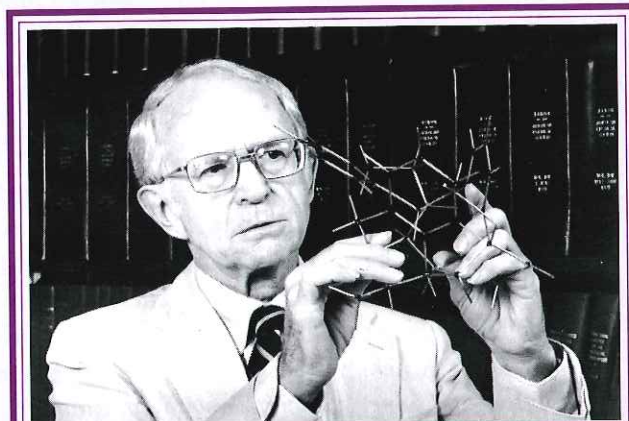




Kenneth L. Rinehart, Jr.

The end of a legend...the beginning of a legacy



*Ken Rinehart...extraordinary scientist...
an avid scuba diver*

Kenneth L. Rinehart, Jr., the chemistry professor at the University of Illinois at Urbana-Champaign who was internationally known for his research on organic compounds involved in biological activity, will continually be remembered for his outstanding research in the field of natural products & marine chemistry.

Ken's life will always be a beaming light to all who knew him.

Cont'd on page 8...

*This Summer special issue is dedicated to the fond
memories of Dr. Kenneth L. Rinehart, Jr.*

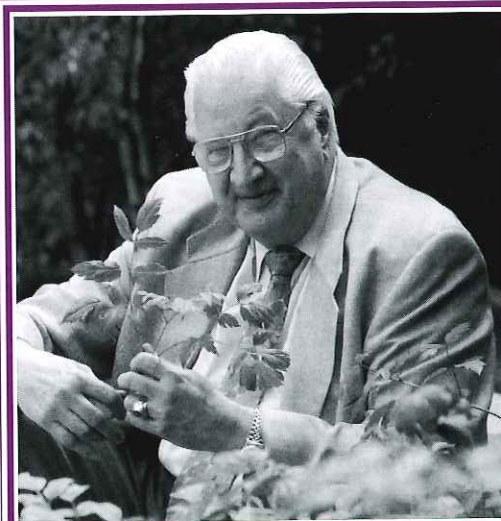
Norman Farnsworth Honored...

ASP Research Achievement Award-2005

This year the American Society of Pharmacognosy (ASP) has selected Dr. Norman R. Farnsworth of Univ. of Illinois at Chicago, to honor him with the prestigious ASP Research Achievement Award - 2005, for his lifelong contributions to the field of pharmacognosy. He is also a Founding Member & the Second President of the Society (1961-62).

The award will be presented to Dr. Farnsworth at the ASP Annual Meeting in Corvallis, OR during the banquet ceremony.

Continued on page 7 ...



*Norman Farnsworth...
Renowned Pharmacognosist*

Photo by: Andrea Campbell

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Celebrations
(1959-2009)



(June 27- July 1, 2009)

Sheraton Waikiki Honolulu,
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Editor's Corner

Dear Friends,

Greetings!

The summer 2005 issue brings another successful year for the ASP Newsletter to an end. It is the time to look back on our achievements and plan for the future. As we look back we find that although our scientific community has explored new dimensions in many areas of natural



products research, but we have lost several renowned scientists in the last few years. And now the news of the demise of Dr. Rinehart was so heart breaking. With sadness in my heart I write this editorial to pay tribute to one of the giants of Natural Products & Marine Chemistry, ...Professor Kenneth L. Rinehart, Jr. To the ASP and the scientific community, it is a great loss. We cherish the memory of a leading scientist, a great scholar and, above all, a friend of ASP.

Dr Rinehart was a mentor, an advisor and a friend to me. Reminiscing of my association with Dr. Rinehart, I vividly remember the summer of 1982 when he asked me to join the Frederick Cancer Research Facility in Frederick, MD. His words still echo in my ears: "Frederick needs you more than I. There is a challenge waiting for you and I know you can solve it." Thus, I joined the National Cancer Institute (NCI) and received the honor / credit for solving the unique x-ray crystal structure of anticancer antibiotic – Fredericamycin-A. I owe this to Dr. Rinehart. I will miss him dearly.

This is a special issue dedicated to the memory of Prof. Rinehart. It contains a few glimpses from his past and several other important and timely items: ASP honors Prof. Farnsworth with Research Achievement Award 2005; Outstanding achievements of some of our ASP members; New ASP members and exciting news items in various segments. Also included is an elaborate report on the workshop "Classical Pharmacognosy Forum: The Critical Need for Pharmacognosy in Pharmacy Curricula," organized at ICNPR-2004 in Phoenix, Arizona.

The time for our next annual meeting at Corvallis, OR is just around the corner. This is a great opportunity to meet old friends, make new one's and celebrate our achievements as we accept new challenges.

It is gratifying that we received several encouraging letters with positive comments from the readers about the substance, format, appearance and news items. We are grateful for the kind words of appreciation. I also express my gratitude to all those who have shown their faith in me with this responsibility as the Editor of the Newsletter, especially (late) Bill Pelletier, David Slatkin, Bob Krueger, Doug Kinghorn, Jon Clardy, and others. Thank you all!

Please continue to send your feedback and news about your achievements, recognition and awards, etc. We always love to hear from you.

Have a safe and enjoyable summer!

Renuka

Winners of 2004 Schwarting & Beal Awards...

For Best Papers in the Journal of Natural Products

In 2001, the Foundation Board of American Society of Pharmacognosy began a new initiative as a result of the Arthur E. Schwarting and Jack L. Beal Awards for the best papers in the Journal of Natural Products. In this manner, two former distinguished editors of the journal are fondly remembered. These awards are funded through the American Society of Pharmacognosy Foundation Board.

The Schwarting Award is open to all papers published in the journal within a given year (either in print or electronically). In turn, the Beal Award is awarded to younger investigators [i.e., persons within 12 years of receiving their Ph.D. degree or within 10 years of gaining their first professional appointment (e.g., Assistant Professor or an equivalent position in industry or government)]. A two-tier process was used to determine the winners, the winners for papers published in Journal of Natural Products in 2004, with editors Daneel Ferreira, William H. Gerwick, A. Douglass Kinghorn, and Richard G. Powell having nominated two papers each for the Schwarting Award and one paper each for the Beal Award. ASP President Jim McAlpine appointed an *ad hoc* committee (John Rosazza, Chair, Ben Shen, Yuzuru Shimizu) to make the final selections. The winners are as follows (the asterisks * denote the corresponding authors & winners):

A 2004 Arthur E. Schwarting Award

WINNER: Sheo B. Singh*

Nodulisporic acids D-F: Structure, biological activities, and biogenetic relationships.

Sheo B. Singh*, John G. Ondeyka, Hiranthi Jayasuriya, Deborah L. Zink, Sookhee N. Ha, Arlene Dahl-Roshak, Joyce Greene, Jennifer A Kim, Mc Hardy M. Smith, Wesley Shoop, and Jan S. Tkacz

J. Nat. Prod. 2004, 67, 1496-1506.

B 2004 Jack L. Beal Award

WINNER:

Yu-Dong Zhou* & Dale G. Nagle*

Laurenditerpenol, a new diterpene from the tropical marine alga *Laurencia intricata* that potently inhibits H1F-1 mediated hypoxic signaling in breast tumor cells.

Khaleem A. Mohammed, Choudhary F. Hossain, Lei Zhang, Richard L. Bruick, Yu-Dong Zhou* and Dale G. Nagle*

J. Nat. Prod. 2004, 67, 2002-2007.

The corresponding authors of these papers will be invited to attend the Banquet at the 46th Annual Meeting of the ASP in Corvallis, OR to receive a check and a plaque in honor of their achievement.

The above-mentioned papers may be accessed from the home page of the *Journal of Natural Products* (<http://pubs.acs.org/JNP>).

Congratulations to the winners of these prestigious awards!



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ASP is looking forward to your participation in....
you at the 46th Annual Meeting at....

...ASP Members 2004-2005



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...various activities of the Society. We hope to see
...Corvallis, Oregon July 23 - 27, 2005

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Farnsworth Honored...Research Achievement Award - 2005

...Continued from page 1

Dr. Norman R. Farnsworth, Director of the Program for Collaborative Research in the Pharmaceutical Sciences at the University of Illinois at Chicago is an internationally renowned scholar in the field of Pharmacognosy. He has had an extraordinary career in the University of Illinois, College of Pharmacy since 1970.

He received his B.S. and M.S. degrees at the Massachusetts College of Pharmacy. He earned his

Ph.D. from the University of Pittsburgh in 1959. As Professor of Pharmacognosy at Pittsburgh, he initiated a Ph.D. program and received his first research funding from National Institutes of Health (NIH) in 1961 to study the cardiovascular properties of Apocynaceae plants. It was at Pittsburgh that he decided, collaborative research was the way to solve "big problems", when this concept was not in vogue.

In 1970 he moved to the University of Illinois Medical

Center, College of Pharmacy as Head of the Department of Pharmacognosy and Pharmacology. In 1982 he became Director of the Program for Collaborative Research in the Pharmaceutical Sciences. Together with Harry Fong, John Pezzuto, Doug Kinghorn, Geoffrey Cordell, Don Waller, Gail Mahady and Doel Soejarto and more recently with Guido Pauli, Judy Bolton, Richard van Breemen and Jim Wang, he put together an interdisciplinary and collaborative research team involving botany, chemistry, pharmacology and biochemistry unequalled in the USA. This team centered their research in the

areas of natural contraceptives, ethnobotany, chemoprevention, cancer chemotherapy, malaria, HIV and most recently in the study of botanical dietary supplements for women's health (estrogen, serotonin, CNS targets).

This team of researchers produced more than 1,000 publications from 1970 to the present time. The research has led to several patents and two natural plant products that are being further studied at National Cancer Institute (NCI). The research program at

Illinois has produced more than 80 Ph.D.s and 15 M.S. graduates since 1970.

In 1975, Dr. Norman Farnsworth established NAPRALERT database, the worlds largest database on natural products which is an invaluable resource.

He is a honorary member of several societies, including ASP and the International Society of Ethnopharmacology. He is also the editor of NAPRALERT. Additionally, he is a member of Editorial Advisory Boards



Dr. Farnsworth ... "a jolly good fellow... nobody can deny"

of several prestigious journals, which includes the *Journal of Natural Products* and *Herbalgram*.

At age 75 Norm is going strong and is planning new research ventures to further explore the more than 200,000 species of flowering plants that have never been chemically or biologically researched. He is quite honored to be the first trained pharmacognosist to receive this prestigious ASP Research Achievement Award.

Dr. Farnsworth will be delivering his award address - "**A New Paradigm in Pharmacognosy Research- Botanical Dietary Supplements**" at the Annual Meeting Banquet in Corvallis, OR.

Norm...the Society is proud of your achievements, congratulations!



In Memoriam of Ken Rinehart....

Reminiscing on fond memories...

...Cont'd from page 1

His legacy will continue to touch our lives. Dr. Rinehart passed away on Monday, June 13, 2005 at his Urbana home after a long illness.

Rinehart's research led to the development of a procedure involving mutasynthesis to prepare new antibiotics. He also led the chemistry department's marine natural products program that collected samples from the ocean floor in the mangroves off Puerto Rico and from other collection sites around the world.

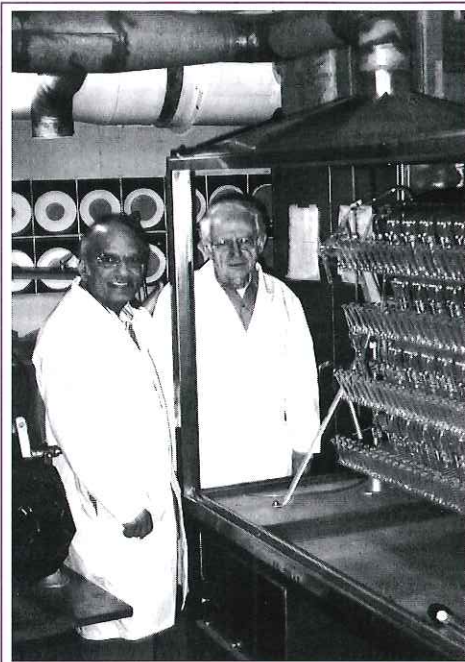
In 1990, Dr. Rinehart isolated several extracts produced naturally by sea squirts that showed promise



*Serious discussion...Ken & Monroe Wall (Late)
... First Monroe Wall Symposium, New Brunswick,
New Jersey, June 1996*

as anti-cancer agents. One of the extracts, ecteinascidin, has repeatedly worked safely and effectively in animal studies and through three stages of human clinical trials against soft-tissue sarcomas and lung, breast and ovarian cancers. Rinehart identified the substance, also known as ET-743, in his Illinois laboratory; the university licensed the rights to the compound to PharmaMar SA of Spain for production purposes.

Rinehart was elected as a fellow of the American Association for the Advancement of Science in 1980. He was also a Sloan Fellow and Guggenheim Fellow. He received the ASP Research Achievement Award in 1989 and the Ernest Guenther Award in the



*Good times... Ramesh & Ken
having fun with Craig CCD for the
separation of Polyene macrolide
antibiotics, U. of IL, 2001*

Chemistry of Natural Products in 1996 from the American Chemical Society.

He was born March 17, 1929, in Chillicothe, MO. He earned a bachelor's degree in chemistry in



*Munching on food...Ken, Ramesh & Renu
First Monroe Wall Symposium, NB, NJ, June 1996*

ASP expresses its deepest condolences....

.... March 17, 1929 - June 13, 2005



...Glimpses from the past



At 50th Anniversary celebration of the Neomycin discovery...
(Waksman Institute of Microbiology, Rutgers Univ.)
Standing: Ken Rinehart, Arnie Demain, Carl Schaffner,
Julian Davis, Hubert Lachevalier. Sitting: Ramesh Pandey,
David Premer & Douglas Everleigh

1950 from Yale University and a doctorate in chemistry in 1954 from the University of California at Berkeley. In between, he attended a year of college on a Rotary fellowship at the University of Goettingen in Germany. Rinehart joined the University of Illinois faculty as an instructor in organic chemistry in 1954, and retired in August 2000.

Early in his career, Rinehart played a leading role in obtaining the initial funding for state-of-the art mass

spectrometry equipment at Illinois.

An avid scuba diver, mountaineer and downhill skier, Rinehart served on the editorial boards of several journals, including the Journal of Antibiotics, Journal of Medicinal Chemistry and the Journal of Natural Products. He also served on the Chemistry Advisory Committee of the Walter Reed Army Institute of Research (1971-75), the Chemical and Biological Information Handling Panel of the National Institutes of Health (1969-1974), the Executive Committee of the American Chemical Society's Division of Organic Chemistry (1968-1970) and President of American Society of Pharmacognosy (1995-96).



The end of a legend...
Prof. (Dr) Kenneth L. Rinehart, Jr.



On the boat... at Seattle, WA meeting, July 2000
(L-R): Bill Pelletier (Late), Renu Misra,
Ken & Maryln Rinehart

Rinehart is survived by his wife, Marlyn, three sons, Kenneth L. Rinehart III, Tucson, Ariz., John Benjamin Rinehart, Cambridge, Mass., & Nicholas Whitsitt Rinehart, Champaign, IL & two grandchildren.

....to Dr. Rinehart's family and friends

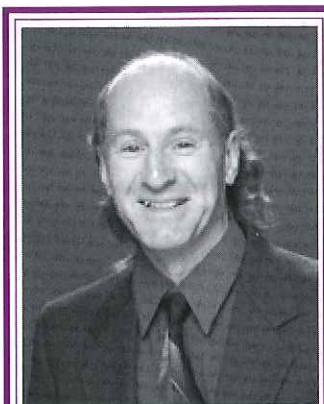


Classical Botanical Pharmacognosy Workshop ...

A Summary Report by Roy Upton and John Cardellina

At the International Congress on Natural Products Research (ICNPR-2004) Phoenix, AZ, one of the major highlights of the meeting was its opening day satellite symposium - "Classical Pharmacognosy Forum: The Critical Need for Pharmacognosy in Pharmacy Curricula." In this issue we are presenting a summary report of this workshop by Drs. Roy Upton and John Cardellina.

The workshop focused on the challenges associated with preserving classical techniques of botanical pharmacognosy. From the perspectives of the organizers and feedback from many of the more than 150 attendees, the



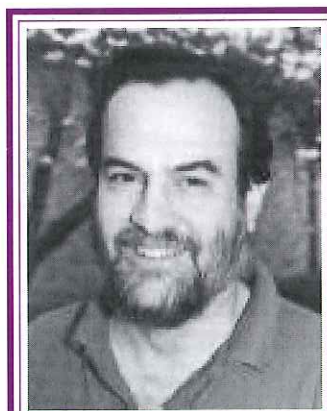
Roy Upton

event was a great success and highlighted the importance of classical pharmacognosy techniques for assuring the authenticity and quality of traditional and modern drugs derived from medicinal plants. Some of the pre-eminent pharmacognosists in the Western world participated in this historic event. Hopefully, this will serve as a springboard for future events and initiatives so that training in the classical techniques of pharmacognosy will be maintained in academia and utilized by manufacturers and researchers of both traditional and modern drugs. Following are some highlights from the presentations.

◆ **The Ebb and Flow of Pharmacognosy: A Historical Perspective**

The early development of pharmacognosy as a formal discipline was presented by Professor Wolfgang Kubelka, University of Vienna, beginning with the coining of the term "pharmacognosy" in the *Lehrbuch der Materia Medica* of Johann Adam Schmidt in 1811.

This was followed by the formal use of the term pharmacognosy in a thesis of C.A. Seydler (1815). Numerous early herbals were presented as examples of early pharmacognostic works, including those of Bock, Brunfels, Dioscorides, and Matthioli; these works served as primary references for the identification, actions, and applications of virtually thousands of medicines, most of which were derived from higher plants at the time. As highlighted by Professor Kubelka,



John Cardellina

pharmacognosy has experienced many fluctuations throughout the past 100 plus years.

In the early 1800s pharmacognosy was described by Schleiden as "the mother of all disciplines of the natural sciences", while in the

Lehrbuch der Pharmakognosie (1888) of Mueller it was reported that "pharmacognosy has fallen asleep". In more contemporary times, Professor Geoffrey Cordell reported in the *American Druggist* (1987) that "Pharmacognosy is far from dead. It has survived a long, cold winter and is awakening as the most high-tech pharmaceutical science."

Professor Kubelka provided examples of the changing face of pharmacognosy in numerous advances in medicine from the early use of modern drugs, such as

... A Historic Event at ICNPR-2004 Phoenix, AZ



quill (*Urginea maritima*), the identification of digitalis by Withering (1785) as the active compound in a traditional herbal formula used by a Scottish herbalist, and the isolation of morphine from the opium poppy (*Papaver somnifera*) by Sertürner in 1805, to the development of taxol from the Pacific yew (*Taxus brevifolia*).

Also relevant to the evolution of pharmacognosy is the evolution of drugs; early drugs were primarily

“...Pharmacognosy is far from dead. It has survived a long, cold winter & is awakening as the most high-tech pharmaceutical science.”

-Geoffrey Cordell

based on whole natural product preparations, whereas drug development in the last century has followed the steady progression of chemical isolation, structural elucidation, and development of single agent chemotherapeutics.

The decline of pharmacognosy in the US was outlined by UIC distinguished professor of pharmacognosy, Norman Farnsworth. According to Farnsworth, pharmacognosy was included in the curriculum of every pharmacy school in the U.S. until the late 1940s and has often been considered as “pharmacy’s unique contribution to science.” Historically, pharmacognosy was described as a “descriptive” science primarily focused on the identification of plant materials used in drug development.

At the time, the primary focus was on botanical, macroscopic, and microscopic characterization of crude drug plants, disciplines typically dropped from today’s pharmacy/pharmacognosy curricula, along with

information regarding their collection and processing. Botany, vegetable histology, materia medica, and microscopy were a part of the curriculum of early pharmacists and were required throughout their 3 years of study.

Over time, the scope of pharmacognosy evolved, with Flueckiger (1879) stating that “pharmacognosy is the simultaneous application of various scientific disciplines with the object of acquiring knowledge of drugs from every point of view.” This view was echoed in 1929 by professor of pharmacognosy Richard Wasicky who noted “Pharmacognosy is a biologic and experimental science...not only microscopic, but chemical, chromatographic, and biologic methods in addition!”

The continued development of modern pharmacognosy paralleled the evolution of modern

“Historically, pharmacognosy was described as a “descriptive” science primarily focused on the identification of plant materials used in drug development.”

drug discovery. As emphasis shifted from the botanical to the chemical aspects of drugs, so did the focus of the pharmacognosist, relating more closely to natural products chemistry than pharmacy.

The development of sophisticated analytical methodologies along with the isolation, structural elucidation, and synthesis of compounds caused the techniques of classical botanical pharmacognosy to lose their importance. Simultaneously, pharmacognosy programs were dropped from the training of pharmacists or were transformed into more specialized disciplines such as “medicinal chemistry” or

“pharmaceutical biology”. In many cases, the classic botanical techniques of pharmacognosy were completely eliminated.

Thus, we see the underpinnings of an identity crisis in the field of pharmacognosy that has persisted from the beginning of pharmacognosy to the present day. Dr. Farnsworth predicted that we will never see the return of pharmacognosy in the training of pharmacists, which raises the question-where will

pharmacognosy live in academia?

◆ **Renewed Interest in Classical Botanical Pharmacognosy**

Worldwide there has been a resurgence in the use of traditional herbal drugs and, similarly, a growing interest in scientific investigations of their clinical efficacy and safety. Pharmacognosy, with all of its tools and expertise, plays an

integral role in this process, not only for ensuring the authenticity, purity, and consistency of the materials being used and investigated but also for developing biological models for determining efficacy, historically the domain of the pharmacologist.

As pointed out by Prof. Sabine Glasl, many plants share a similar constituent profile. In many cases, chemistry alone may not be able to discern the identity of the plant to species, at least not in the practical, time-efficient, and cost-effective manner needed for industry. Professor Glasl provided numerous examples wherein the combination of macroscopic and/or microscopic botanical characterization with thin layer chromatography (TLC) is optimal and, in some cases, superior to more sophisticated chemical analysis alone.

She emphasized that old techniques are not necessarily inferior and may in fact be superior to more modern techniques in speed, cost, and efficiency. It has become clear in the evaluation of botanicals used in the development of supplements and modern drugs that authenticity must be determined using a combination of both physical and chemical tests. While often considered an outdated modality, TLC continues to be used effectively worldwide in the quality and identity

assessment of plants.

As a counter-point to Professor Farnsworth’s perspective, Professor Hildebert Wagner of Munich made note that paradigm shifts occurring in modern medicine, moving from mono-drug to multi-drug therapies, support a revival of pharmacognosy in the pharmacy curriculum. It has repeatedly been shown that the medicinal activity

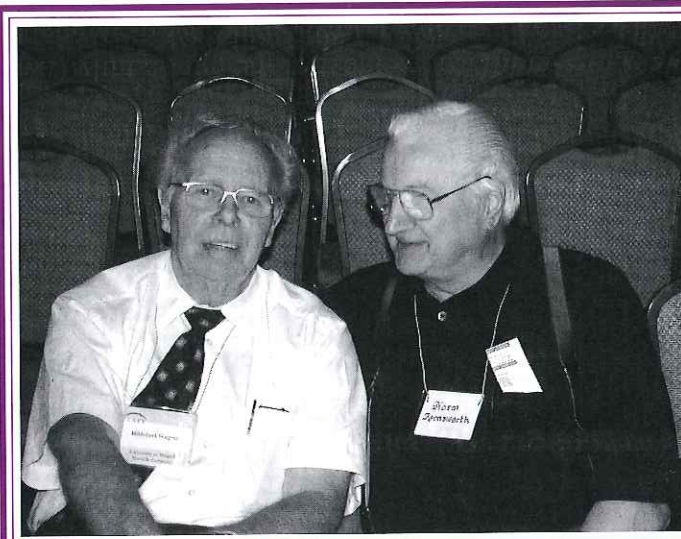
“The development of sophisticated analytical methodologies along with the isolation, structural elucidation, and synthesis of compounds caused the techniques of classical botanical pharmacognosy to lose their importance.”

of many plants is due not to a single constituent or action, but to the myriad of compounds contained within and multiple actions elicited by the botanical. Prof. Wagner suggested that, as modern medicine learns that multi-targeted therapies are more efficacious and oftentimes safer than mono therapies, multi-component herbal drugs may prove to be therapeutically equivalent or superior to individual compounds. Several examples of this were provided, with suggestions for future directions in pharmacognosy to be focused on the multi-component standardization of botanical preparations, elucidation of the total pharmacological profile of botanical using new molecular-biological assays, and the subsequent development of safe and effective plant-based drugs.

◆ Industry Perspectives

Industry perspectives regarding the importance of pharmacognosy to the medicinal plant trade were discussed; it was emphasized that the quality of medicinal plant products is dependent upon the authenticity, growing, harvest, processing, and storage conditions.

It was pointed out that companies must utilize the tools of classical and modern pharmacognosy to appropriately select the plant to be used in the development and regulatory approval of



Friendly moments...Profs. Wagner (L) & Farnsworth (R) at the Workshop

both traditional and modern botanical drugs. This is equally apparent with traditional herbal medicine regulatory models currently in use throughout the European Union and Canada. Training in the complete repertoire of tools and techniques of pharmacognosy, from physical to chemical analysis, is critical in addressing these challenges.

The potential for new drug discovery through biological screening of natural products was discussed, as was the need to integrate the knowledge and

skills of classical botanical pharmacognosy with the biological assessment of herbal drugs that are the subject of clinical trials.

◆ Botanical Pharmacognosy...

The Future?

In an attempt to bring closure to the day's discussions a number of breakout sessions were held to advance ideas for how botanical pharmacognosy

would be preserved. Topics of discussion included *Educational Needs, Research Tools and Training, and Role in Clinical Research & Standard Setting.*

It is clear that the skills and multiple tools of pharmacognosy are needed in the development of modern and traditional drugs

derived from natural products. What is not clear is where and how pharmacognosy should reside academically. Some thought that perhaps specialization in botanical pharmacognosy should occur as post-graduate training rather than at the graduate level. However, this was countered by those who felt that some of the basic skills of botanical quality control

were needed at the undergraduate level, offering a better avenue to career paths in the botanical products industry or botanical medicine research.

“...note that paradigm shifts occurring in modern medicine, moving from mono-drug to multi-drug therapies, support a revival of pharmacognosy in the pharmacy curriculum...”

Regarding clinical needs, it is clear that those conducting botanical medicine research need to have accurately characterized the products being studied in

order to foster experimental reproducibility. This has been highlighted by the National Center for Complementary and Alternative Medicine (NCCAM), which requires this of potential recipients of NCCAM funds. Similar requirements should be made of journals reporting on botanical medicine studies, so that similarly reproducible experiments may be conducted and so an accurate assessment of the findings of the study can be made. Such requirements already exist at the *Journal of Natural Products and Planta Medica*.

Regarding research tools and training, it was noted that students are not aware that industry needs include the development and validation of analytical

“...tools of botanical pharmacognosy are integral to the development of quality control, regulatory, and pharmacopoeial standards.”

methods for the measurement of marker compounds in herbal ingredients and products. Neither are they aware that the development of simple biological assays can be of great benefit to supplement companies wanting to validate some level of safety and efficacy of their products. It could also be said that most of industry is not aware of the valuable roles pharmacognosists can play in both of these areas. A potential solution for this mutual lack of understanding was the development of industry internships that could be used to orient students to industry needs. This would make them more marketable to industry and would be potentially grantable. Additionally it was noted that industry has a lot of experience to offer to those academic institutes with a consistent interest in the study of botanical products.

Lastly, the tools of botanical pharmacognosy are integral to the development of quality control, regulatory, and pharmacopoeial standards. Compliance with national

and international standards requires both physical and chemical characterization of botanicals; in many cases neither will suffice alone. The conclusion of the participants in these forums was, “there was not enough time!”

◆ Conclusion

There is no doubt as to the value of the modern pharmacognosist in the development of modern drugs and herbal products and the continued evolution of molecular biology. However, the resurgence in the use of traditional herbal drugs worldwide suggests a need for preservation and continued training in the classic techniques, whereby the physical tests of early pharmacognosists can be coupled with the chemical sophistication of modern pharmacognosy and biological screening methodologies.

The primary question raised in this forum was not whether the tools of classical pharmacognosy have value (clearly they do), but rather how will the classic tools of botanical pharmacognosy be maintained and in what academic curriculum will these reside; botany, biology, chemistry, nutritional sciences, herbal medicine, pharmacognosy? For now, this remains a question with many potential answers; hopefully, this symposium laid the foundation for further exploration of this important issue. Perhaps the most fitting summary for this report is the following, written by Thomas Edward Wallis, author of *Textbook of Pharmacognosy* (1946) in a letter to professor of pharmacognosy E.J. Shellard in 1956:

“Pharmacognosy is the most liberal & humanistic of all pharmaceutical studies and should be preserved at all costs. Emphasis is changing but that does not mean that the subject is disappearing.”

ASP Research Achievement Award - 2007

The American Society of Pharmacognosy selects annually a recipient for the ASP Research Achievement Award. Candidates must be members of the Society who have made outstanding contributions to research on natural products. The award consists of an honorarium of \$2,500 and travel expenses to present the award lecture at an annual meeting of the Society.

Previous winners are:

1985 - Koji Nakanishi
 1988 - Heinz G. Floss
 1989 - (Late) Kenneth L. Rinehart, Jr.
 1990 - (Late) Monroe E. Wall
 1991 - (Late) S. William Pelletier
 1992 - (Late) Henry Rapoport
 1993 - A. Ian Scott
 1994 - (Late) Paul J. Scheuer
 1995 - George Robert Pettit
 1996 - Meinhart H. Zenk
 1997 - John W. Daly
 1998 - Sidney Hecht
 1999 - David G. I. Kingston
 2000 - C. Richard Hutchinson
 2001 - Tom Mabry
 2002 - Richard Moore
 2003 - (Late) D. John Faulkner
 2004 - Jon C. Clardy
 2005 - Norman R. Farnsworth

Call for Nominations for 2007

Nominations cut off date will be sometime in the Spring of 2006. The exact date will be announced in the Fall 2005 issue of the ASP Newsletter. Nominations may be sent to the Chairman of the Research Achievement Award Committee and should consist of a nominating letter, a curriculum vitae of the candidate, and letters from three individuals who are familiar with the candidate's scientific accomplishments.

Nomination documents should be submitted in triplicate to:

Dr. James Gloer

Department of Chemistry

University of Iowa

Iowa City, Iowa 52442

Phone: 319-335-1361

Fax: 319-335-1270

james-gloer@uiowa.edu



ASP – Employment Service

The Society offers a placement service to aid our members in seeking positions or employees. **This service is available to ASP members and is free** to both the applicant and the prospective employer. The following services are available :

(1) Prospective employers can have positions posted for free at the ASP Employment site <http://www.phcog.org/positions.html>. The ad is typically 300 words or less, and should include appropriate contact information. Ads should be sent to Ed Kennelly as attached files (**Microsoft Word is the preferred format**). You may also send a logo to be included in the ad. Ads can often be posted within 2-3 business days.

(2) When the ASP Employment website is updated, members can be notified by e-mail if they so desire.

(3) ASP members can send resumes to Ed Kennelly. Resumes should be 1-4 pages, and may be submitted

electronically as attached files either as Microsoft Word document or as a PDF file. Resumes will remain on file for one (1) year, at which time it will be deleted. **All information submitted will be held in strict confidence.**

(4) ASP Employment Service will share resumes with prospective employers.

For further information, contact:

Edward J. Kennelly, Ph.D.

Department of Biological Sciences
 Lehman College, City Univ. of New York
 250 Bedford Park Blvd. W., Bronx, NY 10468
 Tel: 718-960-1105; Fax: 718-960-8236
 E-mail: kennelly@lehman.cuny.edu

*Visit the ASP Job Service Website at:
www.phcog.org/employment.html*

New & Noteworthy

Journal of Natural Products.... Search for Volunteers for Book Reviews

One of the challenges a book review editor faces is identifying capable and interested referees for certain books. The Journal of Natural Products seeks to review books encompassing a broad range of topics directly related to natural products or potentially impacting the field of natural products. It is relatively easy to identify appropriate reviewers for most books in the mainstream of natural products— isolation, identification, chemistry, and biological activity. However, as books move out from that mainstream area or become very specialized, it is less intuitively obvious to the current book review editor whom to recruit for such reviews.

This message is being sent out in the hope that volunteers may rush forward or at least tentatively indicate their potential interest and willingness to review books listed at the ASP website for those books that the book review editor has had difficulty 'placing' for review. The book review editor will happily accept volunteers who are interested and willing to review one of the listed books. The editor will also be glad to receive suggestions from browsing members who know an expert appropriate for one of the books listed. A good review of a book related to natural products is a service both to the American Society of Pharmacognosy and to all the readers of the Journal of Natural Products.

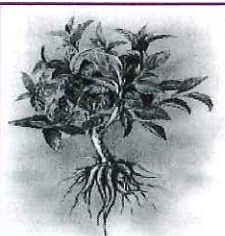
**Books available for review will be listed at the ASP website:
(www.phcog.org) under New & Noteworthy**

Herbal Extract May Help Curb Obesity

**With the incidence of obesity drastically rising, we need
more safe & effective weight-loss products...**

An Ayurvedic herb, *Coleus forskohlii*, is a member of the mint family (*Lamiaceae*) and native to the subtropical regions of India, Myanmar and Thailand. It is a spice and medicinal herb with a long history of usage in Ayurvedic medicine. The root of this "power" herb contains the highest levels of the active ingredient, forskolin. *Coleus forskohlii* has shown promise at improving body composition, according to Indian scientists.

Forslean is a patented form of *Coleus Forskohlii*. It is considered effective in weight loss due to the main ingredient, forskolin. Forskolin is important because of its ability to activate the enzyme, Adenylate Cyclase. This enzyme is involved in the metabolism of cyclic adenosine monophosphate (cAMP). cAMP is involved in many other metabolic and themogenesis process, one of which is the burning of fat.



Coleus forskohlii

A 12 week double-blind, randomized study funded by Sabinsa showed that volunteers who took 250 mg of ForsLean lost an average of 4% of their total body weight. ForsLean has been studied and independently tested in several clinical trials. Results show an overall trend to decrease body weight and fat content while maintaining or increasing lean body mass. ForsLean has been shown to be safe and effective at levels of up to 500 mg per day.



Root of *Coleus
forskohlii*

MEETINGS

A Future ASP Meetings

2005 -

46th Annual ASP Meeting
July 23-27, Corvallis, Oregon

2006 -

47th Annual ASP Meeting
July 22-26, Crystal City, Virginia

2007 -

48th Annual ASP Meeting
July 14-18, Portland, Maine

2008 -

International Congress in Athens, Greece
Dates to be Announced

2009 -

ASP 50th Anniversary...Golden Jubilee
June 27- July 1, Honolulu, Hawaii

B Other Meetings of Interest

Aug. 15-18, 2005, University, MS

*International Conference Quality & Safety Issues
Related to Botanicals*

For more information contact:

Ikhlas Khan, Ph.D.

Tel: 662-915-7821; Fax: 662-915-1006

Email: khan@olemiss.edu

Aug. 19-21, 2005, Edison, NJ

*International Conference on Catalyzing the
Globalization of Intergrated Healthcare Systems*

For more information visit:

www.inhex.com

Dec 15 - 20, 2005 -- Honolulu, Hawaii

PACIFICHEM...2005

For more info visit: www.pacificchem.org

July 25-29, 2006 -- Bethesda, MD

*4th International Conf. on Countercurrent
Chromatography (CCC-2006)*

One-day Comprehensive symposium on - CCC,

July 27, 2006; Free of charge

For more details contact:

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Center for Biochem. & Biophysics, NHLBI, NIH
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Email: itoy@nhlbi.nih.gov

DID YOU KNOW



❑ That...Omega-3 Claims Approved for foods?

FDA in September 2004 finally approved a qualified health claim for a reduced risk of coronary heart disease (CHD) on conventional foods that contain eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) omega-3 fatty acids. This was done by the agency to improve consumers' understanding of the health benefits of omega 3 fatty acids in oily fish such as salmon, lake trout, tuna and herring.

FDA said while these fatty acids are not essential to the diet, scientific evidence indicates that they may be beneficial in reducing CHD. As this research is not conclusive, FDA intends to exercise its enforcement discretion with respect to the following qualified health claim: "Supportive but not conclusive research shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease. One serving of [name of food] provides [x] grams of EPA and DHA omega-3 fatty acids."

❑ That...Tart Cherry Extract Shows Promise for Pain Control?

Tart cherries have been credited in unscientific reports as reducing pain from gout and arthritis. To investigate this possibility, Dr. Jill M. Tall, Johns Hopkins Hospital, directed experiments (at Hopkins and Michigan State University) with rats using tart cherry extracts called anthocyanins, pigments that color flowers and fruits from blue to red. Earlier laboratory research had already shown that anthocyanins had strong anti-inflammatory properties.

However, until this study, no research had been done with animals. This research found that anthocyanins given by mouth reduced pain and swelling related to inflammation as effectively as a medicine commonly used to treat pain and swelling. For more details see: Behavioural Brain Research (August 12, 2004).

ASP Member Honored

Hameed Khan Receives 2004 - NIH Scientific Achievement Award

Dr. Hameed Khan, a Health Scientist at the National Institute of Child Health and Human Development (NICHD), at the National Institutes of Health (NIH) received the prestigious **2004 - NIH Scientific Achievement Award** for the Discovery of an experimental Cancer Drug.

This award was presented to him by Dr. Elias Zherhouni, the Director of NIH, Bethesda, MD, during the NIH-APAO Award Ceremony on December 3, 2004, for the discovery of Aziridinyl Benzoquinone (AZQ) (US Patent 4,146,622), a Novel experimental drug



Dr. Hameed Khan receiving Award from Dr. Elias Zherhouni

specifically designed to shut off gene that causes Brain Cancer (Malignant Glioma). Benzoquinone group helps to carry Aziridinyl group across the Blood Brain Barrier and the Aziridinyl group attacks the DNA of the Malignant Glioma cells inhibiting tumor growth.

Dr. Khan was also rewarded with a 17-year royalty for this invention (License Number 1-019-91/0). To this date, more than 250 research papers have been published on AZQ

News Alert

DHEA May Pose Prostate Cancer Risk

Dehydroepiandrosterone (DHEA) is a hormone that occurs naturally in the body. Levels decrease as people age. Some people take DHEA as a dietary supplement with the hope of slowing down the aging process.

However, previous research on DHEA provided conflicting results about whether the hormone protects against or increases the risk of certain cancers.

In the March 2005 issue of the American Journal of Physiology--Endocrinology and Metabolism, Julia Arnold, Ph.D., and a team of researchers at NCCAM described experiments conducted on DHEA and prostate cancer cells. The experiments indicated that DHEA, like other naturally occurring hormones, may cause prostate cancer cells to grow.

Until more research is completed, the researchers cautioned that men who have or may have prostate cancer should avoid taking DHEA supplements.

News For Researchers

A

NCCAM Launches New Strategic Plan

The National Center for Complementary and Alternative Medicine (NCCAM) has released its new five-year strategic plan, “**Expanding Horizons of Health Care: Strategic Plan 2005-2009**,” charting the center’s goals and objectives for the next five years.

The plan was developed by reviewing NCCAM’s past accomplishments & challenges the center faces. Further, several goals and objectives presented in the strategic plan were a direct reflection of the lessons learned over the last five years, public input, the advice of NCCAM staff & the recommendations of a distinguished group of outside experts. During the year-long process of development, hundreds of people testified at regional meetings, provided comments in letters and e-mails, and responded to the draft plan on the NCCAM website. The plan addresses four key areas...

- ◆ **Investing in research**
- ◆ **Training CAM investigators**
- ◆ **Expanding outreach and**
- ◆ **Advancing the organization**

The plan sets ambitious goals in various areas of CAM practices. In the new plan NCCAM pointed out the need for better quality control of the herbal/botanical products studied and the importance of conducting research to identify optimal doses and appropriate subject populations before investing in large clinical trials.

For details visit: nccam.nih.gov/about/plans/2005

B

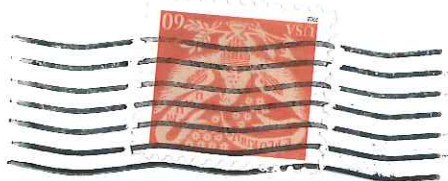
NCCAM & ODS Announced Five New Botanical Centers

NCCAM & ODS of NIH recently announced to fund five new university-based research centers that will focus on botanicals (plants & their product), including identification of their active phytochemical constituent, mechanism of action, safety, effectiveness and quality control. The five centers that will receive the funds are:

- ◆ **Botanical Center for Age-Related Diseases: Connie Weaver, Ph.D. (PI)**
 - **Partner Institutions**...Purdue Univ., West Lafayette, IN; Univ. of AL at Birmingham; Rutgers Univ., NB, NJ
 - **To Study**...the health effects of polyphenols from soy and kudzu for their potential to prevent and treat osteoporosis, cognitive decline, cataracts and other diseases etc.
- ◆ **Botanical Dietary Supplements for Women's Health: Norman Farnsworth, Ph.D. (PI)**
 - **Institution:** University of Illinois at Chicago.
 - **To Study**...herbal supplements, that may have benefits for women’s health, such as black cohosh and red clover for menopausal symptoms. In addition, research training will be supported.
- ◆ **Botanicals and Metabolic Syndrome: William Cefalu, M.D. (PI)**
 - **Partner Institutions**...Pennington Biomed. Res. Center, Louisiana State Univ. System, Baton Rouge; Center of Agriculture & the Environment of Rutgers Univ., New Brunswick, NJ.
 - **To Study**...the effects of herbal extracts (Russian tarragon, Shilianhua, and grape) on metabolic syndrome.
- ◆ **MSKCC Res. Center for Bot. Immunomodulators: Drs. Barrie Cassileth & Philip Livingston (PIs)**
 - **Partner Institutions**...Mem. Sloan-Kettering Cancer Center, NY; Weill Med. Coll. of Cornell University, NY; The Rockefeller Univ., NY; Inst. of Chinese Med. & Chinese Univ., Hong Kong, China
 - **To Study**...botanicals that may affect immune function--echinacea, maitake, astragalus, turmeric, & a trad. Chinese formula
- ◆ **Wake Forest and Harvard Center for Botanical Lipids: Floyd Chilton, Ph.D. (PI)**
 - **Partner Institutions**...Wake Forest Univ., Winston-Salem, NC; Harvard Univ., Cambridge, MA
 - **To Study**...polyunsaturated fatty acids derived from botanicals, such as flaxseed, echium, and borage, for their anti-inflammatory actions to treat diseases such as atherosclerosis & asthma.

Dr. James E. Robbers
610 Front Street, Apt 204
Mukilton WA 98275-1562

TO



David J. Slatkin, Ph.D., Treasurer
The American Society of Pharmacognosy
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Northbrook, Illinois 60062

MEMBERSHIP

Membership in the American Society of Pharmacognosy is recognized in several categories

Full Membership

Full membership is open to any scientist interested in the study of natural products. Dues are \$35.00 per year. In order to receive the Journal of Natural Products the subscription rates are as follows: United States, Canada, and Mexico: \$114 (Print Edition), \$60 (Web Edition), \$120 (Archive Web Edition); All other countries: \$170 (Print edition), \$60 (Web edition), \$120 (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 \$20.00 per year. In order to receive the Journal of Natural Products the subscription rates are as follows: United States, Canada, and Mexico: \$86 (Print Edition), \$60 (Web Edition), \$120 (Archive Web Edition); All other countries: \$142 (Print Edition), \$60 (Web Edition), \$120 (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 \$5.00 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, *Univ. of Iowa*, IA
- Dr. Gordon C. Cragg, *National Cancer Institute (NCI)*, NIH, MD
- Dr. Norman R. Farnsworth, *Univ. of IL at Chicago*, IL • Dr. R. Hegnauer, Leiden, Netherlands
- Dr. Albert Hofmann, Switzerland • Dr. Harry H. S. Fong, *University of Illinois*, IL
- Dr. James E. Robbers, *Purdue Univ.*, IN • Dr. Mansukh Wani, *Research Triangle Institute*, NC
- Dr. E. John Staba, *Univ. of Minnesota*, MN • Dr. Hildebert Wagner, *Univ. 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:

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3149 Dundee Road, #260, Northbrook, Illinois 60062. Email: asphcog@aol.com

ASP Newsletter

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Summer Issue.....*June 1st*
Fall Issue.....*September 1st*
Winter Issue.....*December 1st*

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