



ASP NEWSLETTER

Volume 31, Number 4

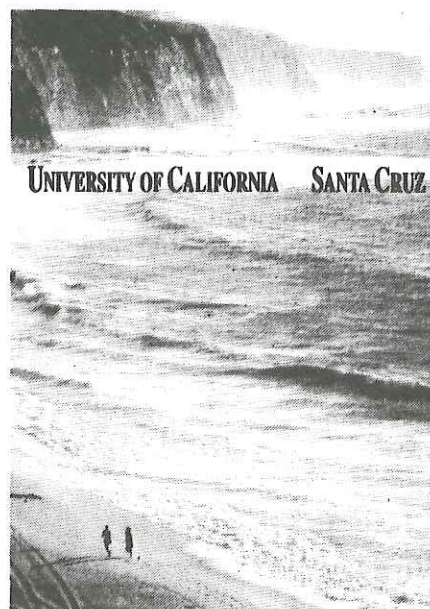
Winter, 1996

BIOTECHNOLOGY AND NATURAL PRODUCTS

The 37th Annual Meeting of the American Society of Pharmacognosy at the University of California, Santa Cruz

The Organizing Committee of the 37th Annual Meeting of the American Society of Pharmacognosy (ASP) is pleased to welcome ASP members and colleagues to Northern California for our annual meeting from July 27 to 31, 1996. This year's meeting will be held on the campus of the University of California, Santa Cruz, which is located in one of the most scenic and unique settings in the U.S. The campus is located within a 2,000 acre redwood forest on the slopes of the Santa Cruz mountains, and offers spectacular views of the Pacific Ocean.

The general theme of the meeting will be "Biotechnology and Natural Products," which reflects the close proximity of one



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SPECIES DIVERSITY, DRUG DISCOVERY, AND THE ENDANGERED SPECIES ACT

As scientists involved in biomedical research in areas such as drug discovery and development, many ASP members are aware of the importance of maintenance of biological diversity to the long term health of our discipline. Most of us are familiar with the benefits of species diversity to our society, but a few examples of particular relevance to our science are highlighted below.

Microorganisms and plants have provided an armamentarium for cancer chemotherapy: doxorubicin is used to treat acute leukemia, Hodgkin's disease, other lymphomas, Wilm's tumor and a number

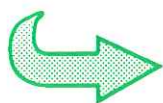
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NATIONAL CENTER FOR THE DEVELOPMENT OF NATURAL PRODUCTS

The National Center for the Development of Natural Products at The University of Mississippi, a university-affiliated national research center devoted to discovering, developing and commercializing new pharmaceuticals and agrichemicals derived from natural products, officially opened in July, 1995, when 45 scientists, administrators, and support staff occupied some 50,000 square feet of a new \$35 million laboratory facility. Funding for construction of the Center is through the U.S. Department of Agriculture. At its completion, Phase I will provide 115,000 square feet of research space for 40-50 scientists, with support

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Come to Santa Cruz



Attention: Members planning to attend the 37th Annual ASP Meeting:

Be sure to make your housing arrangements before going to Santa Cruz. The meeting is being held at the height of the tourist season, and rooms will be at a premium. Whether you plan to stay in university housing or local hotels and motels, make your reservations early. Anyone planning to come to the meeting as a "walk-on" must also have reservations. The organizers cannot guarantee that any housing will be available for "walk-ons."

Note:

There is a minor typographical error on the Housing Registration Form for the meeting at Santa Cruz. The header for the third column should read: "Saturday, July 27th to Wednesday, July 31st".

Web site for the Annual Meeting:

<http://www.chemistry.ucsc.edu/phil/research/ASP/index.html>

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of the leading centers of biotechnology, the San Francisco Bay Area. Six Symposia are included within this theme, featuring an outstanding group of scientists who will cover a broad array of topics. The Symposium in Tribute to Matt Suffness will honor our late colleague, and will include an especially distinguished panel of speakers. The 1996 ASP Research Achievement Award will be presented to Professor Dr. Meinhard H. Zenk during the meeting.

For the first time, this year's ASP meeting will begin on Sunday morning, and will end with the annual banquet on Wednesday evening. We have arranged the program to allow for ample opportunities for meeting participants to interact. Social events include the Opening Reception and Barbeque, Mexican Fiesta Buffet and Taste of Santa Cruz Buffet (both in conjunction with poster sessions), and the Annual Banquet on the Santa Cruz Boardwalk. Tuesday afternoon is free to join in one of the scheduled excursions or to explore on your own. The annual ASP Business meeting will be held on Wednesday afternoon, and all ASP members are welcome and encouraged to participate.

We look forward to seeing you in Santa Cruz!

Roy K. Okuda, General and Local Chair
San José State University
Ted Molinski
University of California, Davis
Phil Crews, Scientific Program Chair
University of California, Santa Cruz
Michael S. Tempesta
Larex, Inc.

A Fading Role for Natural Products in Pharmaceutical Discovery?

by James D. McChesney, Ph.D.

A great deal is being said today about the time required and costs associated with discovery and development of new pharmaceuticals. We, as pharmacognists, believe that natural products research holds the greatest promise to new lead discovery and development which will in turn lower overall times and costs associated with new drug approvals. Recent developments in the fields of combinatorial chemistry, high-through put screening, computational capabilities and large data base management and manipulation are beginning to shift interest away from natural products. Important factors dampening enthusiasm for the pursuit of natural products research for prototype discovery are: 1) confusion about access to sources of natur-

al products, i.e., bioprospecting issues; 2) the perception that a great deal of time and effort will be required to isolate, purify and identify active principals from complex natural product preparations; and 3) economic sources of the active principal for development and commercialization.

The October, 1994 Interim Meeting of the ASP held in San Jose, Costa Rica brought together many representatives of the international natural products research community, governments, industry and other interested parties to present and discuss bioprospecting issues and points of view. The entire proceedings of the meeting will soon be appearing in print as well

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SANTA CRUZ SYMPOSIA

Biosynthesis and Bioengineering of Natural Products

Rodney Croteau (Washington State University)

Taxol Biosynthesis: Prospects for Pathway Engineering

C. Richard Hutchinson (University of Wisconsin, Madison)

Polyketide Biosynthesis in Microbes: Possibilities for the Production of Novel Metabolites by Genetic Engineering

Horst Kleinkauf (University of Berlin)

Production of Biologically Active Peptides by in vitro Biosynthesis and Engineering of Enzyme Systems

Biotechnology and Natural Products

Jon Clardy (Cornell University)

Natural Products and Their Macromolecular Receptors

Nobuhiro Fusetani (University of Tokyo)

Mechanism-Oriented Isolation of Lead Compounds from Marine Sponges: Enzyme Inhibitors and Receptor Antagonists

Gary Schulte (Pfizer, Inc.)

Development and Integration of Key Infrastructural Technologies to Support Natural Product Drug Discovery

Culture of Marine Macro- and Microorganisms

Raymond Andersen (University of British Columbia)

Bioactive Metabolites Produced in Culture by Microorganisms Isolated from the Oceans

William Fenical (Scripps Institution of Oceanography)

Enlarging the Biomedical Potential of Marine Microorganisms

William Gerwick (Oregon State University)

Drug Discovery From Cultured and Field-Collected Marine Blue-Green Algae

Receptor-Targeted Natural Products Drug Discovery

John Pezzuto (University of Chicago)

Bioassay Strategies for the Discovery of Natural Chemopreventative Agents

Berta Strulovici (Tularik, Inc.)

Natural Products as a Source of Molecules With Interesting Biological Activity

Rob West (Zymogenetics, Inc.)

Natural Product Drug Candidates From Functional Receptor-Based Bioassays

ASP Research Achievement Award Address

Meinhard H. Zenk (University of Munich)

Medicinal Plant Biotechnology is a Basis for the Development of Pharmaceutical Sciences

Young Investigator's Symposium

Symposium in Tribute to Matt Suffness

Susan Arbuck (National Cancer Institute)

Taxol Clinical Developments: Challenges and Accomplishments

Susan Horwitz (Albert Einstein School of Medicine)

Taxol: Mechanisms of Action and Resistance

R. George Pettit (Arizona State University)

Recent Progress in the Chemistry and Clinical Development of Marine Animal Anticancer Constituents

Monroe Wall (Research Triangle Institute)

Taxol: Discovery to Developments Through 1980

Mansukh Wani (Research Triangle Institute)

Camptothecins: Current Status and Future Prospects

Short Talks by NCNPDDG Principal Investigators:

Phil Crews (University of California, Santa Cruz)

Ching-jer Chang (Purdue University)

Sidney Hecht (University of Virginia)

A. Douglas Kinghorn (University of Illinois at Chicago)

Garth Powis (University of Arizona)

Fred Valeroite (Wayne State University)

NOTE:--The formal registration packets for the annual meeting were mailed in late January. If you have not received yours, please contact: Roy K. Okuda, Ph.D., Department of Chemistry San José State University, One Washington Square, San José, CA 95192-0101. Phone: (408) 924-2525. FAX: (408) 924-4945.

Web site for the Annual Meeting:
<http://www.chemistry.ucsc.edu/phil/research/ASP/index.html>

A Fading Role for Natural Products...

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as summaries and commentaries. Without trying to reproduce here the entirety of these reports, it is important to emphasize certain points.

Efforts to harmonize national and international laws and conventions as exemplified by the Rio Convention on Biodiversity and the GATT Agreement will have important influence on the nature and terms of bioprospecting agreements. The success of these agreements will depend upon many factors; the flexibility and knowledge of the partners, the level of trust between the partners, current and future technologies, and certainly national and international laws, conventions and policies. Because of all these factors and the normal confidential nature of such agreements, it is not likely that a single model or framework will emerge as a standard. Instead, the specific desires and needs of the prospective parties to specific agreements must be recognized and accommodated if a productive partnership is to be established.

Particularly important will be continued discussion of financial and other benefits expected by developing country institutions and organizations for agreement to provide access to genetic resources. Of special concern is the often unrealistic expectations that there should be large and immediate financial benefits to be gained from bioprospecting. It must be remembered that even when "blockbuster" drugs result, it will be least 10-12 years before any royalties begin to accrue. Greater focus upon capacity building and in situ development should be the norm of bioprospecting cooperative agreements with provision for realistic royalty payments should a commercially successful product be developed in the future.

It is important to note that the current patenting processes of developed countries do not provide for recognition of intellectual property held in common by a group or community-i.e., the traditional knowledge of the use of particular medicinal plants for treatment of particular ailments. Indeed, there is still significant debate about the role such knowledge actually plays in modern drug discovery strategies. Some groups hold that such knowledge is essentially irrelevant and others claim that utilization of that knowledge base will greatly improve the efficiency and shorten the time spent in

discovery and development of new pharmaceuticals. With this great disparity of opinion, it is not surprising that significant discussion and debate surrounds the appropriate mechanisms and level of return of benefit due to indigenous peoples for access to these knowledge bases.

Further, the undue focus on bioprospecting for pharmaceutical discovery and development also leaves unresolved some important issues. What are appropriate relationships and agreements to support discovery and development of sustainable uses in the areas of food and agricultural products, cosmetics, toiletries, essential oils, "commercial" botanical medicines (OTC, low cost, alternative medicines) useful in both developing and developed countries?

The second limiting perception surrounding natural products as a pharmaceutical discovery venue [*sic*] has to do with the time and effort needed to isolate and characterize active principals. It is critical that we as natural products researchers address this issue by incorporation of innovative strategies to enhance the efficiency and productivity of the entire "system" of natural products research, all the way from procurement of biomass sources, to screening, to isolation and characterization of active principals. The time of this process must be reduced from the present situation of months to years on average to weeks if we are to be viewed as competitive with developing technologies such as combinatorial chemistry.

Finally, the perception that it is not possible to produce complex natural products by processing biomass sources must be put to rest. Without detailing the myriad examples here, almost without exception, it is more economic to produce current commercial natural product drugs by growing, harvesting and processing biomass than it is by chemical synthesis. With only the most modest of timely investment in development of a production strategy, new natural product pharmaceuticals can also be produced from biomass and in the process add greatly to local economics.

Only with progress to resolve these important issues will natural products research regain its importance to pharmaceutical discovery and development.

SPECIES DIVERSITY, DRUG DISCOVERY, AND THE ENDANGERED SPECIES ACT

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of other cancers; bleomycin is used for the palliative treatment of squamous cell carcinomas; etoposide is valuable in combination chemotherapy against small cell lung cancer; vinblastine is one of the most effective single agents against Hodgkin's disease; vincristine is employed in combination therapy against acute leukemia where *90% remission can be achieved in children*; taxol provides a therapy for ovarian cancer. The survival of the natural sources of medicine such as the above will be threatened by a weakened Endangered Species Act.

Microorganisms are responsible for the production of a host of antibiotics, the names of which are firmly entrenched in the layperson's vocabulary. Penicillins, cephalosporins, tetracyclines, erythromycin, bacitracin and many others make possible spectacular successes in the treatment and control of human and veterinary disease. As a group, they are among the most important products of the drug industry with annual multi-billion dollars sales.

Nature's storehouse includes morphine, a vitally important pain-reliever; however, the impact of this botanical product on medicine goes beyond morphine itself. Using the morphine blueprint as a model, medicinal chemists have made alterations that have produced a variety of other useful medicines including methadone, used in the treatment of heroin addiction, and dextromethorphan, a common constituent of cough syrups. Moreover, the scientific study of morphine and its chemical relatives have led to the discovery of opiate receptors and completely novel approaches to pain relief and narcotics addictions.

Cardiovascular disease also has been ameliorated by natural products. The plant products, digoxin and digitoxin, are routine medications for heart failure, and the plant product, ouabain, is employed clinically for the emergency treatment of potentially fatal heart rhythm disorders, while yet another botanical product, quinidine, is prescribed for the control of certain heart rhythm abnormalities.

Microorganisms have provided biological tools for manipulating DNA and have made possible the production of proteins such as human growth hormone, interferon, and plasminogen activator which were previously unavailable for the treatment of human disease. Moreover, such tools are making possible the quick and early diagnosis and treatment (by the promise of gene therapy) of a host of human disease such as cystic fibrosis, severe combined immunodeficiency disease, Duchenne muscular dystrophy, cancer, and AIDS. The advances made possible by the products of many strange organisms have created the *multi-million dollar per year biotech industry*.

Animals provide a variety of indispensable models for the study of the origins and therapy of human disease such as leprosy (armadillo), late onset diabetes (monkfish), and injured heart muscle (Mexican salamander, an endangered species).

Meanwhile, discoveries are made daily of novel natural products which contribute to new drug design and advance our understanding of health and disease. A Chinese plant, for example, provides artemisinin, a promising new therapy for chloroquine-resistant malaria.

Some ASP members have expressed concern that legislation

currently before congress will weaken the Endangered Species Act, one of our nation's most important laws aimed at the protection of biological diversity. Dr. Michael Clegg (Chair of the Committee on Scientific Issues in the Endangered Species Act of the National Research Council Of the National Academy of Sciences) has written that "the ultimate goal of the Endangered Species Act is to ensure the long-term survival of a species... the current rate of extinction is among the highest in the entire fossil record, in large part due to human activity. The introduction of non-native species and especially the degradation and loss of habitat are causing extinctions at a rate that many scientists consider a crisis." The National Research Council in their report, "Science and Endangered Species Act", stated that "there has been a good match between science and the Endangered Species Act", and emphasized that habitat protection on both federal and private lands is required for effective species protection.

ASP has been asked to consider taking a position on this issue as a society, but the Indigenous Materials Committee decided to recommend that interested ASP members write directly as individuals to their Congressional representatives expressing their views concerning the importance of the Endangered Species Act. In order to gauge the feelings of ASP members on this issue, interested members are invited to complete the attached questionnaire and return it to Gordon Cragg, Chair of the ASP's Indigenous Material Committee, at the address below.

Dr. G. M. Cragg, Chief, Natural Products Branch, National Cancer Institute, Frederick Cancer Research & Development Center, P. O. Box B, Frederick, MD 21702-1201; Phone 301-846-5387; FAX 301-846-6821; e-mail: Cragg@dtpvx2.ncifcrf.gov

STATEMENT ON THE ENDANGERED SPECIES ACT

The Endangered Species Act should be reauthorized in its present form:

Yes _____ No _____ No opinion _____

Comments:

Signature _____ Date _____

National Center for the Development of Natural Products

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personnel. Phase I is approximately 40 percent complete, and is expected to be 90 percent complete in July, 1996.

The NCDNP was initially proposed by Dr. James D. McChesney, who previously held posts as Chair of the Department of Pharmacognosy and Director of the Research Institute of Pharmaceutical Sciences at Ole Miss. Prior to his resignation as Director of RIPS in April, 1995, Dr. McChesney successfully guided the project over several years, with support from many Ole Miss colleagues in drug discovery and natural products research. Many of these scientists form the current core staff of the facility, including Dr. Alice Clark, who was appointed Interim Director of the Center when it opened in July 1995, and Dr. Larry Walker, who is serving as Interim Associate Director.

The National Center's aim is to discover, develop, and commercialize natural products or derivatives as pharmaceuticals and agrichemicals. Current programmatic emphasis is in the pharmaceutical arena, especially with regard to anti-infective agents and immunomodulation. Discovery and early development of natural products has been a heavy emphasis in the School of Pharmacy for almost 30 years, involving researchers in the Departments of Pharmacognosy, Medicinal Chemistry, and the Research Institute of Pharmaceutical Sciences. The National Center will bring private industry, governmental agencies (especially USDA), the State of Mississippi, and the University into a partnership to advance natural products research in the U.S. Strong programmatic support from the USDA has come in the form of a construction grant to build and equip the facility, the University and USDA are entering into a Memorandum of Understanding that will pave the way for future formal scientific collaborations between Agricultural

Research Service scientists and NCDNP staff.

The multidisciplinary program of the National Center includes scientific evaluation of the potential utility of traditional medicines and folklore remedies, development of strategies to collect natural products from worldwide sources and evaluation of these for potentially useful biological activities, identification of the pure chemical constituents responsible for therapeutic or agrichemical effects, investigations into the manner in which natural products exert their effects on biological systems, optimization of yields of natural products from plant resources, development of methods to detect and analyze natural products in biological systems, and the technology for production of pure natural products for pharmaceutical or agrichemical use. Ultimately, the discovery and development of natural product-derived pharmaceuticals and agrichemicals could become the driving force for the development of high-value alternate crops as sources of these natural products.

The NCDNP will be well-equipped with state-of-the-art spectroscopic equipment, including high field NMRs (300 MHz, 400 MHz, and 500 MHz) and high resolution mass spectrometer, as well as other core facilities and specialized laboratories and equipment. Many visitors to the Ole Miss campus for the annual meeting of the ASP last July had the opportunity to see first-hand the new facility. Dr. Alice Clark, Interim Director of the Center, is enthusiastic and optimistic about the role the NCDNP will have in improving human health and agricultural productivity, and welcomes opportunities to explore collaborative relationships with others interested in natural products research. Dr. Clark is also Chair of the Search Committee for the Director of the National Center, and welcomes nominations and applications for the position.

(SEE PAGE 8)

Pharmacognosy at Ole Miss Changes in the Works

A number of personnel changes have occurred at The University of Mississippi in the 1995-1996 academic year. Dr. Alice M. Clark was appointed as Interim Director of the National Center for the Development of Natural Products and Dr. Charles D. Hufford has been selected as the new Associate Dean for Research and Graduate Programs. Dr. Hufford will continue as Acting Chair of the Department of Pharmacognosy until a new Chair is selected. Dr. James D. McChesney has resigned his position at Ole Miss and has accepted a new position as Vice President of Natural Products Research and Development at NaPro Biotherapeutics in Boulder, Colorado. He will retain an Adjunct Professor of Pharmacognosy appointment. Two new faculty members joined the Department this year, Dr. Marc Slattery (marine/chemical ecology) and Dr. David Pasco (molecular biology). In addition, Dr. Ikhlas Khan (isolation/analytical chemistry) and Dr. Samir Ross (isolation/analytical chemistry) have accepted joint graduate faculty appointments in the Department.



Alice M. Clark at last year's Annual Meeting at Old Miss being toasted by Norman Farnsworth

POSITIONS AVAILABLE

Position: Director, Natural Products Chemistry
Requires Ph.D. in natural products chemistry plus at least 6 years of experience in an industrial research setting at the interface of natural product chemistry and drug discovery. Training/experience in plant or microorganism chemistry a plus. Has overall responsibility for all facets of NPC effort, including sample extraction, compound isolation/identification and extract/compound bank management. Works with company senior management to formulate and implement scientific strategies and participates in the management and execution of external collaborations. Expectation of hands-on technical contributions as required.

Position: Staff Scientists, Natural Products Chemistry
Require Ph.D. in natural products chemistry. Entry level (0-2 years post-doctoral experience) and more senior level (3-6 years post doctoral experience) positions available. Technical skills required include bioassay-guided fractionation, isolation and structural identification of natural products. Training/experience in plant or microorganism chemistry a plus. Involves close cooperation with Biology groups to identify candidate compounds.

Position: Research Associate, Natural Products Chemistry
Requires a degree in chemistry and experience in applying relevant separative and analytical techniques (minimum of B.S. + 3 years or M.S. + 1 year).

Contact: Phytera, Inc. is a young and dynamic company applying novel, world-class capabilities in plant cell culture and marine microorganism isolation/cultivation to the discovery and development of innovative natural product-based therapies for major human diseases. We are expanding our natural product chemistry group and are seeking highly motivated individuals interested in an opportunity to contribute to and benefit from the realization of exciting new technologies in a spirited, team-oriented environment.

Phytera, Inc. is located in new facilities in the Worcester, MA Biotech Park adjacent to the UMass Medical Center, and is within convenient driving distance to the major academic and cultural institutions in Boston. We offer a competitive compensation and benefits package. Please forward your curriculum vitae to: Human Resources, Phytera, Inc., 377 Plantation Street, Worcester, MA 01605 or fax it to (508) 792-1339. Principals only. An equal opportunity employer.

Position: Group Leader, Skin Products
Reporting to the Manager, Skin Products Research, will function as a technical leader in the corporate R&D center. Will be responsible for leading the members of this group in developing innovative applications for phytochemistry. Will coordinate this group's activities with project leadership throughout the Research division and work with the external scientific community to ensure identification and execution of new opportunities in phytochemistry for product development.

Requirements: Ph.D. Plant Chemistry, Natural Products or related discipline; 5+ years of phytochemistry related research; excellent communication and leadership skills required.

Contact: Please submit resumé promptly via fax or mail in strict

confidence to Josh Marcus, Marcus & Associates, 345 Kear St., Suite 208, Yorktown Heights, NY 10598, Fax (914) 962-5987.

Position: Postdoctoral Research Chemist at USDA/ARS, Poisonous Plants Research Laboratory in Logan, Utah.

The research associate will be part of a multidisciplinary research team investigating plant toxicosis in livestock from such plants as Senecio, Cynoglossum and Crotalaria species. The research associate will be involved in the development of chemical and immunochemical techniques for the detection of plant toxins and metabolites in plant and animal tissues and fluids. Developed methodologies will be applied to research in the areas of plant toxicosis diagnostics and the area of quality animal production.

Requirements: Knowledge of Synthetic Organic and Analytical Chemistry. Experience in Natural Products Chemistry, Pharmacology and ELISA assay development would be useful.

Contact: Dale Gardner, Lynn James or Brain Stegelmeier, USDA-Poisonous Plant Research Laboratory, 1150 E. 1400 N., Logan, UT 84341, (801) 752-2941.

Position: Senior Scientist - Research and Development
Nature's Sunshine Products, a leading international company in the sale of natural health products with over \$200 million in sales, has an immediate opening for a Senior Scientist in its R & D Department.

Responsibilities include designing and developing formulation concepts for herbal/nutritional products based on scientific database for performance, safety and efficacy as well as establishing standards of quality for herbal materials. Applicants must have a Ph.D. in Pharmacognosy or equivalent. Postdoctoral/industry experience is desired. Excellent oral and written communication skills and the ability to work well in team setting is required.

We offer an attractive compensation and benefit package and are located in scenic Utah County, just minutes away from skiing and other recreational areas.

Please mail/fax a resume with salary requirements to: Nature's Sunshine Products, Attn: Human Resource Department, 75 East 1700 South, Provo, UT 84606. Fax 801/342-4546.

Employment Service

The American Society of Pharmacognosy 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 prospective employer. Once an application is submitted, it will remain on file for one (1) year, at which time it will be destroyed. The applicant should realize that this is not a resume service and that the application will be submitted to the prospective employer exactly as submitted (i.e. the submitted form will be photocopied, then sent to the prospective employer). All information submitted will be held in the strictest confidentiality.

Forms and further information may be obtained from:

Joseph M. Betz, Ph.D., Division of Natural Products, Food and Drug Administration (HFS-347), 200 'C' Street, S.W., Washington, DC 20204-0002 U.S.A; Fax: (202)205-4422; Phone: (202)205-4060; Bitnet: JMB@fdacf.ssw.dhhs.gov

Research Achievement Award

The American Society of Pharmacognosy selects a recipient for the ASP Research Award annually. 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 of the ASP Research Award are:

- 1985 - Koji Nakanishi
- 1988 - Heinz G. Floss
- 1989 - Kenneth L. Rinehart
- 1990 - Monroe E. Wall
- 1991 - S. William Pelletier
- 1992 - Henry Rapoport
- 1993 - A. Ian Scott
- 1994 - Paul J. Scheuer
- 1995 - George Robert Pettit
- 1996 - Meinhart H. Zenk

Nominations for the 1997 award are due by May 1, 1996 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: S. William Pelletier, Institute for Natural Products Research, Chemistry Building, The University of Georgia, Athens, Georgia 30602-2556. Phone: (706) 542-5800; FAX: (706) 542-5804.

ASP DIRECTORY

The American Society of Pharmacognosy Directory for 1995 has already been mailed. We want to update it annually. Please check your entry for accuracy. If any information is incorrect or missing - in particular FAX numbers or E-mail addresses - please forward this information to our Treasurer ASAP!

David J. Slatkin, Ph.D., Treasurer, The American Society of Pharmacognosy, P.O. Box 9558, Downers Grove, Illinois 60515; Phone: (708) 971-6417; FAX: (708) 971-6097

DIRECTOR

National Center for the Development of Natural Products
School of Pharmacy
The University of Mississippi

Applications and nominations for the position of Director of the National Center for the Development of Natural Products (NCDNP) of The University of Mississippi (UM) are invited. The applicant should be a recognized leader in natural products research, with a strong background in research administration, including fiscal, personnel and scientific management. Requirements include a Ph.D. in natural products chemistry or closely-related discipline, excellent communication skills, and a demonstrated commitment to multi-disciplinary research and to establishing an environment that fosters research excellence and productivity. An understanding of patents, licenses, and intellectual property rights, and experience in strategic planning and programming are preferred.

The NCDNP, devoted to discovering, developing and commercializing new pharmaceuticals and agrichemicals derived from natural products, is based at UM's main campus in Oxford, Mississippi. The National Center has strong financial and programmatic support from the USDA and the State of Mississippi. The initial phase of a new \$35 million laboratory facility opened July, 1995. Phase I will provide 115,000 sq. ft. of space for 40-50 scientists, with support personnel. The NCDNP will operate with an annual core budget of \$5-6 million, to be supplemented by extramural funding and will bring private industry, governmental agencies (esp. USDA), the State of Mississippi, and the University into a partnership to advance natural products research in the U.S.

The Director is responsible for the administration and supervision of activities of the Center, including fiscal management and budgeting, strategic planning, identification of scientific priorities and direction, establishment of research and operations policies, identification of resources for research support, and enhancing the research environment and reputation of the Center. The Director will represent the Center on the University campus, in the scientific community, and among other research administrators, and is expected to promote the Center before legislative bodies and other public and private constituencies. The Director will foster collaborations between faculty of the Research Institute of Pharmaceutical Sciences and Academic Departments of the School of Pharmacy, and with other scientists.

Applications should include a letter of interest stating how the applicant meets the qualifications, a curriculum vitae, and the names, addresses, and phone numbers of three references (who will not be contacted until the later stages of the search). Evaluation of applications will begin March 15, 1996 and continue until the position is filled. The desired appointment date is July 1, 1996. Applications should be addressed to:

Dr. Alice M. Clark, Interim Director, National Center for the Development of Natural Products, School of Pharmacy, The University of Mississippi, University, MS 38677; Telephone: 601-232-1005 Fax: 601-232-1006

THE UNIVERSITY OF MISSISSIPPI IS AN AA/ADA/EOE

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NOMINATIONS FOR HONORARY MEMBERSHIP

Nominations for Honorary Membership in the American Society of Pharmacognosy are now being accepted by the Honorary Membership Committee. If you would like to nominate a member for this distinguished honor, please forward your nomination as well as supporting biographical data to: Varro E. Tyler, Ph.D., Sc.D., Lilly Distinguished Professor of Pharmacognosy, Department of Medicinal Chemistry and Pharmacognosy, Purdue University, 1333 Robert E. Heine Pharmacy Building, West Lafayette, IN 47907-1333. Phone: (317) 494-7424. Fax: (317) 494-1139.

ARA G. PAUL RETIRES

by
Jerry L. McLaughlin, Ph.D.

Ara G. Paul, Dean and Professor of Pharmacognosy at the College of Pharmacy, The University of Michigan, retired this past summer. He began his teaching career at Michigan in 1957 after receiving his Ph.D., under the direction of Art Schwarting from the University of Connecticut. He has been Dean for 20 years. A retirement banquet was held for him in Ann Arbor on July 8, 1995; however, he has agreed to continue as Dean until the current search for a replacement has been successful. As Dean, Dr. Paul devoted his activities to the strengthening of the professional and research programs. He converted the professional program exclusively to the Pharm.D., and he directed the construction of a multimillion dollar research wing. He was particularly successful at increasing the endowment of the college from \$500,000 to over \$16,000,000. To honor him, an endowed chair, the Ara G. Paul Distinguished Professorship, will be created, and over \$600,000 has already been raised toward the \$1,500,000 goal. Contributions can be sent to the College of Pharmacy, The University of Michigan, Ann Arbor, Michigan 48109-2022.

At the retirement banquet, Paul was roasted by eight distinguished speakers. Jerry L. McLaughlin Professor of Pharmacognosy, School of Pharmacy and Pharmacal Sciences, Purdue University, was the first speaker. The text of Jerry's speech follows:

I had the honor of being Ara Paul's first Ph.D. graduate. I was not his first Ph.D. student. Several of his Ph.D. students before me had the insight to quit — presumably they are now millionaires and own their own chains of retail pharmacies. I am thankful that this institution has had faculty members, such as Drs. Paul and Deno, who cared enough to encourage a few of us to look beyond our immediate goals.

Why would Ara Paul choose to study at Idaho State University for his B.S. in pharmacy? The answer is simple. Idaho State had the cheapest out of state tuition of any pharmacy school in the U.S. I've heard that, as he stepped off the train at 3:00 am in Pocatello onto a deserted platform, he hesitated for a brief moment of indecision. In that instant, the doors closed behind him and the train sped out of the station, leaving him with no choice but to stay there and study for four years.

Through his close association with a professor in microbiology at ISU, he chose pharmacognosy as his area for graduate work. Thus, he went back east to the University of Connecticut to grow saprophytic cultures of ergot under the direction of Art Schwarting. I have heard that his major discovery there centered around the preparation of gin by the addition of juniper berries (or their essential oil) to lab alcohol. He, furthermore, is credited with improvement of the product by the addition of dry ice which freezes out the water azeotrope and yields a product that is 100%, rather than 95%, ethanol. This pioneering work in the laboratory still exceeds the importance of any of his later, more legitimate, scientific endeavors that were funded by NIH.

In 1957, which was my freshman year, he came to Ann Arbor as a new assistant professor. That same fall Dean Rowe also added Gere Goyan and John Autian as new faculty members. Goyan and Autian soon left and eventually became deans, respectively, at the University of California-San Francisco and at Tennessee. However, no competitive offers came to Ara. He was stuck at Michigan, and Michigan was stuck with him.

In 1975, Ara was made chairman of the Search Committee for the new dean to replace the retiring Tom Rowe. Probably, he was made chairman of the Search Committee because he, himself, wasn't considered a viable candidate for the position. Under his direction, the search soon bogged down; he resigned as chairman, and, somehow to everyone's surprise, he was selected as the new dean. His major qualification was his wife, Shirley, who had been Tom Rowe's secretary for several years and she knew how to handle any problems that might arise in the Dean's Office. However, a stipulation was made that this was not a life long appointment, the term would only be for five years, but it was possibly renewable. Some of the faculty members still didn't agree, and, to their relief, after twenty years, they will finally be rid of him. My conclusion to all of this is that he was never a "gotta-be" or a "wanna-be", but, I always figured that he was an "oughta-be".

Other than having had to memorize the path of carbon in photosynthesis, one thing is predominant in my mind about Ara Paul as a professor. When asked a question by a student, he would invariably reply, "Go look it up!" His demeanor when giving this reply fully convinced us that he knew the answers to our question but he just didn't want to tell us. As a consequence, we all thought that he must be really brilliant. I still don't know if he's really brilliant or just full of bluff and baloney. I do know, however, that he has blundered his way along for twenty years as a dean, and he has turned out to be pretty good at it. One can argue either way that this position has improved him, or that he has improved the position. Both are probably true.

I have no particular fondness for deans. Mel Gibson (the pharmacognosist, not the actor) used to say, "Deans are often wrong, but they are never in doubt." Most deans seem to possess a very healthy estimate of their own importance. Some herd their faculty like a bunch of sheep and drive away any that show opposing thoughts. My dad always said, "If you can get all of the fools behind you, you, too, can be a leader." Some more egocentric deans attempt to demonstrate their leadership by being elected to office in various, and usually useless, professional organizations. Ara Paul didn't do that. Instead of promoting himself, he devoted his activities to the betterment of this college. He created a legacy of loyalty and giving to Michigan. Having been here for 38 years, he knows most of us alums personally. He has made us feel that our contributions to Michigan help to meet specific needs and fulfill thoughtful visions. It's for this legacy that Ara Paul is recognized by many today as the best damn pharmacy school dean in the U.S. It'll be difficult to fill his shoes.

Future ASP Meetings

- 1996 - July 27-31 - Santa Cruz, California
 1997 - July 26-30 - University of Iowa
 1998 - Orlando, Florida
 1999 - International meeting with the Phytochemical Society of Europe, the Gesellschaft für Arzneipflanzenforschung, and the Association Française pour l'Enseignement et la Recherche en Pharmacognosie - The Netherlands

Future AACP Meetings

- 1996 - July, Reno, NV--to avoid the Saturday night casino crowds and because destination Reno requires no Saturday night stay to lower the airfares, the 1996 meeting schedule has been moved ahead by one day. Pre-sessions, Institute of Pharmacy Law, and Board meeting will be held on Friday and Saturday, July 12-13; Teachers' Seminar, Council and ASCC board meetings on Sunday, July 14; Annual Meeting and related activities, Sunday--Thursday, July 15-18.

Other Meetings of Interest—1996

April 15-17, Phytochemical Diversity: A Source of New Industrial Products, University of Sussex, Brighton, U.K. For information contact: Elaine Wellingham, Conference Secretariat, Field End House, Bude Close, Nailsea, Bristol, BS19 2FQ, UK

April 17-19, VIIIth International Symposium on Luminescence Spectrometry in Biomedical Analysis--Detection Techniques and Applications in Chromatography and Capillary Electrophoresis, Université de Nice, France. For information contact: Prof. Dr. Willy R.G. Baeyens, Symposium Chairman, University of Ghent, Pharmaceutical Institute, Dept. of Pharmaceutical Analysis, Lab. of Drug Quality Control, Harelbekestraat 72, B-900 Ghent (Belgium) Fax: ++/32-9-221.41.75; tel. ++/32-9-221.89.51. E-mail: willy.baeyens@rug.ac.be

April 21 - 27, The 7th Cyprus Conference on New Methods in Drug Research, Limassol, Cyprus. Contact: Cyprus Conference Secretariat, ARRT International, Inc. P. O. Box 1838, New Milford, CT 06776. Tel. (302)255-5195; Fax (203)355-5975; E-Mail: arrt-intl@aol.com.

May 12-15, Future Trends in Phytochemistry - a Young Scientist Symposium, Rolduc, Kerkrade, The Netherlands. Contact: Prof. dr. R. Verpoorte, Division of Pharmacognosy, Leiden/Amsterdam Center for Drug Research, P.O. Box 9502, 2300 RA Leiden, The Netherlands, Tel. +31 71 5274528, Fax +31 71 5274277, e-mail: Verpoort@Chem.LeidenUniv.NL

June 2-5, The Monroe Wall Symposium on Natural Products "Harnessing Biodiversity for Therapeutic Drugs and Foods," New Brunswick, New Jersey. Rutgers University and Xchem, Inc. Contact: Keith Wilson, Office of Continuing Professional Education, Rutgers University, Cook College, P. O. Box 231, New Brunswick, NJ 08903-0231 Phone: (908) 932-9271, Fax: (902) 932-1187.

June 30-July 4, 1st International Symposium: Breeding Research on Medicinal and Aromatic Plants, Quedlinburg, Germany. Contact: Herrn Dr. F. Pank, Bundesanstalt für

Stichtungsforschung an Kulturpflanzen, Neuer Weg 22/23, D-06484 Quedlinburg, Germany, Phone: (49) 03946/47259 Fax: (49)03946/47255.

June 30-July 5, 15th National Convergence of the Royal Australian Chemical Institute, Division of Organic Chemistry, Rockhampton, Australia. Contact: Prof. Ron Warrener, Centre for Molecular Architecture, Central Queensland University, Rockhampton MC, Queensland, Australia, 4702. Tel. +61 79 309 845, Fax: +61 79 309 917, E-Mail r.warrener@cqu.edu.au

July 1-6, Plants for Food and Medicine Joint Meeting of the Society for Economic Botany and the International Society for Ethnopharmacology, London, England. For information contact: The Linnean Society, Burlington House, Piccadilly, London W1V 0LQ, United Kingdom. Tel: +44 (0) 171 434 4479 Fax: +44 (0) 171 287 9364, E-Mail: marquita@linnean.demon.co.uk

August 11-14, Phytochemical Society of North America Annual Meeting, New Orleans, Louisiana. Symposium Topic: Food Phytochemicals: Flavors, Stimulants and Health Promoters. For further details contact: Professor Nikolaus H. Fischer, Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803 U.S.A. Phone and Fax: (504)388-2695.

September 2-4, Principles Regulating Biosynthesis and Storage of Secondary Products (The Annual Congress of the Phytochemical Society of Europe), Halle, Germany. For more details contact: Martin-Luther-Universität Halle-Wittenberg, Fachbereich Pharmazie, Institut für Pharmazeutische Biologie, Frau Prof. Dr. B. Dietrich, Weinbergweg 15, 06120 Halle, Germany. Telefax: (0345) 5511966.

September 2-7, 44th Annual Congress, Society for Medicinal Plant Research and joint meeting with Czech and Slovak Biotechnology Society, Prague. Contact: Tomáš Vanek, Ph.D., Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Flemingovo nám. 2, 166 10 Praha 6 Czech Republic, Tel. +422 33 12 574, Fax: +422 243 10 503, E-Mail: Vanek@uochb.cas.cz

September 11-14, 2nd Int. Phytomedicine Congress, Munich, Germany. Contact: MCS Medizinischer Creativ Service GmbH, Rosenkavalierplatz 8, D-81925 München. Tel. ++49/89/918042; Fax ++49/89/918046

September 16-20, First World Congress on Allelopathy, Cádiz, Spain. Contact: Prof. Francisco A. Macías, International Allelopathy Society, Department of Organic Chemistry, Faculty of Science, University of Cadiz, Apdo. 40, 11510-Puerto Real (Cádiz) Spain. Tel. 34-56-830217; Fax. 343-56-834924; E-Mail famacias@galeon.uca.es

Other Meetings of Interest—1997

November 10-15, II World Congress on Medicinal and Aromatic Plants for Humal Welfare Wocmap II, Mendoza, Republica Argentina. Contact: Dr. Arnaldod Bandoni, SAIPA, Av. de Mayo 1324 - 1° piso, oficina 36 (1085) Buenos Aires, Argentina Te/Fax (54-1) 383-2360 (54-1) 961-7637 E-mail: post-master@saipa.org.ar



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