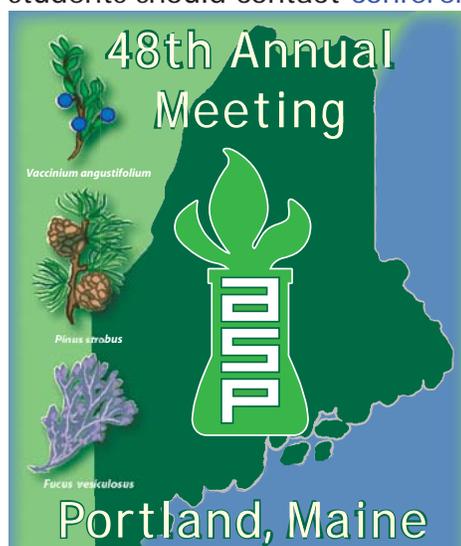
We cordially invite you to participate in the 48th Annual Meeting of the American Society of Pharmacognosy at the Holiday Inn by the Bay in Portland, Maine from Saturday, July 14 to Wednesday, July 18, 2007.

Symposia: The upcoming ASP Annual Meeting will have three symposia, entitled, "Clinical and Scientific Investigations of Commercial Botanicals", "Natural Products: Unique Sources, Unique Techniques", "Medicinal Chemistry of Natural Products, Marine Toxins and Chemical Ecology", and "Botanicals for Personal Care Applications".

Deadlines: Please note that these deadlines are imminent, and this is last opportunity the *Newsletter* will have to announce them.

Oral Presentation Abstract - April 15, 2007
Poster Presentation Abstract - May 1, 2007
Member Registration Fee -- \$450 (\$550 after May 31, 2007)
Non-member Registration Fee -- \$550 (\$650 after May 31, 2007)
Postdoctoral Fellow Registration Fee -- \$200 (\$250 after May 31, 2007)
Student Registration Fee -- \$175 (\$225 after May 31, 2007)

Housing: Holiday Inn by the Bay's conference rate is \$160 for single or double occupancy. Reservations must be made by June 6, 2007. The Eastland Park Hotel is also offering a conference rate of \$149 for single or double occupancy. Reservations must be made by June 14, 2007. For information regarding graduate student rooms at the Eastland Park, please contact Dr. Stefan Gafner at stefang@tomsofmaine.com. Students also have a housing option at the University of Southern Maine's Portland Hall. Interested students should contact conferences@usm.maine.edu specifying the nights desired.



Travel: Portland is served by an airport, PWM, into which many major carriers fly. This is the most convenient choice for meeting participants. The Holiday Inn by the Bay operates a complimentary airport shuttle for guests. It is a 2 hour drive from Boston to Portland on the I-95 turnpike, and bus as well as train service is also available. New Hampshire's Manchester airport, MHT, is approximately 100 miles west of Portland and offers another alternative for flying into the region.

General questions in regards to the meeting can be addressed to Dr. Gafner, e-mail: stefang@tomsofmaine.com. Questions about registration, travel, and accommodation should be addressed to the USM registration service through Ms. Elizabeth A. Morin, e-mail: eamorin@usm.maine.edu.

www.phcog.org/AnnualMtg/Portland.html

The 48th Annual Meeting of ASP

Satellite Workshops

In addition to the events officially included in the 48th Annual Meeting of ASP, satellite workshops are also being offered. These workshops require separate registration and additional fees. More detailed information on the workshops and Annual Meeting, in general, can be found at the ASP website, www.phcog.org/AnnualMtg/Portland.html.

Among the satellite workshops offered prior to the Annual Meeting, one is entitled, *Clinical Pharmacognosy: Contribution of Pharmacognosy to the Quality of Clinical Trials of Botanicals & Dietary Supplements* on Saturday, July 14, from 8:15 a.m. - 5 p.m. This unique event brings together leading international scientific scientists and experts to present the latest findings on characterization of test materials, challenges in conducting a clinical trial, safety aspects, and guidelines for future studies. The target audience includes natural products researchers from industry and academia, medical and health professionals, food and nutraceutical industry scientists and executives. This workshop offers an opportunity for collaboration between ASP members, health professionals, scientific experts from academia and the dietary supplements industry and their executives. For more information, contact Ray Cooper, RCooperPhD@aol.com.

Also taking place before the Annual Meeting is *Modern NMR Methods for Organic Structure Elucidation*, and is being held on Saturday, July 14, from 9 am - 4 pm. This course will be given by Professor William Reynolds (University of Toronto) and Dr. Eugene Mazzola (USFDA and University of Maryland). It is designed for graduate students and post-doctoral fellows working in the field of natural product chemistry, but would also be suitable for final year undergraduates and scientists working for pharmaceutical and nutraceutical companies or in government labs. For more information, contact Eugene Mazzola at emazzola@umd.edu or William Reynolds at wreynold@chem.utoronto.ca.

A third training course, taking place after the Annual Meeting, *Optimization and In-House Validation of Analytical Methods for Dietary Supplements*, is to be held on Thursday and Friday, July 19 and 20, from 8:30 am - 4 pm. This training course on the development, optimization, and in-house validation of analytical methods for dietary supplements is in compliance with internationally recognized laboratory validation guidelines. This workshop is sponsored by the NIH Office of Dietary Supplements (<http://dietary-supplements.info.nih.gov/>) at a cost reduction to attendees. Graduate students and post-doctoral scientists interested in developing analytical methods, especially for dietary supplements, and who seek a better understanding of guidelines for single laboratory validation of those methods are the target audience. The course is specifically intended for students, and post docs; others interested in gaining a broader understanding of the method validation process will be admitted on a space available basis. For more information, contact Joe Betz, BetzJ@od.nih.gov.



ASP Photo Archive Project: Call for Photos

We want your photos!!

by Dr. Roy K. Okuda

As we near the 50th Anniversary of the ASP, we have launched the ASP Photo Archive Project. The intent is to collect photos from ASP meetings and related events from over the past half century and to have them available for viewing, as well as for the *Newsletter*, Annual Meetings, and other situations where we want to recount our history.

If you have any photos from past meetings, please send them to Dr. John Beutler, who is in charge of organizing our archive. Digital format is the easiest, but he can also manage print photos and slides, and promises to return your print photos quickly. If you submit in digital format, please be sure that the resolution is good (>800 dpi, preferably 2,000 to 3,000 dpi). The preferred file format is TIFF, but JPEG is acceptable.

Captions with as much information as possible are also desired, but we can also use "mystery" photos to let others assign what is happening! If you have any photos to share, from our meetings from 1959 to 2006, please contact Dr. Beutler at beutler@ncifcrf.gov. Dr. Beutler will be available at the ASP Annual Meeting in Portland, Maine to scan images on the spot, for your convenience.



Conference Calendar

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

Highlights in the Evolution of Phytochemistry

Churchill College, Cambridge, UK
April 11-14 2007

Celebrate 50 Years of the
Phytochemical Society of Europe

www.pse50.com

The 48th Annual Meeting of the American Society of Pharmacognosy

Portland, ME
July 14-18, 2007

Organized by the American Society of
Pharmacognosy

www.phcog.org/AnnualMtg/Portland.html

Tradition to Technology

Saskatoon, Saskatchewan, Canada
May 10-13, 2007

Presented by Natural Health Products Research
Society of Canada and the Canadian Herb, Spice
and Natural Health Products Coalition

www.saskherbspice.org/tradition_to_technology/

Materia Medica Linnaeus and Medicinal Products

Uppsala, Sweden
September 5-8, 2007

An international conference on drugs of natural
origin in the honour of Carl Linnaeus.

www.lakemedelsakademin.se/materiamedica

The 47th Annual Meeting of the Society for Economic Botany

Chicago, IL
June 4-7, 2007

Organized by the Society for Economic Botany

www.econbot.org



New Members of ASP

ASP would like to welcome the year's 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 15 domestic full members, nine international full members, and seven associate members. We look forward to meeting you and learning more about you and your work.

Full Members:

Dr. Young-Won Chin
Columbus, Ohio

Dr. Volker
Sengenthal, Germany

Dr. Sergei V. Dzyuba
Fort Worth, Texas

Dr. Christophe Fourneau
Châtenay-Malabry Cedex,
France

Dr. Tamara A. Fursey
New Brunswick, New Jersey

Tracy Gibbs
Sandy, Utah

Dr. Peter Gillette
Brooklyn, New York

Dr. Robert Hysmith
Clearwater, Florida

Dr. Chioma Ikonte
Buena Park, California

Dr. David James
Lexington, Massachusetts

Dr. Balasubramanyam Karanam
Baltimore, Maryland

Dr. Alla Kovalyova
Kharkiv, Ukraine

Dr. Viktoriya Kyslychenko
Kharkiv, Ukraine

Dr. Dongho Lee
Seoul, Korea

Mr. Timothy Meadows
Colleyville, Texas

Dr. Yoichi Osawa
Ann Arbor, Michigan

Ms. Julia Peterson
Beverly, Massachusetts

Dr. Shaival Kamalaksha Rao
Bellur, India

Dr. Bernard Santarsiero
Chicago, Illinois

Dr. Michael Stewart
Hamilton, New Zealand

Dr. Kazuo Toriizuka
Tokyo, Japan

Dr. Narayanapillai Rugminiamma
Vijayalakshmi
San Diego, California

Dr. Haidi Zhang
Furlong, Pennsylvania

Dr. Behzad Zolfaghari
Isfaha, Iran

Associate Members:

George Chlipala
Chicago, Illinois

Michelle Drake
Rosedale, Virginia

Mr. Prasoon Gupta
Lucknow, India

Mr. Phillip Joyner
Noble, Oklahoma

Ms. Petra Neumeyer
Erlangen, Germany

Ms. Jessica Puckett
Princeton, West Virginia

Thomas Simmons
Encinitas, California

Meet a New ASP Member

by Amy Keller

ASP continues to welcome new members to the Society. Our featured new member, Mr. Timothy Meadows, is a resident of Colleyville, Texas, and works at Concentrated Aloe Corporation, a supplier of *Aloe vera* concentrations, powders, and extracts. Mr. Meadows took time out of his schedule to discuss his background, current research, and of course, the latest book he is reading. We are grateful for the opportunity to get more acquainted with him.

Why did you join ASP?

I have a personal interest, both for my health and business. I have had great success with taking herbal tonics, mainly Chinese. My company, the Concentrated Aloe Corporation, supplies aloe to various markets, including the health care industry. We are looking into expanding our raw materials.

What are your research interests in pharmacognosy?

I am interested in both internal and external applications of various herbal extracts. I am also interested in Chinese herbal extracts. Since I have finished treatment for hepatitis C, I have been taking a specially formulated blend of Chinese herbs designed to strengthen liver functions.

What is your scientific background?

I received my B.S. degree in Biology at the University of Charleston. I have been a cosmetic chemist for over 25 years, specializing in sunscreen and skin formulations. This work has led me to the use of *Aloe vera*. In 1983, I started my first *Aloe vera* company.

What would like to achieve through your membership?

I would like to keep up to date with advances in pharmacognosy and learn more about herbal medicine.

What are you currently reading?

I am reading, "Palestine: Peace Not Apartheid" by former President Jimmy Carter. I highly recommend the book. Growing up in the 1950's and 1960's, then attending college during the 1970's, I was not at all aware of the details of the Middle East crises.

What is your favorite movie?

My favorite movie is *Casablanca*.



Mr. Timothy Meadows

Behind the Scenes in Pharmacognosy

Mevalocidin: Not a Fun Guy for Weeds

by Amy Keller

On January 3, 2007, a press release issued by Mycosynthetix, Inc., announced the license of fungal-based herbicide Mevalocidin to Dow Agrosiences, LLC. CEO of Mycosynthetix and ASP member, Dr. Cedric Pearce, discusses the company's search for new pharmaceuticals in fungi, and the processes involved with the patenting and licensing of a natural product.

How did you become interested in natural products from fungi?

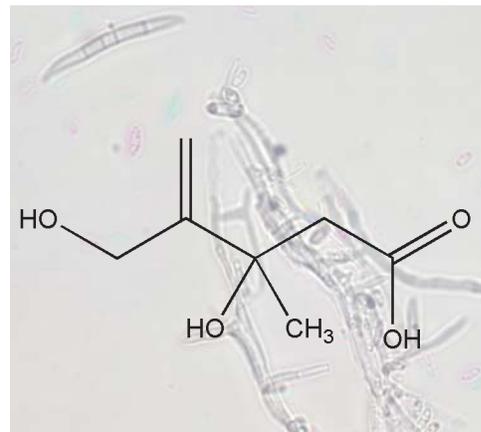
I have always been interested in microbial products and became intrigued with fungal metabolites during my tenure at the University of Connecticut, collaborating with Professors Bill Kelleher and Ralph Collins on an NCI-funded project to find new cancer agents from fungi. This interest was developed further while working at American Cyanamid's medical research division and then at MYCOsearch, a leading fungal research company in North Carolina.

Fungal metabolites, particularly those from microscopic filamentous organisms have played a leading role in the development of many modern medicines, the statins and the beta-lactam antibiotics being a few examples. The most prescribed drug in the history of medicine, Lipitor[®], is based upon a fungal metabolite. When you consider that only about five percent of the one and a half million species of fungi speculated to exist has been described in the literature, then you can see what a comparatively under-investigated resource this is for a discovery program, and why we expect to continue to find new metabolites in our other programs. This point is made stronger by the observation from gene sequencing that there are often multiple polyketide synthesis genes from fungi which have fewer identified polyketides metabolites reported; therefore, even the potential of those fungi which have been characterized has probably not been fully exploited.

Mycosynthetix is a company which is focused on providing fungal metabolites for medical and agricultural use, especially to those organizations which lack microbiology and mycology departments. When we started the company, we acquired the very extensive and possibly the largest collection of diverse filamentous fungi in the world from MYCOsearch, which by that time had become the Natural Products Division of OSI Pharmaceuticals. We have maintained this collection, and added to it, as well as developed new approaches to culturing the organisms. Mycosynthetix has funded this work through grants and contracts, and we have active programs in a variety of therapeutic areas, for example anti cancer, infectious and CNS diseases.

Who in your laboratory carried out the research?

The people involved with this work also included Dr. Barry Katz from Mycosynthetix (now retired), the 2003 recipient of the ASP's Jack Beal Award, Dr. Christie Boros, who discovered the Emmyguyacins, is also a long time associate of Mycosynthetix. Dr Cliff Gerwick and his team at Dow AgroSciences, including natural product chemists and ASP members Drs. Paul Lewer and Carl Snipes were directly involved with this discovery.



Mevalocidin and *Fusarium nygamai*.

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Behind the Scenes in Pharmacognosy

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Could you provide a brief explanation of the work and results in your own words? In what way does this herbicide represent a novel discovery?

SUE PEARCE



Dr. Cedric Pearce

One of our most productive collaborations has been with Dow AgroSciences, and this group has published a number of new structures from our work together. In this collaboration we provided Dow AgroSciences with extracts of our fungi, which had been cultured under a variety of condition, and these were tested for pesticide activity. Dow AgroSciences natural products group were persistent and a number of novel herbicide and insecticide metabolites were found, including Mevalocidin.

Mevalocidin is unusual for a number of reasons. First, it is a relatively simple metabolite. Usually fungal metabolites (in fact most natural products) are more complex structures. Also, it is a broadly active herbicide, whereas usually natural herbicides have a very narrow spectrum of activity, such that they have no commercial potential. Bialaphos, an *Actinomyces* product, is one exception. Of all our collaborators, the group at Dow AgroSciences was among the most persistent, and this has paid off with the discovery of Mevalocidin.

What impact does this research have on natural products or agricultural research?

Mevalocidin is another example of a natural product with commercial application. To discover a new herbicide such as this is quite unusual and may lead to more activity in this area in the future.

What is it like to have a patent and license? How does this help your company and your science for the future?

We licensed the herbicide to Dow AgroSciences expressly so that it could be developed into a commercialized product. For Mycosynthetix to enter an agreement such as this is a proof of principle for our technology, in this case the use of filamentous fungi for discovering new compounds. This is not a surprise to any member of the ASP, but I sometimes think that we could have done a better job at educating the rest of the industry. Also, when this license starts to generate revenues, we will be in a position to reinvest this in our company and into our other programs which are addressing unmet needs such as tuberculosis and cancer. Currently these are completely internally funded.



From the Archives

The ASP Gavel: Carving a Niche in ASP History

by Dr. Ed Kennelly

In 2009, the American Society of Pharmacognosy will be celebrating the 50th 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's memories.

The infamous ASP gavel can trace its roots back to the early 1960's when Dr. Ralph F. Voigt, Head of the Department of Pharmacognosy and Pharmacology at the University of Illinois College (UIC) of Pharmacy and skilled wood worker, fabricated the prototype from the wood of *Rhamnus purshiana*. This gavel was presented by Dr. Voigt to Dr. Norman Farnsworth for use at the 1963 ASP Annual Meeting and a tradition was born. Dr. Voigt's original 1963 gavel is entrusted to each incoming ASP President, in a convenient carrying case, for use at all ASP official functions during the President's term in office.



The ASP Gavel and Case.

In 1970, Dr. Farnsworth replaced Dr. Voigt as Head of the Department of Pharmacognosy and Pharmacology at UIC. Dr. Farnsworth felt that outgoing ASP Presidents should have a replica of the original gavel as a token of appreciation from ASP, so he had copies made. Every year since, Dr. Farnsworth or his designee has presented a gavel to the outgoing ASP President after a roasting at the Annual Meeting banquet. Dr. Farnsworth notes that, "Only past presidents of the ASP have received the holy gavels."

While Dr. Voigt's reason to select *Rhamnus* may never be known, Dr. Farnsworth considers the wood, reputed for its laxative property, appropriate for the gavel since it symbolized the excess verbosity of outgoing ASP Presidents. Dr. Farnsworth notes happily that outgoing ASP Presidents in recent years have kept their final speeches to a minimum. Dr. Ara Der Marderosian commented that, "I believe the idea was to ensure that incoming ASP presidents would never suffer a constipation of thoughts and that members, on hearing the sound of the gavel, would experience a beneficial diarrhea of meeting activities."

For many years the replica gavels continued to be made from *Rhamnus*, and the late Dr. Lynn Brady (ASP President, 1970-1971) provided the wood to produce many of these. In the 1990's the Society decided that since *Rhamnus purshiana* was scarce, ASP should switch to another wood. A few ASP Presidents, including Drs. John Cardellina and Gordon Cragg, have reportedly received what some ASP insiders call an "inferior pine gavel".

At one Annual Meeting banquet, when a pine gavel was presented to an outgoing ASP President, long-term ASP member Mr. Tom McCloud recalls, "It immediately popped into my head that for the ASP, a gavel of *Taxus* wood would be far more significant and appropriate." He and Dr. John Beutler sought out a source of *Taxus brevifolia* wood in the Pacific Northwest when they were working on the Taxol® historical marker project. They found a source whose major outlet is for craftspeople making longbows, as *Taxus baccata* (European yew) was the preferred wood for longbows in the Middle Ages.

Dr. Beutler remembers using one of the pine gavels as a pattern for the yew gavel, since he did not have a *Rhamnus* gavel. The first *Taxus* gavel was presented in 2003 at the 44th Annual Meeting in Chapel Hill, NC. Dr. Beutler reports that he now has just two unawarded yew gavels left, "so it will soon be time to acquire more *Taxus* wood and get turning".



Prof. Ralph F. Voigt

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

ASP Membership

Full Membership

Full membership is open to any scientist interested in the study of natural products. Dues are \$75 per year. In order to receive the Journal of Natural Products the subscription rates are as follows: United States, Canada, and Mexico: \$131 (Print Edition), \$70 (Web Edition), \$140 (Archive Web Edition); All other countries: \$196 (Print edition), \$70 (Web edition), \$140 (Archive Web Edition).

Associate Membership

Associate membership is open to students of pharmacognosy and allied fields only. These members are not accorded voting privileges. Dues are \$25.00 per year. In order to receive the Journal of Natural Products the subscription rates are as follows: United States, Canada, and Mexico: \$98 (Print Edition), \$70 (Web Edition), \$140 (Archive Web Edition); All other countries: \$163 (Print Edition), \$70 (Web Edition), \$140 (Archive Web Edition).

Emeritus Membership

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

Honorary Membership

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

Present Honorary Members are:

- Dr. Arnold Brossi, National Institutes of Health (NIH), MD • Dr. David P. Carew, University of Iowa, IA
 - Dr. John Cassady, Oregon State University, OR
- Dr. Gordon C. Cragg, National Cancer Institute (NCI), NIH, MD
- Dr. Norman R. Farnsworth, University of IL at Chicago, IL • Dr. R. Hegnauer, Leiden, Netherlands
- Dr. Albert Hofmann, Switzerland • Dr. Harry H. S. Fong, University of Illinois IL at Chicago, IL
- Dr. James E. Robbers, Purdue University, IN. • Dr. Mansukh Wani, Research Triangle Institute, NC
- Dr. E. John Staba, University of Minnesota, MN • Dr. Hildebert Wagner, University of Munich, Germany
 - Dr. David J. Slatkin, Chicago State University, IL



Additional information about membership may be obtained by writing to the Treasurer of the Society:
David J. Slatkin, Ph.D, Treasurer, The American Society of Pharmacognosy,
3149 Dundee Road, #260, Northbrook, Illinois 60062. Email: asphcog@aol.com