

ASPP NEWS

PRESIDENT'S LETTER



Plant Biology '98 — The Year of the Weed

In recent years, ASPP has made a conscious effort to enhance the diversity and excitement of our annual meeting by reaching out to our sister organizations in other countries. *Plant Biology '96* was cosponsored by the plant physiologists of the Mexican Biochemical Society, and for *Plant Biology '97: A View from the Pacific Rim* in Vancouver, we were joined by nearly 700 of our colleagues from the Canadian, Japanese, and Australian plant physiology societies. What's next? *Plant Biology '98* will be held in Madison, Wisconsin, June 27 through July 1, in conjunction with the annual meeting of the Arabidopsis group. Our meeting with the Arabidopsis group will differ in an important respect from our joint meetings of the recent past.

In '98 in Madison, the end of the Arabidopsis and the beginning of the ASPP meetings have been scheduled to overlap for a 1 1/2-day joint meeting. By the way, this scheduling involved moving the ASPP meeting from its traditional meeting time around the last week of July or the first week of August, so mark your calendars now. The Arabidopsis group will meet on the University of Wisconsin campus beginning as usual on Wednesday, but in '98 will join ASPP at the new Frank Lloyd Wright-designed convention center (see "After 60 Years, Vision Becomes Reality" on page 3) for joint sessions on Saturday afternoon and Sunday. Tentative symposium and minisymposium topics for the overlapping joint meeting were identified by the ASPP program committee and the Arabidopsis steering committee when they met in Madison at this summer's Arabidopsis meeting. The current plan is that the opening symposium Saturday

afternoon will focus on "Emerging Plant Hormones" (I know, these hormones have been in plants for eons and it's only our recognition of them that's emerging...so we'll work on the title). Saturday evening, ASPP will host a joint mixer at the convention center. Sunday morning, the notion is to have a symposium on "Cell-to-Cell Communications/Interactions," followed by two minisymposium sessions Sunday afternoon. Current candidates for the Sunday afternoon minisymposia are emerging genetic models, intracellular communication, secondary metabolites, and macromolecular transport (especially RNA and protein movement). The program for these two days, as well as for the remaining three days of the meeting, will be finalized at the program committee meeting this fall, which will include members of the Arabidopsis steering group. The program committee will also be considering joint registration and fee structures that will encourage participation in both meetings beyond the planned 1 1/2-day joint sessions. (I suspect they might also have a go at modifying my proposed title for the meeting.)

The program committee is firmly committed to the notion that ASPP's annual meeting must continue to evolve and change, and next year's joint meeting with the Arabidopsis group is a conspicuous example of these efforts. Some of the things that have been successful in the past may be less so now, and it is as important to identify those as it is to acknowledge which of our newest experiments have not met expectations. At its meeting last fall, the program committee unanimously voted to try

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**Deadline for
September/October 1997 ASPP NEWS:
August 29, 1997**

Future ASPP Annual Meetings

1998
**Saturday, June 27, through
Wednesday, July 1**
Madison, Wisconsin
Meeting to overlap with the
meeting of the Arabidopsis
group

1999
**Saturday, July 24, through
Wednesday, July 28**
Washington, D.C.
ASPP's 75th anniversary
meeting



ASPP NEWS

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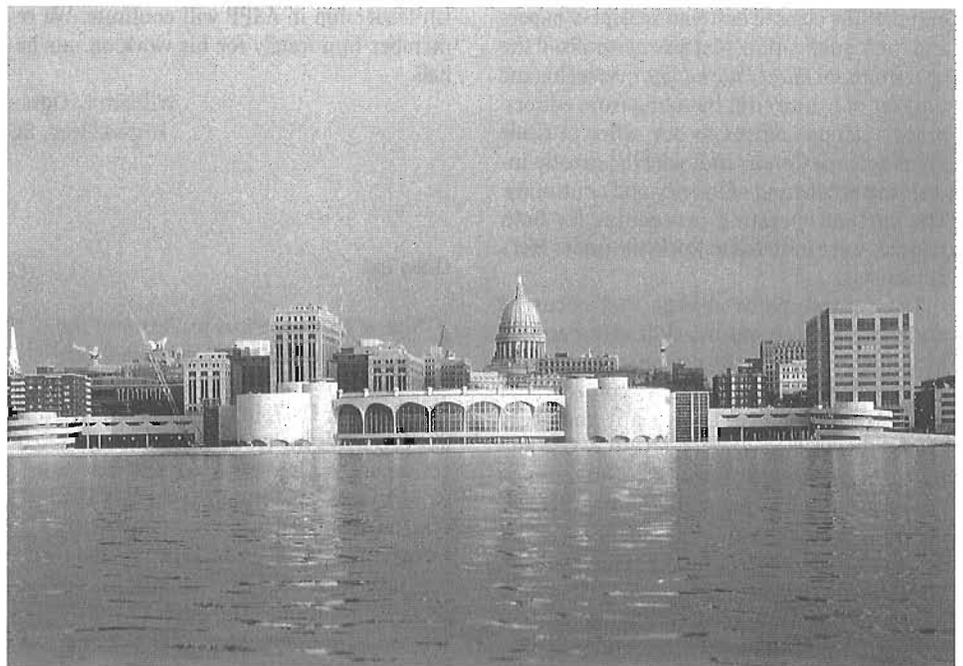
another experiment at the Madison meeting, an all-poster format for contributed abstracts. This year's unusually large meeting accentuated a trend that the program committee has been monitoring and discussing for a number of years. That is, last month in Vancouver, approximately the same amount of meeting time was allocated to the presentation of 288 oral presentations as to the viewing of approximately 1400 posters. The program committee and executive committee believe that an all-poster format is a worthwhile experiment, and we invite your suggestions for how the time now devoted to oral presentations could best be used to enhance the poster sessions. Membership input is sought in numerous ways and in all aspects of the program's content and organization. Membership input has been directly responsible for improving the poster session, for example, by advocating a move from an early evening to a midday time slot. Membership suggestions also play a large role in determining the topics of the symposia and minisymposia that highlight the program. It was, in fact, suggestions and encouragement from the

membership that started us thinking about this joint meeting with the Arabidopsis group.

I find it tremendously gratifying to see the strides that ASPP is making in so many areas that benefit the professional lives of our membership. The annual meeting is one of the very outwardly visible activities of our society, and I believe it has become an important ambassador for plant biological research. It has become a meeting that highlights the most recent major advances in plant physiology, debuts new exciting research areas, provides a forum for presenting and discussing the results that may be the bases for next year's breakthroughs, promotes the exchange of ideas and experiences in the teaching of plant biology, informs us about societal and political issues that affect our profession, and fosters an atmosphere in which old friendships can be renewed and new ones born. Next year's meeting with the Arabidopsis group promises to build on this successful history as well as to expand our horizons for the future.

After 60 Years, Vision Becomes Reality

Monona Terrace was designed by Frank Lloyd Wright in 1938. It is a 250,000-square-foot, state-of-the-art convention center. Set on the shore of stunning Lake Monona, the design reflects Wright's effort to complement the imposing appearance of the nearby Wisconsin State Capitol building. The most striking aspect of the building is its 90-foot extension over the water. Main features of the building include an exhibit hall, large ballroom, flexible meeting space, and multimedia auditorium. Other special amenities include a business center, a gift shop, an art/exhibit area, and expansive areas for registration and information needs. A good portion of the upper floors are devoted to "public space." Facilities will be in place for electrical messaging and e-mail kiosks. Specific transmission requirements can be provided through the dedicated infrastructure and ISDN lines.



Monona Terrace Convention Center
Photograph by Joe DeMaio



In Memoriam: Melvin J. Josephs Past ASPP Executive Director, 1986–1993

With great regret, we report that Dr. Melvin J. Josephs, past Executive Director of ASPP, died on June 2, 1997, at his home in Bethesda, Maryland. Mel held the directorship from 1986 to 1993, and during his tenure guided the Society through one of its most tumultuous and progressive eras.

ASPP underwent several changes while Mel Josephs ran the headquarters office, changes that greatly transformed the Society. The most significant was the establishment of our second journal, *THE PLANT CELL*. ASPP was able to capitalize on Mel's prior publishing experience to oversee the



nuts and bolts of a publishing structure. This led to papers' appearing in print within several weeks after submission, rather than following the standard procedures of most journals, including *Plant Physiology*, in which several months elapsed between receipt of papers and their publication. Mel also centralized the operations for *Plant Physiology*, overseeing the transfer of manuscript handling from editors' private campus offices to our office at Gude Plant Science Center in Rockville, greatly increasing publishing efficiency and continuity. The current operating procedures for both journals were initiated in Rockville under Mel's guidance.

The second major change that occurred under Mel's watch was the shift of our annual meeting from university campuses to convention centers. This was a highly controversial issue at the time because many members viewed this shift as removing the meeting and its participants from their scientific roots, a view that was not ameliorated by the decision of the Program Committee to schedule the first convention center meeting at a casino in Reno. With time the objections have virtually disappeared, as it became apparent that holding all symposia, platform sessions, and posters within a small, confined area greatly increases the scientist-to-scientist interactions that are so important for successful meetings.

Two additional undertakings that occurred under Mel—establishment of the Excellence in Teaching award and a major revision of our constitution—helped to refine the face of the Society. The initiative for the changes mentioned here and above arose from various society members' convincing the Executive Committee that their proposals would improve the Society; but in ASPP, the Executive Director is the person who actually implements many of the committee directives, and in doing so faces much of the heat arising from controversial moves. Mel carried out the Executive Committee mandates, as

fractious as they sometimes became, with outwardly calm grace and charm. His easy but firm demeanor successfully guided the Society through these pivotal milestones in our history. The legacy of Mel's dynamic and unselfish leadership in ASPP will continue. We remember him fondly for his work on our behalf.

William L. Ogren
Hilton Head, SC

Cheng Tsui

Cheng Tsui, emeritus professor of the Institute of Botany, Academia Sinica, and Nankai University, died of a stroke on February 24, 1997, in Beijing at the age of 85. Tsui made his name well known to colleagues in plant physiology by his work with F. Skoog, published in the late 1940s, on chemical regulations of organogenesis using cultured tobacco tissues. He did undergraduate studies from 1933 to 1938 at Shandong University in Qingdao and Central University in Chongqing. After working in a few years as a Research Associate on plant nutrition at the Institute of Botany, the

Central Academy, he went to America and entered Michigan State University in 1944 to further his study. His Ph.D. work of Zn's effect on auxin biosynthesis in tomato was published in the *American Journal of Botany* in 1948. He then joined Prof. Skoog's lab as a postdoc at the University of Wisconsin-Madison. Using tobacco tissue culture, Tsui and Skoog found that adenine induces shoot formation and interacts with auxin in regulating organogenesis in vitro. This was a pioneer work for the research on chemical regulation of organogenesis and contributed significantly to the later discovery of the group of plant hormones called cytokinins. Tsui returned to China in 1950, was appointed a full professor in the Biology Department of Nankai University, and continued his research on plant nutrition and hormones. Over more than four decades ever since, he had worked on several senior positions, such as chair of plant physiology at Nankai University (1950-1966), director of the plant physiology laboratory of the Institute of Botany, Academia Sinica (1957-1990), head of biology department and director of the Institute of Molecular Biology, Nankai University (1981-1985). For many years, Tsui also served as the chief editor for *Acta Botanica Sinica*, the secretary of Chinese Society for Plant Physiology and the president of its Beijing branch. During his scientific career, Tsui published more than 100 papers and was the author or coauthor of several books. He might have achieved so much more if the situation in China over many of his years had been more favorable. Tsui was a dedicated scientist and a kind senior who was always willing to help colleagues and young people. Now there are many of his formal students and associates in China and abroad. Professor Tsui is survived by his wife, three daughters, and several grandchildren.

Ren Zhang
University of Wollongong
Australia

Richard G. Lincoln

ASPP headquarters was recently informed of the death of emeritus member Dr. Richard G. Lincoln who died on April 22, 1997. He joined ASPP in 1967.

New Monitoring Editors for *Plant Physiology*

Service as a monitoring editor for *Plant Physiology* is limited to two three-year terms so that the journal does not become the province of a limited few. After providing the journal with excellent scientific judgment, the following editors are retiring effective July 1, 1997: **Sally Assmann, Alan Bennett, Peter Chandler, Noel Keen, Rob Last, John Ryals, Mike Salvucci, and Tom Sharkey.** ASPP thanks each one of them for their tremendous service to the journal. Their dedication will be missed, but they are being replaced by new editors who bring new enthusiasm.

Rick Amasino (University of Wisconsin) specializes in plant development, especially floral induction and senescence, and will also monitor papers in molecular genetics. **Rolf Christoffersen** (University of California, Santa Barbara) will handle papers that deal with fruit ripening, cell wall degrading enzymes, and P450s. **Roger Innes** (Indiana University) will strengthen the plant-pathogen interaction area. He is particularly interested in the genetics and physiology of

gene-for-gene interactions. **Nava Moran** (Weizmann Institute of Science) will handle submissions in the growing field of membrane physiology. She works on stomatal movements and has expertise in patch-clamping, ion channels, and related areas of signal transduction. **Keith Mott** (Utah State University) finds whole plant and whole leaf photosynthesis to be more fun than anything else and has agreed to take over this heavy workload from Tom Sharkey. **Neil Olszewski** (University of Minnesota) will handle papers in molecular genetics, especially as they relate to hormones, but also has expertise in plant virus interactions. The burgeoning field of SAR, the oxidative burst, the hypersensitive response, and other aspects of plant-pathogen interaction will be handled by **Alan Slusarenko** (University of Aachen). **Bob Spreitzer** (University of Nebraska) is interested in protein engineering and structure-function relationships in proteins. This is not (yet?) a big area for the journal, but more and more papers appear that employ site-directed mutagenesis to alter

protein function. Bob also has expertise in *Chlamydomonas*, cyanobacteria, and photosynthetic carbon assimilation. Finally, **Steve Kay** and **Alan Jones** will be returning after year-long sabbaticals; many thanks to **Rick Vierstra** and **Elmar Weiler** for taking their places during this absence.

A complete list of the editorial board and staff, along with addresses, phone, fax, and e-mail addresses, is listed on the *Plant Physiology* page at the ASPP web site, <http://aspp.org>.

PEOPLE



Kriton K. Hatzios has accepted the position of Head of the Department of Plant Pathology, Physiology, and Weed Science at the Virginia Polytechnic Institute and State University (Virginia Tech). Hatzios joined the Virginia Tech faculty in 1979. He has been a member of ASPP since 1978 and has served as secretary-treasurer, vice chair, and chair of the Southern Section of ASPP.

ASPP Announces New Staff

Zaneta Bieglecka (she goes by "Janet") joined the staff as administrative assistant in June 1997. Born in Poland, she moved to the U.S. in 1985, and attended and graduated from high school in Queens, New York. Janet went on to New Orleans, LA, where she pursued a double major in international business and management at Loyola University, receiving her B.B.A. degree in 1995. Janet held an administrative position in the dean's office of the Loyola Law School for the four years of her undergraduate studies. During that time, she also tutored executives and exchange students in an ESL program, helping them adjust to a new language, to a new country, and to life outside their ethnic communities.

After moving to Washington, D.C., in 1995, Janet worked first in a sales and customer service position for a French-based language translation and interpretation company and then as director of accounts at a long-distance company.

Janet's primary duties at ASPP include administering the telephone and voice mail system; assisting with bank deposits, with

annual meeting preparation, and with other special projects; helping to maintain and update the ASPP web site, and providing support for membership, marketing, annual meeting, and publications projects.



Zaneta (Janet) Bieglecka, administrative assistant

ASPP Education Foundation

In support of ASPP and its Education Foundation goals to advance public understanding and appreciation of the value of plant sciences to society and to promote teaching of plant sciences at all levels, the Education Foundation supported the development of the 12 Principles of Plant Science.

The report on the Education Foundation Workshops Focus Groups on Plant Biology Education said that an "ambitious consideration for ASPP should be encouraging the inclusion of plant science and physiology in formal curriculum requirements in states."

Responding to this finding in the report from the focus groups, the 12 Principles were developed through the combined efforts of Don Ort, Bob Buchanan, Ken Keegstra, Jim Siedow, Lou Sherman, Ralph Quatrano, Dale Blevins, and their colleagues on the Education Committee and the Committee on Public Affairs.

The 12 principles specify essential areas of learning to enhance elementary, middle, and high school science education programs. The principles highlight the importance of the discoveries of plant science research and the benefits they can provide for society.

The areas of focus include the basic structure of plants; their ability to provide the world's supply of food and oxygen; their relationships and roles in the ecosystem; the history and evolution of plants; reproduction; energy use; the value of cell walls in providing materials for humans, insects, birds, and other organisms; diversity of size and shape; use of plants for medicine and other products; and plant defense systems.

The Education Foundation used the 12 Principles as the basis for a gap analysis of national and selected state science education standards to determine whether these areas of plant science are covered in existing standards and the standards of Illinois, Texas, Tennessee, California, Mississippi, and New York. This gap analysis, written by ASPP public affairs director Brian Hyps, compares the 12 Principles with the "National Science Education Standards" of the National Research Council and with "Science for All Americans" published by The American Association for the Advancement of Science; it can be found on the ASPP home page: <http://aspp.org> at the Education Foundation icon.

The 12 Principles of Plant Science:

1. Plants, like other organisms, make DNA, enzymes, proteins, and other molecules. However, plants are unique in that they have the ability to use energy from sunlight along with other chemical elements for growth, and thus provide the world's supply of food and oxygen.
2. Plants play an essential role in the circulation of nutrients, such as the conversion of atmospheric nitrogen into a biologically useful form.
3. Land plants evolved from ocean-dwelling, alga-like ancestors, and plants have played a role in the evolution of life, including the addition of oxygen and ozone to the atmosphere.
4. Reproduction in flowering plants takes place sexually, resulting in the production of a seed. Reproduction can also occur via asexual propagation.
5. Plants, like animals and many microbes, respire and utilize energy to grow and reproduce.
6. Cell walls provide structural support for the plant and also provide fibers and building materials for humans, insects, birds, and many other organisms.
7. Plants exhibit diversity in size and shape, ranging from single cells to gigantic trees.
8. Plants are a source of medicines and other products used by humans.
9. Plants, like animals, are subject to injury and death due to infectious diseases caused by microorganisms. Plants have unique ways to defend themselves against pests and diseases.
10. The uptake and movement of water is essential to the plant for cooling, uptake of mineral elements, structure, and circulation.
11. Plant growth and development is under the control of hormones and can be affected by external signals such as light, gravity, touch, or environmental stresses.
12. Plants live in and adapt to a wide variety of environments. Plants provide a wide variety of environments for birds, beneficial insects, and other wildlife in ecosystems.



Increase of 12.2 Percent for NRI Sought by House Subcommittee

The National Research Initiative Competitive Grants Program (NRI) would receive \$105.744 million in Fiscal Year 1998 (FY 98) compared to \$94.203 in FY 97 under recommendations made June 25 by the U.S. House Appropriations Subcommittee on Agriculture.

The plant systems category within NRI would go up \$1 million to \$37.044 million in FY 98.

The subcommittee also moved several special grants, which were formerly available for award to a limited number of researchers, into new categories within NRI, where virtually all U.S. researchers can compete for awards in all categories. The three new categories, which account for much of the increase recommended for NRI, are genomics, \$3 million; biotech consortiums, \$4 million; and citrus tristeza, \$1 million. The areas of research covered by the three new categories do not have as broad a scope as the long-standing six categories that continue to be a part of the NRI under the subcommittee's recommendation. Plant research is expected to make up a considerable portion of the new categories. Following are the subcommittee's FY 98 recommendations by category:

Plant Systems—\$37,044,000
Animal Systems—\$24,854,000
Nutrition, food quality, and health—
\$8,000,000
Natural resources and the environment—
\$17,194,000
Processes and new products—\$6,755,000
Markets, trade, and policy—\$3,897,000
Biotech consortiums—\$4,000,000
Genomics—\$3,000,000
Citrus tristeza—\$1,000,000
NRI Total for FY98—\$105,744,000

Agricultural Research Service (ARS) research programs would go up to more than \$725 million in FY 98 compared with \$716.8 million in FY 97. ARS Buildings and Facilities would receive \$59 million in FY 98 compared to \$69.1 million in FY 97. The combined amount for ARS in FY 98 is more than \$784 million.

No action was taken on the Fund for Rural America in the FY 98 recommendation of the subcommittee; therefore, this "mandatory"

program would normally expect to receive full funding of \$100 million under the authorization bill, with possibly more than 40 percent going to research and nearly 60 percent going to rural development. Funding for the Fund for Rural America is a more involved question because the authorization bill enacted that created the three-year Fund for Rural America last year provided funding for 1997 but did not provide funding for the Fund for Rural America for FY 98. Instead, that Fund for Rural America authorizing bill leapfrogged to Fiscal Years 1999 and 2000 for authorized funding for the three-year program.

A draft proposed bill developed by Sen. Lugar (R-IN) to reauthorize the Research title of the Farm Bill would make a technical correction and authorize funds for the Fund for Rural America for FY 98 and also extend the program through 2004 and devote all funds to research. Availability of Fund for Rural America funds in FY 98 may be dependent on passage of the proposed technical correction this year.

The funding levels recommended for agricultural research by the subcommittee were much better than earlier projections. USDA research programs are competing in the same bill for scarce funds against popular nutrition programs. The Women, Infants and Children (WIC) program received an increase of \$118 million over the FY 97 level of \$3.7 billion. However, the funding for WIC is still well below the President's request for an increase of nearly \$400 million. If there are further attempts to provide the nearly \$400 million for WIC sought by the administration, this could threaten research and other funding. Subcommittee Chair Joe Skeen (R-NM) has expressed concern that significant growth in the nearly \$4 billion WIC program has been using up funds needed for other programs in the bill. He has called for more efficiency in the administration of the WIC program.

The full Appropriations Committee in the House was expected to consider the Subcommittee on Agriculture's recommendations on July 9. ASPP Campus Contacts supported increases for USDA-sponsored research programs with letters, faxes, and e-mail messages prior to subcommittee and full committee votes.



Congressman Joe Skeen (R-NM), Chairman of the House Appropriations Subcommittee on Agriculture, is seeking a 12.2 percent increase for the NRI.

House Subcommittee Seeks 6.6 Percent Increase for NSF

In action taken June 25, the U.S. House Appropriations Subcommittee on VA, HUD, and Independent Agencies approved an increase of \$217 million for the National Science Foundation (NSF) over last year's level. This increase of 6.6 percent would provide \$3.487 billion for NSF in Fiscal Year 1998.

For NSF Research and Related Activities, the subcommittee approved \$2.5377 billion, an increase of \$105.7 million or 4.3 percent over the FY 97 level. This is \$23 million higher than the President's request.

For NSF Education and Human Resources, the subcommittee provided a total of \$632.5 million, which is \$7 million more than the President's request and \$14 million more than the FY 97 level.

For NSF Major Research and Equipment, the subcommittee is recommending \$175 million, which is \$90 million more than the President's request and \$95 million more than last year's level.

NSF Salaries and Expenses are at \$137 million in the subcommittee's bill. This amount equals the President's request and is an increase of \$3 million over the FY 97 level.

The full Appropriations Committee was expected to take up the Subcommittee's spending legislation for NSF on July 8, with House Floor action expected to follow soon after that. The numbers in the bill could change in full committee or at any stage of the appropriations process before the bill is enacted into law.

The recommended increase of 6.6 percent for NSF is viewed as a very favorable proposed increase. The recommended increase of 6.6 percent for NSF can be compared to the smaller increases, no increases, or cuts many other programs are expected to receive this year as Congress and the President balance the federal budget.

Support by ASPP campus contacts and other scientists and engineers for NSF contributed to the Subcommittee's strong support for NSF in its vote.

Plant Genomes Leap to Top of Research Agenda in Congress—ASPP Requests New Funds

Plant genomes research is a major area of interest in Congress as it considers Fiscal Year 1998 spending legislation. Sen. Christopher Bond (R-MO) is leading the calls in Congress for more plant genome research.

As chairman of the Senate Appropriations Subcommittee on VA, HUD, and Independent Agencies with spending jurisdiction over the National Science Foundation (NSF) and White House Office of Science and Technology Policy, Bond has called on Dr. John Gibbons, Assistant to the President for Science and Technology, to come back with recommendations on plant genome research. Bond emphatically expressed his interest in increased plant genome research at a hearing on the Fiscal Year 1998 budget that he chaired April 22, at which Gibbons and NSF Director Neal Lane testified. Plant genome research was the first area of interest that Bond discussed with Gibbons and Lane, and he pursued the issue vigorously.

On May 16, in response to Bond's request, Gibbons appointed an Interagency Working Group (IWG) for Plant Genomes to identify science-based priorities for a plant genome initiative and to plan for a comprehensive effort on expanding knowledge of plant genomes, especially those plants that contribute significantly to our nation's agricultural sector.

The National Science and Technology Council's Committee on Fundamental Science was requested to provide oversight to the deliberations of the IWG. The IWG consists of representatives from the Department of Agriculture (IWG Chair Ronald Phillips, Chief Scientist of the National Research Initiative [NRI], and Catherine Woteki, Acting Under Secretary for Research Education and Economics); National Science Foundation (Mary Clutter, Director, Biology Directorate); Department of Energy (Greg Dilworth as representative of Patricia Dehmer, Associate Director of the Office of Energy Research); National Institutes of Health (Elke Jordan as representative for Francis Collins, Director, National Human Genome Research Institute); White House Office of Science and Technology Policy (Rachel Levinson, Assistant Director, Life Sciences); and Office of Management and Budget (Adrienne Erbach, program examiner).

A status report of the IWG was provided to Sen. Bond on June 30. The report noted that "the increasing industrial interest in plant biotechnology and genomics reaffirms the wisdom of the federal government's invest-

ment in fundamental plant biology research, plant molecular biology research, and in the development of molecular tools to study the complete genetic attributes of an organism. These investments now offer new opportunities to understand and modify plant systems by relating a plant gene to a specific biological function or specific trait. The universality of the genetic code now permits the use of molecular biology to transfer genes among different organisms. The applications of this technology to plants is particularly important since they provide the foundation of our food supply and are the dominant matrix that stabilizes our natural ecosystems through recycling nutrients, carbon dioxide, oxygen, and the cycle of water through land and atmosphere.

"Similarly, the economic value derived from plant products is seen in practically all food, fiber, and wood products and can play an increasing role in supplying renewable fuels and chemical feedstocks. The major challenges facing humankind in the 21st century include the need for increased food production, a cleaner environment, and renewable chemical and energy resources. An understanding of plant genes, their capabilities, and their structure will have a major impact on the ability of the U.S. to meet these challenges."

IWG Plant Genome Principles

Following are the principles for the plant genome program structure put forth in the IWG report:

- The ultimate goal of the plant genome initiative is to know the gene sequences of all plant species of agricultural importance.
- The plant genome initiative should be a multiagency activity with USDA as the lead agency with NSF and DOE as participants.
- A private/public coalition of some type is appropriate given both parties' investment. The IWG will consult with private sector representatives to explore this aspect.
- Resources including data, software, germplasm, and other biological materials should be openly accessible to all.
- All awards should be made on a competitive basis with peer review.
- International partnerships should be investigated, with each country financing its own program.

Recommendations

Following are the preliminary recommendations of the IWG for Plant Genomes for activities to be supported to the extent possible within available resources:

- Initiate a series of workshops and planning meetings, including representatives

from industry and academia, to determine the most effective balance between structural and functional studies of plant genomes as well as their applications. These efforts would include identification of limitations in utilizing the knowledge gained to the fullest extent.

- Initiate projects to generate Expressed Sequence Tags for corn and a broad array of other crop plants after discussions with agricultural industries to effectively utilize the resources and knowledge available in both the public and private sectors.
- Support the development of the requisite technologies and strategies to create a physical map of the corn genome.
- Provide the resources needed to maximize the effort to sequence the genome of Arabidopsis.
- Support genome community infrastructure needs including bioinformatics (curation, distribution, and software development), stock centers and related germplasm repositories.
- Support studies and technology development in the area of functional genomics.
- Actively partner with Japan and other interested parties to sequence the genome of

rice to ensure that the data generated are available to U.S. industry, cereal breeders, and research scientists.

Corn growers have been advocating increased corn genome research again in this Congress. ASPP took a lead in the last Congress in seeking removal of an earmark for corn genome research that did not provide new funds to the NRI but instead would have reduced the amount of funding available for other plant research within the NRI in Fiscal Year 1997. The earmark was removed from the FY 97 appropriation in a House/Senate Conference.

This year, Sen. Bond and the IWG have expanded the issue to one of plant genome research, not just corn genome. The ASPP Committee on Public Affairs, and Society officers, supported this broadened approach to plant genome research. ASPP campus contacts in Missouri expressed support for the IWG report's recommendations to Senator Bond within about a week of the issuance of the IWG report, which the ASPP Public Affairs Office obtained. ASPP members at the University of Missouri mailed and faxed letters to Bond asking that new money be provided for plant genome research to protect valuable research

projects that are currently being conducted. There is still concern that the plant genome initiative may be narrowed to a corn genome initiative earmark with no new funds provided, as some corn growers sought last year.

The ASPP Public Affairs office has met with Sen. Bond's office and other congressional offices concerning plant genome research. Over the past several months, ASPP invited speakers to plant science coalition meetings and CoFARM coalition meetings to inform the participating societies of developments in the plant genome initiative. Ron Phillips, who is chairing the IWG, provided his most recent update to science societies on June 30. Phillips said he was hopeful that there would be a favorable outcome from what was originally a more narrow corn genome initiative.

Sen. Bond's subcommittee was expected to act on the Fiscal Year 1998 budget in mid-July, which is after the deadline date for submission of articles to ASPP News for the July-August issue. For updated information, see the Public Affairs section of the ASPP home page at <http://aspp.org>.

Sen. Lugar Seeks to Boost Research Support for Fund for Rural America Competitive Grants Program

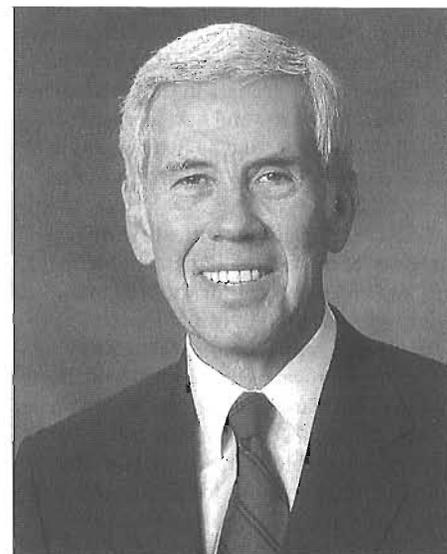
A proposed draft research title reauthorization bill developed by Senate Agriculture Committee Chair Richard Lugar (R-IN) and his colleagues would increase the focus of the Fund for Rural America (FRA) Competitive Grants Program on research and extend the program through the year 2004.

The Fund for Rural America was enacted last year by Congress as a three-year program funded with "mandatory" dollars from the federal account that pays subsidies to producers. FRA was slated to expire in 2000. Slightly more than 40 percent of the Fund for Rural America is going to research in the first year of the program, with the rest going to rural development projects. The authorization bill enacted last year provides \$100 million for each of three years. (A subsequent supplemental appropriations bill for Fiscal Year 1997 reduced the first year's amount by \$20 million but did not affect subsequent years.)

Research funding had earlier been expected to make up about 40 percent of the FRA program in each of the three years of the program. But under Lugar's proposal,

there would be an increase of \$60 million for research in each of the two remaining years of the current FRA authorization and \$100 million provided for each of five additional years. (One of the additional years would be Fiscal Year 1998, because the original authorization, which skipped 1998 and leapfrogged from 1997 to Fiscal Years 1999 and 2000, would be revised to include funding for research in Fiscal Year 1998 under Lugar's proposal.) Added together, Lugar's proposal would, over the next seven years, provide an additional \$620 million for FRA competitive grants for research, including plant research, selected on the basis of peer review. This funding proposal faces an uphill battle, but is representative of the strong support Lugar has given to agricultural research.

Lugar's proposal calls for the FRA to support research in five priority mission areas as identified by the USDA National Agricultural Research, Extension, Education, and Economics Advisory Board. Matching funds would be required in some instances, except for basic research. Priority would be



Senator Richard Lugar (R-IN; Chairman of the Senate Committee on Agriculture) wants to expand federal funding of research so that it makes up 100 percent of the Fund for Rural America program. He is calling for extending the program beyond Fiscal Year 2000.

continued on page 10

given to proposals that represent partnerships among universities, state governments, USDA, or other federal agencies or labs and private industry. Priority would also be given to projects that integrate research and extension.

ASPP recommended expanded use of producer subsidy payments to support research awarded on a competitive basis in testimony and statements presented earlier this year to Sen. Lugar and the Committee on Agriculture. The mechanism in place for use of these mandatory subsidy funds is within the FRA, and Lugar's proposal would keep this funding dedicated to the FRA, but with far greater support for research.

Some of the other provisions in Lugar's proposed bill to reauthorize the Research Title of the Farm Bill are as follows:

- Create a task force to review, on an ongoing basis, the need to update the formula used for formula funds for land grant universities for research and extension and to determine the impacts of revision of the formula.
- Require that federally funded research and extension address high priority topics based on priorities set through the priority-

setting process with stakeholders.

- Federally funded research and extension must be of multistate or national relevance.
- Scientific peer review of research would be required for all federally funded research.
- Stakeholder advisory groups would be formed to provide input on relevancy of research to the Agricultural Research Service and for input on relevancy of research for formulation of requests for proposals for competitive grants.
- Stakeholder advisory groups would have a majority of members from the private sector (producers, industry, consumers).
- Stakeholder advisory groups and USDA would be directed to ensure that the economic significance of the results of the research would be a factor in the requests for proposals and the scientific review.
- Scientific peer review and matching funds would be required for special grants. Also required for special grants would be a partnership among land grants or other universities, state governments, USDA, and private industry.
- Federal funds for extension would be provided only for production agriculture.

- Any colleges and universities could compete for competitive Extension Service funding.

- The research priorities for federal research and extension funding would focus on competitiveness of agricultural production and ability of U.S. farmers to feed the world in the future.

- Not less than 25 percent of research formula funds to the land grants must be expended on multistate research that is multi-institutional and multidisciplinary. Scientific peer review for this research would be required.

- ARS would be allowed and encouraged to award competitive grants to address issues for which it lacks adequate facilities or expertise to conduct the needed research.

- 1890 land grant colleges would be required to have a state match for research and extension funds, as required for other land grant colleges, but the matching requirement would be phased into effect.

- Review of the NRI every five years by the National Academy of Sciences would be required.

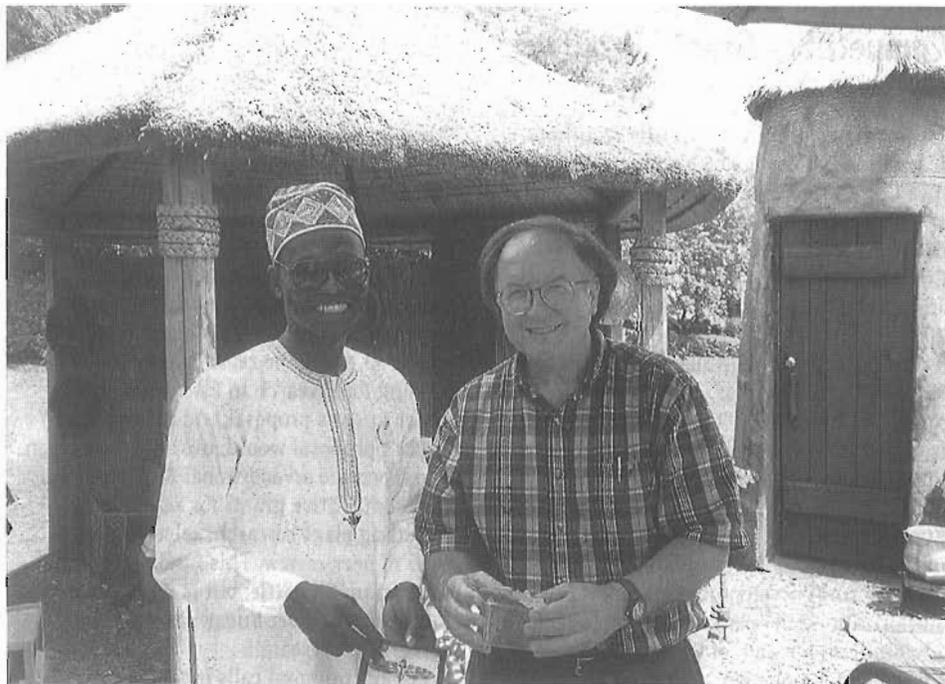
- The ARS germplasm program would be reviewed by an independent organization.

Overall R&D Would Fall Under Budget Deal

A House Science Committee staff analysis of the budget deal negotiated between the President and leaders in Congress shows that overall research and development spending would decline by two percent in Fiscal Year 1998 and by 16 percent in real terms by 2002.

This overall picture contrasts with increases of more than 12 percent for the NRI and of 6.6 percent for the National Science Foundation in initial House Appropriations Subcommittee actions following approval of the budget deal. These proposed increased appropriations still have a long way to go before enactment, but they are more favorable at this stage than the budget deal projections for all research and development.

Congressman George Brown (D-CA), Ranking Democrat on the House Science Committee, said the science community needs to "redouble its efforts at public education to guarantee that the next cycle of budgeting does a better job of protecting these investments than this one has."



Exploring the faraway reaches of the Africa exhibit at EPCOT is ASPP Education Committee Chair Dale Blevins (right) with exhibitor Yemi Adeleye. Dale was recently on an expedition to Orlando in search of exhibit space at Walt Disney World's EPCOT center for ASPP and the ASPP Education Foundation. At the same time, Dale made contact with Yemi (left), of the International Institute of Tropical Agriculture in Nigeria, who shared his experiences exhibiting at EPCOT. Yemi also expressed interest in another Education Foundation proposal—a plant biotechnology workshop in sub-Saharan Africa. Thanks to Dale's efforts, the EPCOT center has expressed considerable interest in a proposed plant biotechnology science exhibit. ASPP Public Affairs Director Brian Hyps participated with Dale in the meetings with Disney staff and exhibitors.



Washington, D.C., Section

On May 8 and 9, the Washington Area Section held its annual Spring Meeting at the U.S. National Arboretum in Washington, D.C. The meeting was attended by 80 people, including 17 graduate students and 14 undergraduate students. Ms. Daya Jirage of the Department of Cell Biology and Molecular Genetics, University of Maryland, received the Marsho Award for best graduate student presentation, and three awards were also made to undergraduates who presented outstanding papers.

The student presentations were followed by an informal presentation "Future Funding for the Plant Sciences—More or Less?" by Hans Bohnert of the NSF Integrative Plant Biology Program. At the Business Meeting, ASPP executive director Ken Beam, updated members on the Plant Biology '97 meeting in Vancouver, B.C., which will be attended by a record number of plant scientists. Public affairs director Brian Hys then brought us news from "The Hill" (I've never noticed any hills in D.C.!) and WAS-ASPP Chair Janet Slovin announced the results of elections, in which Hector Flores of Penn State University was voted Chair-Elect and Doug Luster was voted to a 2-year term as Secretary-Treasurer. The day ended with a pleasant evening social amid the splendid scenery of the Arboretum gardens.

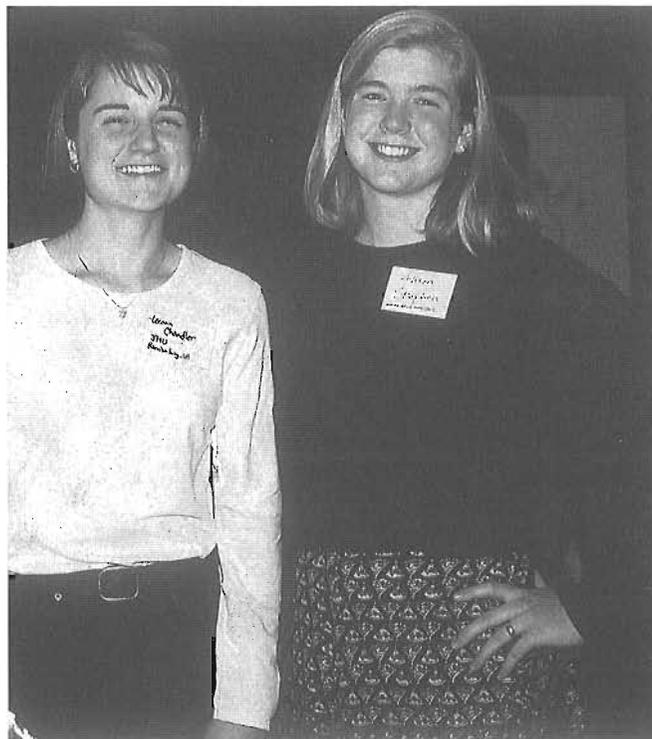
The meeting convened on Friday with the Symposium "Plant Stress Responses," featuring talks by Guri Johal (University of Missouri, Columbia), Charles Guy (University of Florida, Gainesville), Hans Bohnert (University of Arizona, Tucson), and Ruth Alscher (Virginia Polytechnic Institute and State University, Blacksburg).

By all accounts, this meeting was one of the best in recent years, and members were especially pleased with the record attendance by undergraduate students, who promise to bring new vitality to these meetings in coming years. As the last cars pulled out of the Arboretum parking lot on Friday, WAS-ASPP members looked forward to steamed crabs and beer at the fall crabfeast, now only a few months away!

Respectfully submitted,
Robert D. Slocum
WAS-ASPP Secretary-Treasurer



(l-r) Jonathan Monroe, Ed Lee, and Hans Bohnert at the Washington Area Section meeting.



Leeann Chandler (left) and Alison Stephan, undergraduate students from James Madison University, attended the meeting with Jonathan Monroe (not pictured).



Three "classic" passengers pose at the Southern Section meeting of ASPP at Tuskegee University with a classic 1931 Model T Ford: (l-r) Tom Scott, Aubrey Naylor, and James H.M. Henderson. Henderson, who is 66 years old, has owned this 60-year-old car since he was a junior at Howard University in 1937.



Board of trustees members (l-r), Russell Jones, Mark Jacobs, and Don Ort take a lunch break on the lawn at ASPP Headquarters during their June 21 meeting in Rockville.



Edited by Bob Wise, Department of Biology, University of Wisconsin Oshkosh, Oshkosh, WI 54901, e-mail wise@uwosh.edu

"Virtual Forest" Available on CD-ROM

Making effective use of virtual reality and other cutting-edge technologies, Dr. Raymond Russo of Indiana University-Purdue University at Indianapolis has authored "The Central Hardwoods Virtual Forest." Students (and professors, too) can learn much about this major biome by "strolling" (or is it "dragging"?!) through the forest in Quick Time Virtual Reality, counting and measuring the trees, and identifying them with interactive keys. You can also consult experts, get information on forest wildlife, and learn about forest management. Check it out at: http://www.biology.iupui.edu/v_forest. Russo is known by many for his pioneering CD-ROM on tidal pool ecology which was released several years ago.

The Virtual Forest state-of-the-art CD is being sold for only \$15 (which includes shipping and handling). Order from Indiana Division of Forestry, 6013 Lakeside Blvd., Indianapolis, IN 46278 by sending a check for \$15 payable to "IFEFF-PLT." The project was supported by grants from the USDA Forest Service, National Hardwood Lumber Association, Indiana DNR Division of Forestry, and PSI Energy Inc. Further information can be received via e-mail from Sam Carman at the Indiana Department of Natural Resources (SAM_CARMAN_AT_DNRLAN@ima.isd.state.in.us). (Contributed by Dr. David W. Kramer, Ohio State University at Mansfield.)

Grade 6-12 Science Labs Sought

From the Plant-Ed Electronic Bulletin Board: K.R. Ziarkowski (Texas A&M University) is writing/compiling a lab manual for all the sciences for grades 6 through 12. Ziarkowski is looking for contributions to the book. They must be original labs or labs that have been modified significantly. Permission to print them in the lab book (which is the final goal) is also needed. The only requirement is that the labs be FUN!! Labs can be e-mailed (graphics and all) or snail mailed, but remember to send your

permission. Contributors will be notified if their lab is used. Send contributions to: K.R. Ziarkowski, 607 Navarro, College Station, TX 77845 (krz007@tamu.edu).

Tips on Poster Presentations

Posters are gaining in popularity at regional and national meetings. They are often the first type of scientific presentation undertaken by a student. In addition to the ASPP video "How to Make a Great Poster" authored by Dina Mandoli (see ASPP Web Site), other sources of advice are the following:

- The American Chemical Society Web Site maintained by Andrea Twiss-Brooks (http://www.lib.uchicago.edu/~atbrooks/CINF/guidelines_for_posters.html)
- A site at the University of Guelph maintained by Doug Schaefer (<http://www.tss.uoguelph.ca/epd/epd.html>)
- Jeff Radel's site at the University of Kentucky Medical Center (<http://www.kumc.edu/SAH/OTEd/jradel/Poster%20Presentations110.html>).

The UK Medical Center site has additional tutorials on effective oral presentations and effective visuals for oral presentations.

*Coming in September/October:
Coverage of Plant Biology '97, Vancouver, British Columbia*

WSSA UNDERGRADUATE RESEARCH AWARD

The Weed Science Society of America has developed an Undergraduate Student Research Grant designed to encourage and involve exceptional undergraduates in agricultural research. Interested faculty members are encouraged to identify potential award candidates and discuss the possibility of sponsoring a research project. Awards may be used as a stipend, for research budget expenses (travel, supplies, etc.), to defer fees, to defray living expenses for summer research, or any combination of these items.

- AWARD:** Up to \$1000 for support of undergraduate research to be conducted over a minimum of one quarter/semester during 1998. This award may be used to defray the cost of research supplies or as a stipend. Support of a faculty sponsor is required. Awards will be made to the student, to be administered by the faculty sponsor's department.
- APPLICANT:** The applicant is an undergraduate student with a strong interest in Weed Science. Students majoring in all related disciplines may apply.
- TO APPLY:** Applicants should prepare a 2-3 page research proposal including name, phone number, title, objective, experimental approach, discussion, budget and references. The discussion section of the proposal should describe the expected results and their possible significance to Weed Science. The student should provide a cover letter in which general academic and career goals are discussed. A copy of the students academic transcripts should also be provided.
- FACULTY SPONSOR:** Any faculty member who is actively engaged in Weed Science research is qualified to be a sponsor. The faculty sponsor should review the research proposal with special attention to the budget, the distribution of funds should be approved by both the student and sponsor. In addition, the sponsor should provide a letter of reference including a statement of his/her willingness to supervise the proposed research and to provide needed space, equipment and supplies above those requested in the proposal. The sponsor is encouraged to assist the student in presenting his/her results at a regional Weed Science Meeting.
- HOW TO APPLY:** The completed proposal, academic transcripts, cover letter and faculty letter of support should be forwarded to; Dr. John Jachetta, DowElanco, Bld. 308: 2E/05, 9330 Zionsville Road, Indianapolis, IN 46268-1054; Phone- (317) 337-4672, Fax (317) 337-4649, Email: jjjachetta@dowelanco.com. Proposals should be received no later than November 15, 1997. Funding decisions will be made by January 25, 1998 and presented at the 1998 WSSA National Meeting Awards Banquet.

Gatherings



The newsletter publishes dates, titles, locations, and contact names and addresses for meetings, courses, seminars, and the like that are of interest to ASPP members. Submit announcements via e-mail to sbraxton@aspp.org or mail to Sylvia J. Braxton, *ASPP NEWS*, 15501 Monona Drive, Rockville, MD 20855-2768 USA. **Faxed transmissions are not accepted.**

FUTURE ASPP ANNUAL MEETING SITES

1998: Madison, Wisconsin
Saturday, June 27, through
Wednesday, July 1

1999: Washington, D.C.
Saturday, July 24, through
Wednesday, July 28

1997

AUGUST

August 10-14

International Biometals Symposium University of Calgary, Alberta, Canada

For information see the IBS home page at <http://sandburg.unm.edu>, or contact: International Biometals Symposium, the University of Calgary, Conference Management Services, Attention: Ms. Susan Austen, Olympic Volunteer Centre, 1833 Crowchild Tr. NW, Calgary, Alberta T2M 4S7, Canada; telephone 403-220-6229, fax 403-284-4184, e-mail sausten@acs.ucalgary.ca.

August 10-14

Gordon Research Conference: **Epigenetic Effects on Gene Expression** Plymouth, New Hampshire

Steve Henikoff and Marjori Matzke, co-chairs. Contact: Gordon Research Conferences, University of Rhode Island, P.O. Box 984, West Kingston, RI 02892-0984; telephone 401-783-7644, fax 401-783-4011, e-mail grc@grcmail.uri.edu.

August 10-15

6th Brazilian Congress of Plant Physiology Belém, PA, Brazil

For details contact: Augusto Cesar de Lima Santos or Moacyr B. Dias, Filho, Faculdade de Ciências Agrárias do Para; Unidade de Apoio à Extensão, (UAEX), CP 917, Belém, Para, 66077-530 Brasil; telephone +55 91 210 5208, fax +55 91 226 6088, home-page <http://200.19.230.10/cbfv.html>.

August 12-16

Joint Meeting of the IUFRO Working Parties **S.04-07 and S.04-06** **Somatic Cell Genetics and** **Molecular Genetics of Trees** Quebec City, Canada

Organizers: Pierre J. Charest and Armand Seguin. For more information contact: Pierre J. Charest, Science Branch, Canadian Forest Service, 580 Booth Street, 7th floor, Ontario, Canada, K1A 0E4; telephone 613-947-9011, fax 613-947-9090, e-mail pcharest@am.ncr.forestry.ca.

August 13-15

Symposium on Seed Biology **and Technology:** **Applications and Advances** **National Seed Storage Laboratory** Fort Collins, Colorado

For information contact: <http://www.ars-grin.gov/ars/NoPlains/FtCollins/SEEDBIO/> or Eric E. Roos, USDA National Seed Storage Laboratory, 1111 South Mason St., Fort Collins, CO 80521-4500, e-mail: eroos@lamar.colostate.edu, telephone 970-495-3205, fax 970-221-1427; or Greg Welbaum, Department of Horticulture, Saunders Hall, Virginia Tech Blacksburg, VA 24061-0327, telephone 540-231-5801, fax 540-231-3083.

August 24-27

The Phytochemical Society of Europe **Bioassay Methods in Natural Product Research** Uppsala, Sweden

Contact: Professor L. Bohlin, Division of Pharmacognosy, Biomedical Centre, Uppsala University, P.O. Box 579, S-751 23 Uppsala,

Sweden; telephone 46 18 17 44 92, fax 46 18 50 91 01, e-mail lars.bohlin@pharmacog.uu.se.

August 25-29

5th International Congress on Amino Acids **Chalkidiki, Greece**

Contact: Bijay K. Singh, American Cyanamid Company, P.O. Box 400, Princeton, NJ 08543-0400; telephone 609-716-2066, fax 609-275-5216, e-mail singhb@pt.cyanamid.com or Maria Liakopoulou-Kyriakides, Department of Chemical Engineering, Aristotle University of Thessaloniki, 54006 Thessaloniki, Greece; telephone 3031 99 6193, e-mail markyr@verginia.eng.auth.gr.

SEPTEMBER

September 7-11

International Symposium on Boron in **Soils and Plants** Chiang Mai, Thailand

Contact: Dr. B. Rerlkasem, Multiple Cropping Center, Chiang Mai University, Chiang Mai, Thailand 50200; fax 66-53-210000. Please request the 2nd circular.

September 15-17

Third International Conference on **Oxygen, Free radicals and Environmental** **Stress in Plants** Pisa, Italy

Contact: Flavia Navari-Izzo, e-mail fnavari@mailserver.agr.unipi.it; Riccardo Izzo, e-mail ricizzo@mailserver.agr.unipi.it; Mike Frank Quartacci, e-mail mfquart@mailserver.agr.unipi.it; Cristina Sgherri, e-mail csgherri@mailserver.agr.unipi.it. Istituto di Chimica agraria, Via S. Michele degli Scalzi, 2 56124 Pisa Italy; telephone +39 50 571557 or 571558, fax +39 50 598614.

September 19-22

First Balkan Botanical Congress **Thessaloniki, Greece**

For information and a registration form, contact: Dr. Michael Moustakas, Department of Botany, Aristotle University of Thessaloniki, P.O. Box 109, Thessaloniki, GR-540 06 Greece; telephone 30-31-998335, fax 30-31-998389, e-mail moustak@bio.auth.gr.

September 21-27

5th International Congress **International Society for Plant Molecular Biology** **The Republic of Singapore**

Organizers: Nam-Hai Chua, Rockefeller University, and Robert Haselkorn, University of Chicago.

Contact: Congress Secretary, ISPMB, Department of Biochemistry & Molecular Biology, University of Georgia, Athens, GA 30602-7229; fax 1 706 542 2090, e-mail ldure@uga.cc.uga.edu.

September 29-October 3

International Symposium on Biotechnology of Tropical and Subtropical Species Brisbane, Australia

Conference convenor: Dr. Rod Drew, fax 61 7 32863094, e-mail drewra@dpi.qld.gov.au. For more information or to receive announcements contact: Organizers Australia, PO Box 1237, Milton Q4064, Australia; fax 617 33671471, e-mail oa@bnec.design.net.au.

OCTOBER

October 8-16

Optical Microscopy and Imaging in the Biomedical Sciences

Woods Hole, Massachusetts

Short Course: For more information contact: Carol Hamel, Admissions Coordinator, Marine Biological Laboratory, 7 MBL Street, Woods Hole, MA 02543-1015; telephone 508-289-7401, e-mail admissions@mbledu, World Wide Web <http://www.mbl.edu>.

October 18-22

International Symposium of GFP Hyatt Regency Hotel, New Brunswick New Jersey

Contact Information: Keith Wilson, Senior Program Coordinator, Cook College, Office of Continuing Professional Education, PO Box 231, New Brunswick, NJ 08903; telephone 908-932-9271 ext. 617, fax 908-932-1187, e-mail ocpe@aesop.rutgers.edu.

October 25-28

Workshop on the Biochemistry of Plant Phytate and Phytases Copenhagen, Denmark

Contact: Soren K. Rasmussen, Riso National Laboratory, Mil-301, P.O. Box 49, Dk-4000 Roskilde, Denmark; fax 45 46 32 33 83, e-mail soren.rasmussen@riscoe.dk.

October 26-31

Symposium on Soil Acidity and the Rhizosphere American Society of Agronomy Meeting Anaheim, California

Contact: Nancy Cavallaro, Texas Tech University, Department of Civil Engineering, Mail Stop 41023, Lubbock, TX 79409-5000; telephone 806-742-3481, ext. 226, fax 806-742-3488, e-mail ncavallaro@coe2.ttu.edu or wrcav@ttacs1.ttu.edu.

NOVEMBER

November 19-22

13th Annual Meeting of the American Society for Gravitational and Space Biology (ASGSB) Washington, DC

For information contact: Patricia Russell, ASGSB, PO Box 12247, Rosslyn, VA 22219; e-mail ASGSB@usra.edu, fax 703-0671-1706.

November 22-25

IUFRO Symposium: Innovations in Forest Tree Seed & Nursery Technology Raipur, India

Late date for receipt of abstracts is June 15, 1997. For information contact: Dr. S. C. Naithani, Organization Secretary-IUFRO Symposium '97, SOS In Life Sciences, Pt. Ravishankar Shukla University, Raipur - 492 010, India; telephone 91 0771 26031, fax 91 0771 534283, e-mail rsinf@shankti.ncst.ernet.in.

DECEMBER

December 1-3

Third General Meeting of the French Society of Plant Physiology Toulouse, France

For more information contact: J.C. Pech, M. Bouzayen, telephone 33 (0)5 62 13 65 13, fax 33 (0)5 62 13 65 41, e-mail agrotoulouse@ensat.fr, Web site <http://www.ensat.fr>.

1998

JANUARY

January 8-10, 1998

International Symposium Antitumour Products from Higher Plants Paris, France

Deadline for abstracts: September 1, 1997. For information, contact: Symposium Secretariat, Antitumour Products, Congrès Scientifiques Services (C2S), Chantal Iannarelli, 1, rue des Villarmains, 92210 Saint Cloud, France; telephone 33 (0)1 47 90 04, fax 33 (0)1 47 71 90 05.

January 8-11, 1998

Seventh Western Regional Photosynthesis Conference Asilomar Conference Center, Pacific Grove, California

For information and circular, contact: Rick Debus, Department of Biochemistry, University of California, Riverside, CA 92521-0129; telephone 909-787-3483, fax 909-787-4434, e-mail debusrj@citrus.ucr.edu; or Gerry Edwards, Department of Botany, Washington State University, Pullman, WA 99164-4238; telephone 509-335-2539, fax 509-335-3517, e-mail edwardsg@mail.wsu.edu.

APRIL

April 6-8 1998

International Meeting on Production and Uses of Starch Edinburgh, Scotland

Contact and mailing list: Dr Carol Duffus, Crop Science and Technology Department, SAC, West Mains Road, Edinburgh EH9 3JG, Scotland; e-mail esa216@ed.sac.ac.uk.

April 7-10, 1998

Plasma Membrane Redox Systems: Their Role in Biological Stress and Disease Antwerp, Belgium

For full information please contact: Han Asard, Department of Biology, University of Antwerp

(RUCA), Groenenborgerlaan 171, B-2020 Belgium; telephone +32 3 2180420, fax +32 3 2180417, e-mail hanasard@ruca.ua.ac.be.

April 19-22, 1998

The Phytochemical Society of Europe Biosynthesis of Isoquinoline, Indole, and Related Alkaloids Istanbul, Turkey

Paper deadline is January, 1998. Contact: Professor G. Sariyar, Istanbul University, Faculty of Pharmacy, 34452 Beyazit, Istanbul, Turkey; telephone 90 212 526 0737, fax 90 212 519 0812.

April 27-May 2, 1998

The 3rd Asian Crop Science Conference: Regional Production Strategies to Meet Food Needs Toward The 21st Century Taichung, Taiwan

For information, please contact: Jih Min Sung, telephone 886-4-2870551, fax 886-4-2860267, e-mail accs@dragon.nchu.edu.tw.

MAY

May 10-13, 1998

The Phytochemical Society of Europe Progress in Phytochemistry Kerkrade, The Netherlands

Contact: Professor Dr. A.W. Alfermann, Institut für Entwicklungs- und Molekularbiologie der Pflanzen, Heinrich-Heine-Universität Düsseldorf, Universitätsstrasse 1, Geb. 26.13, D-40225 Düsseldorf, Germany; telephone 49 211 811 4603, fax 49 211 811 3085, e-mail alferman@rz.uniduesseldorf.de.

May 30-June 3, 1998

The 1998 Meeting of the Society for In Vitro Biology Las Vegas Nevada

For more details, visit our site at www.sivb.org/congl1998.htm. Related sites are www.sivb.org/links.htm or www.sivb.org/plant.htm, and our home page at www.sivb.org.

JUNE

June 14-19, 1998

IX International Congress on Plant Tissue and Cell Culture The ICC Jerusalem International Convention Center Jerusalem, Israel

For further information contact: The Secretariat, IX International Congress on Plant Tissue and Cell Culture, P.O. Box 50006, Tel Aviv 61500, Israel; telephone 972 3 514 0000, fax 972 3 517 5674 / 972 3 514 0077, e-mail plant@kenes.com.

June 24-28, 1998

9th International Arabidopsis Meeting Madison, Wisconsin

Contact: Arabidopsis (arabidopsis@biochem.wisc.edu), fax 608 262-3453.

June 27-July 1, 1998

Plant Biology '98
Madison, Wisconsin

The American Society of Plant Physiologists Annual meeting is scheduled "back to back" with the 1998 Arabidopsis meeting. Contact: Susan Chambers, 15501 Monona Drive, Rockville, MD 20855; telephone 301-251-0560 ext. 11, fax 301-279-2996, e-mail chambers@aspp.org or on the World Wide Web see URL <http://aspp.org>.

JULY

July 7-10, 1998

25th Annual Meeting: Plant Growth Regulation Society of America
Chicago, Illinois

For information contact: Dr. Warren Shafer, Abbott Laboratories, Agricultural Research Center, 6131 RFD (Oakwood Road), Long Grove, IL 60047; telephone 847-367-2654, fax 847-367-2913.

AUGUST

August 9-14, 1998

11th International Workshop on Plant Membrane Biology
Cambridge, United Kingdom

Contact: Dr Mark Tester, Department of Plant Sciences, University of Cambridge, Downing St., Cambridge, CB2 3EA, U.K; telephone + 44 1223 333918, fax + 44 1223 333953, e-mail plant-nut@lists.cam.ac.uk.

August 13-17, 1998

16th International Conference on Plant Growth Substances
Makuhari Messe, Chiba, Japan

Organizer: Nobutaka Takahashi. For Information contact: <http://frpphf.riken.go.jp/IPGSA/IPGSA98.html>, or Dr. Yuji Kamiya, Plant Hormone Function, FRP RIKEN, Hirosawa 2-1, Wako-shi, Saitama 351-01, Japan; e-mail ykamiya@postman.riken.go.jp, fax +81-48-462-4716.

July 20-24, 1998

The Supporting Roots: Structure and Function A Conference Sponsored by the University of Bordeaux, France

Abstract Deadline: February 1, 1998. Contact: Alexia Stokes, Laboratoire de Rhéologie du Bois de Bordeaux, Domaine de L'Hermitage, B.P. 10, 33610 Cestas Gazinet, France; telephone +33 5 57 97 91 04; fax +33 5 56 68 07 13, e-mail stokes@irbb3.pierroton.inra.fr.

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Conceived as a sister issue to the 1993 issue on
Plant Reproductive Development,
the July 1997 issue focuses on the following topics:

PATTERN FORMATION

Gerd Jürgens and Thomas Laux, Sarah Hake, Darryl Kropf

CELL-CELL COMMUNICATION, CELL EXPANSION, AND THE CELL CYCLE

Tom Jacobs, Dan Cosgrove, Pat Zambryski

ORGANOGENESIS

Derek Bewley, Steve Clark, Scott Poethig, John Schiefelbein, Karen Schumaker

DIFFERENTIATION

David Marks and Fred Sack, Tim Nelson and Nancy Dengler,
Richard Sjölund, Hiroo Fukuda, Chris Lamb and Roger Pennell, Tony Bleecker

REGULATORY MECHANISMS AND PROCESSES

Anthony Trewavas and Rui Malhó, Jan Zeevaart and
Hans Kende, John Mullet and Bob Creelman, Joanne Chory, Steve Kay

ASPP Placement Service

This form may be used only by members of the American Society of Plant Physiologists.
 Please print or type your placement information on this form (curriculum vitae will not be accepted) and send it to:
Estella Coley, ASPP headquarters, 15501 Monona Drive, Rockville, MD 20855-2768

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Thesis, dissertation topics, professor: _____

Professional societies and honors: _____

Degree/year	Major	Minor	College/University and its location

Postdoctoral study (specialty and with whom, where, when): _____

Employer and location	From	To	Position, Title, Duties

References (names, addresses, telephone numbers): _____

ASPP Job Placement Service



I. Registering with the ASPP Placement Service and Obtaining Placement Files

ASPP headquarters in Rockville, Maryland, operates a placement service in which are kept active two files of résumés of individuals who are seeking employment. Employers are urged to survey the résumé files for those seeking permanent positions and those seeking postdoctoral or similar positions. The files cost \$25 each and may be ordered from Ms. Estella Coley, ASPP Placement Service, 15501 Monona Drive, Rockville, MD 20855-2768 USA. Those seeking employment should complete the Placement Service Form on the facing page to be included in the service.

II. Placing a Position Ad in *ASPP NEWS* and on the ASPP World Wide Web Homepage

Submit all ads by e-mail to Sylvia J. Braxton at sbraxton@aspp.org (or by mail to Sylvia J. Braxton, 15501 Monona Drive, Rockville, MD 20855-2768; **FAXED ADS ARE NOT ACCEPTED**). A fee of \$150 for print, Web, or both is charged for all academic/government/industry permanent positions and for all positions, regardless of rank, posted by private companies. If a fee is charged for your ad, please including billing information at the time the ad is submitted.

- **Academic/Government/Industry Permanent Positions (Ph.D.):** Limited to 200 words; ad will run 12 weeks on the Web and appear in one issue of *ASPP NEWS*. (If the ad runs only on the Web, the word limit is waived.)
- **Postdoctoral Positions and Research/Technical Positions (non-Ph.D.):** At universities and government installations, limited to 100 words; at private companies, limited to 200 words. Ad will run 12 weeks on the Web and appear in one issue of *ASPP NEWS*. (If the ad runs only on the Web, the word limits are waived.)
- **Fellowships, Traineeships, Graduate Assistantships, etc.:** Announcements of programs and fellowships or traineeships for students seeking advanced degrees run at no charge and without a word limit. They will run two times in *ASPP NEWS*: the first time, they will run at full length; the second time, they will include location, contact name, and address, with a reference to the original posting. These announcements will run on the ASPP World Wide Web Homepage for 12 weeks from the date of posting.

ACADEMIC/GOVERNMENT/INDUSTRY PERMANENT POSITIONS (Ph.D.)

Parent Test Manager

DeKalb Genetics Corporation, DeKalb, Illinois
(Received 05/20)

Seeking highly motivated individual to work with DeKalb Research and Production departments to describe new parental maize germplasm developed by breeders. Position will develop and maintain the Parent Test Database, work with Production Research Manager to develop cost of production estimates for new products, conduct research to improve parent testing protocols, interact with QA to develop better lab methods for prediction of the field performance of products. Requires Ph.D. in plant physiology, agronomy, or plant breeding and skill with field plot designs, statistical analysis and computer graphics software. Three years of work experience or postdoctoral training and corn experience preferred. Position in our Seed Technology Department at our DeKalb, IL. (near Chicago) location. Competitive salary and benefits. EOE/AA. Send cover letter, résumé or curriculum vitae, copies of transcripts and three references to: DeKalb Genetics Corporation, Attn.: Human Resources PTM1, 3100 Sycamore Road, DeKalb IL 60115; fax 815-758-6953.

Scientist

Novartis Crop Protection, Inc., Palo Alto, California
(Received 05/23)

Resulting from the merger of Sandoz and Ciba, Novartis Crop Protection, Inc., continues as a leader in developing, manufacturing, and marketing agrichemicals. We are seeking a qualified scientist to join our Biochemistry Department to discover novel target sites and leads for crop protection. The selected candidate will join a multidisciplinary team to discover novel target sites utilizing genomics, biochemistry, chemistry, and biology. This position requires a Ph.D. in biochemistry with two or more years of postdoctoral experience. Experience and a strong background in enzyme purification, characterization, and kinetics is essential. Thorough knowledge of plant metabolism and physiology is desirable. Working knowledge and/or experience in one or more of the following areas is an asset: molecular genetics, cloning, bioinformatics, and organic chemistry. For consideration, send curriculum vitae and names of three references to Novartis Crop Protection, Inc., Human Resources Department, 975 California Avenue, Palo Alto, CA 94304-1104. We are an equal opportunity employer.

Assistant Professor

Purdue University, West Lafayette, Indiana
(Received 05/27)

Applications are invited for a tenure-track position in the Department of Biochemistry at the rank of Assistant Professor. Candidates with excellent training and accomplishments at the postdoctoral level in eukaryotic molecular biology will be considered. We are seeking an exceptional candidate who employs innovative approaches to investigate fundamental problems in plant biochemistry and molecular biology. The successful candidate will be an active participant in the teaching programs of the department, which include undergraduate, graduate, and medical curricula. A significant part of the evaluation of faculty candidates will be the perceived effectiveness of the candidate as a teacher. Competitive start up funds and excellent laboratory space will be provided. University-wide support facilities include antibody production, peptide and DNA synthesis and sequencing, mass spectrometry, macromolecular NMR analyses, and the computing center. Curriculum vitae, the names and addresses of three individuals who can supply letters of reference, and a two-page summary of research interests are required for an application. The screening of applications will commence immediately and will continue until the positions are filled. Purdue University is an affirmative action/equal opportunity employer.

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Head Coordinator

The Mediterranean Agronomic Institute of Chania, Chania, Greece

(Received 06/02)

The Mediterranean Agronomic Institute of Chania seeks qualified, highly motivated, innovative candidate for the position of head coordinator in the field of horticultural sciences (postgraduate training and research). Specialization: quality management of horticultural products; laboratory instrumental analysis of plant/food organic and inorganic substances. Requirement: Ph.D. in agriculture, horticulture or food science. Excellent Greek and English. Deadline: 08/31/97. Send application with curriculum vitae to: MAICH, P.O. Box 85, 73100, Chania, Greece; telephone 821-81153, fax 821-81154.

Assistant Professor

Purdue University, West Lafayette, Indiana
(Received 06/18)

A tenure-track position is available at the Assistant Professor level in landscape horticulture. A Ph.D. in horticulture, botany, ecology, or a related field is required. The successful candidate will teach courses in woody landscape plants, and an advanced course in their area of expertise. The development of an extramurally funded research program in ecology, genetics, physiology, or systematics of landscape plants, or related area, is essential. The initial responsibilities will be approximately 60% teaching and 40% research. Advising undergraduate and graduate students is expected. Salary will be competitive and commensurate with training and experience. Applicant screening will begin September 1, 1997. Interested individuals should send a résumé, statement of teaching philosophy and research interests and goals, copies of representative publications (up to five), and three letters of reference to: Dr. Michael N. Dana, Search Committee Chairman, Department of Horticulture, 1165 Horticulture Building, Purdue University, West Lafayette, IN 47907-1165; telephone 765-494-5923, fax 765-494-0391, e-mail dana@hort.purdue.edu. The department of horticulture values ethnic and gender diversity. Therefore, women and minority candidates are encouraged to apply. Purdue University is an equal opportunity/affirmative action employer.

Assistant or Associate Professor

University of Minnesota, St. Paul
(Received 06/27)

Applications are invited for a 12-month tenure-track extension and teaching position in Nursery Management at the Assistant (tenure-track) or Associate Professor (tenure-track or tenured) level. For tenured appointment, applicant must meet tenure criteria. Lead an educational and research program addressing the needs of the commercial nursery/landscape industry in Minnesota, and conduct research related to landscape crop production, retail nursery operations, sustainable management systems, or challenges unique to Minnesota's climate. Provide leadership in the nursery management curriculum, teach two (semester) upper-level undergraduate courses in nursery and garden center management. A Ph.D. in horticulture or a related

field and knowledge of landscape plant materials are required. Effective oral and written communication skills. Desired: Demonstrated effectiveness in teaching horticulture, and/or extension program development. Use of multimedia and other innovative delivery systems for educational programming. Research experience in sustainable nursery or landscape management systems. Applicants should send a curriculum vitae, graduate transcripts, detailed statement of teaching and research interests, three letters of reference to: Chair, Nursery Management Search Committee, Department of Horticultural Science, University of Minnesota, 305 Alderman Hall, St. Paul, MN 55108. Review of applications will begin September 15, 1997, and continue until the position is filled. The University of Minnesota is an equal opportunity educator and employer.

Research Plant Molecular Geneticist
USDA-ARS, Pullman, Washington
(Received 07/02)

A Research Plant Molecular Geneticist position is available in the Wheat Genetics, Quality, Physiology and Disease Research Unit. The incumbent will be expected to identify and manipulate genes and processes related to grain end-use quality, disease resistance, and other important agronomic traits in wheat. Ph.D. in genetics or related field is highly desirable. Training and experience in recombinant DNA techniques essential. Must be U.S. citizen. Salary (\$37,507-\$58,442 per year, GS 11-12) based on qualifications and experience. For information on research program and/or position contact: Dr. K. Walker-Simmons, USDA-ARS, 209 Johnson Hall, Washington State University, Pullman, WA 99164-6420; telephone 509-335-3632, fax 509-335-2553, e-mail ksimmons@wsu.edu. For general information or application procedures and forms contact: Pam Demes, USDA-ARS, 121 Hulbert Hall, WSU, Pullman, WA 99164-6216; telephone 509-335-8663, fax 509-335-6669, e-mail arsdemes@wsu.edu. Applications must be postmarked by August 25, 1997. An equal opportunity employer.

POSTDOCTORAL POSITIONS

Postdoctoral Position

Pioneer Hi-Bred International, Johnston, Iowa
(Received 05/20)

A postdoctoral position is available to study mechanistic aspects of protein secretion in higher plant cells. In particular, the project will focus on the control of N-glycosylation and glucocerebroside biosynthesis within the endoplasmic reticulum as control points for programmed cell death. A strong background in the molecular biology of higher plants (Arabidopsis and maize) is required. Experience in yeast genetics would also be advantageous. This position requires experience in both molecular biology and modern methods of analyzing protein interactions (eukaryotic recombinant protein expression, two hybrid systems and phage display). The position is available immediately. For information contact Sean Coughlan, e-mail Coughlansj@phibred.com.

Postdoctoral Fellowship
Waksman Institute, Rutgers University
Piscataway, New Jersey
(Received 05/20)

A postdoctoral research position is available to study signal transduction during induction of disease resistance to viral infections of tobacco and Arabidopsis. Genetic, molecular, and biochemical approaches are being utilized. Emphasis is being placed on defining components of these pathways, particularly the salicylic acid-mediated signaling pathway (PNAS, 1996, 93:14972; Plant Cell, 1997, 9:809; Plant J., 1997, 11:747; Plant Physiol., 1997, 113:1319; Genes & Dev. 1997 [July]). Applicants should have research experience in genetics, molecular biology and/or biochemistry. Send a curriculum vitae and a cover letter detailing experience and have sent three letters of recommendation to: Daniel Klessig, Waksman Institute, Rutgers University, P. O. Box 759, Piscataway, NJ 08855. Rutgers University is an equal opportunity/affirmative action employer.

Postdoctoral Positions

University of Virginia, Charlottesville
(Received 05/22)

Two Postdoctoral positions beginning July 31, 1997, or soon thereafter to study the regulation of alkaloid biosynthesis in higher plants using transgenic approaches and map-based cloning strategies. Priority will be given to recent Ph.D.s with demonstrated expertise in plant molecular biology, expertise in plant cell transformation (position 1) or in gene mapping (RAPD, RFLP/AFLP analysis) and positional cloning (Position 2). U.S. citizenship or permanent residence status required. If interested, please send curriculum vitae, list of publications, and the names and addresses (including telephone numbers and e-mail addresses) of three individuals who could provide a letter of recommendation to: Michael P. Timko, Department of Biology, University of Virginia, Charlottesville, VA 22903; fax 804-982-5626, e-mail mpt9g@virginia.edu.

Postdoctoral Position

Oklahoma State University, Stillwater
(Received 06/10)

A postdoctoral position is available starting September, 1997 to study the mechanisms of intercellular trafficking of viroids, small pathogenic RNA molecules that infect plants, using molecular, microinjection, and in situ hybridization approaches. Training in molecular biology and/or microscopy is required. Interested candidates should send a letter of interest, a curriculum vitae, and a list of three references with addresses, phone numbers, and e-mail addresses to: Biao Ding, Department of Botany, Oklahoma State University, Stillwater, OK 74078; telephone 405-744-9508, fax 405-744-7074, e-mail bxding@osuunx.ucc.okstate.edu. Oklahoma State University is an equal opportunity/affirmative action employer.

Postdoctoral Positions
University of Missouri, Columbia
(Received 06/11)

Two postdoctoral positions are available. The first position is to study Auxin Response Transcription Factors (ARFs) from Arabidopsis that bind to TGCTC Auxin Response Elements (AuxREs), to identify factors that interact with ARFs, and to study natural and synthetic composite and simple AuxREs. The second position is to study RNA polymerase II subunit-subunit and subunit-transcription factor interactions and to identify an RNA polymerase II holoenzyme. To apply, send a curriculum vitae and three letters of reference to: Dr. Tom Guilfoyle, Department of Biochemistry, 117 Schweitzer Hall, University of Missouri, Columbia MO 65211; fax: 373-882-5635, e-mail bctguilf@mucmail.missouri.edu.

Postdoctoral Position
Cold Spring Harbor Laboratory
Cold Spring Harbor, New York
(Received 06/12)

A postdoctoral position is available to study the roles of protein-protein interaction and protein phosphorylation in the regulation of gene expression. Different to animal cells, plant cells express a very large number of proteins containing the conserved Myb homologous DNA-binding domain. These Myb-domain proteins regulate a number of important plant cellular processes. Studies in our lab focus on understanding the mechanisms by which plant Myb-domain proteins control transcription. As a model system to study the mechanisms of Myb-domain protein function we have used the regulation of flavonoid biosynthesis in maize (Cell, 1994, 76:543; JBC, 1997, 563; Plant Cell, 1997, 9:611). The postdoctoral fellow would carry out biochemical and genetic experiments to identify cellular factors that interact with the known regulators of flavonoid biosynthesis and will determine how these factors modulate the function of the regulators. Applicants should have research experience in biochemistry and molecular biology. Funding is available for three years starting October 1, 1997. Please send a curriculum vitae with the names of three references and a letter describing prior experience to: Erich Grotewold, Cold Spring Harbor Laboratory, 1 Bungtown Rd., Cold Spring Harbor, NY 11724-2212; e-mail grotewol@cshl.org.

Postdoctoral Positions
Texas A&M University, College Station
(Received 06/12)

Postdoctoral positions are available in our plant virology program to study the genetics, protein biochemistry, and cell biology of plant-virus interactions. Each position requires experience in one, or preferably more, of the following areas: molecular genetics, cDNA library construction, positional cloning, protein-protein interaction, intercellular transport, light microscopy and immunocytochemistry, confocal microscopy, or EM. The positions come with excellent benefits and a minimum annual salary of \$27,000. Please send curriculum vitae and names of three references to: Drs. Karen-Beth G. Scholthof and Herman B. Scholthof, Department of Plant

Pathology, Texas A&M University, College Station, TX 77843; e-mail kbgs@acs.tamu.edu or herscho@acs.tamu.edu.

Postdoctoral Research Associate
Boyce Thompson Institute, Cornell University
Ithaca, New York
(Received 06/13)

A postdoctoral research associate position is available to investigate patterns of gene expression in banana. Emphasis will be placed upon host's molecular and physiological responses to *Mycosphaerella fijiensis*. Extensive experience in plant gene expression and modern molecular methodologies is essential. Candidates with experience in plant host/pathogen interactions are encouraged to apply. Written and oral communications skills in French and/or Spanish are a plus. Please send curriculum vitae and the names of three references to: Dr. Gregory D. May, Boyce Thompson Institute for Plant Research, Inc., at Cornell University, Tower Road, Ithaca, NY 14850. The Boyce Thompson Institute is an affirmative action/equal opportunity employer and committed to increasing the diversity of its faculty and staff.

Postdoctoral Position
University of Pennsylvania, Philadelphia
(Received 06/19)

A postdoctoral position is available to investigate the molecular and biochemical basis of proton-coupled calcium transport in plants. The project, which is a collaboration with Drs. Hirschi and Fink (Whitehead Institute for Biomedical Research, MIT), will involve manipulations of the recently cloned Arabidopsis CAX (CALcium eXchanger) genes in both plants and yeast [Proc. Natl. Acad. Sci., 93: 8782-8786 (1996)]. A Ph.D. is required, and experience in protein or cellular biochemistry and/or molecular biology is desirable. Please send a curriculum vitae, list of publications, and three letters of reference to: Dr. Philip A. Rea, Plant Science Institute, Department of Biology, University of Pennsylvania, Philadelphia, PA 19104-6018; fax 215-898-8780, e-mail parea@sas.upenn.edu.

Postdoctoral Position
University of Florida, Gainesville
(Received 06/23)

Position available immediately to analyze nitrogen-induced gene expression and nitrogen allocation in poplar trees (*Populus*), including transgenic trees that are likely to have altered nitrogen allocation. Grant-funded project involves collaboration with industry and with faculty in UF's Plant Molecular and Cellular Biology Program. Prefer strong background in physiology and analysis of gene expression. Please send curriculum vitae and names of three references to: Dr. John M. Davis, PMCB/School of Forest Resources and Conservation, P.O. Box 110410, University of Florida, Gainesville, FL 32611, e-mail to jmd@nervm.nerdc.ufl.edu.

Postdoctoral Position
University of Arizona, Tucson
(Received 06/23)

A postdoctoral position is available immediately to clone the SOS1, SOS2 and SOS3 genes required for salt tolerance in Arabidopsis. Mutations in these SOS loci lead to NaCl hypersensitivity and poor growth in potassium-deficient media. Research will involve genetic analyses and map-based cloning. The successful candidate will have a strong background in genetics and molecular biology. Review of the applications will begin immediately and continue until the position is filled. Send curriculum vitae, a statement of research interests and career goals, and three letters of reference to: Dr. Jian-Kang Zhu, Department of Plant Sciences, University of Arizona, Tucson, AZ 85721; telephone 520-626-2229, fax 520-621-7186, e-mail jkzhu@ag.arizona.edu.

Postdoctoral Position
USDA-ARS & University of Illinois, Urbana
(Received 06/24)

A postdoctoral position (GS-9) is available to analyze in detail (photosynthesis, growth, gene expression, and enzyme activities) transgenic Arabidopsis plants in which Rubisco regulation has been altered because mutant forms of Rubisco activase are expressed. The characteristics of these plants will provide direct verification of current ideas about the roles of Rubisco regulation in photosynthesis. The creation of additional transgenics is also required. Knowledge of molecular biology and previous experience with Arabidopsis is preferred. Must be a U.S. citizen or citizen of a treaty nation. Send a curriculum vitae, three references, and a description of previous research experience relevant to this project to: Dr. A.R. Portis, USDA Photosynthesis Research Unit, 190 ERML, 1201 W. Gregory, Urbana IL 61801-3838; fax 217-244-4419, e-mail arportis@uiuc.edu. AA/EEO employer.

Postdoctoral Position
University of Hawaii, Honolulu
(Received 06/25)

A postdoctoral fellowship is available immediately to study blue/UV-A light-responsive expression of photosynthesis genes in Arabidopsis. The research will focus on mechanisms regulating transcription of the chloroplast-encoded psbD gene. Candidates must have a Ph.D. with appropriate experience in molecular biology, genetics, and biochemistry. Experience in plant biology and yeast expression systems and an interest in chloroplast biology are also desirable. Send letter of application, curriculum vitae, and the names and addresses of three references to: Dr. David Christopher, University of Hawaii at Manoa, Department of Plant Molecular Physiology, 3190 Maile Way, Honolulu, HI 96822; telephone 808-956-8550, e-mail dchrh@hawaii.edu. UH is an EEO/AA employer.

**Postdoctoral Research Associate
USDA-ARS, Beltsville, Maryland
(Received 06/25)**

A position will be available starting October 1, 1997, on rose transformation and regeneration. Experience in plant transformation using *Agrobacterium*, in vitro culture, and analysis of transgenic plants is desired. Minimum requirement is an M.S. with experience, or preferably a Ph.D. Send résumé and addresses of three references to: K. Kamo, Floral & Nursery Plants, B-010A Room 238 BARC West, USDA, Beltsville, MD 20705; telephone 301-504-5350, e-mail kkamo@asrr.arsusda.gov.

**Postdoctoral Position
University of Aarhus, Aarhus, Denmark
(Received 07/02)**

A postdoctoral fellowship is available immediately to study the biological function of homeodomain-like proteins and some other novel transcription factors isolated from the nitrogen-fixing root nodules of soybean and *Lotus japonicus*. You are expected to have a Ph.D. with appropriate experience in plant molecular biology. Experience in plant transformation and yeast two-hybrid systems is also desirable. You must be an EU citizen from outside Denmark. Send letter of application, curriculum vitae, and the names and addresses of two references to: Associate Professor Erik Ostergaard Jensen, Laboratory of Gene Expression, Department of Molecular and Structural Biology, Gustav Wieds Vej 10, DK-8000 Aarhus C, Denmark, Telephone 45 86202011 3200, fax 45 86201222, e-mail eoje@biobase.dk.

**Ph.D. Student's Position
University of Berne, Berne, Switzerland
(Received 07/02)**

A Ph.D. student's position is available from October 1, 1997, and is funded by the Human Frontier Science Project. Responsibilities will include research on the role of ethanolic fermentation in development and disease (EMBO J. 13, 2755; PMB 28, 739). Required: M.Sc. or equivalent in cell, molecular, or developmental biology; no knowledge of German required. Inquiries including address to which to send application should be sent to: Professor Cris Kuhlemeier, Institute of Plant Physiology, Altenbergrain 21, CH-3013 Berne; telephone 41 31 631 4911, fax 41 31 332 2059, e-mail cris.kuhlemeier@pfp.unibe.ch.

**Postdoctoral Position
Washington University, St. Louis, Missouri
(Received 07/03)**

A 1-2 year postdoctoral position is available immediately to study cell locomotion. The research project involves constructing GFP-tagged cytoskeletal proteins in *Dictyostelium*, and then examining the distribution of these proteins in living cells using real-time 3D microscopy. This position is an opportunity for someone with molecular cloning experience to apply these techniques and simultaneously to gain valuable experience in state-of-the-art 3D microscopy. Please send inquiries to: Dr. James McNally, Department of Biology, Washington University, St.

Louis, MO, 63130; e-mail mcnally@biodec.wustl.edu.

**Postdoctoral Position
Waksman Institute, Rutgers University
Piscataway, New Jersey
(Received 07/03)**

A postdoctoral position is available to study genomic organization in maize. Research will focus on the use of the transposon Ac as a search engine to identify genes in the genome, as an insertional mutagen to define their function, and as a genetic marker to map them. Information to be applied toward optimization of recently initiated gene tagging project in transgenic maize. Experience in molecular biology essential; prior experience with handling, cloning, and analysis of large DNA highly desirable. Please send curriculum vitae and the names and addresses of three references to: Dr. Hugo K. Dooner, Waksman Institute, Rutgers University, Piscataway, NJ 08855; fax 908-445-5735, e-mail dooner@mbcl.rutgers.edu.

**Postdoctoral Position
University of California, Berkeley
(Received 07/08)**

Openings are available to study a photosystem-II repair process in *Chlamydomonas*. Salary starting at \$30,000/year. The research employs genetic, molecular, and biochemical approaches for the identification and characterization of PSII repair mutants. DNA insertional mutagenesis is used to generate mutants, isolate the genes, and identify the enzymes responsible for the recovery of PSII from photooxidative damage. Applicants with experience in the molecular biology/genetics of *Chlamydomonas* are asked to provide a curriculum vitae, names of references, and a brief description of previous research to: Dr. A. Melis, University of California, Department of Plant Biology, 411 Koshland Hall, Berkeley, CA 94720-3102; e-mail melis@nature.berkeley.edu.

**Postdoctoral Position
Vanderbilt University, Nashville, Tennessee
(Received 07/11)**

A postdoctoral position is available December 1, 1997, to study the cell/molecular basis of circadian rhythmicity. We study clocks in a variety of photosynthetic organisms including cyanobacteria, *Chlamydomonas*, and higher plants. The candidate will focus on the characterization of previously isolated insertional mutants of the circadian clock of *Chlamydomonas*, but diversification to studies in other organisms including higher plants and archaebacteria may be possible. For more information, see our website at <http://greenclocks.cas.vanderbilt.edu>. Interested applicants should send a curriculum vitae including the names of three references to: Carl Johnson, Department of Biology, Box 1812-B, Vanderbilt University, Nashville, TN 37235 USA; e-mail JohnsonC@ctrvax.vanderbilt.edu.

**Postdoctoral Position
University of Nevada, Reno
(Received 07/15)**

A position is available to investigate molecular mechanisms associated with chloroplast division. We have recently demonstrated that two plant homologs of bacterial cell division protein FtsZ (Nature 376:473-474, 1995; Plant Physiol. 111S:43, 1996) are essential for plastid division in *Arabidopsis*. The position will entail identification of additional components of the plastid division apparatus. Ph.D. and a strong background in molecular biology required. Send curriculum vitae, brief statement of research experience, and three letters of reference to Dr. Katherine Osteryoung, Department of Biology /314, University of Nevada, Reno, NV 89557; telephone 702-784-6258, fax 702-784-1650, e-mail oster_k@med.unr.edu. Review of applications will begin 8/15/97. AA/E.O.

**Postdoctoral Position
University of Texas, Austin
(Received 07/18)**

A postdoctoral position is available at the University of Texas at Austin to investigate the regulation of intron splicing by light (see Deshpande et al. [1997] RNA 3, 37-48), and the mechanism of intron mobility (see Durrenberger et al. [1996] Nucl. Acids Res. 24, 3323-3331) in *Chlamydomonas*. Austin is one of the most livable cities in the U.S., known for its quality of life and surrounding environs. A background in molecular biology and/or genetics is desirable, but all applicants will be considered. Send curriculum vitae, reprints (if applying by snail mail), and 2-3 letters of recommendation to: David Herrin, Department of Botany F0400, University of Texas at Austin, Austin, Texas 78713; telephone 512-471-3843, fax 512-471-3878, e-mail BOHL734@utxvms.cc.utexas.edu. Electronic applications are encouraged.

**Postdoctoral Position
University of Nebraska, Lincoln
(Received 07/18)**

Directed mutagenesis and *Chlamydomonas* chloroplast transformation will be used to engineer Rubisco large-subunit regions that have potential for catalytic improvement (JBC 271: 18494, 1996; JBC 272: 11114, 1997). Applicants should have documented skills in biochemistry or molecular genetics. Salary is \$22,000-25,000 per year plus benefits. Starting date before January, 1998 is negotiable. Contact for information, or send résumé, reprints, and three reference letters: Dr. R. J. Spreitzer, Department of Biochemistry, University of Nebraska, Lincoln, NE 68588-0664; telephone 402-472-5446, e-mail rjs@unlinfo.unl.edu.

**Postdoctoral Position
University of Nebraska, Lincoln
(Received 07/18)**

The impact of foreign small subunits on catalytic efficiency and expression of chloroplast Rubisco can now be assessed via transformation of a *Chlamydomonas* RbcS deletion mutant (PNAS 93: 13689, 1996; JBC 272: 11114, 1997). Applicants

should have documented skills in biochemistry or molecular genetics. Salary is \$22,000-25,000 per year plus benefits. Starting date before January, 1998 is negotiable. Contact for information, or send résumé, reprints, and three reference letters: Dr. R. J. Spreitzer, Department of Biochemistry, University of Nebraska, Lincoln, NE 68588-0664; telephone 402-472-5446, email rjs@unlinfo.unl.edu.

**Postdoctoral Position
University of California - Riverside
(Received 07/18)**

A postdoctoral position is available immediately to study the molecular genetics of leaf development in *Arabidopsis*. We have used a gene trap transposon tagging system (Science, 1995, 268:877; Genes and Development, 1995, 9:1797) to identify genes that are specifically expressed in the shoot apical meristem and young leaf primordia. Research will involve the cloning and characterization of one or more of these genes. Applicants should have experience in molecular biology. Please send a curriculum vitae and the names of references to: Patricia Springer, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521; telephone 909-787-5785, e-mail patricia.springer@ucr.edu.

RESEARCH/TECHNICAL POSITIONS (Non-Ph.D.)

**Research Associate
Southern Weed Science Research Unit
USDA/ARS, Stoneville Mississippi
(Received 06/13)**

A postdoctoral position (GS-11; approximately \$37,000) is available starting October 1, 1997, to investigate the effects of several putative cellulose biosynthesis inhibitor herbicides. The project will cover four phases: 1) determine the effects of the herbicides singly and in combination on the formation of cell plates in synchronized BY-2 tobacco cells; 2) document changes to cell walls after habituation of tobacco cells to the presence of these herbicides; 3) determine changes to cotton fibers grown in vitro on these herbicides; 4) determine basis for resistance to these herbicides. Experience in electron or fluorescence microscopy and/or characterization of cell walls is beneficial. Scanning, transmission, and laser confocal microscopes all are essentially single-user instruments. Address correspondence to: Kevin C. Vaughn, USDA/ARS/ SWSL, P O Box 350, Stoneville, MS 38776; telephone 601-686-5211, fax 601-686-5422, e-mail: k.vaughn@ag.gov.

**FELLOWSHIPS, TRAINEESHIPS,
GRADUATE ASSISTANTSHIPS, ETC.**

**Postdoctoral and Graduate Student
Research Positions
University of Arizona, Tucson
(Received 05/19)**

The Research Training Program in Plant-Insect Interactions at the University of Arizona invites

applications for postdoctoral research associate and graduate student positions. This program, recently renewed by NSF for five years, has as its focus the molecular mechanisms underlying the interactions whereby herbivorous insects identify host plants, and whereby host plants might defend against such attack. This information can thereby provide a guide for genetic engineering of plants for protection against insects. Much of our interest focuses on the model plant, *Arabidopsis thaliana*. Specific projects under way include (1) the biochemistry and genetics of epicuticular waxes, (2) the phloem and the molecular basis of plant defenses against homopterans, (3) molecular characterization of the biosynthesis of phytosterols, and their role in insect nutrition, (4) comprehensive analysis of the plant P450 enzyme superfamily, through reverse-genetics in *Arabidopsis*, and (5) the olfactory basis for insect-plant interactions. Candidates having interests in areas other than those listed above are also encouraged to apply. The positions include a stipend, as well as support for research supplies and travel to scholarly meetings. Appointments are normally for three years, with the second and third year of funding dependent on progress. Please note, according to the conditions of the grant, stipend recipients must be citizens, nationals, or permanent residents of the United States. Further information can be obtained from our Website: <http://ag.arizona.edu/pii-rtg>. The University of Arizona is an equal opportunity/affirmative action employer. Women and minorities are urged to apply.

**Graduate Research Assistantships
Texas A&M Vegetable Improvement Center
College Station
(Received 06/11)**

Ph.D. and M.Sc. graduate student assistantships are available immediately for students interested in plant breeding and plant biotechnology as related to development of vegetable and fruit crops for enhancement of human health and nutrition. Current efforts are directed toward 1) identification and analysis of fruit and vegetable crops, and individual breeding lines, containing elevated levels of antioxidant flavonoids and carotenoids; 2) traditional and molecular breeding for introduction of these characteristics into commercial varieties; 3) assessment of anti-cancer activity of target compounds and crops in laboratory animals (in collaboration with the M.D. Anderson Cancer Center, Houston); and 4) identification, isolation, and manipulation of plant genes regulating levels of targeted compounds in edible plant tissues. Several assistantships are available beginning Fall 1997, Spring 1998, and Fall 1998 and include an out-of-state tuition waiver and full health coverage. M.Sc. assistantships are guaranteed for two years, while Ph.D. assistantships are guaranteed for three years at a minimum of \$11,000 and \$12,000 per year, respectively. Minimum requirements include a 3.0 GPA and 1100 GRE (combined verbal and quantitative scores). Degree options in Genetics, Plant Physiology and Biotechnology, Plant Breeding, Food Science, and Horticulture are available. These

assistantships are limited to U.S. citizens and resident aliens. For more information contact: Dr. Leonard Pike or Dr. Jim Giovannoni, Vegetable Improvement Center, 1500 Research Parkway, Suite 120, Texas A&M University Research Park, College Station, TX 77843-2119; telephone 409-862-4521, fax 409-862-4522, e-mail for Leonard Pike (l-pike@tamu.edu), Jim Giovannoni (jig@unix.tamu.edu). Texas A&M is an equal opportunity employer. Women and minorities are encouraged to apply.

**Graduate Research Assistantship
University of Florida, Gainesville
(Received 06/27)**

A half-time research assistantship (Ph.D.) is available to conduct studies involving selection and characterization of sugarcane somaclones exhibiting resistance to ALS-inhibiting herbicides. Relative resistance will be characterized using regenerated sugarcane plants and appropriate weed species. Susceptibility of ALS-resistant sugarcane to other classes of registered herbicides will also be evaluated. The successful student will have access to excellent facilities and faculty. The University of Florida is located in North Central Florida and has over 40,000 students with 21 colleges. If interested, contact Drs. Maria Gallo-Meagher (mgmea@gnv.ifas.ufl.edu), or Donn G. Shilling (dgs@gnv.ifas.ufl.edu), Agronomy Department, 2183 McCarty Hall, P.O. Box 110300, University of Florida, Gainesville, FL 32611-0300; telephone: 352-392-1823, fax 352-392-7248. Visit our web site at <http://www.ifas.ufl.edu/~agroweb/>.

**JSPF Postdoctoral Fellowships
National Institute for Basic Biology (NIBB)
Okazaki, Japan
(Received 07/03)**

Three long-term (1-2 years) and two short-term (3-12 months) fellowships are available immediately to work on several stress-related projects in plants, including molecular biology of temperature/salt stress tolerance, lipid biosynthesis, abscisic acid biosynthesis, and low temperature signal transduction in plants. NIBB is located on the campus of Okazaki National Research Institute in Okazaki, a mid-sized city with population approximately 320,000, 40 km from Nagoya city, and is located between Tokyo and Kyoto. The fellowship includes round-trip airline ticket, stipend 270,000 Yen/month (1 US\$ = ~115 Yen), family allowance 50,000 Yen/month, rental subsidiary up to 100,000 Yen/month, health insurance, relocation fees up to 200,000 Yen, and 150,000 Yen/year for domestic travel expenses. In addition, there will be 1.5 million Yen/year/researcher available for research materials and supplies. Candidates must be citizens or permanent residents of the United States and have obtained a Ph.D. degree within the past five years (after 1992). To apply, send a curriculum vitae and the names and phone numbers of three references to: Dr. Norio Murata, National Institute for Basic Biology, Okazaki 444, JAPAN. For more information, contact Dr. Norio Murata at NIBB fax 81-546-54-4866, e-mail Murata@nibb.ac.jp.

ASPP Headquarters Telephone Extensions and E-Mail Directory

For your convenience, keep this listing of extension numbers and e-mail addresses handy when you contact ASPP headquarters so that you can reach the person best able to assist you.

Our office telephone number is 301-251-0560

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