THE NEWSLETTER OF THE AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS

Volume 25, Number 5 September/October 1998

ASPPNEWS

BRIAN LARKINS ASSUMES ASPP PRESIDENCY OCTOBER 1

Dr. Brian A. Larkins, professor in the Department of Plant Sciences, University of Arizona, Tucson, will become president of the American Society of Plant Physiologists October 1, 1998. Larkins will lead the society in 1998–1999 and will continue on as immediate past president in 1999–2000.

Larkins earned a B.S. in education in 1969 and a Ph.D. in botany in 1975 from the University of Nebraska–Lincoln. He held a postdoctoral research associate position at Purdue University, West Lafayette, Indiana. Between 1976 and 1986, he was assistant professor, associate professor, and professor of biochemical genetics at Purdue. In 1986, he was named Hovde Distinguished Professor of Botany. From 1988 to 1993, he was head of Plant Sciences at the University of Arizona and in 1994 became the Harry W. and Elsie M. Porterfield Chair in Plant Sciences. Larkins's research concentrates on the structure and synthesis of seed storage proteins and the molecular, genetic, and cellular mechanisms regulating the expression of these genes.

Brian Larkins joined the Society in 1972. He has served on the Future Planning Committee, the Shull Award Committee, and the Executive Committee, first as an elected member and then as president-elect this past year. From 1978 to 1988, he was a member of the editorial board of *Plant Physiology;* in 1987, he was named an associate editor. He became associate editor of ASPP's new journal, THE PLANT CELL, in 1988 and was named editor-in-chief in 1993. His term as editor ended June 30, 1998.

Larkins was president of the International Society for Plant Molecular Biology in 1991–1992 and chaired the organizing committee of its Third Triennial Congress in 1991. He has held several positions related to the Gordon Research Conference on Plant Molecular Biology and has served on numerous review panels.

His awards include the ASPP Charles Albert Shull Award (1983) for "his pioneering studies of the molecular genetics of higher plants." In 1996, he was elected to the National Academy of Sciences.

Brian A. Larkins, ASPP President, 1998–1999

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Deadline for November/December 1998 *ASPP NEWS*: October 10, 1998

Future ASPP Annual Meetings

1999
Saturday, July 24, through Wednesday, July 28
Baltimore, Maryland
ASPP's 75th anniversary meeting

2000
Saturday, July 15, through Wednesday, July 19
San Diego, California

ASPPNEWS

ASPP NEWS is distributed to all ASPP members and is published six times annually, in odd-numbered months. It is edited and prepared by ASPP staff from material provided by ASPP members and other interested parties.

Copy deadline is the 10th day of the preceding even-numbered month (for example, December 10 for January/February publication). Submit copy by e-mail whenever possible; submit all other copy by mail, ***not by fax***.

Contact: Nancy A. Winchester, Editor, *ASPP NEWS*, 15501 Monona Drive, Rockville, MD 20855-2768 USA; e-mail nancyw@aspp.org; telephone 301-251-0560, ext. 17.

ASPP OFFICERS & STAFF

Headquarters Office
15501 Monona Drive
Rockville, MD 20855-2768 USA
Phone: 301-251-0560
Fax: 301-279-2996

Executive director, John Lisack, ext. 15 ..... jlisack@aspp.org
Director of finance and administration, Susan K. Chambers, ext. 11 ..... chambers@aspp.org
Accountant, Sondra A. Giancoli, ext. 10 ..... giancoli@aspp.org
Information specialist, Perry Masciana, ext. 46 ..... masciana@aspp.org
Member services coordinator, Kelley Noone, ext. 29 ..... knoone@aspp.org
Accounts receivable, Estella Coley, ext. 22 ..... estcoley@aspp.org
Administrative assistant, Zaneta (Janet) Bieglecka, ext. 63 ..... bieglecka@aspp.org
Director of public affairs, Brian M. Hyps, ext. 14 ..... bhyps@aspp.org
Foundation assistant, Janice Jordan, ext. 31 ..... jjordan@aspp.org
Director of publications, Nancy A. Winchester, ext. 17 ..... nancyw@aspp.org
Publications assistant, Sylvia J. Braxton, ext. 33 ..... sbraxton@aspp.org
Managing editor, Plant Physiology, Deborah I. Weiner, ext. 18 ..... dweiner@aspp.org
Managing editor, THE PLANT CELL, Crispin B. Taylor, ext. 19 ..... ctaylor@aspp.org
News and reviews editor, THE PLANT CELL, (vacant)
Production editor, Plant Physiology, Lauren Ransome, ext. 30 ..... lransome@aspp.org
Production editor, Plant Physiology, Suzanne M. White, ext. 23 ..... suzanne@aspp.org
Production editor, THE PLANT CELL, Catherine A. Balogh, ext. 16 ..... balogh@aspp.org
Manuscript manager, Annette Kessler, ext. 20 ..... akessler@aspp.org
Manuscript assistant, Kimberly A. Davis, ext. 24 ..... kimdavis@aspp.org
Manuscript assistant, Stephanie M. Butto, ext. 25 ..... butto@aspp.org

A Third Journal?

Publishing is ASPP's largest single activity. It accounts for about two-thirds of our approximately $4 million annual budget and occupies the time of more than half the staff at ASPP headquarters. Most of this money and time go into our two journals, *Plant Physiology* and THE PLANT CELL. By all indications, these efforts are a resounding success. Both journals are at or near the top of the list when plant biology journals are arranged according to impact factor, a measure recorded by the Institute for Scientific Information. Additionally, both journals have been operating in the black for the past few years, because member and institutional subscriptions have remained strong. In addition to our successful journals, ASPP is currently undertaking a new experiment in textbook publishing, with *Biochemistry and Molecular Biology of Plants* scheduled for publication next year.

Should the Society be satisfied with our current successful publications efforts? Or should we try to anticipate future trends and change so that our publications efforts meet the needs of the next generation of plant biologists? The Executive Committee has chosen the second strategy and has established two ad hoc committees within the past year to help us look into the future. The first was a global "visioning" committee charged with examining the issues related to publishing books and journals in plant biology. It was chaired by Joanne Chory and included Sally Assmann, Roger Hangarter, Steve Rodermel, David Stern, and Chris Zinselmeier, with Pam Green serving as liaison to the Publications Committee. Among the committee's recommendations was that ASPP expand its publications efforts in the rapidly developing area of plant genomics, either by modifying the scope of the two existing journals or by creating a new journal. In response to this suggestion, a second committee was formed, chaired by Jeff Bennetzen and including Joe Ecker and Rob Martienssen, with Rob Last serving as liaison to the Publications Committee. This committee's charge was more specific: to advise the Society on whether a need and an opportunity exist for ASPP to initiate a new journal in the area of plant genomics.

The report from the ad hoc genomics committee was presented to both the Publications Committee and the Executive Committee at our annual meeting in Madison. The committee recommended that ASPP begin immediately to explore the possibility of publishing a new journal titled *Plant Genomics*. The group predicted that "data generation in plant genomics will expand tremendously in the next few years, starting immediately, and will continue to grow at a very high rate for at least 5–10 more years." It noted problems with most of the current outlets for plant genomic information and concluded that indeed a need did exist for a new journal. Although the committee offered helpful suggestions regarding the scope and format of the proposed new journal, it also raised many important issues and questions that need attention—for example, how to resolve the interface/overlap with our existing journals.

The Executive Committee acted favorably on the recommendation to explore a new journal and charged the Publications Committee with overseeing planning. Because of the long lead time needed to bring a new journal to fruition, it was agreed that planning should begin as soon as possible. Consequently, the Publications Committee has commenced work and plans to have a very specific proposal to the Executive Committee for consideration at its February meeting. Clearly, there are significant risks associated with initiating a new journal at this time. However, there are also significant risks in maintaining the status quo when plant biology is changing so rapidly. If you have comments on the path that ASPP should follow or specific suggestions regarding a proposed new journal called *Plant Genomics,* please contact me or other members of the Executive Committee sometime between now and February.

Ken Keegstra
Michigan State University
keegstra@pilot.msu.edu

Watch your mail for the November/December edition of the *ASPP NEWS*. It will contain the Plant Biology '99 'Call for Abstracts' and other important information about ASPP's special 75th Anniversary meeting.

DEBORAH DELMER ELECTED TO LEAD ASPP IN 1999-2000

Vicki Chandler Elected to Executive Committee

Results of the 1998 ASPP election of officers were announced in late June at Plant Biology '98. Dr. Deborah Delmer, professor and chair of the Section of Plant Biology at the University of California, Davis, will assume the office of president-elect of ASPP on October 1, 1998. She will lead the Society as its president in 1999–2000 and will continue on as immediate past president in 2000–2001.

Delmer received her A.B. degree in bacteriology with honors in 1963 from Indiana University and her Ph.D. in cell biology in 1968 from the University of California, San Diego, studying tryptophan biosynthesis in plants. Her long-standing research interest in the structure and biosynthesis of the plant cell wall began when she worked as a postdoc with Peter Albersheim studying the enzyme sucrose synthase. Delmer has also held faculty positions at The Hebrew University of Jerusalem and at the Michigan State University–Department of Energy Plant Research Laboratory. In addition, she worked as principal scientist at the ARCO Plant Cell Research Institute in Dublin, California.

Delmer's major research focus has been on the biosynthesis of cellulose in higher plants. Her teaching focus has been on general and plant biochemistry. She has served on review panels for granting agencies in the United States and Israel; on editorial boards for *Plant Physiology, Plant and Cell Physiology,* and the *Annual Review of Plant Physiology and Plant Molecular Biology*. She also served ASPP as a member of the nominating committee for the Gude Award as well as the ASPP Executive Committee.

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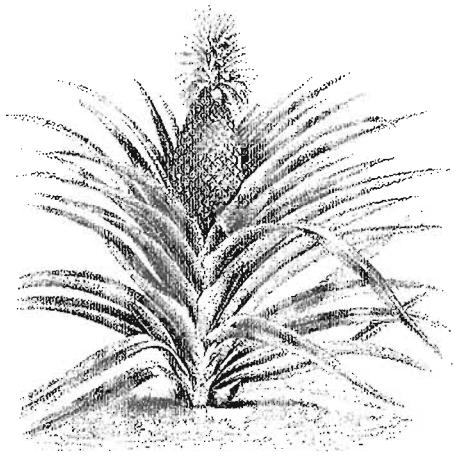
Vicki Chandler, who will begin her term as elected member of the Executive Committee on October 1, is professor in the Department of Plant Sciences, University of Arizona, Tucson, which she joined in 1997. Before that, she was professor in the Department of Biology and Institute of Molecular Biology at the University of Oregon, Eugene. She did postdoctoral research at the Department of Biological Sciences at Stanford University, working with Virginia Walbot. She has a B.A. in biochemistry from the University of California, Berkeley, and a Ph.D. in biochemistry from the University of California, San Francisco. Her work focuses on gene regulation in plants, with an emphasis on the regulation of the anthocyanin genes. One particular area of interest is how the regulatory genes of the pathway are themselves regulated by tissue-specific and environmental signals.

Chandler holds numerous awards and has served on a variety of panels and committees. She chaired the 1994 Plant Molecular Biology Gordon Conference, cofounded and cochaired the 1995 Epigenetics Gordon Conference, and currently is a member of the board of trustees of the Gordon Research Conferences. She was also a member of the board of directors of the Genetics Society of America. In 1995, she was named a monitoring editor for *Plant Physiology*. Currently she is an associate editor for *Plant Physiology* in the areas of gene regulation, molecular genetics, and genomics.

On the ballot, ASPP members approved the selection of Marshall Hatch and Harry Smith as corresponding members of the Society. See the citations for the awards presented to Drs. Hatch and Smith as well as to other award recipients in a related article on page 5.



The 1999 Dues and Subscription Renewal packages will be sent to all ASPP members in October. Other important information included in the packets are publications and Annual Reviews order forms, and ASPP Education Foundation information. A request to fill out your ASPP Pedigree Form to assist us in preparing an "ASPP Family Tree" for the 75th Anniversary meeting in Baltimore on July 24 - 28, 1999, is also included and should be returned as promptly as possible.

Award Honorees at Plant Biology '98

Following are the citations for the awards that were presented June 28, 1998, at the Annual Awards Ceremony at Plant Biology '98, the annual meeting of the American Society of Plant Physiologists, held this year in Madison, Wisconsin.

Charles Reid Barnes Life Membership Award
William Paul Jacobs

The Barnes Award is the oldest ASPP award. It was established in 1925 in honor of Dr. Charles Reid Barnes, the first professor of plant physiology at the University of Chicago. It is an annual award of life membership in the Society given to recognize the recipient for meritorious work in plant physiology.

The Barnes Award goes to William Paul Jacobs to honor his long and productive career in plant physiology. Dr. Jacobs has contributed a large number of consistently excellent publications, including several exceptional papers that brilliantly illuminate certain areas of plant physiology and development. His research interests over the course of his career have been broad and include gynophore development; vascular tissue distribution and its control by the plant; polar auxin transport in shoots, petioles, and roots; studies of the movement of other plant hormones in plant tissues; studies of leaf abscission, photoperiodism, and flowering; apical dominance; senescence; and algal physiology and development. Dr. Jacobs has served the scientific community and the Society in many capacities, including as an editor of *Plant Physiology*. He has been an excellent mentor to undergraduates, graduates, postdoctorals, and sabbatical visitors and a model of the caring yet rigorous scientist.

Stephen Hales Prize
Hans Kende

The Hales Prize honors the Reverend Stephen Hales for his pioneering work in plant physiology published in his 1727 book *Vegetable Staticks*. It is awarded biannually to an individual who has served the science of plant physiology in a noteworthy manner.

Hans Kende has made seminal contributions to our understanding of the mode of action of the hormones gibberellin, cytokinin, and ethylene. His early work demonstrated that roots have a hormonal influence on processes that occur in the shoot and that stress encountered by the roots is communicated to the shoot via a translocated signal. Kende used inhibitors of gibberellin biosynthesis to describe the mode of action of this hormone, and as part of his research on the mode of action of ethylene, he developed the first in vitro assay for ACC synthase. This work led to the recognition of the role of ACC synthase as the rate-limiting step in ethylene production. Dr. Kende's successful search for mutants in the ethylene response pathway showed that molecular genetics could be applied to hormone physiology and later resulted in the isolation of the first plant hormone receptor. His elegant studies on stem elongation in deepwater rice have yielded new insights into the intricate interplay of hormonal signals in plant growth.

Dr. Kende has been an outstanding contributor to and a champion for plant biology through his membership on advisory panels in universities, the government, and the National Academy of Sciences and through his service on the editorial boards of scientific journals. Numerous scientists trained in his laboratory have become leaders at other institutions and have themselves made important contributions in many areas of plant biology. His many honors include election to the National Academy of Sciences and a *doctor honoris causa* degree from the University of Fribourg.

Charles F. Kettering Award for Excellence in Photosynthesis
Bob B. Buchanan

The Kettering Award was established by an endowment from the Kettering Foundation in 1962 to recognize excellence in the field of photosynthesis. It is awarded biannually.

Bob Buchanan begin his career in plant biochemistry when he joined the Department of Cell Physiology at the University of California at Berkeley, where he was initiated into the field of photosynthesis through his collaborations with Professor Daniel Arnon. Dr. Buchanan's early work with photosynthetic bacteria focused on the pathways these organisms use to fix CO_2. At the time, it was widely accepted that the reductive pentose phosphate cycle, or the Calvin cycle, was the sole CO_2-fixing pathway in photosynthetic organisms, but Buchanan and his collaborators identified a new carbon assimilation pathway in these bacteria. This pathway, which is now known as the reductive carboxylic acid pathway, utilizes a number of enzymes that had been considered to be components of the tricarboxylic acid cycle. However, Buchanan's biochemical studies demonstrated that these enzymes also participate in CO_2 fixation by using reduced ferredoxin generated through the light reactions of photosynthesis as their electron donor.

Dr. Buchanan then moved on to consider whether reduced ferredoxin could play a direct role in CO_2 fixation in oxygen-evolving photosynthetic organisms. In this work, he made a series of major discoveries that have become fundamental to our understanding of the biochemistry of the chloroplast. For example, he and his coworkers determined that photoreduced ferredoxin reduces a low molecular mass protein, thioredoxin. Reduced thioredoxin then reductively activates a series of enzymes involved in CO_2 fixation. These studies established that the ferredoxin/thioredoxin system provides a mechanism for up-regulating enzymes of the CO_2 fixation pathway in the light. Thus Dr. Buchanan's work provided evidence that light is not only a substrate for photosynthesis, but that it also plays a role in regulating reactions that had been considered to be independent of light.

Dr. Buchanan has continued his studies of the thioredoxin system in plants and has extended this work to include investigations of the role of thioredoxin in seed germination and the evaluation of possible biotechnological applications. Although his work has always been based on sound principles of basic biochemistry, it is now expanding far beyond the laboratory bench to encompass new areas that may one day yield foods of improved quality.

Adolph E. Gude, Jr., Award
Machi Dilworth

The Gude Award honors the Gude family, who made possible the establishment of the Gude Plant Science Center. It was first given in 1983 and is awarded triennially to a scientist or lay person in recognition of outstanding service to the science of plant physiology.

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Dr. Dilworth has an impressive record of dedicated service in promoting research in plant biology. From 1990 to 1997, she served as program director of both the National Science Foundation's Division of Integrative Biology and Neuroscience and the Division of Biological Infrastructure. She currently is acting division director of the National Science Foundation's Division of Biological Infrastructure. Before 1990 she served as associate program manager in the USDA National Research Initiative Competitive Grants Program.

Despite her heavy administrative commitments, Dr. Dilworth has found time to stay well informed about current research practices and goals in many aspects of biology, agriculture, and nonmedical biotechnology. She is particularly skilled at helping the plant biology community develop effective scientific infrastructure, showing keen foresight in fostering the development of collaborative approaches to plant biology, including the development of common facilities that serve the entire community. She has also played a key role in the establishment and success of the NSF-funded Arabidopsis database, the Arabidopsis seed and clone stock centers in Columbus, Ohio, and Nottingham, United Kingdom, the Arabidopsis Expressed Sequence Tag database, and the NASA/NSF Joint Program in Plant Biology. Her tireless efforts in promoting collaborative research in plant biology have facilitated progress in countless individual laboratories and enhanced the rate of discovery in many areas of plant physiology.

Excellence in Teaching Award
Carol Reiss

This award was initiated in 1988 to recognize outstanding teaching in plant biology. It is made not more than triennially in recognition of excellence in teaching, leadership in curricular development, or authorship of effective teaching materials in the science of plant biology.

The American Society of Plant Physiologists recognizes the contributions of Carol Reiss to the teaching of plant biology with its 1998 Excellence in Teaching Award. Ms. Reiss has shown particular innovation in bringing the excitement of investigative plant biology to the teaching classroom, especially in large, multiple-section introductory courses. Her laboratory manuals as well as her activity on the ASPP Education Committee and at the ASPP Teaching Booths at the Society's national meetings have brought her thoughtful innovations to the wider community of plant biologists. She has always had the best interest of her students at heart and has worked diligently to engage them and to stimulate their interest in plants.

Corresponding Membership Awards

This honor, initially given in 1932, provides life membership and Society publications to distinguished plant physiologists from outside the United States. The honor is conferred by election on the annual ballot.

Marshall D. Hatch

Marshall D. Hatch has been a world leader in plant biology for almost four decades. His numerous original ideas, and the experiments that support them, have contributed immensely to our body of knowledge across the whole spectrum of plant biology. Dr. Hatch has especially concentrated his efforts on the biochemistry of C_4 photosynthesis. In addition to his initial delineation of the C_4 pathway with Roger Slack, he has contributed many additional concepts, such as C_4 subtypes, the energetics and significance of the pathway, mechanisms of metabolite transport between and within cells, and mechanisms of enzyme regulation. He was the first to identify the unusual regulatory mechanism controlling pyruvate Pi dikinase, a key C_4 pathway enzyme, and contributed to current understanding of the redox regulation of NADP-linked malate dehydrogenase. His work has expanded C_4 photosynthesis into a new knowledge base that encompasses such diverse areas of plant biology as ecology, anatomy, taxonomy, physiology, ultrastructure, agriculture, evolution, and even global climate regulation.

Harry Smith

Since the early 1960s Harry Smith has consistently made important scientific contributions to our knowledge of photomorphogenesis. These have ranged from the ecological to the molecular and genetic. It was Dr. Smith who first began investigating how light conditions in the natural environment might affect phytochrome photoequilibria and modify growth, and it was he who first described the shade avoidance response. His demonstration that phytochrome has a major function in controlling the growth and architecture of fully green plants in the natural daylight environment not only revolutionized the way in which researchers think about the biological functions of the photoreceptor, but also provided a molecular framework for understanding and manipulating the competitive interactions between plants for their most important resource, photosynthetically active radiation. Mutants and transgenic plants have played an extremely important role in these studies, and their use has allowed Dr. Smith to provide definitive information on the roles of the different phytochromes and other photoreceptors in nature. He has combined field studies with the most rigorous laboratory analyses to put an enormous volume of abstruse laboratory findings into the perspective of the real world. His contributions to plant physiology have extended beyond his highly innovative science. He has been a founding editor of two journals and has played a major role in bringing the international photomorphogenesis community together by organizing international meetings.

Plant Biology '98: An Overview

Judging from the constant hum of activity at the Monona Terrace Convention Center, Plant Biology '98 was a roaring success. This year's annual meeting, held in Madison, Wisconsin, offered many highlights and some notable changes. Of particular significance were the combined opening symposia organized in conjunction with the 9th International Conference on Arabidopsis Research. The two groups decided to coordinate their meetings this year because both share a keen interest in understanding many of the same fundamental questions in plant biology. Moreover, significant advances in scientific understanding spring from multidisciplinary approaches and, indeed, the featured lectures illustrated the convergence of biochemical, molecular, and genetic strategies applied to basic questions about how plants function as multicellular organisms. Very exciting results describing emerging plant hormones and cell-to-cell communication were presented.

The opening symposia were very well attended, attracting nearly 2,000 participants. In addition, three other major symposia were held that presented the latest insights into tropisms, plasmodesmata, and cell wall dynamics. The two meetings generated a great deal of excitement among plant biologists and even sparked a very positive meeting report in the July 17 issue of *Science* (see related article on page 10).

In addition to the successful joint symposia, Plant Biology '98 offered ASPP the opportunity to test a new format for the afternoon sessions. Instead of running concurrent 15-minute oral sessions in the afternoons, the Program Committee instituted a minisymposium format that decreased the number of competing sessions and lengthened the talks to 25 minutes. This change gave speakers the chance to aim their talks to a broader audience by allowing for a more complete presentation of their field. Although there were fewer sessions in the new format, the Program Committee believes a wide spectrum of research interests were represented in the 22 minisymposia presented at the meeting. The new format gave attendees the rare opportunity to learn about, or catch up with, areas that are not part of their personal research programs. The many positive comments we have received indicate that this change was indeed welcome.

In another innovation, posters were hung for the entire meeting and authors were requested to present their posters on two different occasions. This change ensured that everyone had ample opportunity to visit with as many authors as possible. This innovation was so well received that we plan to expand the concept next year by introducing an evening poster session—in addition to traditional poster sessions during the day—that all authors will be encouraged to attend. Product demonstrations and refreshments will be featured at the evening session to generate a comfortable environment for spirited and open discussion of exciting research advances.

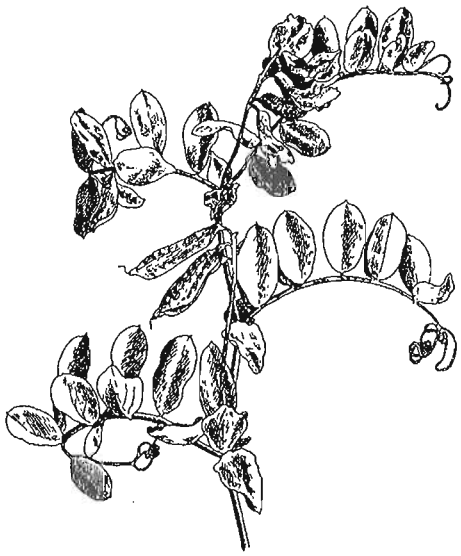
The annual meeting offers more than scientific lectures and discussion, however. It also is an important forum for networking with colleagues and visiting old friends. Although these activities are often a component of our social events, workshops and luncheons also serve to extend one's professional training and to enhance interactions with peers. Such gatherings include the luncheons of the Minority Affairs Committee and the Committee on the Status of Women in Plant Biology, the education workshop, the career opportunities workshop, and the Perspectives of Science Leaders presentations. This year's featured speaker for the "Perspectives" program, Dr. Mary Clutter, assistant director of the National Science Foundation and head of the Biological Sciences Directorate, gave an overview of relevant events in Washington.

Attendance at Plant Biology '98 topped 1,300. The several hundred registrants from the Arabidopsis conference that attended the joint sessions pushed total attendance toward 2,000. In fact, Plant Biology '98 produced the largest meeting to date at the Monona Terrace Convention Center. The center was designed by Frank Lloyd Wright and featured his trademark sweeping curves and geometric forms. Many of the public areas were enclosed by floor-to-ceiling windows that looked out onto picturesque Lake Monona. During session breaks, attendees and exhibitors could view sailboats, jet skis, and other watercraft traversing the lake and watch roller bladers and bikers enjoying the lakeside bike path.

As usual, one of the highlights of the meeting was the opening mixer. This year the setting was the spectacular Monona Terrace Rooftop Garden. A perfect evening of networking with old friends and new acquaintances was enlivened with entertainment by a live polka band. Alas, the lively rooftop conversations and dutiful samplings of Wisconsin brews and cheeses were cut short by a late evening thunderstorm, but the party and libations quickly resumed inside the convention center.

Much of the information and correspondence and many of the forms for Plant Biology '98 were available on ASPP's Web page or sent via e-mail. Almost all of the abstracts were submitted through the Web site and had been available on the Internet for searching and viewing since early spring. Many attendees submitted their conference registrations and housing requests through the Web. E-mail reminders were sent to presenters several weeks before the meeting. Last but not least, a post-meeting survey was waiting in each registrant's e-mail inbox upon their return home. A healthy response of approximately 400 surveys has been received, and tabulation is under way. The Program Committee will discuss an analysis of the responses at its October meeting. The committee welcomes suggestions to aid in future improvements and evolution of the meeting. Indeed, exciting innovations are planned for Plant Biology '99 in Baltimore—**ASPP's 75th Anniversary**—July 24–28, 1999! Stay tuned . . . don't miss it!

Dan Bush, ASPP Secretary and Program Committee Chair
Susan Chambers, ASPP Program Committee Staff Liaison



NEW MANAGING EDITOR FOR THE PLANT CELL

Crispin Taylor, former news and reviews editor for THE PLANT CELL, was promoted in July to the position of managing editor of the journal.

In his new role, Crispin will have primary responsibility for the efficient management and administration of all phases of the journal's operation. He will work closely with editorial and manuscript tracking staff and the director of publications, as well as with new editor-in-chief Ralph Quatrano and the editorial board of THE PLANT CELL.

Crispin is already thoroughly familiar with THE PLANT CELL. During his tenure as news and reviews editor, he handled all of the occasional review articles that are published in the journal, as well as the monthly "In This Issue" articles, meeting reports, and letters to the editor that make up the front section. In addition to his work on the front section, Crispin edited and produced the October 1996 special issue on Plant–Microbe Interactions and the July 1997 special issue on Plant Vegetative Development. As managing editor, he will also be overseeing the upcoming special issue on Cell Biology, to be published early in 1999.

Crispin sees his primary challenge in his new role as upholding THE PLANT CELL's commitment to its readers to deliver information as rapidly as possible and to its authors to publish their material quickly. He is especially enthusiastic about the many opportunities offered by the Internet. For example, Crispin engineered the online release of the September issue of THE PLANT CELL a full two weeks before the print version mailed. This innovative initiative, which will be continued with subsequent issues of the journal, gives readers around the world access to the information they need well before the printed journal appears in their mailbox.

Before joining ASPP, Crispin was a postdoctoral research associate in Ralph Quatrano's laboratory at the University of North Carolina, Chapel Hill, where he worked on the effects of adhesion on the development of the brown alga *Fucus*. A native of Wimbledon, United Kingdom, he received his B.Sc. from the University of Surrey in 1983. He earned his Ph.D. in 1993, working with Pamela Green at the Michigan State University–Department of Energy Plant Research Laboratory.

Crispin fills the vacancy created by the departure of Judy Grollman, who served as managing editor since the journal's inception in 1989. He is already hard at work finding a news and reviews editor to fill the slot resulting from his promotion. Until then, he does double duty.

Crispin Taylor, managing editor of THE PLANT CELL

New Staff

Stephanie Butto has joined the ASPP staff as manuscript tracking assistant. She replaces Aphrodite Knoop, who left the Society in July. Stephanie will be responsible for handling the circulation of manuscripts submitted to *Plant Physiology*. She is a recent graduate of Trinity College in Washington DC, where she was editor of the college literary journal and actively involved in the development of an intergenerational literacy program for DC READs. We're delighted to welcome her on board.

Stephanie Butto, manuscript tracking assistant

Conference to Decide on Funds for NRI, ARS, and Initiative for Future Agriculture and Food Systems

The $120 million-a-year, five-year competitive grants program for research, education, and extension called the Initiative for Future Agriculture and Food Systems would go into effect under the fiscal year 1999 spending bill for the U.S. Department of Agriculture approved by the Senate (S. 2159). However, the House-approved appropriations bill (H.R. 4101) includes no funding for the initiative.

H.R. 4101 would provide $99.5 million for the National Research Initiative (NRI), about $4 million more than the Senate bill. (An amendment sponsored by Senator Charles Robb (D-VA) on the Senate floor took $5 million from the NRI to fund an extended time period for minority farmers to file discrimination claims against the USDA. Another amendment in the Senate put $3 million back into the NRI for food safety research.)

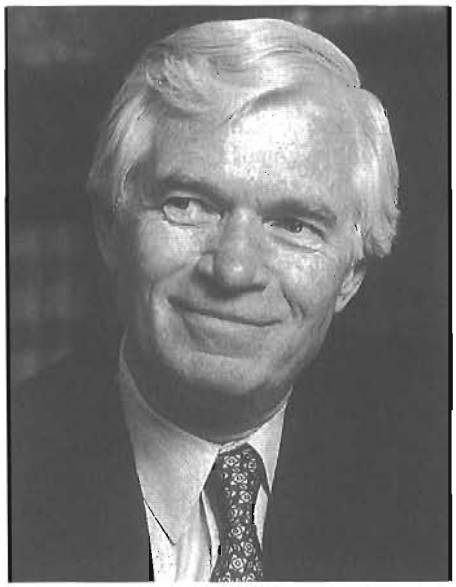
For the Agricultural Research Service, both the House and Senate are seeking increases, with the Senate making a higher recommendation.

The Initiative for Future Agriculture and Food Systems has traveled a long and bumpy road through Congress. Even after it was approved in the Agriculture Research Reauthorization bill following substantial efforts by Senator Richard Lugar (R-IN) and his colleagues, the separate House Appropriations Committee kept funding in doubt by calling for no spending for this initiative.

The House Appropriations Committee earlier refused to accept user fees or abolition of special grants proposed by the USDA in the FY99 budget. This left the committee with a shortfall in available funds for existing programs. The appropriations committee has a long history of exclusive jurisdiction over spending for research, and some key members did not favor the Initiative for Future Agriculture's planned use of mandatory funds, which would have skirted the spending jurisdiction of the appropriations committee. The combination of limited available funds and opposition to creating a mandatory program for research led to the House Appropriations Committee action on the initiative.

Fortunately, Senate Appropriations Subcommittee on Agriculture Chair Thad Cochran (R-MS), who is also a member of the authorizing Agriculture Committee, supports the Initiative for Future Agriculture and Food Systems and protected it with his colleagues in the Senate appropriations bill. With the two different versions on the conference table, there is still the prospect that the initiative will survive. Some predict that funding will be less than $120 million a year if the initiative is part of the eventual conference agreement.

ASPP Campus Contacts have been requesting their members of Congress to urge conferees to support the Senate provision for the Initiative for Future Agriculture and Food Systems and to support the House provision for the NRI. Letters and calls from constituents are particularly needed during this near-final stage of action on the bill.



An additional $600 million over five years for a new USDA competitive grants program for research is contained in the Senate-passed version of the fiscal year 1999 appropriations bill. Senator Thad Cochran (R-MS) will lead negotiations in conference for the Senate majority.

1999 Membership and Subscription Renewal Forms
Will Be in the Mail SOON!

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House Seeks $40 Million as Bond Keys $50 Million Senate Request for NSF Plant Genome Research

A conference of House and Senate members will decide if the plant genome initiative of the National Science Foundation will receive $40 million in fiscal year 1999 or up to $50 million as recommended by the Senate.

Senator Christopher "Kit" Bond (R-MO) steered through to passage in the Senate a recommendation for $50 million for the plant genome initiative. Last year Bond succeeded in engineering enactment of the initial $40 million plant genome initiative for NSF. ASPP Campus Contacts are seeking support of the Senate recommendation for $50 million in plant genome research in the House/Senate conference.

Acceptance of Bond's proposal would better assist NSF in meeting the objectives identified by the White House–appointed Interagency Working Group (IWG) in its January 1998 report *National Plant Genome Initiative*. The IWG is chaired by Dr. Mary Clutter, NSF assistant director and head of the Biological Sciences Directorate, and by Dr. Eileen Kennedy, USDA deputy undersecretary for research, education, and economics.

The IWG report found that the plant genome initiative could help revitalize rural America through creating a more robust agricultural sector, reduce greenhouse gas emissions through the more efficient production of plant biofuels for energy, reduce worldwide malnutrition through the development of higher yielding and more nutritious crops that can be grown on marginal soil, and help clean polluted sites that have certain comtaminants.

The president's request for the plant genome initiative for FY99 is $40 million. Among the ASPP members working with members of the Appropriations Subcommittee on VA, HUD and Independent Agencies (including NSF) to seek increased support for plant genome research is Pubic Affairs Committee member Jim Siedow (Duke University), who has met with Representative David Price (D-NC) and his staff. Doug Randall (University of Missouri), chair of the ASPP Board of Trustees, is continuing his efforts on plant genome research in meetings with Senator Bond and his staff again this year. Randall also held timely meetings with Senator Bond concerning the plant genome initiative last year. Many other ASPP members are working with their congressional offices in support of the plant genome initiative.

Prior to conference and during House consideration of the appropriations bill for NSF, an amendment proposed by Representative Mark Sanford (R-SC) to reduce funding for NSF research activities by $269 million in FY99 was debated on the House floor (July 29) and was defeated on a voice vote.

Representative Bruce Vento's (D-MN) proposed amendment to reduce NSF research and related activities by $107 million so that $30 million could be added to a federal emergency food and shelter program was offered, discussed, and then withdrawn.

During debate on the proposed amendments, supporters of the Sanford amendment said they had the backing of a taxpayer watchdog group and a citizens group opposed to public waste. Efforts in support of the Sanford and Vento amendments were believed to be exceeded by constituent efforts from plant scientists and others in the science and engineering community in opposition to the damaging amendments.

Plant Biology in the Genome Era

A story entitled "Plant Biology in the Genome Era" in the July 17, 1998, issue of *Science* explained research presented at the ASPP annual meeting in Madison that is leading to increases in the vitamin and nutrient content of plants to address deficiencies in human diets.

The *Science* story noted that during the past two decades, genetic engineers have developed plants that resist disease and herbicides and that produce pharmaceutical products and even plastic. A handful of academic and industry labs around the world are working on a new area of research that Dean Della Penna of the University of Nevada refers to as "nutritional genomics," the story noted.

"Della Penna himself is coaxing plants to churn out more vitamin E in a form that the human body can easily use, while other projects still in the works focus on vitamin A and iron. The market for such fortified plants might be health-conscious consumers who dislike taking vitamin pills, or those in the developing world who lack access to the necessary micronutrients," according to the story.

Della Penna is working with Arabidopsis in his research. Chris Somerville, of the Carnegie Institution of Washington, said this approach can be expected to be introduced to crop species very quickly.

The story noted that research is being conducted to engineer rice to produce vitamin A, which could help address human deficiencies of the vitamin in regions where rice is a dietary staple. "Iron—the most common nutritional deficiency worldwide—is another target," plant biologist Mary Lou Guerinot, of Dartmouth College, told the meeting. Guerinot hasn't yet engineered iron-fortified plants, but she and her coworkers have "identified an Arabidopsis gene that codes for a protein that allows the plant to take up iron from the soil. They have also just found a similar group of transporters for zinc, another necessary micronutrient," said the *Science* story. "Manipulating these transporter proteins could allow them to boost the amount of minerals a plant takes in. If such work eventually produces fortified crops, there may be an alphabet of new reasons to eat your vegetables," the story noted.

Christine Mlot, who wrote the story, attended each day of the ASPP annual meeting and met with a number of ASPP members to discuss their research.

ASPP Members Beachy, Briggs to Head Plant Science Centers Slated for St. Louis, San Diego

A public–private consortium has announced the creation of a $146 million center in St. Louis devoted to basic plant science and sustainable agriculture. *Science* reports in its July 17 issue that the not-for-profit center will have a $15 million annual budget and a staff that will include more than 80 scientists.

The new not-for-profit center, to open in 2000, would be rivaled in size nationwide only by the Boyce Thompson Plant Research Institute in Ithaca, New York. "And it won't be the only new kid on the block. Later this summer, Novartis AG is expected to announce a $250 million plant genomics institute to be built outside San Diego," *Science* reported.

ASPP member Charles Arntzen, president of the Boyce Thompson Institute, is quoted in the story as saying that these major developments are "an indication of the emerging importance of plant science in the United States."

William Danforth is chair of the center's board as well as the board of Washington University in St. Louis. The Danforth Foundation, based in St. Louis, is contributing $60 million to the center's endowment. The other major contributors are the Monsanto Fund and Monsanto, which together will provide $81.4 million in funding and other support. Washington University, the Missouri Botanical Garden, and the University of Missouri, Columbia, are also founders of the center. The University of Illinois at Urbana–Champaign is part of the center, and one or two regional universities with strong agricultural programs may join. The center will operate independently of its backers as a coalition of public and private organizations.

ASPP member Roger Beachy of the Scripps Research Institute in La Jolla, California, was the "rumored candidate" to head the center at the time the *Science* article appeared. Beachy has since confirmed that he will head the St. Louis center. Ralph Quatrano, new chair of the Department of Biology at Washington University, said he was "very excited about the recent activities to create a unique and diverse group of institutions that will focus their respective strengths toward plant biology in the next several decades. Having an independent center as a hub for these activities is ideal. And, being part of Washington University's continuing commitment to plant sciences, I am especially looking forward to having Roger Beachy lead the new center and working with him to make the St. Louis area a worldwide hub for plant science." Quatrano is editor-in-chief of THE PLANT CELL and a member and founding chair of the ASPP Committee on Public Affairs.

More information will be available later on the $250 million plant genomics institute Novartis is planning to build outside San Diego. The *Science* article said that ASPP member Steven Briggs, former co-editor of THE PLANT CELL and former biotech researcher at Pioneer Hi-Bred International in Johnston, Iowa, will head the institute.

Monsanto, Novartis, and Pioneer are also major contributors to the ASPP Education Foundation. All three organizations have representatives serving on the ASPP Education Foundation Board. Rob Horsch, ASPP member and former co-editor of THE PLANT CELL, represents Monsanto on the ASPP Education Foundation Board and is Monsanto's new president of the Sustainable Development Sector and vice president and general manager of the Agracetus campus. Edward Shonsey, who represents Novartis on the ASPP Education Foundation Board, is president and CEO of Novartis Seeds. Shonsey and Novartis hosted the ASPP Education Foundation Board spring meeting in Minneapolis. Charles S. Johnson, president and CEO of Pioneer Hi-Bred International, is a member of the ASPP Education Foundation Board.

Industry Investment in Research Increases While Use of Publicly Funded Research Grows

The National Science Board (NSB) observed in its biennial report *Science & Engineering Indicators—1998* that patents granted in the U.S. patent system are increasingly linked to public research. U.S. inventors are increasingly taking advantage of the results of research performed in universities, government laboratories, medical schools, and nonprofit organizations, the NSB found.

A second major observation that the NSB made in its report is that U.S. industry is spending more on its own research (reversing a trend of cutbacks that began in the late 1980s) while continuing investment in basic and applied research at universities and colleges. The NSB said that the continued investment by U.S. industry in research at universities and colleges remains "relatively small." U.S. industry's investment in basic research performed at American universities and colleges increased in real terms by 20 percent from 1991 to 1997, rising to a total of $1.05 billion in 1997 dollars. This amount represents about 6.5 percent of all academic basic research expenditures.

U.S. industry support of its own basic research efforts decreased in constant dollars from $6.3 billion to about $5 billion from 1991 through 1995. But this investment began to rise in 1996 and was projected to continue rising by 1997 to an estimated $6.5 billion in current dollars, or $5.7 billion in constant dollars.

Industry financing of its own applied research decreased by about 16 percent from 1991 through 1994, but was projected to be up 37 percent in real terms by 1997 to an estimated $28.6 billion in current dollars.

The NSB is charged with monitoring the health of the nation's science and engineering enterprise and advising the president and Congress on policy matters pertaining to research and education in the sciences and engineering. The NSB paper on Industry Trends in Research Support and Links to Public Research, which includes observations from *Science & Engineering Indicators—1998,* can be found on the NSB Web site at http://www.nsf.gov/nsb/documents.

Weyerhaeuser Company Foundation Supports ASPP Education Foundation

The Weyerhaeuser Company Foundation recently granted a donation to the ASPP Education Foundation to strengthen and improve plant science education.

The Weyerhaeuser Company Foundation gives to a wide range of interests through its volunteer Industry-Related Grantmaking Team, which recommends all grant selections. The team favors grants that will have an impact on the communities in which the Weyerhaeuser Company has locations. These locations span the nation, as does the focus of ASPP Education Foundation projects.

A major area of focus includes projects that foster a better understanding of issues important to the forest products industry. These projects are designed for elementary through college students and lead to districtwide improvements in public schools in Weyerhaeuser communities. Another area of focus is on projects that help maintain a balance between environmental protection and a viable economy.

The Weyerhaeuser Company provides major products for the forest products industry, including sawmills and planing mills, logging, millwork, hardwood veneer, and plywood. In 1997, the company partnered with the Environmental Defense Fund to save an imperiled forest and its wildlife in North Carolina, exemplifying its concern for plants and the environment.

The grant from the Weyerhaeuser Company Foundation, combined with contributions from ASPP Education Foundation board members and ASPP members, has helped make it possible for the ASPP Education Foundation to increase national awareness of plant science research and applications, curricular improvements, and teaching techniques. ASPP's *Principles of Plant Science—Concepts in Science Education* reached thousands of decision-making educators and teachers in 1998 through ASPP exhibits at the annual meetings of the National Science Teachers Association and the National Council of State Science Supervisors. Plant science teaching tools and techniques were demonstrated and distributed not only at these major events but to individual teachers for use in classrooms throughout the country.

Zeneca Contributes to ASPP Education Foundation

Zeneca, a prominent international bioscience group, recently provided a grant to support the work of the ASPP Education Foundation.

Zeneca creates new products and services to improve human health, nutrition, and quality of life. Recent Zeneca achievements include the development and commercialization of three new anticancer products. Zeneca is active in the business areas of pharmaceutical research; the development of ethical medicines for the therapeutic areas of cancer, cardiovascular disease, metabolism, central nervous system disorders, infection, respiratory problems, arthritis, and bone disease; comprehensive cancer diagnostic and treatment services; crop protection products; and the development of improved plant varieties.

The group supports improvement of elementary and middle school plant science curricula and educational materials for U.S. classrooms. For example, the "Benny Broccoli" program uses Disney-like characters to teach students in grades 2 through 4 about what is needed to sustain plant growth and to introduce these students to plant doctors and farmers who nurture crops.

Another program developed by Zeneca, called "Abundant Food and Fiber," offers a cross-curricular interactive learning experience for middle school students. This program meets the "critical elements" standard for centralized textbook-purchasing states.

Public science literacy, science education, and public understanding and acceptance of the use of biotechnology to enhance plant-based products are goals that Zeneca shares with the ASPP Education Foundation. Michael Tysowsky, Zeneca lead for environmental and scientific affairs, stated, "We are delighted to be able to support the efforts of ASPP to reach out to wider audiences, particularly at venues like Epcot Center, where people are willing to receive science based messages in the form of enlightened 'edutainment.' "

ASPP Officers and Committees Rotate October 1

New ASPP officers assume their posts and new committee appointees begin their tenures on October 1.

Brian Larkins, professor in the Department of Plant Sciences, University of Arizona, Tucson, will become president. Larkins served as editor-in-chief of THE PLANT CELL from 1993 to 1998. He will preside during 1998–1999 and will serve as immediate past president in 1999–2000.

Deborah Delmer, professor and chair of the Section of Plant Biology at the University of California, Davis, will succeed Larkins as president-elect. Delmer has served ASPP as a member of the editorial board of *Plant Physiology* and as a member of the nominating committee for the Gude Award as well as the ASPP Executive Committee.

Vicki Chandler, professor in the Department of Plant Sciences at the University of Arizona, Tucson, will serve on the Executive Committee as elected member.

Committee changes will be announced in the November/December 1998 issue of the *ASPP NEWS*.

POSITION ANNOUNCEMENT

EXECUTIVE VICE PRESIDENT
American Society of Agronomy (ASA)
Crop Science Society of America (CSSA)
Soil Science Society of America (SSSA)
Madison, Wisconsin

Responsibilities The Executive Vice President provides administrative leadership for the professional activities of the three Societies, manages Headquarters facilities and personnel, serves as Executive Director of the Agronomic Science Foundation, and supervises the implementation of policy decisions of the Executive Committees and the Boards of Directors of each Society and Board of Trustees of the Foundation. Responsibilities include providing leadership in developing communications and effective relationships with federal and state legislative and policy setting organizations, and with national and international non-governmental organizations. The position is located in Madison, Wisconsin.

Qualifications Applicants should have an advanced degree, experience in research and education in agronomy, crop science, soil science, or a closely related field, and be a recognized leader in agricultural science or technology. Administrative and managerial experience in a major commercial, academic or governmental organization is essential. Applicants must have demonstrated the interpersonal skills needed to work effectively with Headquarters personnel, Executive Committees, Boards of Directors, committees, and external groups. Leadership skills and a vision for the Societies' roles in the nation and world are desired.

Compensation Salary will be competitive and commensurate with qualifications and experience.

Closing Date Applications will be accepted until January 15, 1999, or until a suitable candidate is identified.

Position Available The ASA-CSSA-SSSA Executive Vice President position will be available April 1, 1999 or by negotiation.

Applications Applications should include a current resume, a one page statement of the applicant's vision for the Societies, and a one page description of applicant's management style. Include telephone numbers, email and postal addresses of four references.

Send applications to:

Dr. V. L. Lechtenberg, Chair
Search Committee for the EVP
Dean of Agriculture
1140 Agricultural Administration Building
Purdue University
West Lafayette, IN 47907-1140
Phone (765) 494-8391

Please see the following websites for more information on the programs and services of the Societies:

http://www.agronomy.org/
http://www.crops.org/
http://www.soils.org/

The American Society of Agronomy is an Equal Employment Opportunity Employer.

Video Highlights ASPP Epcot Exhibits

An ASPP Education Foundation exhibit at the Epcot Science Jam, held March 13 through April 4, 1998, and at the Epcot International Flower and Garden Show, held April 17 through May 31, gave thousands of people the opportunity to learn about plants in the 21st century.

A nine-minute ASPP video highlighting these exhibits is available for educational outreach and K–16 plant science education. The video, titled *Plants for the 21st Century,* was produced for the ASPP Education Foundation by AGCOM International. John Markwell, ASPP Education Committee chair, provided editorial review.

The documentary briefly traces the evolution of the human search for food from the earliest hunter–gatherer challenges through the birth of agriculture, the advent of plant breeding techniques and the "Green Revolution," and developments using biotechnology.

The video focuses on plant biology and exciting advances in basic plant research that will help increase the supply and available selection of food, fiber, energy, and pharmaceutical products and improve environmental protection. As ASPP President Ken Keegstra explains in the video, "The main idea is to try to educate the general public about the big things that are happening now in plant biology . . . [and] the exciting things that plant biologists are doing."

In a style that it both educational and entertaining, the video captures highlights of the exhibit. Bt corn is shown as an example of a crop plant engineered for natural resistance to pests. A visitor comments as she looks at beetle-resistant potatoes that "this is something that the whole world could use. I mean . . . you could feed everybody with this."

Some of the lively and interactive innovations that were developed to communicate with the public at the exhibit are featured on the video. For example, the "Bell of Nutrition" features a vertical scale of fruits and vegetables for children to try to ring with a hammer. The "Wheel of Nutrition" teaches the health benefits of various fruits and vegetables. The process of gene transfer in plants is explained through a gene gun demonstration. The video concludes with the comment, "It is clear that all of us will be relying on these new plants to help make a better world in the 21st century."

Single copies of the video are available initially without charge to ASPP members. To obtain a copy, contact the ASPP Education Foundation by e-mail at asppef@aspp.org, or call 301-251-0560, fax 301-279-2996.

ASPP Western Section Meeting

The annual regional meeting of the Western Section of the American Society of Plant Physiologists will be held on **November 13–15, 1998,** at the Hyatt Regency Hotel, Fisherman's Wharf (www.hyatt.com/pages/s/sfofwa.html), San Francisco, California. The theme of the meeting is PLANT GENOMICS—Scientific and Professional Opportunities.

Information on the scientific program, online registration ($5 late fee after October 29), hotel reservations (reserve by October 13—reduced hotel rates for graduate students and postdocs), abstract submission (deadline: October 30, 1998), and posters is available on the meeting Web site at http://lifesci.ucsb.edu/WSASPP/plantgenomics98.htm.

All attendees are invited to present their work at the poster session. A few students with outstanding abstracts will be selected to give oral presentations.

Scientific Program as of 9/25/98:

Tony Carrano (Lawrence Livermore Natl. Lab., Livermore, CA): Large Scale Sequence Information: Generation and Utilization
Steve Tanksley (Cornell University, Ithaca, NY): Use of Genomic Tools to Explore and Utilize Natural Plant Variation
Thea Wilkins (University of California, Davis): Developing a Genomics Project for Cotton
Jorge Dubcovsky (University of California, Davis): Genomic Synteny in Cereals
Valerie Williamson (University of California, Davis): Nematode Resistance and Its Relationship to Disease Resistance Genes
Gerard R. Lazo (USDA/ARS/WRRC, Albany, CA): Understanding Genomes Through GrainGenes Database Development
Virginia Walbot (Stanford University): Use of Mu for Gene Tagging in Maize
Joe DeRisi (Stanford University): MicroArrays—Technical Overview and Yeast Applications
David Galbraith (University of Arizona, Tucson): Cell Sorting and GFP: High Throughput Analysis of Gene Expression in Single Cells
Judith Verbeke (Program Director, NSF): Federal Funding Initiatives in Plant Genomics
Debby Delmer (University of California, Davis): Approaches for Studying the Functional Genomics of the CelA Gene Family in Plants
Terri Lomax (Oregon State Univ, Corvallis): Hormone-Responsive Genes
Dean Della Penna (Univ of Nevada, Reno): Unraveling Pathways for Phytonutrients
Katey Dehesh (Calgene Inc., Davis, CA): Approaches for Modifying Plant Lipid Composition.

Check the conference Web site for updates on additional speakers!
Western Section—ASPP Executive Committee
Chair: Rolf E. Christoffersen
Secretary–Treasurer: Frances M. DuPont
ASPP Executive Committee Western Section Representative: Sharman O'Neill

ASPP Education Forum

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

NSF–ILI Program Terminated, Replaced with CCLI

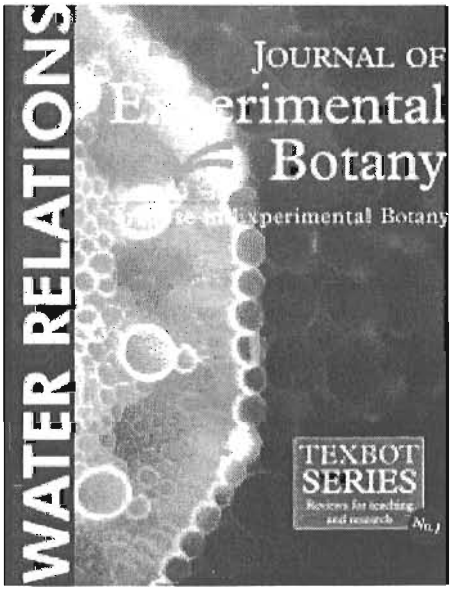
The NSF Instrumentation and Laboratory Improvement (ILI) program, for many years a significant and popular source of funding for undergraduate resources (particularly instrumentation for teaching labs), has been terminated and replaced by a new program entitled Course, Curriculum, and Laboratory Improvement (CCLI). The focus of the new program is much more on the national scale as evidenced by its three major tracks:

1. Educational Materials Development (CCLI–EMD)—will seek to support projects for national distribution and implementation such as textbooks, software, and laboratory materials.
2. Adaptation and Implementation (CCLI–A&I)—will support improved education at institutions through adaptation and implementation of exemplary materials, laboratory experiences, and educational practices. CCLI–A&I will also consider proposals requesting only laboratory equipment (similar to the old ILI program), although such proposals will likely be much less successful under the new program.
3. National Dissemination (CCLI–ND)—projects will be expected to develop materials and practices for large-scale dissemination and to support faculty professional development through national workshops, short courses, or related activities.

The impetus for these changes comes largely from from the passage of the Government Performance and Results Act of 1993. This law requires the National Science Foundation to demonstrate to Congress and the administration the consistent effectiveness of any and all federally supported programs. Therefore, in 1994, a government contractor began a study of ILI that resulted in the 1998 "Report on an Evaluation of the NSF's Instrumentation and Laboratory Improvement Program" (available on the Web at http://www.nsf.gov/pubs/1998/nsf9833/ili-toc.htm). Although generally supportive of the old ILI program, the study panel nonetheless recommended the significant changes detailed above. The new emphasis on requiring principal investigators to generate a product such as a textbook or workshop, rather than just to improve instruction at their home institution, is consistent with the accountability that Congress is seeking from federal agencies.

The deadline for submissions to CCLI is November 16, 1998. Further details of the program can be found in NSF publication 98-45 or on the Web at http://www.ehr.nsf.gov/EHR/DUE/programs/ccli/ccli.htm.

New Review Series for Undergraduate Teaching Launched



The *Journal of Experimental Botany* has launched a new series targeted primarily at university teachers. The *Treatise in Experimental Botany* (or TEXBOT) series brings together collections of review articles on a common theme that are easily accessible for both teaching purposes and research. TEXBOT 1, which was previewed at the recent ASPP annual meeting in Madison, contains four previously published Perspectives articles on water relations by Ernst Steudle and Carl Peterson, Mel Tyree, Lyn Jones, and Jurgen Frensch. TEXBOT 2 will bring together a number of key environmental stress reviews and will be available later in the year. For more information visit the *Journal of Experimental Botany* Web site at http://www.oup.co.uk/exbotj/. To register your interest and to receive information about future TEXBOTs, e-mail Professor Bill Davies, editor, at j.exp.bot@lancaster.ac.uk.

CELS and ASPP Spread Word on Plants in Teaching

CELS (the Coalition for Education in the Life Sciences) and ASPP have partnered at several recent national meetings to highlight the efforts of the two organizations to increase plant-based content in science education.

On July 2, at the end of the ASPP annual meeting, a special workshop introduced ASPP's *Principles of Plant Biology—Concepts for Science Education* to representatives of several plant-related professional societies. The workshop, "Toward Literacy in Plant Biology," was sponsored by CELS and held at the University of Wisconsin–Madison.

John Markwell (University of Nebraska), ASPP Education Committee chair, explained what has been done to gain recognition of the Principles in science education standards, biology textbooks, and courses taught to future teachers. ASPP has submitted comments developed by Markwell on the California First Draft Content Standards for Science. Markwell also encouraged participants to bring the Principles into their own professional societies and academic institutions and enrich them with their diverse perspectives.

Education Committee member Paul Williams (University of Wisconsin–Madison) reported on his presentation of the Principles to the Council of State Science Supervisors during council sessions April 14–15 in Las Vegas. Williams also provided the Principles to many teachers visiting the ASPP and Wisconsin Fast Plants Exhibit at the National Science Teachers Association exhibition in April in Las Vegas. Further interactions with teachers, submission of comments on education standards, and development of educational materials incorporating the Principles are planned.

Ken Keegstra (MSU–DOE), ASPP president, asked the participants to contribute instructional materials based on the distinctive expertise and resources of their own disciplines. Discussions focused on the roles of plant biologists and their professional societies in influencing the general education of non-science majors and in enhancing teaching and learning about plants. Representing both ASPP and CELS, Paul Williams and Susan Singer (Carleton College) guided the group in considering

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ways that teaching can be compared to research as a scholarly and professional activity.

On July 9, 1998, Jonathan Monroe (James Madison University) met with leaders of 24 other professional societies in the life sciences outside Washington, DC, to discuss their undergraduate education initiatives. The workshop, "Collaborations in Undergraduate Biology Education," was also sponsored by CELS. Participants exchanged information about undergraduate activities supported by their professional societies, discussed the types of programs that are well suited to sponsorship by individual societies or clusters of societies, and identified potential roles for CELS as a coordinator. Building on the ASPP example, the role of professional societies in enriching the curricular framework for introductory biology courses was identified. To foster biological literacy for all college students, representatives of several professional societies called for educational workshops at their annual meetings to showcase instructional materials that illustrate fundamental concepts in biology.

ASPP's *Principles of Plant Biology—Concepts for Science Education* were featured during a CELS presentation at the annual meeting of the Botanical Society of America (BSA) in August. Louise Liao, CELS program director, presented the Principles to the nearly 100 participants attending the presentation. Rob Reinsvold (University of Northern Colorado) and Ethel Stanley (Beloit College), the incoming and outgoing chairs of the BSA Teaching Section, respectively, noted that the Principles would launch further conversations among BSA members as to what students should know about plants.

The BSA meeting marked the debut of a CELS monograph, *Professional Societies and the Faculty Scholar: Promoting Scholarship and Learning in the Life Sciences*. This 87-page report celebrates the contributions of dozens of professional societies to undergraduate biology education and recommends specific actions to enrich teaching and learning. The monograph can be viewed at the CELS Web site, http://www.wisc.edu/cels. The Web site also gives information for ordering bound copies of the monograph and posts an issues-based framework for introductory biology courses.

ASPP is a supporting member of CELS, a coalition of professional societies committed to undergraduate biology education in the United States. For more information about CELS, contact Dr. Louise W. Liao, CELS program director, e-mail cels@macc.wisc.edu.

PUI Faculty Have High Job Satisfaction

In May of this year, Aaron Ellison (Mount Holyoke College) conducted an informal Internet survey of CUR-L and ECOLOG-L lists regarding job opportunities and satisfaction at four-year colleges. Twenty graduate students and 69 faculty responded to a variety of questions on the pros and cons of seeking and obtaining a position at a primarily undergraduate institution (PUI).

The major differences identified by the respondents between four-year colleges and research universities are that PUI faculty teach more, have less time for research, and play a much larger role in institutional governance. Although those three factors are generally seen as negatives, many PUI faculty reported having much less pressure to generate external financial support (although over two-thirds had external research support), access to talented undergraduate researchers, and at least one or more publications per year. Overall, 71 percent of the faculty respondents were satisfied with their position at a PUI, 16 percent were somewhat satisfied, and only 13 percent were dissatisfied.

The full version of the survey (in a bulleted format with graphics) is available online at http://www.mtholyoke.edu/~aellison/breckenridge/index.htm.

PEOPLE

ASPP member Clanton C. Black has been awarded a Fulbright grant to teach plant physiology at the Mongolian National University in Ulaanbaatar, the U.S. Information Agency and J. William Fulbright Foreign Scholarship Board announced recently.

Professor Black is one of approximately 2,000 U.S. grantees who will travel abroad for the 1998–99 academic year through the Fulbright Program. Established in 1946 under congressional legislation introduced by the late Senator J. William Fulbright of Arkansas, the program is designed "to increase mutual understanding between the people of the United States and the people of other countries."

LETTER TO THE EDITOR

It was gratifying to find that our humble beer mat/coasters enterprise had found its way from the June Plant Ed.Archives (http://www.bmj.com/index.shtml) to the ASPP Education Forum in the July/August issue of the *ASPP NEWS* ("Enhancing the Pub(lic) Understanding of Science"). The final list of questions, now much changed and eventually to be posted (with answers) with Plant Ed, has been greatly influenced by the readers of the Plant Ed Newsgroup, to whom we are deeply indebted for advice and correction. Sadly, financial constraints have dictated a final selection of a mere 15 questions, which are currently being printed on some 90,000 mats. Of these, my own favorite leans in the direction of what the late Meirion Thomas would have surely called "autonomic circumnutation." It reads—

> Being a well run house, no one who frequents "The Jolly Sailor" has yet been subjected to genetic finger-printing. The DNA underlying this process is spiral in shape. What, in this regard, does DNA have in common with hops and wood screws?

On the other hand, several mycologists, who were quick to tell me that even senescing plant physiologists should now know better than to describe a yeast as a plant, might prefer—

> What weighs 10 tonnes, covers 36 acres, and has lived for 1,500 years? (a) the roots of a Giant Redwood tree; (b) Prickly Pear . . . an Australian cactus used to make a drink called "Southern Cross"; (c) a recently investigated "toadstool."

What has so far raised the most eyebrows, however, is the answer to this question:

> Yeasts have been around much longer than humans, and although we are pleased to have them make alcohol for us, we may not be so pleased to have others as "house guests" (along with bacteria, fungi, parasitic worms, etc.) What percentage of the cells in your body are human? (a) 90% (b) 50% (c) 30% (d) 10%.

Skeptics who doubt the surprisingly low figure of 10% might care to ask the *British Medical Journal* (http://www.bmj.com/index.shtml) to search for the one word "menagerie" among its recent articles. This in itself illustrates how very useful the Internet has become (as ASPP already knows, to its credit). Similarly, soccer enthusiasts might take pleasure in what results from entering "carbon" and "Nobel" into a search engine such as http://www.metacrawler.com.

Compiling questions of sufficient brevity, relevance, and topicality to grace beer mats has, of course, been an education in itself. Anxious to avoid being patronizing on the one hand and obscurely academic on the other, we have had to remember that although a question might seem excessively elementary to someone with scientific training, it can be as incomprehensible to a lay person as if it were written in ancient Greek. Conversely, a question on the volume of water displaced by ice floating in a glass might just as easily evoke a cry of "Eureka!" as it did in the bar of my local pub.

David Walker
ASPP corresponding member
Sheffield, England

Current Links

The Pub Understanding of Science http://www.alegba.demon.co.uk/beermats.html

Energy, Plants and Man http://www.asu.edu./clas/photosyn/books/walkerbk.html

A Leaf in Time http://www.portlandpress.co.uk/books/isbn/1855780976.htm

OBITUARIES

Charles "Bud" Beasley

Dr. Charles Albert "Bud" Beasley, whose research on past management techniques had a major impact on cotton and alfalfa production in the Southern California desert, died March 5, 1998, at age 65.

Dr. Beasley's work focused largely on cotton pest management in the southern deserts, especially the management of pink bollworm. He encouraged growers to use shorter growing seasons and to plow under a previous season's crop more quickly to discourage adult weevils from laying eggs rather than relying heavily on pesticides. These effective cultivation practices for controlling pink bollworm continue to be used by Palo Verde Valley growers.

Dr. Beasley joined the Plant Sciences Department at the University of California, Riverside, as a research plant physiologist in 1970. He transferred in 1978 to the Cooperative Extension program at the University of California, Davis, as pesticide specialist and assistant coordinator for the Western Region Pesticide Impact Assessment Program. He continued his work in different offices of the Cooperative Extension through 1992. He retired that year from the University of California and was named CE advisor emeritus.

Dr. Beasley published extensively, was the recipient of numerous awards, and was a member of several plant science organizations, including ASPP. He is survived by his wife, four children, and four grandchildren.

Richard Cullen Crain, Jr.

Plant physiologists have lost a valued colleague in the sudden death of Richard Crain on September 3, 1998, at the age of 47. Rich will long be remembered for his pioneering work on lipid-mediated signal transduction in plants. And he will also be remembered, with great fondness, for the care and concern that he showed for his colleagues and students.

Rich earned a degree in chemistry at Dartmouth and a Ph.D. in biochemistry from the University of Rochester in 1978. He completed a postdoctoral stint in lipid biochemistry under Donald Zilversmit at Cornell University and in 1980 came to the University of Connecticut, where he worked

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in the Department of Molecular and Cell Biology until his death.

In 1985, he joined Ruth Satter and her postdoctoral student Mary Jane Morse in investigating the possible involvement of the inositol phospholipid cycle during light signal transduction in the pulvini (leaf-moving organs) of the legume *Samanea saman*. Rich's expertise in lipid biochemistry and Ruth's knowledge of plant physiology proved a productive combination of talents—they were among the first to report evidence for the turnover of inositol phospholipids during signal transduction in plants.

It was at this time that I met Rich, joining the collaboration as a postdoctoral fellow. Tapping Rich's expertise in chemistry, particularly lipid chemistry, we undertook detailed chemical characterization of inositol phosphates and inositol phospholipids from pulvinar cells and conclusively demonstrated their identity. Ruth Satter died in 1989, but the project continued under Rich's leadership. We extended the studies on pulvini to focus on signal-mediated changes in the potassium channels of the pulvinar cells, because changes in the activity of these channels mediate leaf movement. We showed that protoplasts isolated from pulvini continue to show circadian rhythms and continue to regulate their plasma membrane potassium channels in response to both red and blue light as if they were still in the intact plant. Hak Yong Kim, a student working with us, further demonstrated that the inositol signaling pathway was activated following signals that closed the potassium channels. This work was published in *Science* and in *Planta* and earned Rich a profile in *Discover*.

Rich was fascinated by all the various lipid-mediated mechanisms by which plants might be transducing information about the world. He expanded his interests to include control of deflagellation in the green alga *Chlamydomonas reinhardtii* and the enzymology of the signaling enzyme phospholipase C in plants. He undertook projects with plant physiologists throughout the United States, as well as in South Korea and in Israel, studying, among other things, the regulation of stomata and the responses of plants to wounding and to elicitors.

Rich served the plant physiology community well, serving on the Executive Committee of the Northeast Section of ASPP and on the editorial board of *Plant Physiology*. He served the general scientific community as well, on review panels for NSF, USDA, and other federal granting agencies.

Rich Crain's lab was always open to students—graduate and undergraduate—as well as to colleagues from near and far. Rich cared about the people who worked with him, not just as scientists and future scientists, but as human beings. He gave them all the help he could in advancing their careers, and his students and postdocs continued to turn to him for advice and collaboration long after they'd left his lab. I know that I am greatly indebted to him for advice, continued collaboration, and for literally hundreds of letters of recommendation.

Richard Crain is survived by his wife, Betty, and by their two sons, Cullen and Jason, of whom he was extremely proud. He is also survived by a host of friends, collaborators, and former students who will miss his friendship no less than his scientific support.

Gary Cote
Radford University, Virginia

Gatherings

The *ASPP NEWS* 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

1999: Baltimore, Maryland
Saturday, July 24, through
Wednesday, July 28
ASPP's 75th Anniversary!

2000: San Diego, California
Saturday, July 15, through
Wednesday, July 19

1998

OCTOBER

October 25–28
INFORMS Seattle Fall 1998
Washington State Convention & Trade Center and Sheraton Seattle Hotel & Towers
Seattle, Washington
General Co-Chairs: Marisa Altschul, Boeing, Information & Support Systems, PO Box 3707, MS 7H-73, Seattle, WA 98124; telephone 206-865-6955; and Al Maimon, Boeing Computer Services; telephone 206-237-8653.

October 28–31
14th Annual Meeting of the American Society for Gravitational and Space Biology (ASGSB)
Houston, Texas
Contact Patricia Russell, ASGSB, PO Box 12247, Rosslyn, VA 22219; fax 703-671-1706, e-mail ASGSB@usra.edu.

October 29–30
Strategic Partnerships to Successfully Commercialize Agricultural Biotech: Maximizing the Profit Potential of New Output and Input Traits
Regal Knickerbocker Hotel, Chicago, Illinois
To register or obtain more information, call Global Business Research Customer Service at 800-868-7188 or visit our Web site at http://www.global8.com/conference98/ag_cover.html.

NOVEMBER

November 13–15
WSASPP Regional Conference on Plant Genomics
Fisherman's Wharf, San Francisco, California
For details, check the western section Web site at http://lifesci/WSASPP/newslet98.htm#conference.

November 19–20
Developing & Commercializing Resistance Management Strategies: Technologies and Profitable Business Models Revealed for Resistance Management Strategies
Royal Sonesta Hotel, New Orleans, Louisiana
To register or obtain more information, contact Global Business Research Customer Service at 800-868-7188 or see our Web site at http://www.global8.com/conference98/rm_cover.html.

DECEMBER

December 5–6
National Academy of Sciences Colloquium
Plant and Population: Is There Time?
Irvine, California
For information contact Edward Patte, NAS-146, National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, DC 20418.

1999

JANUARY

January 21–23, 1999
20th Symposium in Plant Physiology—"Cell and Developmental Biology of Arabinogalactan-Proteins"
University of California, Riverside
Organizers: E. A. Nothnagel, A. Bacic, and A. E. Clarke. Contact Cindi McKernan, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521; telephone 909-787-3423, fax 909-787-4437, e-mail bpscin@ucrac1.ucr.edu. For a more detailed listing, visit our Web site at http://cnas.ucr.edu/~bps/symposium99.htm.

January 31–February 5, 1999
Temperature Stress in Plants
Gordon Research Conference
Ventura, California
Contact Charles Guy, University of Florida, Department of Environmental Horticulture, PO Box 110670, Gainesville, FL 32611-0670; telephone 352-392-7934, fax 352-392-3870, e-mail clg@gnv.ifas.ufl.edu, Web site http://www.grc.uri.edu/programs/1999/tempstrs.htm.

MARCH

March 21–26, 1999
European Symposium on Photomorphogenesis, ESOP 99
Freie Universitaet Berlin, Germany
Organizer: Elmar Hartmann. Contact Hans-Peter Haschke, Freie Universitaet Berlin, Institute of Plant Physiology and Microbiology, Koenigin-Luise-Strasse 12-16, D-14195 Berlin, Germany; telephone +49-30-838-31-28, fax +49-30-838-43-57, e-mail haschke@zedat.fu-berlin.de. Web site http://www.biologie.fu-berlin.de/esop99.

APRIL

April 6–10, 1999
4th International Workshop on Sulfur Metabolism: Sulfur Nutrition and Sulfur Assimilation in Higher Plants: Molecular, Biochemical and Physiological Aspects
Wengen, Switzerland
Contact Dr. Christian Brunold, University of Berne, Institute of Plant Physiology, Altenbergrain

21, 3013 Bern, Switzerland; telephone +41-31-631-49-16, fax +41-31-332-20-59, e-mail piub@pfp.unibe.ch, Web site http://www.botany.unibe.ch/piub/sulfur.htm.

April 21–23, 1999
IV European Symposium on Plant Isoprenoids
Universitat de Barcelona, Barcelona, Spain
Organizing Committee: Albert Boronat, Narciso Campos, Albert Ferrer, and Santiago Imperial. For details, please contact Dr. Albert Boronat, Departament de Bioquímica i Biologia Molecular, Facultat de Química, Martí i Franquès 1, 08028-Barcelona, Spain; telephone +34-93-4021194, fax +34-93-4021219, e-mail isoprenoid@sun.bq.ub.es, Web site http://www.bq.ub.es/terpnet.

MAY

May 2–5, 1999
INFORMS Cincinnati Spring 1999
Omni Netherland Plaza
Cincinnati, Ohio
General Chair: David F. Rogers, University of Cincinnati, Cincinnati, OH 45221-0130; telephone 513-556-7143.

May 16–20, 1999
6th Symposium on Stand Establishment and the Seed Working Group of the International Society for Horticultural Science
Roanoke, Virginia
Contact Greg Welbaum, Department of Horticulture, Virginia Tech, Blacksburg, VA 24061-0327; telephone 540-231-5801, fax 540-231-3083, e-mail welbaum@vt.edu; visit our symposium Web site at http://www.conted.vt.edu/stand/establishment.htm.

JUNE

June 5–9, 1999
1999 Congress on In Vitro Biology
The Radisson Hotel, New Orleans, Louisiana
Contact Tiffany McMillan; telephone 301-324-5054, fax 301-324-5057. For meeting registration rates and updated program information, visit Web site at http://www.sivb.org.

JULY

July 11–14, 1999
The 26th Annual Meeting of the Plant Growth Regulation Society of America (PGRSA)
Costa Mesa, California
For information, check the PGRSA Web site at http://www.griffin.peachnet.edu/pgrsa/.

July 11–16, 1999
Forest Biotechnology '99
A joint meeting incorporating the 3rd International Wood Biotechnology Symposium and the IUFRO Working Party for the Molecular Genetics of Trees (S.04-06)
Oxford, England
Contact Malcolm M. Campbell, Department of Plant Sciences, University of Oxford, South Parks Rd., Oxford OX1 3RB, UK; telephone +44-1865-275135, fax +44-1865-275074, e-mail forest.biotech99@plants.ox.ac.uk, Web site http://www.plants.ox.ac.uk/top.htm.

July 17–21, 1999
International Symposium on Plant Peroxidases
Columbus, Ohio
For more information please contact Dr. L. Mark Lagrimini, Department of Horticulture and Crop Science, The Ohio State University, 2001 Fyffe Ct., Columbus, OH 43210-1096; e-mail lagrimini.1@osu.edu, Web site http://www.hcs.ohio-state.edu/pod/pod.htm.

July 19–23, 1999
2nd International Symposium on Plant Dormancy
Angers, France
For information and registration forms contact Dr. J. D. Viemont, Université d'Angers, Faculté des Sciences, 2 Boulevard Lavoisier, F-49045 Angers, Cedex, France; fax +33-241-73-53-52, e-mail jean-daniel.viemont@univ.angers.fr.

AUGUST

August 3–7, 1999
6th International Congress on Amino Acids
Bonn, Germany
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.

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

LAST NAME | TITLE | FIRST NAME | INITIAL

STREET ADDRESS

CITY | STATE | ZIP | COUNTRY

TELEPHONE | FAX | E-MAIL

I am seeking the following position (check all that apply):

[ ] Permanent [ ] Temporary [ ] Postdoctoral [ ] Industrial
[ ] Academic [ ] Government [ ] USA only [ ] Outside USA

US citizen? [ ] Yes [ ] No **Date available:** _____

Fields of interest, specialties, and publications titles: _____

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 resumes of individuals who are seeking employment. Employers are urged to survey the resume files for those seeking permanent positions and those seeking postdoctoral or similar positions. The files cost $25 each and may be ordered from 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 (private nonprofit companies are not charged a fee). If a fee is charged for your ad, please include 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.)
- **Assistantships, Fellowships, Internships, etc.**: Announcements of programs and fellowships or internships 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.)

Chairperson
Michigan State University, East Lansing
(Received 08/03)

The Department of Botany and Plant Pathology includes over 30 faculty and 60 graduate students. (Further information can be found at: http://pilot.msu.edu/unit/botany/.) MSU will recruit six new faculty in plant biology; several will likely have appointments in the department. The chairperson provides leadership and promotes a creative environment for the instruction, research, and extension programs of the diversified department. Candidates must possess a record of distinguished scholarship, administrative experience, proven leadership and interpersonal skills, communication skills, and a broad vision of innovative programs in plant biology research, education, and extension. Maintenance of an active research program is expected and supported. Applicants should submit a curriculum vitae, names of five references, and a statement of the candidate's vision for the department and plant sciences at MSU. Every effort will be made to maintain confidentiality until the final slate of candidates is selected. Application review will begin on or before October 15, 1998. Send application materials to Search Committee, Department of Botany and Plant Pathology, Michigan State University, East Lansing, MI 48824-1312. The expected starting date is fall 1999 or shortly thereafter. Women and underrepresented minorities are strongly encouraged to apply. MSU is an affirmative action/equal opportunity employer.

Faculty Position
Austin State University, Austin, Texas
(Received 08/03)

A faculty position is available at the assistant professor level. Applicant must have a Ph.D. in (environmental) plant physiology and be qualified to teach plant physiology with an ecological emphasis, introductory botany, introductory biology, and advanced courses in area of interest (e.g., stress physiology and ecophysiology). Knowledge of current methods of investigation and of biological experimental design and analysis is desired. Postdoctoral experience is preferred. Must participate in graduate program and establish a modest research program. The salary is $35,000 for nine months. Review of applicants will begin immediately, with a deadline of October 5, 1998, or until the position is filled. The starting date is August 1999. Applicants can access application forms at http://www.math-science.sfasu.edu/biologypositions.html. Send completed application, curriculum vita, transcripts, three letters of recommendation, and a statement of teaching and research philosophies and career objectives to Dr. Don A. Hay, Chair, Department of Biology, Box 13003, Stephen F. Austin State University, Nacogdoches, TX 75962-3003; telephone 409-468-3601, e-mail dhay@sfasu.edu. EO/AA employer. Applications subject to disclosure under Texas Open Records Act.

Assistant Level
Cooperative Extension/Agricultural Experiment Station
University of California, Riverside
(Received 08/05)

The University of California, Riverside, is recruiting for an 11-month career-track appointment position in the area of environmental horticulture-nursery and floriculture crops. The salary is commensurate with education and experience. Applicants must have a Ph.D. in a plant science discipline with expertise in areas such as soil and water science, plant stress physiology, pest management, restoration horticulture, post-harvest handling of crops, and plant improvement. Postdoctoral experience is desirable. The position has a major CE research and education component and also an AES research component. The successful candidate is expected to provide strong leadership, collaboration, and support in mission-oriented research and educational activities related to nursery and floriculture production and cropping systems in California. Send a letter of application, curriculum vitae, statement of research interests, transcripts, and the names and addresses of at least three references to Dr. Elizabeth M. Lord,

MAXIMIZE YOUR JOB PROSPECTS!
Check ASPP's World Wide Web site (http://aspp.org/JOBS/) every Friday for new job listings.
Jobs with early application deadlines are listed on the Web site, but might not appear in *ASPP NEWS*.

Chair, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521-0124; fax 909-787-4437, e-mail lord@ucrac1.ucr.edu, Web Site http://cnas.ucr.edu/~bps/homepage.htm. Review of applications begins in October 1998 and continues until the position is filled. The position is available January 1, 1999. The University of California, Riverside, is an affirmative action/equal opportunity employer.

Molecular Biologist
University of California, Riverside
(Received 09/03)
The Department of Biochemistry invites applications for a tenure-track position of assistant professor of biochemistry. Qualifications for the position include a strong potential for imaginative research in plant molecular biology. Individuals whose scholarship is broadly in the areas of the biochemistry and molecular genetics of signal transduction, gene expression, cell differentiation, or environmental stress response are strongly encouraged to apply. A strong commitment to teaching excellence at both the undergraduate and graduate (M.S. and Ph.D.) level of instruction is required. The position also includes an appointment in the Agricultural Experiment Station. Applicants must hold a Ph.D. or equivalent degree and have postdoctoral experience. Salary will be commensurate with education and experience. Submit a curriculum vitae, bibliography (including three reprints), and a brief (limit of 500 words) description of proposed research interests. It is requested that three to five original letters of reference be sent separately to Chair of Search Committee, Department of Biochemistry, University of California, Riverside, CA 92521-0129. Applications may also be sent by fax to 909-787-4774, followed by a hard copy sent by mail. Evaluation of applications will begin October 30, 1998, but the position will be open until filled. The University of California is an equal opportunity/affirmative action employer.

POSTDOCTORAL POSITIONS

Postdoctoral Associate
University of Georgia, Athens
(Received 07/28)
A postdoctoral associate position focusing on the cloning and characterization of genes regulating ethylene biosynthesis during wood formation in loblolly pine will be available in my lab as of January 1, 1999. Expression patterns of these genes will be assessed with respect to changes in wood quality and fiber characteristics. In addition to molecular biology skills, experience with heterologous expression of plant proteins is desirable. A USDA grant will support the position for two years. Contact Jeff Dean, Warnell School of Forest Resources, University of Georgia, Athens, GA 30602-2152; e-mail jeffdean@arches.uga.edu. The University of Georgia is an equal opportunity/affirmative action institution.

Postdoctoral Fellowship
University of Hawaii–Manoa, Honolulu
(Received 07/28)
A postdoctoral position is available to study nematode resistance in pineapple. Initial studies will involve isolation of root-specific cDNAs, their corresponding genes, and promoters. The successful candidate will join a multidisciplinary research project focusing on pineapple improvement using biotechnology. The project involves considerable contact with industry and development of commercial applications. Candidates who have a Ph.D. in molecular biology or biochemistry are encouraged to apply. Experience in cDNA cloning and plant biology is desirable. Send or e-mail a curriculum vitae and the names, phone numbers, and e-mail addresses of three references to Dr. David Christopher, University of Hawaii–Manoa, Department of Plant Molecular Physiology, St. John 503, Honolulu, HI 96822; telephone 808-956-8550, fax 808-956-3542, e-mail dchr@hawaii.edu.

Postdoctoral Position
University of Arizona, Tucson
(Received 07/29)
A postdoctoral position is available immediately to study Arabidopsis mutants defective in ABA, salt, drought, and/or cold-stress signaling and tolerance. Research will involve genetic analysis, positional cloning, and stress gene expression. General lab information can be obtained at http://ag.arizona.edu/PLS/faculty/zhu.html. Candidates must have a strong background in molecular biology or genetics. Review of the applications will begin immediately and continue until the position is filled. Please send curriculum vitae 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 Research Position
The Samuel Roberts Noble Foundation
Ardmore, Oklahoma
(Received 07/30)
A postdoctoral position is available immediately in the Forage Biotechnology Group of the Noble Foundation. The successful candidate will work on the genetic manipulation of lignin biosynthesis to improve digestibility in forage grasses. Applicants should have a Ph.D. with a background in plant molecular biology and/or biochemistry. Previous experience on generation of transgenic monocot plants would be beneficial, but training will be provided if necessary. Please send a letter of application, detailed curriculum vitae, and names of three references to Human Resources Department, Attn.: Postdoctoral Fellow—Forage Biotechnology Group, The Samuel Roberts Noble Foundation, PO Box 2180, Ardmore, OK 73402.

Postdoctoral Research Associate
Southern Illinois University, Carbondale
(Received 07/31)
A postdoctoral position is available to evaluate molecular and biochemical phenotypes that may contribute to yield stability under water-deficit in soybean. Suitable genetic markers will be mapped in a RI population and compared with previously generated molecular map data to identify loci conditioning high yields under water deficit. Applicants should have a strong background in biochemistry and/or plant molecular biology. The position will start October 1, 1998, and funding is available for three years. Send a letter of application, curriculum vitae, and a list of three references to Dr. Andrew J. Wood, Department of Plant Biology, Southern Illinois University, Carbondale, IL 62901-6509; e-mail wood@plant.siu.edu.

Postdoctoral Position
Purdue University, West Lafayette, Indiana
(Received 08/03)
A postdoctoral position is available immediately for a minimum of two years for the analysis of photosynthesis and gene regulation in cyanobacteria. The main project will involve the study of oxygen evolution in Synechocystis sp. PCC6803 using specific mutations in PSII genes. Experience with photosynthesis is desirable, as is some expertise in molecular biology. Another project involves the nature of redox control of metabolism, including photosynthesis, respiration, and nitrogen metabolism. Send a curriculum vitae, a summary of research interests, and the names and addresses (including e-mail addresses and telephone numbers) of three references to Dr. Louis Sherman, Purdue University, Department of Biological Sciences, Lilly Hall, West Lafayette, IN 47907; fax 765-496-1495, e-mail lsherman@bilbo.bio.purdue.edu. Purdue University is an equal opportunity/affirmative action employer.

Postdoctoral Position
Rutgers University, New Brunswick, New Jersey
(Received 08/03)
A postdoctoral position is available at the Biotech Center at Rutgers to study the inhibition of frameshifting and viral retrotransposition by pokeweed antiviral protein (PAP) and the role of host genes in this process. PAP is a ribosome inactivating protein that has potent antiviral activity against plant and animal viruses. PAP inhibits frameshifting and retrotransposition of Ty1 in yeast (J. Virol. **72**, 1036–1042; 1998). A postdoctoral associate is sought to characterize yeast chromosomal mutants that are resistant to PAP. Experience with molecular genetics and biochemistry is desirable. Please send a curriculum vitae and three letters of reference to Dr. Nilgun Tumer, Biotech Center, Cook College, New Brunswick, NJ 08901-8520; telephone 732-932-8165, ext. 215, fax 732-932-6535, e-mail Tumer@aesop.rutgers.edu.

Postdoctoral Positions
Kumho Life & Environmental Science Laboratory (KLESL)
Kwangju, Korea
(Received 08/04)
The Kumho Life & Environmental Science Laboratory (KLESL), in Kwangju, Korea, has postdoctoral openings (one for immediate appointment in 1998 and possibly up to four in

1999) in the area of plant genetics and signaling, preferably with experience with Arabidopsis. KLESL offers a competitive salary and an attractive package of fringe benefits. Candidates without regard to nationality are welcome to apply. Send letter/curriculum vitae and arrange to send three letters of reference to Kumho Life & Environmental Science Laboratory, 572 Ssang-Am-Dong, Kwangju 506-712, Korea; telephone +82-62-970-2622, fax +82-62-972-5085, e-mail jcchung@ksc.kumho.co.kr.

Postdoctoral Positions
Noble Foundation, Ardmore, Oklahoma
(Received 08/05)
Two postdoctoral positions are available to study the function(s) and regulation of phosphoinositide-specific phospholipase C (PI-PLC) in plants. We have isolated transposon tagged A. thaliana PI-PLC putative mutants. The incumbents will study this signal transducing enzyme in Arabidopsis. Applicants with experiences in molecular biology and/or biochemistry should contact Dr. Madan K. Bhattacharyya, Plant Biology Division, Noble Foundation, P.O Box 2180, Ardmore, OK 73402; fax 405-221-7380, e-mail mkbhattach@noble.org. The Noble Foundation is an equal opportunity employer.

Postdoctoral Research Associate Positions
University of Illinois, Urbana–Champaign
(Received 08/06)
Two postdoctoral positions are available immediately. One position involves molecular mapping, map-based cloning, and transformation of disease resistance genes. Knowledge and expertise in these areas is required. The other position involves developing various constructs, genetic transformation, and studying regulation of gene expression of antigenic protein genes in transgenic plants. Knowledge and expertise in these areas is highly desirable. Qualified candidates should submit letter of interest, curriculum vitae, and names of three references to Dr. Schuyler S. Korban via e-mail s-korban@uiuc.edu, or fax to 217-333-4777.

Postdoctoral Positions
University of Arizona, Tucson
(Received 08/19)
Several positions are anticipated in the coming year in the general area of transgene silencing and homology-based control of gene expression in plants. Requires Ph.D. in plant molecular genetics or related discipline. Experience in gene regulation, epigenetics, chromatin, or plant transgene expression desirable. Send curriculum vitae and names and addresses of three references to Rich Jorgensen, Department of Plant Sciences, University of Arizona, Tucson, AZ 85721-0036; e-mail raj@arizona.edu.

Postdoctoral Position
Ohio State University, Columbus
(Received 08/25)
A postdoctoral position is available immediately in the laboratory of Dr. Richard T. Sayre, Department of Plant Biology, Ohio State University. The position will focus on structure–function relationships of the photosystem II reaction center complex of *Chlamydomonas reinhardtii*. The position is for one year and is renewable for up to three years contingent on performance. Persons with experience in molecular genetics and/or biophysics are encouraged to apply. Benefits include a choice of health, dental, and life insurance plans. For more information on previous work from our lab, please visit our Web site at http://www.biosci.ohio-state.edu/~rsayre. Applicants are requested to send (by e-mail) a resume and the names and addresses of three references to sayre.2@osu.edu. Please indicate the earliest date that you would be available for the position.

Postdoctoral Associate
Oklahoma State University, Stillwater
(Received 08/31)
Applications are invited for a research associate in biochemistry and molecular biology, for up to three years, to study the role of cell wall degrading enzymes in cell expansion. Preliminary reports on the project have been published (Zhang Z, Pierce ML, and Mort AJ [1996]. Detection and differentiation of pectic enzyme activity in vitro and in vivo by capillary electrophoresis of products from fluorescent-labeled substrate. Electrophoresis **17**, 372–378). The ideal candidate for the position will have experience with modern chromatographic methods, capillary electrophoresis, enzyme kinetics, and polysaccharide chemistry. Please send application letter with a curriculum vitae, and have three reference letters sent directly to Dr. Andrew Mort, Department of Biochemistry and Molecular Biology, Oklahoma State University, 246 Noble Research Center, Stillwater OK 74078-3035; e-mail to amort@biochem.
okstate.edu. Oklahoma State University is an affirmative action/equal opportunity employer committed to cultural diversity.

Postdoctoral Position
Plant Gene Expression Center, Albany, California
(Received 09/01)
A postdoctoral position is available at the Plant Gene Expression Center for research on testing the expression of heavy metal tolerance genes in Arabidopsis. Prefer applicant with experience in Arabidopsis transformation. To apply, send a curriculum vitae to David Ow at ow@pgec.ars.usda.gov.

Senior Scientists, Research Associates & Assistants
Ceres, Inc., Malibu, California
(Received 09/02)
Ceres is a plant biotechnology company utilizing high-throughput genomic and molecular genetic approaches for crop improvement and plant breeding. We seek highly motivated candidates with practical experience in one of the following areas to join our team of creative scientists: Molecular Genetics: plant gene cloning, gene expression analysis, molecular genetics; Cell Tissue Culture/Development: plant somatic embryogenesis, transformation and regeneration; Biochemistry: any area of plant biochemistry. Ceres is located in new state-of-the-art facilities overlooking the Malibu coast. We offer competitive salaries, excellent benefits, and equity participation. Contact HRM, code 111, 3007 Malibu Canyon Rd., Malibu, CA 90265; fax 310-317-8998. Ceres is an equal opportunity employer.

Assistant Specialist
University of California, Berkeley
(Received 09/03)
An assistant specialist position is available to perform molecular genetic research on applications of a bacterial site-specific recombination system for gene transfer in cereal crop plants. A Ph.D. in plant biology or related field is required. Postdoctoral experience is required in at least one of the following areas: cereal tissue culture, cereal transformation, plant gene expression, and plant molecular biology. Demonstrated accomplishments should be in the form of publications in internationally recognized peer review journals. Send curriculum vitae and names of three references by December 1, 1998, to Dr. Renee Sung, University of California, Plant and Microbial Biology, 111 Koshland Hall #3102, Berkeley, CA 94720-3102. The University of California is an equal opportunity/affirmative action employer.

Assistant Specialist
University of California, Berkeley
(Received 09/03)
An assistant specialist position is available to investigate the N-gene-mediated signal transduction pathway for tobacco mosaic virus resistance in Arabidopsis and tomato. A Ph.D. in molecular biology and/or genetics is required. Experience with Arabidopsis and tomato transformation, map-based cloning, insertional mutagenesis, and general genetics and molecular biological techniques is required, as well as knowledge of transposon and other chemical-based mutagenesis. Send curriculum vitae and names of three references by January 5, 1999, to Dr. Barbara Baker, Plant Gene Expression Center, 800 Buchanan Street, Albany, CA 94710; fax 510-559-5678. The University of California is an equal opportunity/affirmative action employer.

Postdoctoral Position
Purdue University, West Lafayette
(Received 09/08)
A position is available immediately to study the biochemical-genetics of plant surface lipids using Sorghum bicolor as a model system. A large collection of sorghum surface lipid mutants has recently been isolated. Projects will emphasize chemical analysis of epicuticular wax and cutin monomer constituents of isogenic lines and could expand into related molecular-genetics or physiology, based on the candidate's interest. A Ph.D. and demonstrated productivity in plant physiology, biochemistry, or genetics is required. Applicants should send a curriculum vitae, statement of research interests, and the names, addresses, phone numbers, and e-mail addresses of three references to Matthew A. Jenks, 1165 Horticulture Building, Purdue University, West

Lafayette, IN 47907-1165; telephone 765-494-1332, fax 765-494-0391, e-mail jenks@hort.purdue.edu. Purdue University is an affirmative action/equal opportunity employer; women and minorities are encouraged to apply.

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

Biology Laboratory Services Coordinator
University of Minnesota, Duluth
(Received 08/06)
Applicants must have bachelor's degree in biological sciences and experience in lab management or support; master's degree in biological sciences preferred. Responsibilities are to work as part of a team to provide lab services support to department teaching and research missions; provide support for selected lab courses in cell/molecular biology and related areas; maintain biology stockroom and operation, including inventory of chemicals, glassware, and supplies; order chemicals and supplies; serve as department safety coordinator, including hazardous waste handling; train and supervise stockroom student employees; and maintain and coordinate repair of lab equipment and instrumentation. Requires experience with cell/molecular techniques/software, instructional experience, and strong communication and computer skills. Send letter of application, curriculum vitae, transcripts, names, addresses, and phone numbers of three references to Dr. C. E. Firling, Department of Biology, University of Minnesota, 10 University Drive, Duluth, MN 55812-2496; telephone 218-726-6262, fax 218-726-8142. Postmark deadline is September 5, 1998. The University of Minnesota is an equal opportunity educator and employer.

Scientists
Dupont Agricultural Products
Wilmington, Deleware
(Received 08/07)
DuPont is a world leader in research for the chemical and biological sciences. Fundamental and applied research programs exist for the development of industrial bioprocesses, genetically improved crops, and environmentally friendly crop protection chemicals. Our pharmaceutical organization is focused on the discovery, development, and delivery of pharmaceuticals to treat major unmet medical needs. We are seeking B.S. and M.S. scientists for our agricultural biotechnology group. Experience with molecular biology techniques is required. Experience with any of the following would be helpful: plant tissue culture, plant transformation, protein biochemistry. Projects will involve the expression of marker and trait genes in plants and the development of expression systems to optimize transgene expression. These positions are based in northern Delaware. DuPont offers an attractive salary and comprehensive benefits. For consideration, fax your resume, including names, phone numbers, and e-mail addresses of potential references to 800-631-2206 or mail to DuPont Human Resources AG982607, 1007 Market Street, N-12419, Wilmington, DE 19898. Equal opportunity employer. We encourage you to visit our Web site at http://www.dupont.com.

ASSISTANTSHIPS, FELLOWSHIPS, INTERNSHIPS, ETC.

Graduate Research Assistantship
Kansas State University, Manhattan
(Received 07/27)
A graduate research assistantship in turfgrass stress physiology is available immediately. The candidate may pursue an M.S. or Ph.D. If interested, contact Dr. Bingru Huang, Department of Horticulture, Kansas State University, Manhattan, KS 66506; telephone 785-532-1429, e-mail bhuang@oz.oznet.ksu.edu.

Graduate Assistantships
University of Florida, Gainesville
(Received 08/20)
Research/teaching assistantships are available for studies leading to an M.S. or a Ph.D. degree. Program areas include plant production and nutrition, postharvest physiology and technology, biochemistry, molecular biology, seed physiology, and plant breeding and genetics. Stipends range from $14,000 to $15,000 plus a tuition waiver. The diverse climatic conditions and cultural practices in Florida offer research opportunities with temperate, subtropical, and tropical commodities. For further information contact Dr. D. J. Huber, Graduate Coordinator, Horticultural Sciences Department, P.O. Box 110690, University of Florida, Gainesville, FL 32611-0690; telephone 352-392-1928, ext. 216, e-mail rego@gnv.ifas.ufl.edu. Please refer to position number 1112. The University of Florida is an equal opportunity employer.

Graduate Assistant
University of Arkansas, Fayetteville
(Received 08/25)
A graduate assistant is sought to do research on the physiological, biochemical, and anatomical understanding of leaf growth in relation to leaf senescence, defoliation, and effects on fruit growth. Studies will include water relations, photosynthesis, carbohydrate analysis, ^{14}C labeling, environmental stresses, and some hormonal work. Anatomical aspects of leaf senescence will also be involved. Research will include field and controlled environment studies. Opportunities exist for working and communicating with agro-chemical industries. Experience with cotton is desirable but not necessary. B.S. or M.S. in plant or crop physiology or related degree is necessary. A stipend of $13,000 with a B.S., and $15,000 with an M.S., plus fringe benefits is available. The position is available immediately. Send letter of application, resume, official transcripts, and names and addresses of three references to Dr. Derrick M. Oosterhuis, Altheimer Laboratory, 276 Altheimer Drive, University of Arkansas, Fayetteville, AR 72704; telephone 501-575-3979, fax 501-575-3975, e-mail oosterhu@comp.uark.edu.

Undergraduate Summer Research Fellowships in "Radical" Biology
Pennsylvania State University, University Park
(Received 09/08)
Several undergraduate summer fellowships are available at The Pennsylvania State University to participate in an interdisciplinary research training program in Advanced Root Biology from June through July 1999. Our program is funded by the National Science Foundation, and its goal is to train a new group of plant biologists capable of solving the unique conceptual and technical problems presented by plant roots. The undergraduate trainees will be active participants in our group effort, working directly with faculty, postdocs, and graduate students in a collaborative project of their choice. Projects are available in the following areas: root responses to nutrient stress; root exudates; biosynthesis and biological significance of root-specific secondary metabolites and proteins; mycorrhizal ecophysiology; root life span and turnover; biochemistry and molecular biology of root development; and root–insect interactions. Research facilities include state-of-the-art equipment for plant molecular biology and biotechnology, a fluorescence Microscopy and Image Analysis facility, mini-rhizotron, etc. Financial support includes a $2,500 stipend and $600 for living expenses. Applicants please submit a curriculum vitae, transcripts, and three letters of recommendation to Dr. Hector E. Flores, 315 Wartik Laboratory, The Pennsylvania State University, University Park, PA 16802; telephone 814-865-2955, fax 814-863-7217, e-mail hef1@psu.edu. Women and minorities are especially encouraged to apply. The deadline for the summer research fellowship application is February 28, 1999 (available to U.S. citizens and residents only).

Graduate Fellowships in "Radical" Biology
Pennsylvania State University, University Park
(Received 09/08)
Five graduate fellowships are available at The Pennsylvania State University to participate in an interdisciplinary research training program in Advanced Root Biology starting fall 1999. Our program is funded by the National Science Foundation, and its goal is to train a new group of plant biologists capable of solving the unique conceptual and technical problems presented by plant roots. The graduate fellows will be actively involved in the design and implementation of interdisciplinary research efforts, working directly with faculty, postdocs, and undergraduate students in a collaborative project of their choice. Projects are available in the following areas: root architecture and nutrient stress; root exudates; biochemical and molecular regulation of root-specific metabolic pathways; control of root life span and turnover; cell and molecular biology of root development; root–insect interactions; and genetics of root resistance to salinity stress. Research facilities include state-of-the art equipment for plant molecular biology and biotechnology, a fluorescence Microscopy and Image Analysis facility, mini-rhizotron, etc. Financial support includes a multiyear stipend starting at $16,500. Graduate students supported

through this training grant could study in any of several graduate programs (plant physiology, ecology, biology, plant pathology, genetics, horticulture, entomology, etc.). Applicants should submit a curriculum vitae, transcripts, and three letters of recommendation to Dr. Hector E. Flores, 315 Wartik Laboratory, The Pennsylvania State University, University Park, PA 16802; telephone 814-865-2955, fax 814-863-7217, e-mail hef1@psu.edu. Women and minorities are especially encouraged to apply. The deadline for applications is January 15, 1999 (available to U.S. citizens and residents only).

Graduate Assistant
University of Arkansas, Fayetteville
(Repeat)
Contact Dr. Derrick M. Oosterhuis, Altheimer Laboratory, 276 Altheimer Drive, University of Arkansas, Fayetteville, AR 72704; telephone 501-575-3979, fax 501-575-3975, e-mail oosterhu@comp.uark.edu. (Details July/August 1998 *ASPP NEWS)*

Graduate Assistantship
University of Florida, Gainesville
(Repeat)
Contact Dr. "Saba" B. Rathinasabapathi, Assistant Professor, Horticultural Sciences Department, University of Florida, Gainesville, FL 32611-0690; telephone 352-392-3991, fax 352-392-5653. (Details July/August 1998 *ASPP NEWS)*

Graduate Research Assistantship
Oklahoma State University, Stillwater
(Repeat)
Contact Dr. Anderson at mpa@soilwater.agr.okstate.edu, or at the Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, OK 74078; telephone 405-744-6939. Further information will be requested. (Details July/August 1998 *ASPP NEWS)*

Graduate Assistantship
Oklahoma State University, Stillwater
(Repeat)
Contact 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. (Details July/August 1998 *ASPP NEWS)*

Graduate Student Research Assistantship
Texas Tech University, Lubbock
(Repeat)
Contact Dr. A. Scott Holaday, Department of Biological Sciences, Texas Tech University, Lubbock, TX 79409-3131; telephone 806-742-2657, fax 806-742-2963, e-mail bdash@pop.ttu.edu. (Details July/August 1998 *ASPP NEWS)*

Graduate Research Assistantship
Idaho State University, Pocatello
(Repeat)
Contact Dr. Mary Poulson, Department of Biological Sciences, Idaho State University, Campus Box 8007, Pocatello, ID 83209-8007; telephone 208-236-3854, fax 208-236-4570, e-mail poulmary@isu.edu. (Details July/August 1998 *ASPP NEWS)*

Graduate Research Assistantship
Acadia University, Wolfville, Nova Scotia
(Repeat)
Contact Dr. Wendy Wismer, Nutrition and Food Science, Acadia University, Wolfville, Nova Scotia B0P 1X0, Canada; telephone 902-585-1421, fax 902-585-1470, e-mail wendy.wismer@acadiau.ca. (Details July/August 1998 *ASPP NEWS)*

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

	John Lisack / ext. 15 jlisack@aspp.org	Nancy Winchester / ext. 17 nancyw@aspp.org	Susan Chambers / ext. 11 chambers@aspp.org	Estella Coley / ext. 22 estcoley@aspp.org	Sandra Giancoli / ext. 10 giancoli@aspp.org	Crispin B. Taylor / ext. 21 ctaylor@aspp.org	Brian Hyps / ext. 14 bhyps@aspp.org	Annette Kessler / ext. 20 akessler@aspp.org	Kelley Noone / ext. 29 knoone@aspp.org	Deborah Weiner / ext. 18 dweiner@aspp.org
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ASPPNEWS

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PERIODICALS

ASPP NEWS (ISSN 0279-9936) is published bimonthly by the American Society of Plant Physiologists, 15501 Monona Drive, Rockville, MD 20855-2768 USA, telephone 301-251-0560, fax 301-279-2996. Members' dues include a subscription price of $2 per year to *ASPP NEWS*. Subscription price to nonmembers is $30 per year. Periodicals postage paid at Rockville, MD, and at additional mailing offices. Postmaster: Please send address changes to *ASPP NEWS*, 15501 Monona Drive, Rockville, MD 20855-2768 USA.