

NEW EXECUTIVE DIRECTOR FOR ASPP

ASPP welcomes John Lisack, Jr., as its new executive director. John joined the Society in early October after eight years as executive director with the American Congress on Surveying and Mapping (ACSM). ACSM has 8,000 individual members, 50 corporate members, and 50 state affiliations and publishes two journals and a society magazine. Prior to his position at ACSM, John was executive vice president of the National Association of Personnel Consultants and deputy director of the American Society for Engineering Education. He has a BSCE in civil engineering and an MBA, both from the University of Massachusetts. In addition, he is a certified association executive who has served two terms as chairman of the board of the Greater Washington Society of Association Executives. In the following interview John outlines his visions for the Society.

What attracted you to ASPP?

There were several reasons I was interested in ASPP. First was the opportunity to work with an organization of scientists who have a decided impact on the world's food supply and plant-related products. Second, I enjoyed my interview with the Society's leaders. Having a good working relationship is critical to success. Third, I knew Ken Beam, my predecessor, through other mutual association management activities and was able to gain some positive insights about the Society's future.

What challenges do you see yourself facing in your role as ASPP's executive director?

Each organization has its own personality and method of functioning. My first challenge is to learn more about the activities of the Society and to focus



John Lisack, Jr., ASPP executive director.

my attention and skills on accomplishing the goals and objectives that lie ahead for the Society. I feel our most pressing challenge is to publish the textbook *Biochemistry and Molecular Biology of Plants*. This project is a very exciting one that has been under way for several years and that will have a significant impact on the Society. A monumental effort by its editors and authors and the Society's staff will ensure its success. Another major challenge on the horizon is the introduction of a new journal on plant genomics. This endeavor will require a major commitment by the Society of its financial and human resources.

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January/February 1999 ASPP NEWS:
December 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



ASPP NEWS

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What opportunities do you foresee?

Opportunities and challenges go hand in hand. I would consider it a major accomplishment to publish a textbook that is considered an essential volume for plant biologists and for students aspiring to become plant biologists. The same applies to the prospect of producing a new journal on genomics. As the premier organization dealing with plant biology, we must strive to be on the cutting edge of plant research and to disseminate such information in a timely, cost-effective way. The Web offers unprecedented opportunities for doing just that. I believe we can accomplish these objectives and more as we move into the new century.

What is your vision for the Society as it enters its 75th year and the 21st century? How can you help us achieve it?

My vision for ASPP as we enter the 21st century is that of an organization well positioned to accomplish the goals and objectives of its membership. Changes are occurring today more rapidly than ever before. These changes present both challenges and opportunities, and ASPP must position itself to meet them in the most propitious manner. The effective and

efficient management of the Society's resources in accomplishing our objectives is my goal. Expanding our membership is also very important because we will want to represent all who contribute to the profession's knowledge base. By providing dynamic journals, effective conferences, and electronic means for the exchange of information, we will attract potential members into our fold.

Where do you see the Society in five years?

The textbook *Biochemistry and Molecular Biology of Plants* will have established itself as a premier text and will be in its second edition. The plant genomics journal will be well established as the Society's third journal. Membership will have expanded significantly as a result of increased services to members. We will have the full text and graphics of all issues of our journals—that means back to 1926 for *Plant Physiology*—accessible online in a fully searchable format. The ASPP Education Foundation will be well established and managing multiple projects to promote plant biology at several different levels...to grade school and high school audiences, to undergraduate students, and to the general public.

What skills do you bring to the Society?

Successful association management demands some important competencies that I have demonstrated during my career. Leadership skills; the ability to manage financial and human resources; communications, negotiating, and planning skills; and honesty and integrity have all been required during my 23 years in association management. I have served as CEO of both trade and professional societies. I have been responsible for managing federal relations, membership, promotion, conferences, grant administration, certification programs, and more. I have been a certified association executive (CAE) since 1980, which means that I have successfully passed a rigorous written examination and maintain a high level of continuing professional development through my involvement in association management education programs. My peers have recognized my competencies and leadership by electing me chairman of the board of the Greater Washington Society of Association Executives for an unprecedented two-year term. These are some of the talents and skills I bring to ASPP, but I hasten to add that I feel privileged to serve ASPP as your executive director.

ASPP Members Support Education Foundation

In the short time since the ASPP Education Foundation was established, ASPP members have responded generously to support it and its programs. Approximately a fifth of the membership have made financial donations. Many members have also contributed their time, skills, and energy.

Foundation board members have initiated activities to carry out the foundation mission "to promote a broad understanding of the importance of plant sciences in providing an ongoing supply of affordable, high quality food, fiber and renewable resources." The foundation is a forum for leaders in business and plant research to work together to improve education and to promote public understanding of the plant sciences. It has taken the lead in helping to create channels of information exchange among scientists, industry, and the public.

The foundation supports efforts to strengthen public awareness and apprecia-

tion of plant science, such as the plant science research briefing papers developed by the ASPP Education and Public Affairs Committees, generation of coverage in national and international publications and on television and the Internet, and representation at exhibitions. The foundation is encouraging better science education by supporting the Education Committee's presentation of the ASPP *Principles of Plant Biology—Concepts for Science Education* to teachers, education reform leaders, and plant science societies to promote the review and inclusion of the principles in state public science education curricula and instructional texts. Some 100,000 people viewed the "Plants for the 21st Century" exhibit at Epcot, which presented exciting advances in basic plant research that are increasing the supply and available selection of food, fiber, energy, pharmaceuticals, and environmental products.

ASPP members understand the need for enhancing education and public understanding of plant science. The ASPP annual membership renewal mailed out recently includes a solicitation to contribute to the ASPP Education Foundation. Broad support from the ASPP membership is essential to continue and expand the work of the foundation and to demonstrate to corporate and other potential partners ASPP's commitment to this endeavor.

Please support the foundation in its plant science education efforts by taking part in this solicitation. Contributions to the foundation can also be made by visiting the ASPP Web site at <http://aspp.org> and clicking on the Education Foundation icon.



Come to Baltimore!

There are many important issues facing the American Society of Plant Physiologists this year, and I plan to bring several of these to your attention in upcoming issues of the *ASPP NEWS*. However, I want to take this opportunity to set the stage for a big event in 1999—the Society's annual meeting, Plant Biology '99! This coming year will be a noteworthy one for plant scientists, because it marks the beginning of a large increase in funding for plant genomics research. These funds, along with the recent large commitment of resources from the agricultural biotechnology industry, will dramatically influence our science and will have a tremendous effect on agriculture and plant ecology in the coming years.

However, 1999 is of special significance to plant physiologists for another reason, as it marks the 75th anniversary of the founding of ASPP. Since its beginning, ASPP has been the leading scientific society that supports research and education in plant biology. It is appropriate, therefore, that we make special effort this year to recognize the people who have built ASPP and take note of the Society's accomplishments, activities, and aspirations for the future.

To make the 75th anniversary of ASPP a memorable occasion, we are planning several special events and features at our annual meeting, which will be held July 24–28, 1999, in Baltimore, Maryland. I want to tell you about our plans, so you will be sure to attend.

Even though ASPP is a society of nearly 5,000 individuals, its membership is a remarkably close-knit family tied together by a relatively small number of educational institutions and research mentors. Consequently, we thought it would be interesting to examine the pedigree of our members to construct an ASPP "family tree." The application materials you receive for ASPP membership in 1999 will include a form on which you will be asked to list the institution where you completed your Ph.D. research and the name of your major professor. In addition, we would like you to provide us the names of your graduate students and postdoctoral research associates. We plan to compile this information into a large family tree that will be displayed at the annual meeting. I'm sure this will be of interest to both young and old ASPP members, as you

may find "academic" family you never knew you had!

The American Society of Plant Physiologists became the leading society in plant biology because of the dedicated service of its many members. Those of us who have been associated with ASPP for many years know that membership does indeed have its benefits. Perhaps the greatest of these is longevity! Nevertheless, several founding fathers of ASPP have passed away in recent years. Consequently, the 75th annual meeting offers a wonderful opportunity to bring together both old and new members of the Society to allow them to meet one another and celebrate our accomplishments. To this end, we are organizing an anniversary banquet to which all conference attendees will be invited. Former officers and award winners will be our special guests, and I expect many of them to attend. Former ASPP President Jim Siedow will serve as master of ceremonies for this occasion, which, besides providing an opportunity for reunion and reminiscence, will take note of where ASPP has been and where its going.

I have planned a very special President's Symposium for the 75th annual meeting that will focus on global issues that affect and are affected by plant physiology research. Dr. Lester Brown, president of The World Watch Institute, Dr. Peter Raven, director of the Missouri Botanical Garden, and Dr. Robert Fraley, vice president for research, Monsanto/Cerengen, will speak on issues of ecology, food and agriculture, and agricultural biotechnology. This symposium should be a particularly interesting one that I'm certain everyone will want to attend.

The other symposia should also be of wide interest. In what represents a slight reorganization of the program, the opening session will feature the Stephen Hales address by the 1998 Hales Prize winner, Dr. Hans Kende. We are also planning to announce 1999's award winners at this time. Other major symposia slated for the 1999 annual meeting highlight new, cutting-edge topics, as well as those of long-standing interest to plant physiologists. Mark Estelle is organizing a symposium on auxin, Jeff Bennetzen is putting one together on plant genomics, Tom Jacobs is organizing cell division and cell cycle regulation in plants, and Dean Della Penna is taking the lead on plant

biochemistry and biochemical genetics. All in all, it should be an exciting meeting and a memorable occasion.

I will close by saying that I very much look forward to serving as president of ASPP this year, and that I enthusiastically welcome John Lisack, Jr., as the Society's new executive director. I am pleased to be working with him.

This is an exciting time for plant biology, and I am confident that ASPP will continue to provide scientific leadership to this scientific field. I hope to see you in Baltimore!

Brian Larkins
University of Arizona
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Happy Holidays

from ASPP

Headquarters

ASPP Officers Assume Posts for 1998–1999

New ASPP officers and committee members assumed their responsibilities October 1. Brian Larkins, University of Arizona, became president; Deborah Delmer, University of California, Davis, became president-elect; Kenneth Keegstra, MSU-DOE Plant Research Laboratory, Michigan State University, became immediate past president; and Vicki Chandler, University of Arizona, became an elected member of the Executive Committee. Other changes on the Executive Committee include Rebecca Chasan, American Institute of Biological Sciences, Publications Committee chair; C. S. Prakash, Tuskegee University, Minority Affairs Committee chair; and Ann Hirsch, University of California, Los Angeles, Committee on the Status of Women in Plant Physiology chair.

Following is a list of the membership of ASPP's committees for 1998–1999, as announced by President Brian Larkins:

BOARD OF TRUSTEES

Douglas D. Randall (99), chair
Mary Helen Goldsmith (00)
Donald R. Ort (01)
Terri Lomax (00), ex officio, treasurer

PUBLICATIONS COMMITTEE

Rebecca Chasan (03), chair
Judy Callis (99)
David Longstreth (00)
Pamela Green (01)
Robert L. Last (02)¹

PROGRAM COMMITTEE

Daniel R. Bush (02), chair
Don Ort (99)
Michael E. Salvucci (99)
Roger Hangarter (00)
Danny Schnell (01)
Richard A. Jorgensen (02)
Brian Larkins (00), ex officio, president

NOMINATING COMMITTEE

Kenneth Keegstra (99), ex officio, past president
Brian Larkins (00), ex officio, president
Deborah Delmer (01), ex officio, president-elect

EDUCATION COMMITTEE

John P. Markwell (99), chair
H. Carol Reiss (00)
Paul H. Williams (01)
Eric Davies (02)
Gary Kuleck (02)

CONSTITUTION & BYLAWS COMMITTEE

William H. Outlaw, Jr. (99)
Subhash Minocha (00)
Alan Monte Jones (01)

COMMITTEE ON THE STATUS OF WOMEN IN PLANT PHYSIOLOGY

Ann M. Hirsch (01), chair
Cynthia A. Henson (99)
Elizabeth E. Hood (99)
Dean Della Penna (00)
C. Robertson McClung (00)
Rebecca S. Boston (01)

COMMITTEE ON PUBLIC AFFAIRS

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Elisabeth Gantt (99)
R. James Cook (00)
James N. Siedow (00)
Peggy G. Lemaux (01)
Dawn S. Luthe (01)
Anthony J. Cavalieri (02)
Robert T. Leonard (02)
Kenneth Keegstra (99), ex officio, past president

MEMBERSHIP COMMITTEE

APPOINTED

Laura S. Privalle (99), chair
Anton A. Sanderfoot (00)
Gary A. Thompson (01)
SECTION REPRESENTATIVES
Marc A. Cohn (99), Southern
Alison W. Roberts (00), Northeastern
Mark Brodl, (01), Midwestern
Dean Della Penna (01), Western
Janet P. Slovin (01), Washington, DC

COMMITTEE ON MINORITY AFFAIRS

C. S. Prakash (01), chair
Robert Jones (99)
Tuan-Hua David Ho (00)
Robert Louis Vellanoweth (00)
Elizabeth A. Bray (01)
William R. Gordon (01)

The list of awards committees members will be announced in the January/February issue of the ASPP NEWS.

News and Reviews Editor Hired for THE PLANT CELL



Dr. Harry B. Smith will join the ASPP headquarters staff in mid-November when he assumes the position of news and reviews editor for THE PLANT CELL.

Harry received a bachelor's degree in biochemistry from Vassar College. He earned his Ph.D. in biochemistry in 1989, using ribulose-1,5-bisphosphate carboxylase/oxygenase as a model to understand structure-function relationships in protein engineering. After completing two

postdoctoral projects in biomedical research laboratories, he decided to pursue his other abiding interest—German literature—and was awarded a master's degree in Germanic studies in 1996. Since then, he has been able to unite his scientific and literary proclivities in his position as assistant editor at the *Journal of Molecular Medicine* (JMM), which is published in Berlin by Springer-Verlag.

Among his many responsibilities at JMM, Harry writes "In This Issue" articles that highlight the research and review topics featured in each month's issue. He also performs substantive and technical editing of review articles for JMM, just as he will for the Cell Biology special issue of THE PLANT CELL.

He counts the following among his research interests in the field of biochemistry/molecular biology: enzyme-catalyzed

reactions; structure-function relationships and drug/herbicide design; gene regulation and expression; signal transduction; protein purification and characterization; and science ethics. He is fluent in several languages and has been published extensively in such journals as *Plant Molecular Biology*, *Journal of Biological Chemistry*, and *Biochemistry*.

ASPP staff are delighted to welcome Harry on board.

Workshops in Countries with Emerging Research Programs: A teaching and research workshop in Argentina

A workshop sponsored by ASPP, the Sociedad Argentina de Fisiología Vegetal, and the Comité Argentino-Brasileño de Biotecnología (CABBIO) took place from July 27 to August 7 at the Universidad Nacional de Rio Cuarto to discuss "Frontiers in Plant Biology." The meeting was organized by Wendy Boss, Jerry Cohen, and Hector Flores on the U.S. side and by Ruben Bottini and his colleagues on the Argentine side. Thirty-three graduate students from several Argentine and Brazilian universities and research institutes participated in this course, in which the topics ranged from glycolysis and electrochemical potential differences to plant-microbe interactions. In addition to lectures on their individual areas of study, the American participants—Elizabeth Bray, Lindy Brigham, Hector Flores, Ann Hirsch, Bruce Kohorn, Ann Matthyse, Bill Paxton, Edgar Spalding, and Linda Walling—prepared and taught practical courses. In these, the students were exposed to several techniques including yeast two-hybrid screens, use of green fluorescent protein, transposon mutagenesis, immuno-blotting, and measurement of membrane potentials with intracellular microelectrodes. A number of Argentine scientists, among them Luis G. Wall, Antonio Lagares, Pedro Balatti, Edith Taleisnik, Eligio Morandi, Juan J. Guiamet, Alberto Golberg, Gabriela Amodeo, Ana M. Castro, and Malena Alvarez, and Antonio A. Corsetti-Purcino of Brazil and Dave Berger of South Africa were also invited to give lectures on their area of research to the students and the American participants.

Although a two-week workshop with lectures starting at 8:30 a.m. and labs ending at 8:00 p.m. was rather intense, there was time to relax in the late evening at the unofficial course headquarters "La Barraca" in downtown Rio Cuarto, a charming city in central Argentina. There was also a weekend soccer game ably played by both North and South American participants and a field trip to the surrounding countryside. All in all, this workshop offered a tremendous opportunity for North and South American scientists to discuss research, conduct experiments, and learn from one another. Student feedback was enthusiastic, and no doubt research collaborations will be established in the future. Possibly some new graduate students and postdocs will even be recruited from these first links made among scientists from the United States, Argentina, and Brazil.

Ann Hirsch
University of California, Los Angeles



The Plant-Microbe Interactions group taught by Ann Matthyse and Ann Hirsch (seated).



ASPP member John W. Radin (right), of the USDA Agricultural Research Service, recently made a generous donation to the ASPP Education Foundation. Dr. Radin presented his check to ASPP executive director John Lisack, Jr., in early November.



Plant Genome Research Champion Kit Bond Recognized for Leadership in Science

Senator Christopher "Kit" Bond (R-MO) was presented the Society's 1998 Leadership in Science Public Service Award in a ceremony held at the University of Missouri in Columbia on August 18.

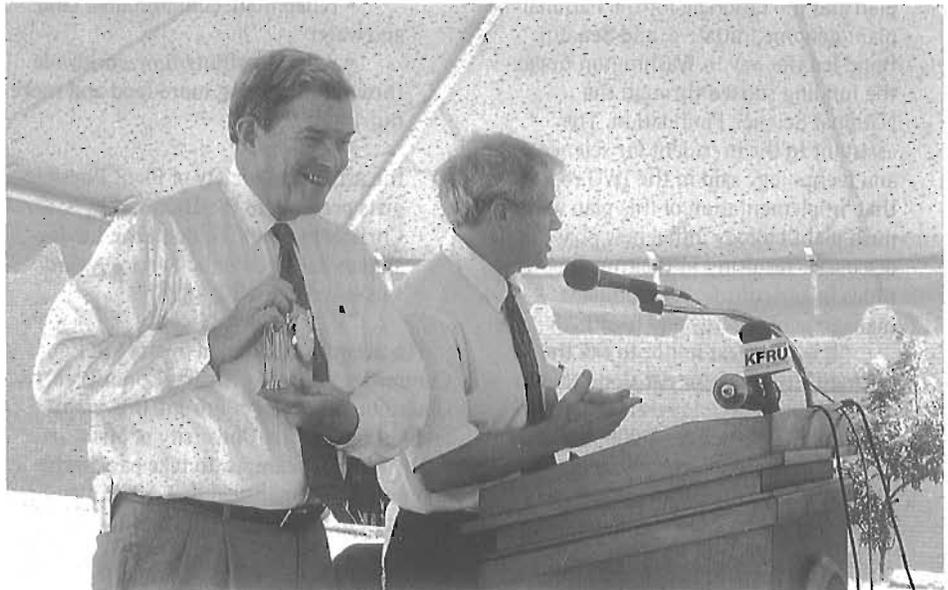
Senator Bond authored the plant genome initiative, which resulted in the appropriation of \$40 million for research in this area sponsored by the National Science Foundation in fiscal year 1998.

Senator Bond led successful efforts to increase support for plant genome research to \$50 million in FY99. He is seeking continued funding in future years for this five-year program. He has also led efforts to gain substantial increases in overall support for NSF during the two years since he became chair of the appropriations subcommittee with spending jurisdiction over NSF.

In accepting the award, Senator Bond expressed how meaningful it was to him. He added that he looks forward to building on the start that has been made toward mapping the crop genomes and called on the need to build more support for plant genome research "for what must be a major effort in the years ahead."

ASPP Board of Trustees Chair Douglas Randall, who presented the award to Senator Bond, explained the many benefits that the plant genome initiative offers to American farmers and consumers as well as to our world neighbors. Following are Randall's remarks:

"In the plant science community, we've known the tremendous opportunities offered by plant genomics. But these have generally not been recognized outside the plant research community, and outside some of the companies in the life sciences and in the producer community. However, thanks to Senator Kit Bond, the benefits of enhancing plant genome research are becoming widely recognized. Those in Congress and the White House now are fully aware of the value that this research can have for our nation's economic and physical health. Just as with the Food for the 21st Century program here in Missouri, when Senator Bond—then governor of Missouri—realized the importance of plant research and plant genomics, we got action.



ASPP member Douglas Randall (right) presents Leadership in Science Public Service Award to Senator Christopher Bond.



ASPP members Lou Sherman (left) and Douglas Randall express their appreciation for Senator Bond's outstanding work in support of plant science.

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"It was at Senator Bond's request that the White House Office of Science and Technology Policy appointed the Interagency Working Group (IWG) to work out a plan to enhance plant genome research. The IWG provided the plan and the rationale for the national plant genome initiative, and Senator Bond led the way in Washington to get the funding started through the National Science Foundation. The assistant to the president for science and technology said in the IWG report that 'implementation of this plan will push plant biology into a new phase of discovery, resulting in exciting opportunities in agriculture, environment management, energy and health.'

"It is my great honor to ask the distinguished Senator Kit Bond to join me here for a special presentation. On behalf of the more than 5,000 members of the American Society of Plant Physiologists, I am greatly honored to say that in appreciation for launching

the national plant genome initiative, which will lead to important benefits for all Americans and our world neighbors by helping to—

- revitalize rural America with a more robust agricultural sector
- reduce greenhouse gas emissions through more efficient biofuels
- rehabilitate contaminated land and water
- reduce malnutrition worldwide through producing more food and more nutritious foods

the American Society of Plant Physiologists presents to the Honorable Christopher "Kit" S. Bond the Leadership in Science Public Service Award this day, August 18, 1998."

The award was initiated by the ASPP Committee on Public Affairs. Committee Chair Lou Sherman of Purdue University and formerly of the University of Missouri returned to the campus to take part in the ceremony. Sherman said that ASPP members will work to inform the public of the

"significance of the politically courageous actions and historic leadership demonstrated by Senator Bond in promoting the national plant genome initiative."

Sherman credited Senator Bond for his impressive history of support for research, including the Food for the 21st Century research program that then-Governor Bond succeeded in establishing. In introducing Douglas Randall, who presented the award to Senator Bond and who actively supported the senator's research initiative, Sherman said, "There is no one in the country who better deserves the honor of making this presentation on behalf of ASPP."

The ceremony was held in coordination with the ground breaking for a new plant growth facility (greenhouse) and seed storage facility at the University of Missouri. There were a number of honored guests in attendance for the presentation and ground breaking, including Representative Kenny Hulshof (R-MO), Brian Klippenstein of Senator Bond's staff, and university officials. Several representatives of the media covered the event.

NSF Plant Genome Research Up 25 Percent as Requested by Senator Bond

The full House and Senate have approved the House and Senate Conference agreement on fiscal year 1999 appropriations for the National Science Foundation. The conferees agreed to Senator Christopher "Kit" Bond's (R-MO) request to increase plant genome research funding by \$10 million. FY99 appropriations legislation for NSF was subsequently signed into law by the president on October 21.

NSF had requested \$40 million for the plant genome initiative for FY99; the conference agreement actually calls for \$50 million for plant genome research in FY99. Senator Bond succeeded in winning \$40 million to launch the plant genome initiative in FY98.

Overall for NSF, the conferees agreed to a total appropriation of \$3.672 billion for FY99. This amount is \$243 million, or 7.1 percent, more than the FY98 level.

For Research and related activities, the conferees agreed to provide \$2.770 billion, which represents an increase of \$224 million, or almost 9 percent, over the FY98 level.

For Education and Human Resources, the conferees agreed to provide \$663 million, an

increase of about \$30 million, or 5 percent, over the FY98 appropriation.

For the Major Research Equipment account, the conferees agreed to provide \$90 million.

In the bill that the Senate initially passed, the additional \$10 million in plant genome research would have been all new funds for NSF. Under the compromise agreed to in conference, the additional \$10 million will come from within the "overall research program funded through this account." The overall research program is funded at \$2.770 billion. This language is more favorable than calling for use of funds from a smaller account.

It is expected that this provision, as written in the conference agreement, will not have a negative impact on NSF research programs overall because \$10 million represents just 0.36 percent of \$2.770 billion. In addition, the \$10 million increase will have a very substantial positive impact on plant genome research, as it increases support for the plant genome initiative by 25 percent in FY99.

This marks the second year in a row that Senator Bond has succeeded in obtaining the

full amount in conference for plant genome research that he guided through the Senate. Often conferees agree on a figure somewhere in between the higher and lower versions being negotiated.

ASPP Campus Contacts and corn and other growers were among the most active supporters of the plant genome initiative during the past two years. The plant genome initiative is expected to lead to more rapid advancements in plant research that will improve food and fiber production, lead to enhanced foods, make possible the discovery of new lifesaving pharmaceutical products, spur development of plant-based alternatives to petroleum-based products, and lead to development of modified plants to clean certain toxic metals from contaminated soil and water.

FY99 Funds for Division of Energy Biosciences Up 9 Percent

The House and Senate adopted the conference report for fiscal year 1999 appropriations for the Department of Energy on September 28 and 29. President Clinton signed the legislation into law on October 7. The appropriation calls for an increase of 9 percent, to \$30 million, for the Department of Energy Division of Energy Biosciences, which supports basic plant and microbial research.

The increase for the Division of Energy Biosciences fell short of the DOE's request for an increase for the division of \$5 million (or 18 percent). Opposition in the House to the Kyoto agreement that was reached to address global warming and to some DOE policy reports on the subject led to a 50 percent reduction in increases for the Climate Change Technology Initiative. The increase proposed for the Division of Energy Biosciences is contained in the Climate Change Technology Initiative.

The Division of Energy Biosciences was threatened by an earmark in the House report that would have reduced the program by \$2.5 million—nearly 10 percent of the FY98 budget for the program. ASPP members in key districts and states of conference members successfully battled the earmark.

States of conferees and Appropriations Committee members where efforts on behalf of the Division of Energy Biosciences were particularly effective included California, Arizona, Washington, Michigan, Wisconsin, Georgia, and Nevada. ASPP Campus Contacts and grantees in these states worked with key conferees and other members of the Appropriations Committee.

For example, Representative Vic Fazio (D-CA), who was contacted by a group of ASPP members led by Larry Vanderhoef, was very helpful in protecting the Division of Energy Biosciences from the earmark in conference. Fazio is the highest ranking Democrat on the House Appropriations Subcommittee on Energy and Water Development.

ASPP member Norm Lewis, of Washington State University, traveled to Washington, DC, to hold timely meetings with his congressional offices. Both of Washington State's senators were conferees, and the congressman representing the district in which Washington State University is located is a member of the Appropriations Committee. A consistently strong supporter of the Division of Energy Biosciences, Representative Ed Pastor (D-AZ), a conferee, was contacted by ASPP President Brian Larkins and ASPP members including Hans Bohnert and

Martha Hawes, as well as by all DOE Energy Biosciences grantees at the University of Arizona. A Michigan State University representative in Washington, DC, and ASPP President Ken Keegstra contacted senior subcommittee member Joseph Knollenberg's (R-MI) office. ASPP members also contacted the offices of Senator Harry Reid (D-NV), Senator Herb Kohl (D-WI), and Representative Jack Kingston (R-GA).

In addition to successfully fighting back a threatening earmark in the FY99 appropriations bill, ASPP also played a key role in correcting a typographical error in an earlier subcommittee report of the FY99 budget in which no funds were included for the Division of Energy Biosciences. The work of the ASPP public affairs staff with Senate Appropriations Committee staff led to correction of the typographical error that same day, prior to the printing of the full committee report.

When bills are enacted with a typographical error, the error becomes part of the law. A lengthier and more complicated process is then needed to seek a technical corrections bill. Responsive Appropriations Committee staff took care of the ominous error within hours of ASPP identifying it, and the Division of Energy Biosciences received needed funding.

Initiative for Future Agriculture and Food Systems Rejected, but Half the Funds Salvaged for Existing Research Programs

Nearly half the research funds that would have gone to the rejected Initiative for Future Agriculture and Food Systems have been redirected to other research programs within the U.S. Department of Agriculture, including the National Research Initiative (NRI), the Agricultural Research Service (ARS), and formula funds.

The NRI will receive \$119.3 million in fiscal year 1999 compared to the \$97.2 million it received last year. The Plant Systems category of the NRI is up \$4 million, to \$41 million. The Natural Resources and the Environment category, which includes support for plant stress research, is up \$3 million, to \$20.5 million. The biggest increase in the NRI went to the Nutrition, Food Quality and Health category, where Congress placed funds for the major Food Safety Initiative. That category is up \$8 million, to \$16 million.

ARS will actually receive more than the USDA requested, with FY99 funding set at \$782 million (\$777 million originally sought). FY98 funding was \$744.3 million.

Formula funds for base programs were up 7 percent, except for Extension, which was up 3 percent.

All these higher-than-usual increases for the NRI, ARS, and formula funds resulted from redirecting funds from the rejected Initiative for Future Agriculture and Food Systems. Key House conferees had voiced objections to the initiative's proposed use of mandatory funds, which technically skirt the authority of the appropriations committees.

The issue of funding the Initiative for Future Agriculture and Food Systems, which was not funded in conference this year, is expected to come up again next year because it was authorized as a five-year mandatory program.

The president vetoed the appropriations bill for agriculture, and it was subsequently made part of the larger omnibus appropriations bill. In the omnibus bill, the president and Congress agreed to increase emergency spending for farmers hurt by low crop prices and natural disasters to \$5.9 billion. The research spending agreed to totaled \$1.7 billion.

ASPP Bids Farewell to Zaneta Bieglecka

Administrative assistant Zaneta (Janet) Bieglecka resigned from ASPP earlier this month to accept the position of webmaster at the Health Insurance Association of America. Janet had been a member of the ASPP Finance and Administration Department since June 1997 and assisted with all functions of that department including work with membership, the annual meeting, marketing, accounting, and information systems. It was during Janet's time with ASPP that she developed her interest in the Internet and Web design and gradually assumed increasing responsibility for maintaining a large portion of the Society's Web site. Good luck, Janet!

Science Policy Report Recommends Placing Priority on Basic Research

The House Science Committee's science policy report *Unlocking Our Future—Toward a New National Science Policy* calls for placing a priority on basic research. The report, which was released September 24, 1998, recommends that "because the federal government has an irreplaceable role in funding basic research, priority for federal funding should be placed on fundamental research."

The report noted that the primary channel by which the government stimulates knowledge-driven basic research is through research grants to individual scientists and engineers. Therefore, direct funding of the individual researcher must continue to be a major component of the federal government's research investment. "The federal government should continue to administer research grants that include funds for indirect costs and use a peer-reviewed selection process [to award funds] to individual investigators," the report said.

Because the practice of science is becoming increasingly interdisciplinary and progress in one discipline is often propelled by advances in other, seemingly unrelated, fields, the report noted that "it is important that the federal government fund basic research in a broad spectrum of scientific disciplines, mathematics and engineering, and resist concentrating funds in a particular area."

Partnerships between university researchers and industries have become more prevalent as a way for universities to leverage federal money to capture research results without building up in-house expertise. Therefore, university-industry partnerships should be encouraged so long as the independence of the institutions and their different missions are respected.

International scientific collaborations form another important aspect of the research enterprise. The report said that U.S. participation in international science projects should be in the national interest and that the United States should enter into international projects when doing so would reduce the cost of science projects that the country would likely pursue unilaterally or would otherwise not pursue at all.

In the area of education, *Unlocking Our Future* recommends that a greater fraction of the federal government's spending on education be spent on research programs aimed at improving curricula and increasing the effectiveness of science and math teaching. Salaries that make the profession competitive may be needed to attract qualified science and math teachers. The

report called for school districts to consider merit pay or other incentives as a way to reward and retain good K-12 science and math teachers.

Focusing further on the education arena, the report suggested that more university science programs institute specially designed master's of science degree programs as an option for graduate study that does not entail a commitment to a Ph.D. And in the area of communication of science to the public, universities should consider offering scientists, as part of their graduate training, the opportunity to take at least one course in journalism or communication. Journalism schools were urged to encourage journalists to take at least one course in scientific writing.

The report said that government agencies have a responsibility to make the results of federally funded research widely available. Summaries of research written in layperson's language describing research results and implications should be prepared and widely distributed, including via the Internet.

Although it makes up just a small fraction of the federal research budget, the National Research Initiative (NRI) Competitive Grants Program within the U.S. Department of Agriculture was singled out in the report for doing a "credible job of making scientific information available to a wide audience. It distributes what it calls Research Highlights, newsletters featuring competitive research sponsored by NRI that has been published in a peer-reviewed journal. The newsletters are written in plain English and describe the results of the research and its impact on U.S. agriculture. These reports serve a useful purpose and could serve as a model for other agencies interested in making the results of their research more readily available."

ASPP public affairs staff met earlier this year with Science Committee staff writing the report and included a sampling of the full-color NRI Research Highlights with the packet of information delivered to committee staff. ASPP Public Affairs Committee member Jim Cook of Washington State University called for development of several NRI Research Highlights during his tenure as chief scientist of the NRI.

A resolution recently passed by the House endorsed the committee report. The report was written in response to a request from Speaker Newt Gingrich (R-CA) to develop a "new, sensible, coherent long-range science and technology policy." Gingrich said Congress needed to take a look at national science policy in the post-Cold War environment.

Your 1999 Dues and Subscription Renewal package has been mailed. Among the important pieces of information included in the packet are the 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 soon as possible.



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

Two Join ASPP Education Committee

Eric Davies and Gary Kuleck have been invited by ASPP President Brian Larkins to serve four-year terms on the Society's Education Committee. Both new members bring with them impressive credentials in and a deep commitment to plant science education.

Eric Davies has a B.S. in horticulture from Wye College of London University and a Ph.D. in botany from McGill University. Currently he is professor and head of the Department of Botany at North Carolina State University in Raleigh. He has taught introductory biology, plant physiology, cell biology, genetics, plant hormones, and plant growth and development. He has received substantial funding over the years from NSF, Howard Hughes Medical Institute (HHMI), and NASA specifically for plant science education. His research interests include wound signals and systemic gene expression, the cytoskeleton and translation on cytoskeleton-bound polysomes, and the early effects of gravity on cytosolic calcium.

Gary Kuleck double-majored in biology and chemistry at the University of Maryland at Baltimore County and subsequently earned his Ph.D. in genetics from the University of Pennsylvania. He is currently assistant professor at Loyola Marymount University (Los Angeles), where he teaches genetics, molecular biology, and plant development. As a faculty member at a primarily undergraduate institution and a member of the Council on Undergraduate Research, undergraduates figure heavily in his research program. He also serves as chair of the steering committee for the West Coast Undergraduate Research Conference and is a member of Project Kaleidoscope, an NSF-sponsored program to encourage young faculty to take leadership roles in reforming undergraduate science, mathematics, and technology education. Recent funding has come from LACTE (Los Angeles Collaborative for Teacher Excellence), another NSF-sponsored program, to prepare a hands-on science certification course for non-science majors interested in becoming K-8 teachers. His research program focuses on the isolation and characterization of auxin

metabolism enzymes and the regulation of auxin biosynthetic genes.

Drs. Davies and Kuleck replace retiring members Dina Mandoli (University of Washington) and Bob Wise (University of Wisconsin-Oshkosh).

"12 Principles" Used as Basis for Teacher Training at UC Berkeley

Past ASPP President Bob Buchanan (University of California, Berkeley) has developed a seminar course for science teachers that centers around the Society's *Principles of Plant Biology—Concepts for Science Education*. The students served are working toward their master's degree in teaching at the UC-Berkeley School of Education.

The first 10 of the 50-minute, weekly class meetings are used to cover the 12 principles. Buchanan and several graduate students lead the discussions, which are based on reading material assigned before each lecture (graduate students can receive seminar credit for their involvement). The remaining four classes are used for the future teachers to make presentations on any plant science topic of their choosing.

The students enrolled in the course leave the School of Education with a master's degree with an emphasis in biology and a California teaching credential. In addition, they graduate with an expanded understanding of the role of plant biology in modern science. Buchanan has been impressed with the quality of the students and the effectiveness of the course in generating good discussion. He comments, "If all future teachers are like the ones in my class, our schools will be in good hands." Further details are available from Bob Buchanan at view@nature.berkeley.edu.

Pub(lic) Understanding of Science Launched

The July/August 1998 issue of the *ASPP NEWS* introduced readers of the Education Forum to a novel science education project by Dr. David Walker (Sheffield, England) and Mic Rolph (a professional illustrator). That project is now in full swing.

Walker and Rolph are collaborating on the introduction into pubs of beer mats (coasters/drip mats), each with a relevant illustration on one side and a scientific question on the other. Patrons will be able to

test their scientific acumen and engage in scientific discourse as they relax with a pint.

Walker, a noted plant physiologist and author of *Energy Plants and Man*, and Rolph had worked together previously on a project called "A Leaf in Time," which won the highly prestigious Millennium Award of the Royal Society and the British Association. The Millennium Award comes with a mandate (and funding) that requires the winners to use their expertise to enhance the "public understanding of science" in the community by working with local institutions. Certainly pubs are included on the list of institutions that are central to British community life. So Rolph and Walker collaborated to produce a total of 15 different beer mats for distribution in 51 English pubs. The project is funded, in part, by Bass Taverns. A total of 90,000 mats will be distributed.

Distribution of the beer mats began on October 5 and will continue until January 12, 1999. Each week, mats containing a new question will be distributed and last week's answer will be displayed on a wall poster.

For those of us unable to visit the The Cross Keys (in Thropton, Northumberland) or the The Albion (in East Molesy, Surrey) for a pint of Bass ale and some scientific inquiry, the 15 questions and participating taverns can be found on the Web at <http://www.alegba.demon.co.uk/beer mats.html>. In addition, David Walker can be reached at david@alegba.demon.co.uk for comments or questions.

New USDA Web Site Offers Kids a Sneak Peek into the Science Behind Agriculture

(The following story is one of the news releases and story leads that ARS Information distributes on weekdays to fax and e-mail subscribers. You can also get the latest ARS news on the Web at <http://www.ars.usda.gov/is/pr/thelatest.htm>. Direct feedback and questions to ARS News Service via e-mail: isjh@ars-grin.gov.)

Helping kids use science to bridge the gap between agriculture and daily life is the aim of "Science For Kids," a new World Wide Web site from the U.S. Department of Agriculture's Agricultural Research Service. Geared to children ages 8 to 13, "Sci4Kids" is a series of interactive stories based on research projects featured in *Agricultural Research*, ARS's monthly publication, and

continued on page 12

other news items. Sci4Kids debuted on the Web at <http://www.ars.usda.gov/is/kids>.

"We're hoping children will use the site to gain a greater understanding of agriculture's importance to their daily life—the food they eat, the clothes they wear, the water they drink," said Undersecretary of Agriculture for Research, Education and Economics I. Miley Gonzalez. "Today's children are tomorrow's farmers, scientists, policymakers and consumers. So it's important that children have access to information about agricultural research that is significant and timely as well as enjoyable."

New stories will be added regularly, accompanied by photos, graphics, trivia, classroom connections, and links to other scientific resources. Sci4Kids stories also offer a window through which kids can peek into the sometimes wacky world of science. Among the 19 stories now featured:

- Gainesville, Florida, entomologist Sanford Porter is enlisting a head-hunter fly to battle the fearsome imported fire ant, a major farm and household pest in much of the South.
- In Beltsville, Maryland, researcher and ASPP member Rufus Chaney grows plants with a taste for "heavy metal"—not the hard-rocking kind, but real metals like zinc and nickel that can contaminate soils.
- Tucson, Arizona, scientist Eric Erickson uses satellite technology to help beekeepers track their bee colonies in remote areas.

Another Sci4Kids feature, "Dr. Watts," allows kids to e-mail questions or comments about the stories they read. Kids, as well as parents and teachers, can also e-mail Dr. Watts their suggestions for improving the site.



OBITUARIES



Kazimierz Kleczkowski

Professor Kazimierz Kleczkowski, a plant biochemist at the Institute of Biochemistry and Biophysics (IBB), Polish Academy of Sciences, Warsaw, Poland, died after a prolonged illness on August 8, 1998, at age 74. Born in the northeastern corner of pre-war Poland, in what is now part of Belarus, Professor Kleczkowski received his undergraduate training at the Warsaw Agricultural University in the early 1950s. He completed his Ph.D. at the IBB in 1958. He joined the faculty there and worked at the institute for the rest of his scientific career. From 1971 to 1990, he was head of the Department of Plant Biochemistry at the IBB and from 1987 to 1989 served as its elected director. Even after his retirement in 1991, he was still actively participating in institute events, supervising Ph.D. students and laying out plans for the new IBB center in south Warsaw.

Professor Kleczkowski was the author of well over 100 research papers, reviews, and abstracts concerned with, among other topics, the isolation and characterization of enzymes of the ornithine cycle in plants, translation and posttranslational protein modifications, and the mode of action of phytohormones. More recently, he investigated the biotechnological aspects of the resistance of potato plants to pathogen attack. He was the recipient of stipends from the Rockefeller Foundation (1962–63) and the Humboldt Foundation (1965, 1985–86). He served on various scientific councils and advisory boards of the Polish Academy of Sciences and was a long-time member of the Polish Biochemical Society. He had also been a member of ASPP.

Professor Kleczkowski was a dedicated scientist and a kind senior who was always

willing to help colleagues and young researchers. Many of his former students and associates in Poland and abroad remember him for the perceptive and personal way in which he treated them and for the warmth and outgoing character he personified. He was a proud son of the endless forests, fields, and lakes of his native childhood countryside, with a love for a good joke and teary, nostalgic songs. His love for science was contagious and, perhaps, hereditary; I treasure a photo of me as a two-year-old child standing in front of the entrance to the Warsaw Agricultural University, where my father used to bring me to help him water plants in a small greenhouse. Perhaps inevitably, 20 years later I followed my father's footsteps, working in the same building, entering the same entrance. His legacy lives on through a host of friends and collaborators who will miss his scientific support no less than his friendship.

Professor Kleczkowski is survived by his wife, Danuta, also a biochemist, and their two children, Hanna and Leszek, both biochemists.

Leszek Kleczkowski
University of Umea
Sweden

Miklos Faust

ASPP headquarters was recently informed of the death of Dr. Miklos Faust, ASPP emeritus member.

J. Brian Mudd

ASPP member J. Brian Mudd, emeritus professor at the University of California, Riverside, died on Wednesday, November 4, 1998.

NEW ANNUAL MEETING FORMAT!

CALL FOR ABSTRACTS

Submit your abstract for Plant Biology '99 via the World Wide Web.

(Abstracts will also be accepted by physical mail. Faxed abstracts will not be accepted.)

All abstracts submitted for Plant Biology '99
will be accessible for browsing and searching on the
World Wide Web beginning in April 1999.

The program format for the 1999 annual meeting will include five major symposia, 24 minisymposia selected primarily from the submitted poster abstracts, and poster presentations (no oral presentations). All posters will be on display for four days. Authors should submit their abstracts in one of the 22 poster categories. The program committee will also use these abstracts as a basis for composing the 24 minisymposia. Potential minisymposium topics are listed on page 3 of the call for abstracts. Suggestions or proposals for any additional minisymposium topics should be sent to Susan Chambers, chambers@aspp.org or Plant Biology '99, 15501 Monona Dr., Rockville, MD 20855 USA.

IMPORTANT NOTICE

**To be able to submit and view abstracts on the
World Wide Web,**

**instructions for authors have been
significantly changed from previous years.**

**It is essential to read and follow carefully the enclosed new
instructions for submitting abstracts to Plant Biology '99.**

**The new system will work best for
abstracts submitted via the World Wide Web.**

**All authors who have the electronic capability to submit via the Web
are urgently requested to do so.**

Deadline for Receipt of Abstracts

MONDAY, MARCH 1, 1999.

Do not submit before

Monday, February 1, 1999.

CALL FOR ABSTRACTS

PLANT BIOLOGY '99:

1999 Annual Meeting of the
American Society of Plant Physiologists

Saturday, July 24–Wednesday, July 28, Baltimore, MD, USA

Deadline: Monday, March 1, 1999
Do not submit abstracts before February 1, 1999.

PLEASE READ THE FOLLOWING CAREFULLY BEFORE SUBMITTING ABSTRACTS FOR PLANT BIOLOGY '99

Abstracts to Be Submitted and Viewed Electronically for Plant Biology '99

For Plant Biology '99, abstracts should be submitted via the World Wide Web, and the annual abstract supplement will be available for viewing and searching on the Web beginning in April 1999. We will also publish a printed version of the abstract supplement in 1999 which will be available to attendees at the meeting.

Abstracts will be available for viewing and program details will be attached to the abstracts, making it possible for you to plan your visit to the annual meeting with precision long before you get to the meeting. The Web site will make it possible for you to prepare and print out a personal program to guide you at the meeting.

The deadline for submission is Monday, March 1, 1999. Abstracts may not be submitted before Monday, February 1, 1999.

This system will work best for members who have access to the World Wide Web through a forms-capable Web browser. We strongly recommend Netscape or MS Internet Explorer, version 3.0 or higher. We will include links at the site to immediately download the latest version of these two browsers. We strongly urge all members who are able to do so to use this method of submission. The more abstracts that are received via the Web, the better the electronic abstract supplement will work.

In recognition that not all members have access to the Web or to the proper browsing software, abstracts may also be submitted via physical mail. Although this alternate method of submission will work, it is cumbersome and expensive to convert to the Web file. Again, we urgently request everyone who has World Wide Web capability to use that format to submit his or her abstract.

For all abstract submissions, authors will be strictly limited to 1800 characters in the body of the abstract.

Automatic acknowledgments will be sent to all who submit, regardless of the method they use.

Inside this insert are the new instructions for submitting your abstracts electronically (or by regular mail if you don't have access to the Web). For this electronic submission project to work effectively, it is critical that you read and follow these new instructions carefully when you send your abstracts for Plant Biology '99. If you have any questions, contact Susan Chambers at chambers@aspp.org or 301-251-0560, ext. 11.

Remember the following four guidelines:

- Limit the body of your abstract to 1800 characters .
- Do not submit any abstracts before February 1, 1999.
- Be sure to submit by Monday, March 1, 1999.
- Do not use fax.
- Most important:

IF AT ALL POSSIBLE, SUBMIT BY WORLD WIDE WEB.

FOLLOW THE ENCLOSED INSTRUCTIONS EXACTLY.

Call for Abstracts—Plant Biology '99

1999 ASPP Annual Meeting
Baltimore, MD, USA, Saturday, July 24–Wednesday, July 28

HOW TO SUBMIT AN ABSTRACT TO PLANT BIOLOGY '99

We urge all who have the electronic capability to use the World Wide Web.

I. Via the World Wide Web

1. Select a poster presentation report category from the list below. A member may submit or sponsor one research poster abstract and one Education poster abstract.
2. A member may request that an abstract also be considered for a selected minisymposium category (optional).
3. Deadline for receipt is Monday, March 1, 1999. DO NOT USE FAX.
4. DO NOT include any graphics or tabular material in the body of your abstract.
5. Access URL <http://aspp.org/abstract>. You must have a forms-capable browser (for example, Netscape 3.0 or above or Internet Explorer).
6. Detailed instructions will be provided on the screen. Enter the information called for in each field. If you use special characters (super- or subscripts, italics, bold or Greek letters), you will be asked to enter some simple text mark up codes. The codes will be provided in the instructions on screen. Those with Internet browsers 3.0 or higher have more automated functions for inserting the characters. The system will provide an immediate proofing copy to ascertain that you have entered the codes properly. The system will count the characters (minus the codes) and will not permit you to enter an abstract of more than 1800 characters.
7. After proofing, press the "Submit" button. Acknowledgment will be sent to you by e-mail.

II. Via Physical Mail

1. Select a poster presentation report category from the list below. A member may submit or sponsor one research poster abstract and one Education poster abstract.
2. A member may request that an abstract also be considered for a selected minisymposium category (optional).
3. Deadline for receipt is Monday, March 1, 1999. DO NOT USE FAX.
4. DO NOT include any graphics or tabular material in the body of your abstract.
5. Use this method of submission *only* if you do not have access to the World Wide Web.
6. Fill in the form on the following page exactly as it is shown and within the space provided.
7. Type the abstract in the area provided; DO NOT exceed 1800 characters. A proofing copy and acknowledgment will be e-mailed to you; if you do not have or do not provide an e-mail address, the proofing copy will be sent by fax.
8. Mail two flat, unfolded copies (original and photocopy) of your abstract to Plant Biology '99 Abstracts, 15501 Monona Drive, Rockville, MD 20855-2768 USA.

The meeting format for Plant Biology '99 will include poster presentations and minisymposia. All abstracts must be submitted as poster presentations in one of the following 22 poster session categories. The program committee will then review the poster abstract submissions and select a limited number of abstracts to compose up to 24 minisymposia. If you wish to have your abstract considered for a minisymposium presentation, please select a potential minisymposium topic in which it would best fit. If your abstract is chosen by the program committee for a minisymposium presentation, you will be contacted before April 1, 1999.

POSTER PRESENTATION REPORT CATEGORIES

Abstracts for poster presentations (no orals) may be submitted in any of the following 22 categories.

1. Reproductive Biology
2. Vegetative Development
3. Seed Physiology
4. Signal Transduction
5. Cell Walls and Cytoskeleton
6. Interactions of C and N Metabolism
7. Lipids and Related Molecules
8. Mitochondria and Respiration
9. Natural Products, Medicinals, Ethnobotany
10. Protein Processing, Trafficking, and Assembly
11. Root Physiology
12. Transgenics and Biotechnology
13. Assimilate Partitioning and Allocation
14. Environmental Response and Adaptation
15. Enzymology and Metabolism
16. Plant Genomics
17. Growth Regulators and Hormones
18. Membrane Transport
19. Photosynthesis
20. Plant Interactions with Other Organisms
21. Regulation of Gene Expression
22. Education

Potential Minisymposium Topics:

Enhancing Ethnic Diversity in the Plant Sciences
What does research tell us about learning?
Lipids in Cell Biology
Reproductive Biology
Cell Development and Differentiation
Cytoskeleton
Membrane Transport
Resource Allocation
Signal Perception and Transduction
 Sugar signaling
 Kinases & Phosphatases

Calcium
14-3-3 Proteins
Redox Regulation
Receptors
Regulation of Gene Expression
Abiotic Stress
Plant Insect Interaction
Plant Pathogen Interaction
Clocks
Volatile Signals
Remediation

Tropisms
Plasmodesmata
Organelle Biogenesis
Cell Walls
Molecular Biology of Wood Development
Gene and Genome Evolution
DNA Recombination and Repair
Polysaccharides
Weed Species: Why do they succeed.

Address any questions to Susan Chambers, chambers@aspp.org or 301-251-0560, ext. 11.

DEADLINE FOR SUBMISSION: MONDAY, MARCH 1, 1999. DO NOT SUBMIT BEFORE FEBRUARY 1, 1999.

**FOLLOW THIS FORM EXACTLY TO SUBMIT AN ABSTRACT TO
PLANT BIOLOGY '99 BY PHYSICAL MAIL**

**(Type information directly onto this form and mail this original and one photocopy.
Please submit via physical mail only if you lack the electronic capability to submit via the Web)**

ABSTRACT TITLE (Type in sentence style: capitalize first letter of first word only; type all other words except proper names in lower case letters):

AUTHOR: AFFILIATION:
AUTHOR: AFFILIATION:
AUTHOR: AFFILIATION:
AUTHOR: AFFILIATION:

POSTER PRESENTATION REPORT CATEGORY (select from list at the bottom of page 3 of the call for abstracts):

MINISYMPOSIUM TOPIC (if you would like the program committee to consider your abstract for a minisymposium, select from the minisymposium topics list on page 3 of the call for abstracts):

SUBMITTING OR SPONSORING MEMBER (a member may submit or sponsor one research abstract and one education abstract):
NAME:

PRESENTER'S NAME (if e-mail address cannot be provided, fax number must be provided):
MAILING ADDRESS:

TELEPHONE:

E-MAIL ADDRESS:

FAX:

ASPP Member: YES NO Other Plant Physiology Society Membership: _____

BODY OF ABSTRACT: (Abstract must fit into space below, and it *must not* exceed 1800 characters. Present all elements of a research report [introduction, materials and methods, results, discussion] but **without headings**. End abstract with acknowledgment of funding sources, if applicable. Do not indent first line of abstract. DO NOT break copy into paragraphs. DO NOT include graphics or any tabular material. Super- and subscripts, bold, and italics may be used. Abstracts submitted by physical mail will be retyped to be put into the electronic file that will appear on the Web and be used for printing the abstract supplement. Mail two flat, unfolded copies of this abstract (this form and a photocopy) to Plant Biology '99 Abstracts, 15501 Monona Drive, Rockville, MD 20855-2768 USA.)

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

NOVEMBER

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@ucr.ac1.ucr.edu. For a more detailed listing, visit our Web site at <http://cnas.ucr.edu/~bps/symposium99.htm>.

January 28–29, 1999

Integration Strategies to Capture Output Trail Values in Agricultural Biotechnology: Extracting Value Along the Way from Seed to Shelf
Sheraton San Diego Hotel & Marina, San Diego, California
To register or for more information, call Global Business Research, Ltd., at 800-868-7188 or visit our Web site at http://www.global8.com/conference98/agb_cover.html.

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>.

FEBRUARY

February 14–18, 1999

Gordon Research Conference on Agricultural Science: Genomics in Crop Production
Ventura, California

For information contact Dan O'Keefe (okeefe@esvax.email.dupont.com) or see the GRC Web site at <http://www.grc.uri.edu/programs/1999/agsci.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>.

March 25–29, 1999

6th International Botanical Microscopy Meeting—Plant Cell Biology
University of St. Andrews, Scotland

For information contact Rebecca Morden, RMS, 37/38 St. Clements, Oxford, OX4 1AJ, United Kingdom; telephone +44-1-865-248768, fax +44-1-865-791237, e-mail info@rms.org.uk.

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.

July 26-30, 1999

**International Symposium
Auxins and Cytokinins in Plant Development
Prague, Czech Republic**

Detailed information about the symposium and a preliminary registration form can be found at <http://www.ueb.cas.cz/acpd>. Other contacts: Symposium e-mail acpd@ueb.cas.cz, telephone +420-2-20390-445 or +420 2 20390-429, fax +420-2-20390-446, Mirek Kaminek or Eva Zazimalova, Institute of Experimental Botany, Rozvojova 135, CZ 165 02 Prague 6, Czech Republic.

AUGUST

August 3-7, 1999

**6th International Congress on Amino Acids
Bonn, Germany**

Contact Bijay K. Singh, American Cyanamid Company, PO Box 400, Princeton, NJ 08543-0400; telephone 609-716-2066, fax 609-275-5216, e-mail singhb@pt.cyanamid.com.

August 28-September 1, 1999

**Cellular Responses to Oxidative and Osmotic
Stress, Sensing, Signalling and Gene Expression
Egmond aan Zee, Netherlands**

Meeting registration deadline is April 2, 1999. For information contact Dr. Pim Mager, telephone +31-20-444-7569, e-mail mager@chem.vu.nl, and for more details visit our Web site at <http://www.chem.vu.nl/STAR99/index.html>.

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
Accounting Department, ASPP Headquarters, 15501 Monona Drive, Rockville, MD 20855-2768

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

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| <input type="checkbox"/> Academic | <input type="checkbox"/> Government | <input type="checkbox"/> USA only | <input type="checkbox"/> 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.)

Center Director USDA/ARS, Fargo, North Dakota (Received 09/30)

The Red River Valley Agricultural Research Center at Fargo, North Dakota, is seeking a highly qualified individual with an established record of experience to serve as an agricultural administrator (center director). Salary would be commensurate with experience and would range from \$64,998 to \$99,397 per annum. Responsibilities include management and oversight of an interdisciplinary scientific staff in addition to supervision of administrative staff. Current research is being done to (1) reduce the impact of foreign chemicals on animals used for food; (2) control perennial invasive weeds; (3) control and manage harmful and beneficial insects; (4) develop improved germplasm of wheat, barley, oats, sugarbeets, and sunflowers; (5) develop improved quality tests for small cereal grains; and (6) improve nutritional quality of potatoes and reduce post-harvest loss. A degree in a field of science associated with agricultural crops such as physiology, biochemistry, genetics, molecular biology, plant pathology, entomology, or related disciplines or a combination of education and experience is needed to qualify. A Ph.D. is highly desirable. Applicants must have excellent communication and interpersonal skills with a demonstrated ability to guide research programs

and provide leadership. This is a permanent, full-time position and applicants must be U.S. citizens. For application information and procedures, contact Paula Bovee at 970-229-5503 or write to USDA, ARS, HRD, WOB, 5601 Sunnyside Avenue, Beltsville, MD 20705-5106. A full copy of the job announcement is available on ARS Web site <http://www.ars.usda.gov/afm/hrd/resjobs>. Applications accepted November 9, 1998, to January 11, 1999, and must be postmarked by January 11, 1999. ARS is an equal opportunity employer.

Faculty Positions National Central University, Taiwan (Received 10/01)

Up to three tenure-track faculty positions in the area of environmental biological sciences are available in Taiwan beginning August 1, 1999. Candidate should have postdoctoral experience and research interests in plant molecular biology, environmental physiology, biochemistry, or genetics. The successful candidates should be able to teach the introductory sequence for undergraduates, molecular biology, and other topics of candidates' expertise for graduate courses. Statements of teaching and research interest, curriculum vitae, three letters of reference, and recent publications should be sent directly to Prof. Edward Lee, Chair of Faculty Search Committee, Institute of Life Science, National Central University, Chung-Li 32054, Taiwan.

Review of applications will begin November 15, 1998, and will continue until the positions are filled.

Plant Molecular Geneticist The Ohio State University, Wooster (Received 10/13)

A tenure-track position at the assistant professor level is available in the Department of Horticulture and Crop Science at the Ohio Agricultural Research and Development Center, Wooster Campus. The position will involve mainly research; teaching of one graduate-level course is expected. The successful applicant will be expected to develop a nationally competitive research program in molecular genetics relating to plant/microbe or plant/insect interactions. There is a significant opportunity for interaction with other faculty working on molecular mechanisms of gene expression, plant cell and developmental biology, plant-microbe interactions, and application of basic knowledge for crop improvement. Applicants must have a Ph.D. and postdoctoral experience. Competitive salary and start-up funds will be provided. Applicants should forward a curriculum vitae including a summary of research interests and three letters of references to Dr. John Streeter, Search Committee Chair, Department of Horticulture and Crop Science, The Ohio State University/O.A.R.D.C., 1680 Madison Ave., Wooster, OH 44691-4096. Applications will be accepted until December 15,

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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*.

1998, or until a suitable candidate is identified. The Ohio State University is an equal opportunity/affirmative action employer. Qualified women, minorities, Vietnam-era veterans, disabled veterans, and individuals with disabilities are encouraged to apply.

Assistant/Associate Professor
Michigan State University, East Lansing
(Received 10/14)

The Department of Biochemistry at Michigan State University seeks applications for a tenure-track position at the assistant or associate professor level in the area of genetic engineering of plant metabolism with the objective of developing new plants or plant products. This is one of six new positions intended to further enhance the position of Michigan State University as a leader in the plant sciences. Applicants must have a Ph.D. and postdoctoral research experience that demonstrates productivity and gives evidence of the potential for independent research. The successful applicant will participate in the departmental program in plant biochemistry, an area of research emphasis within the department, and in interdisciplinary interactions with plant scientists in other departments and at the MSU-DOE Plant Research Laboratory. Applicants should submit a curriculum vitae and a description of research accomplishments and future interests and have three letters of recommendation sent to Dr. William L. Smith, Chairperson, Department of Biochemistry, Box P, Michigan State University, East Lansing, MI 48824-1319. Candidates from groups currently underrepresented in academic science are encouraged to apply. To ensure consideration, applications should be received by December 8, 1998. Further information about the Department of Biochemistry is available at <http://www.bch.msu.edu>.

Research Specialist, Principal
Columbia University's Biosphere 2 Center, Inc.
Oracle, Arizona
(Received 10/14)

Columbia University's Biosphere 2 Center, Inc., is recruiting several new research specialists in the areas of ecosystem research and forestry and agriculture studies. For ecosystem research, the successful candidate will participate in the articulation, coordination, and implementation of collaborative projects examining the impact of changing atmospheric (CO₂) and land-use change on terrestrial ecosystem processes. A recent Ph.D. in plant physiological or ecosystem ecology or related field is required. Experience in stable isotopic analysis, flux measurement, or ecosystem modeling techniques is preferred. For the forestry program, the successful candidate will act as scientist for Biosphere 2 research on carbon and water exchange from an experimental forest ecosystem under ambient and elevated CO₂. The research goal is to span multiple spatial and temporal scales, from molecules to ecosystems and from seconds to years. Species is *Populus deltoides* (cottonwood), a fast-growing ecologically and economically important tree species. A recent Ph.D. in plant physiology, biogeochemistry,

or ecology is required. Incumbents will conduct research, guide student research, coordinate research by visiting scientists, and integrate research with other ongoing research programs. Communication, organizational, and supervisory skills are required. Candidates should submit a full curriculum vitae, research statement and future plans, and contact information for three individuals who can provide recommendations to HR Manager, Columbia University, Biosphere 2 Center, 32540 S. Biosphere Road, Oracle, AZ 85623. Visit our Web site at <http://www.bio2.edu>.

Faculty Positions
Washington University, St. Louis
(Received 10/14)

As the first two of several faculty additions designed to build on existing strengths, the Department of Biology at Washington University now seeks colleagues working in the areas of plant science and evolution of development. Candidates should have significant research accomplishments and a commitment to excellence in both undergraduate and graduate teaching. Although we anticipate filling these positions at the assistant professor level, we would be pleased to consider distinguished senior applicants. *Plant Science*: Candidates are sought who pursue innovative molecular and cellular approaches to the study of any area of plant biology using plant or model microbial systems. Participation in interdisciplinary research within the university, as well as with the newly established Donald Danforth Plant Sciences Center in St. Louis, will be encouraged. *Evolution of Development*: Candidates are sought who will be able to establish a vigorous program of research, and provide leadership in research training, at the interface between evolutionary and developmental biology. Those studying evolution of development in any taxa will be carefully considered, but candidates with expertise in vertebrate biology will be viewed with particular interest. Review of applications will begin December 14. Letters of application should be accompanied by a curriculum vitae, brief statements of research and teaching interests, reprints of three papers, and the names of three persons who have been asked to send letters of recommendation to The Plant Science Search Committee, or The Evolution of Development Search Committee, Department of Biology, Campus Box 1137, Washington University, St. Louis, MO 63130-4899. Visit our Web site at <http://www.biology.wustl.edu>. Washington University is an affirmative action/equal opportunity employer.

Plant Molecular Biologist
Chatham College, Pittsburgh, Pennsylvania
(Received 10/19)

Chatham College is seeking qualified applicants for a tenure-track appointment as assistant professor in biology. Teaching responsibilities include cell and molecular biology (introductory and advanced) and courses in the area of plant sciences. Additional expertise in the areas of environmental science and/or histotechniques would be welcome. The successful candidate will be expected to develop a research program that

links to one of the ongoing initiatives of the college and provides opportunities for undergraduate participation. An earned doctorate and teaching experience at the college level are required. The college, a pioneer in curricular progress, is dedicated to enabling its graduates to make an impact on the world around them. Students and staff have easy access to Pittsburgh's dynamic cultural and entertainment offerings and can share in educational and social offerings of nine other area colleges and universities. A new science complex is currently under construction and will be completed in December 1999. Please send letter of application, transcripts, curriculum vitae, and the names and phone numbers of three references by November 30, 1998, to Chatham College, Job #293, Human Resources, Woodland Road, Pittsburgh, PA 15232. Chatham College is an equal opportunity employer.

Principal Investigator
Samuel Roberts Noble Foundation
Ardmore, Oklahoma
(Received 10/19)

The Forage Biotechnology Group (FBG) at The Samuel Roberts Noble Foundation is seeking a staff scientist (principal investigator) in the area of molecular marker/genomics research and development. The Noble Foundation is a nonprofit organization of approximately 200 employees involved in community service and development, agricultural consultation and research, and fundamental plant biology research. The mission of the FBG is to develop improved forages for the southern Great Plains and, in the process, advance the science of forages. The genomics position will involve development of marker-assisted selection protocols for forage grasses and legumes and research in the areas of gene expression as well as molecular genetic diversity. Qualifications include a Ph.D. in an appropriate area of biology, plus additional experience in molecular marker/genomics research and technology. Salary commensurate with qualifications and experience. Health and retirement benefits provided. Send a letter of application and a detailed resume and arrange for three letters of reference to be sent to ATTN: Genomics Specialist (Position #25), Human Resources Dept., The Samuel Roberts Noble Foundation, 2510 Sam Noble Parkway, Ardmore, OK 73401.

Assistant Professor
Virginia Polytechnic Institute and State University, Blacksburg
(Received 10/27)

The Department of Plant Pathology, Physiology and Weed Science of Virginia Tech invites applications for a 12-month, tenure-track assistant professor position in plant biotechnology. The successful candidate will be expected to develop an innovative, externally funded research program using molecular, cellular, and biochemical approaches to solve problems in applied plant biotechnology. Potential areas for research include applications of transgenic plant technologies to bioproduction of pharmaceutical and industrial compounds, edible vaccines, nutritional

enhancement, metabolic engineering, disease and pest resistance, and abiotic stress resistance. Qualifications include a Ph.D., postdoctoral experience, publication in refereed journals, excellent communication skills, and interest in collaborative research. Teaching responsibilities include an applied biotechnology course and team-taught graduate-level topics course in molecular cell biology and biotechnology. Qualified applicants should send a statement of interest, curriculum vitae, official transcripts, and three letters of recommendation by January 15, 1999, to Dr. Carole Cramer or Dr. Elizabeth Grabau, Department of Plant Pathology, Physiology and Weed Science, Fralin Biotechnology Center, Virginia Tech, Blacksburg, VA 24061-0346; telephone 540-231-6757 (Cramer) or 540-231-9597 (Grabau), e-mail ccramer@vt.edu or egrabau@vt.edu. For more information and a detailed description of the position, see departmental Web site at <http://www.ppws.vt.edu>. Virginia Tech is an equal opportunity employer.

Assistant Professor

Michigan Technological University, Houghton
(Received 10/27)

The Institute of Wood Research, School of Forestry and Wood Products at Michigan Technological University, seeks to fill a new nine-month, tenure-track position in the areas of lignin biosynthesis, genome mapping, bioinformatics, or molecular biology of stress response in trees. The position will include development and teaching of graduate-level courses in tree genome mapping and bioinformatics, plus undergraduate courses in biotechnology. A strong, extramurally funded research program involving graduate students is required. Collaboration is expected with faculty and staff of the Plant Biotechnology Research Center. The salary is commensurate with experience. For further information consult <http://forestry.mtu.edu>. Submit curriculum vitae, statement of research and teaching interests, and at least three letters of recommendation. The application review process will begin November 15, 1998, and continue until the position is filled. Send information to Biotechnology Search Committee, School of Forestry and Wood Products, Michigan Technological University, Houghton, MI 49931. Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

Faculty Position

North Dakota State University, Fargo
(Received 10/28)

The Department of Botany/Biology at North Dakota State University seeks to fill a nine-month, tenure-track faculty position at the assistant professor level. Responsibilities will include advising undergraduate and graduate students and teaching undergraduate plant physiology, introductory biology, and advanced courses in the candidate's area of specialty. The successful candidate will develop an externally funded research program in an area of plant physiology and will attract and support graduate students. The department offers B.S. and M.S. degrees in botany and Ph.D. degrees in botany and cellular

and molecular biology. Additional information can be obtained at <http://www.ndsu.nodak.edu/ndsu/holbrook/nonclass.stm>. The closing date is January 18, 1999. Applicants should submit a curriculum vitae, transcripts, statement of teaching philosophy and research interests, copies of representative publications, and names of three references to Plant Physiology Search Committee, Department of Botany, North Dakota State University, Fargo, ND 58105-5517. NDSU is an equal opportunity institution.

Assistant Professor

Michigan State University, East Lansing
(Received 11/05)

The successful candidate is expected to develop a strong research program in a fundamental area relevant to phytoremediation. Examples of research areas include uptake and utilization of metals and/or organic pollutants by plants, phytodegradation, and ways to improve phytoremediation traits of plants through plant breeding or molecular techniques. A Ph.D. in plant physiology or related area is required. Experience in one or more phytoremediation research areas is desired. The candidate is expected to teach an undergraduate/graduate course in phytoremediation and an advanced course in his or her specific area of expertise. The position will be located in the Department of Crop and Soil Sciences. To ensure consideration, applications should be received by January 15, 1999. For information on position and/or applications, contact Dr. Stephen Boyd, Search Committee Chair, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824-1325; e-mail boyds@pilot.msu.edu. Michigan State University is an equal opportunity/affirmative action employer. People with disabilities have the right to request and receive reasonable accommodations.

POSTDOCTORAL POSITIONS

Postdoctoral Positions

University of California, Riverside
(Received 09/14)

A position is available immediately to study the molecular genetics of citric acid accumulation in citrus fruit. The objectives are to clone a major gene that controls fruit acidity and to clone genes expressed in juice vesicle cells using differential display and segregation analysis (Genome 40, 841-849). A Ph.D. in plant physiology, biochemistry, or genetics is required. Experience with cloning, differential display, and DNA sequencing is desirable. A second position is available November 1, 1998, to work on positional cloning and analysis of a gene that causes resistance to citrus tristeza virus. A BAC contig containing the gene has been completed. A Ph.D. in molecular biology, genetics, plant physiology, or biochemistry is required. Experience in molecular genetics, DNA sequencing, and plant transformation is desirable. Send a curriculum vitae, statement of research interests, and the names, addresses and telephone numbers of three references to Mike Roose, Department of Botany and Plant Sciences, University of California, Riverside, CA 92521; telephone 909-787-4137, fax 909-787-4437,

e-mail roose@citrus.ucr.edu, Web site <http://www.cnas.ucr.edu/~bps/roose.html>. The University of California is an equal opportunity/affirmative action employer.

Postdoctoral Position

University of Minnesota, St. Paul
(Received 09/17)

A postdoctoral position will be available beginning January 1999, to study the biochemical and molecular responses of white lupin roots to phosphorus deficiency stress under the supervision of Drs. Deborah Allan and Carroll Vance. Responsibilities of the postdoc will include identification of -P stress induced genes via subtractive hybridization and differential display, and characterization of these genes and their transcript expression. The ultimate goal is to use genes in the transformation of alfalfa to improve P acquisition. A strong background in plant physiology and laboratory skills in molecular techniques and protein/RNA purification is required. Experience with light and/or electron microscopy is desirable. Send a curriculum vitae, brief statement of experience and goals, and names and addresses of three references to Dr. Deborah Allan, Department of Soil, Water and Climate, University of Minnesota, St. Paul, MN 55108; e-mail dallan@soils.umn.edu. The University of Minnesota is an equal opportunity educator and employer.

Postdoctoral Position

University of Idaho, Moscow
(Received 09/17)

A postdoctoral position is available to investigate signal transduction mechanisms of plant disease resistance. The research will focus on the regulation and roles of pathogen-induced DNA-binding transcription factors in disease resistance using a combination of biochemical, molecular, and genetic approaches. Candidates should have a Ph.D. with strong experience in biochemical and molecular biology techniques. Please send a cover letter, curriculum vitae, and three letters of recommendation to Dr. Zhixiang Chen, Department of Microbiology, Molecular Biology and Biochemistry, University of Idaho, Moscow, ID 83844-3052; telephone 208-885-4030, fax 208-885-6518, e-mail zchen@uidaho.edu.

Postdoctoral Position

University of Stellenbosch, South Africa
(Received 09/21)

A postdoctoral position will be available January 1, 1999, to study the tissue-specific expression of genes involved in carbohydrate metabolism in sugarcane and grapes. Applicants should have a Ph.D. and a strong background in molecular biology and plant biochemistry. Experience in *in situ* hybridization work is required. To apply, send your curriculum vitae and the names and addresses of three references to Dr. F. C. Botha, Institute for Plant Biotechnology, University of Stellenbosch, Private Bag X1, Matieland, 7602, South Africa; fax +27-21-8083835, e-mail fcb@maties.sun.ac.za.

Postdoctoral Position
University of Stellenbosch, South Africa
(Received 09/21)

A postdoctoral position will be available January 1, 1999, to study the regulation of carbohydrate metabolism during ripening and maturation in sugarcane and grapes. Applicants should have a Ph.D. and a strong background in plant physiology/biochemistry. Experience in protein purification, enzymology, and metabolic flux analysis is required. To apply, send your curriculum vitae and the names and addresses of three references to Dr. F. C. Botha, Institute for Plant Biotechnology, University of Stellenbosch, Private Bag X1, Matieland, 7602, South Africa; fax +27-21-8083835, e-mail fcb@maties.sun.ac.za.

Postdoctoral Position
University of Florida, Gainesville
(Received 09/23)

A postdoctoral position is available in metabolic engineering of plant one-carbon metabolism including synthesis of the osmoprotectants glycine betaine (Proc. Natl. Acad. Sci. 94, 3454-3458; 1997) and DMSP (Nature 387, 891-894; 1997). A strong background in biochemistry, preferably including enzyme purification, is required; cDNA cloning and plant transformation experience is essential. Applicants must have good scientific writing skills and be able to work independently. Please send curriculum vitae, cover letter describing research interests and experience, and names of three references to Andrew Hanson, University of Florida, Horticultural Sciences Department, Gainesville, FL 32611-0690; telephone 352-392-1928, ext. 334, e-mail adha@gnv.ifas.ufl.edu.

Postdoctoral Position
University of California, Berkeley
(Received 09/23)

A postdoctoral position is available to study antioxidant metabolism in xanthophyll-deficient mutants of *Chlamydomonas* (Proc. Natl. Acad. Sci. 94, 14162-14167; 1997). The successful applicant will use a combination of molecular genetic and biochemical techniques to dissect the roles of xanthophylls and other antioxidants in photoprotection. A strong background in molecular genetics is required, and experience in photosynthesis research would be helpful. Send a letter of application, curriculum vitae, and three letters of reference to Dr. Krishna K. Niyogi, Department of Plant and Microbial Biology, 111 Koshland Hall, University of California, Berkeley, CA 94720-3102; e-mail niyogi@nature.berkeley.edu.

Postdoctoral Position
University of California, Riverside
(Received 09/25)

A position is available immediately to study elicitor recognition and the role of a 34 kDa elicitor-binding protein from soybean. Immunoprecipitations will be used to identify other interacting proteins, and mutations will be constructed in the cloned 34 kDa protein gene to identify amino acids important for elicitor binding and interactions with other proteins.

Genes encoding other proteins that interact with the 34 kDa binding protein will be cloned and characterized. Transgenic plants over- and under-expressing the 34 kDa protein will be characterized. References to prior work can be found in (Plant Cell 9, 1425; 1997) and (Proc. Natl. Acad. Sci. 95, 3306; 1998). The successful applicant must have a good background in biochemistry and genetics and be able to work with proteins. The position has two years' guaranteed grant funding with a starting salary of \$31,000 plus medical and vacation benefits. Applicants should supply names of three references to Noel Keen, Department of Plant Pathology, University of California, Riverside, CA 92521; telephone 909-787-4134, e-mail noel.keen@ucr.edu.

Postdoctoral Position
University of Caen, France
(Received 09/25)

A one-year postdoctoral position is available immediately in Caen University, to work on regulation of N uptake and N storage in *Brassica napus*. Experience in plant molecular biology is required including RNA extraction, RT-PCR, northern blotting, differential display, and screening of cDNA libraries. An extension for 12 months is a possibility. The yearly stipend is 144000-166000 FF. Send curriculum vitae, statement of research background, and names and e-mail addresses of three references to Dr. Alain Ourry, U.A. INRA Physiologie et Biochimie Vegetales, Université, 14032 Caen, Cedex, France; fax +33-23156-53-60, e-mail ourry@bba.unicaen.fr.

Postdoctoral Position
Duke University, Durham, North Carolina
(Received 09/28)

Professor M. C. Pirrung seeks a postdoctoral fellow with a background in mechanistic enzymology. We are particularly interested in using mass spectrometry to examine the molecular changes that are experienced by the ethylene-forming enzyme as it is inactivated, either by turnover or by mechanism-based inhibitors. We are also involved in kinetic studies to examine the process by which the putative enzymatic oxidant, an iron-oxo species, is generated. Experience in site-directed mutagenesis, structure-function relationships, and/or steady-state kinetics is desirable. (See Chem. Biol. 5, 49-57; 1998.) Send curriculum vitae, publication list, and references with contact information to Department of Chemistry, Duke University, PO Box 90317, Durham, NC 27708-0317; fax 919-660-1591; Web site <http://www.chem.duke.edu/~pirrung>.

Postdoctoral Position
Colorado State University, Fort Collins
(Received 10/06)

A two-year postdoctoral position is available to study flower senescence and postharvest quality of ornamentals. The project will focus on characterizing the role of proteases in flower senescence and the regulation of ethylene biosynthetic genes and receptors by pollination. Candidates should have a Ph.D. with a strong background in plant

physiology and molecular biology. Knowledge of and experience in plant tissue culture and transformation, PCR, western blotting and protein assays, and library construction and screening are preferred. Please send a letter of application, curriculum vitae, publication list, and three letters of reference to Dr. Michelle L. Jones, Department of Horticulture and Landscape Architecture, Colorado State University, 111 Shepardson, Fort Collins, CO 80525; telephone 970-491-7216, fax 970-491-7745, e-mail jonesml@lamar.colostate.edu. The application deadline is November 16, 1998, or until a suitable candidate is found. Colorado State University is an equal opportunity employer.

Postdoctoral Position
Max-Planck-Institute of Chemical Ecology
Jena, Germany
(Received 10/07)

Two postdoctoral positions are available in molecular evolutionary genetics at the Max-Planck-Institute of Chemical Ecology to study the population and ecological genetics of *Arabidopsis* and *Arabis*. Additional information can be found at <http://www.ice.mpg.de/>. Review of applications will begin November 25, 1998, and continue until suitable candidates are found. Please send a curriculum vitae, statement of research interests, and addresses and phone numbers of three references to Thomas Mitchell-Olds, Max-Planck-Institute of Chemical Ecology, Tatzendpromenade 1a, 07745 Jena, Germany; telephone +49-3641-643657, fax +49-3641-643668, e-mail tmo@ice.mpg.de.

Postdoctoral, Graduate Students, Technicians
Cornell University, Ithaca, New York
Texas A&M University, College Station, Texas
(Received 10/08)

Multiple positions—postdoctoral, graduate student, and technician—are immediately available for participation in a multi-institutional effort on tomato genomics with the research located at Cornell University (CU), the Boyce Thompson Institute (BTI), and Texas A&M University (TAMU), and in collaboration with the Institute for Genome Research (TIGR). Objectives include the development of tomato DNA chips (BTI, TAMU), genome-wide expression analysis during fruit development (TAMU, CU) in response to pathogens (BTI), and tomato-*Arabidopsis* synteny analysis (CU). Inquiries should be directed to one of the following: Steve Tanksley, Plant Breeding, Cornell University, Ithaca, NY 14853 (sdt4@cornell.edu); Greg Martin, Boyce Thompson Institute, Cornell University, Ithaca, NY 14853 (gbm7@cornell.edu); Jim Giovannoni, Crop Biotechnology Center, Texas A&M University, College Station, TX 77843-2133 (jjg@unix.tamu.edu).

Postdoctoral Position
University of California, San Diego
(Received 10/09)

A postdoctoral position is available immediately to pursue the molecular analysis of *Tangled1*, a gene required for the spatial regulation of cytokinesis in maize (for background see Smith et al. [1996],

Development 122, 481-489; Cleary and Smith, [1998], Plant Cell 11, 1875-1888). A Ph.D. and experience in one or more of the following areas are required: molecular biology, biochemistry and plant transformation, genetics. Applicants should send a curriculum vitae to lsmith@biomail.ucsd.edu. In addition, please mail one or two reprints reflecting your accomplishments and experience and arrange to have two or three letters of reference mailed to Dr. Laurie Smith, Department of Biology, University of California-San Diego, 9500 Gilman Drive, La Jolla, CA 92093-0116.

Postdoctoral Position
University of Minnesota, St. Paul
(Received 10/14)

A postdoctoral associate position is immediately available to construct and use transgenic alfalfa plants, expressing a bacterial atrazine degradation and detoxification gene, to bioremediate soils and soil water contaminated with atrazine and related s-triazine herbicides. Appointment is initially for one year at full-time with a base salary of \$30,000 annually. Applicants require a Ph.D. in plant biology, plant molecular genetics, biochemistry, molecular biology, or a related field. Experience in molecular biology, recombinant techniques, plant transformations, and plant molecular genetics is required. Send a curriculum vitae and the names and addresses of three references to Dr. Michael Sadowsky, Department of Soil, Water, and Climate, University of Minnesota, 439 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108; telephone 612-624-2706, fax 612-625-6725. The University of Minnesota is an equal opportunity employer.

Postdoctoral Positions
USDA-ARS, Beltsville, Maryland
(Received 10/14)

The Agricultural Research Service, Beltsville Agricultural Research Center, Weed Science Laboratory, in Beltsville, Maryland, has two full-time, two-year postdoctoral positions available immediately. Salary: GS-11, \$39,270 per annum plus benefits. Candidates must be a U.S. citizen or citizen of country allied with the United States. One position is to study the mechanism of apparent induced disease resistance observed in tomato plants grown in a cover crop of hairy vetch. Applicants must have graduated with a Ph.D. and gained practical experience in biochemistry and molecular biology and have a knowledge of plant pathology. Send letter of interest, curriculum vitae, transcripts, dissertation, and names of three references to Dr. Autar Mattoo, Vegetable Laboratory, Room 238, Bldg. 010A, BARC, Beltsville, MD 20705; e-mail amattoo@arsr.arsusda.gov, home page <http://www.barc.usda.gov/psi/vl/home.htm>; or Dr. James Anderson, Weed Science Laboratory, Room 342, Bldg. 001, BARC, Beltsville, MD 20705; e-mail janderso@arsr.arsusda.gov, homepage <http://www.barc.usda.gov/psi/wsl/wsl.htm>. The second position is concerned with studying fungal elicitor-induced cell-signaling mechanism in weeds and other non-beneficial plants (Weed Sci. 45, 716-721; 1997). Applicants must have graduated with a Ph.D. and gained practical

experience in plant pathology/physiology and plant biochemistry/molecular biology. Send letter of interest, curriculum vitae, transcripts, dissertation, and names of three references to Dr. James Anderson (address above). USDA-ARS is an equal opportunity provider and employer.

Postdoctoral Researcher
The Ohio State University, Wooster
(Received 10/19)

A postdoctoral position is available the Department of Plant Pathology, Ohio Agricultural Research and Development Center (OARDC), The Ohio State University. The successful candidate will define potyvirus replication and movement in maize and will investigate mechanisms limiting virus infection of resistant maize lines. Qualifications: a Ph.D. in plant science, molecular biology, or related area. Experience with molecular and/or in situ techniques is desirable. The position is for one year, with extension possible. Please send a letter of application, curriculum vitae, and a list of three references to Dr. Peg Redinbaugh, Department of Plant Pathology, OARDC, 1680 Madison Ave., Wooster, OH 44691; fax 330-263-3841, e-mail redinbaugh.2@osu.edu.

Postdoctoral Positions
University of Missouri, Columbia
(Received 10/21)

As part of a large campus effort in crop genomics in maize and soybean, we seek two postdoctorals to participate in analysis of expression patterns of root genes of soybean. These positions are supported by the NSF Plant Genomics Initiative and by the Missouri Soybean Merchandising Council. Campus PIs are Joe Polacco (Biochemistry) and Hari Krishnan (Plant Science Unit/Biochemistry). Familiarity with plant molecular biology techniques is required. We encourage applicants who demonstrate familiarity with plant physiological approaches (biochemistry, nutrition, genetics) and willingness to master genomics approaches (SAGE, macro- and microarray technology, and bioinformatics) to apply. Salaries are competitive and enabling in the Columbia environment. A curriculum vitae and three letters of reference should be sent to either Dr. Joe Polacco, 117 Schweitzer, University of Missouri, Columbia, MO 65211; telephone 573-882-4789, e-mail polaccoj@missouri.edu or Dr. Hari Krishnan, 108 Waters Hall, University of Missouri, Columbia, MO 65211; telephone 573-882-2862, e-mail krishnanh@missouri.edu. University of Missouri is an equal opportunity/ADA institution.

Postdoctoral Position
University of Edinburgh, Edinburgh
United Kingdom
(Received 10/27)

Applications are invited for a postdoctoral position at the Institute of Cell and Molecular Biology, University of Edinburgh. The focus of the project will be to investigate the role of the oxidative burst and cognate redox signaling in the establishment of disease resistance in Arabidopsis. Applicants should be highly motivated individuals with experience in molecular biology or Arabidopsis genetics. The successful applicant will

join an international group located within a well-equipped and resourced institute. The post is grant-supported for a period of two years in the first instance on the salary scale stlg15,735-stlg23,651 depending on experience. Informal inquiries may be made to Gary Loake via e-mail at gloake@srv0.bio.ed.ac.uk or by telephone at +44-131-650-5332. Further particulars including details of the application procedure can be obtained from Personnel Department, University of Edinburgh, 1 Roxburgh Street, Edinburgh EH8 9TB, UK. Information is available on our Web site at <http://www.personnel.ed.ac.uk/recruit.htm>. Please quote reference number 896792NA.

Postdoctoral Position
University of Florida, Lake Alfred
(Received 10/27)

A postdoctoral position is available immediately to join an interdisciplinary team in citrus abscission. Candidates should have a Ph.D. in horticulture, plant physiology, plant molecular biology, or related discipline and have experience in protein isolation, biochemistry, and/or expression, as well as molecular biological techniques. The project will focus on identification and characterization of abscission-related proteins including cell wall hydrolases, ethylene biosynthetic enzymes, and MAP kinases. One component of the project will focus on differential responses of citrus to abscission-promoting compounds, including some materials unique to this program. The overall objective of the interdisciplinary program is to define tissue-specific responses to abscission signals that will be important for designing more effective citrus abscission management strategies. Send letter of application; curriculum vitae; and names, addresses, and phone numbers of three references to Dr. J. K. Burns, jkbu@tangelo.lal.ufl.edu, University of Florida, Citrus Research and Education Center, 700 Experiment Station Road, Lake Alfred, FL 33850.

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

Laboratory Research Technician
Boyce Thompson Institute at Cornell University
Ithaca, New York
(Received 09/25)

A plant molecular biology research specialist position is available immediately to support a research program that investigates the molecular basis of disease resistance in plants. Responsibilities include (1) analysis of transgene expression in tomato, tobacco, potato, and Arabidopsis plants by DNA, RNA, and Western blots; (2) performance of disease resistance assays and investigation of plant defense gene expression in response to pathogen attacks; (3) isolation and analysis of genomic clones of known genes involved in plant disease resistance signaling pathways; and (4) maintenance of plants in greenhouse including performing crosses, harvesting seeds, and keeping seed inventory. *Education:* B.S. or M.S. in genetics, plant pathology, horticulture, agronomy, or related field. *Skills required:* Successful work requires technical skill to perform many laboratory procedures, planning and preparation for complicated procedures, ability to trouble-

shoot when things go wrong, meticulous attention to detail, and careful record keeping. Knowledge of molecular biology procedures such as cloning, hybridization, RNA and genomic DNA isolation, gel electrophoresis, protein isolation, and Western blotting. Knowledge of plant pathology desirable. Salary is dependent on experience and qualifications. For more information and to apply, contact Anne Zientek, Boyce Thompson Institute, Tower Road, Ithaca, NY 14853; telephone 607-254-1239, e-mail acz1@cornell.edu.

Research Associate Position

Novartis Crop Protection, Inc.

Research Triangle Park, North Carolina

(Received 09/29)

Novartis Crop Protection, Inc. (formed by the merge of Ciba and Sandoz), the world's leading life sciences company, is seeking motivated individuals to join us at the Research Triangle Park site. The research associate position is for a plant tissue culture and transgenic specialist (Job #9859). The candidate will (1) work closely with the team leader to develop novel selection regimes for agrobacterium-mediated transformation of monocots, (2) improve agrobacterium-mediated transformation efficiency of the existing protocols in monocots, (3) work as a member of a team generating transgenic events, and (4) document results and analyze data. The educational requirements are a B.S. with two to eight years' experience or an M.S. Solid experience in agrobacterium-mediated transformation techniques is required, and skills in experiment design and data analysis are desirable. Knowledge of herbicide science and molecular biology is helpful. To apply, cut and paste your resume, followed by a cover letter, into the body of an e-mail message. Send the e-mail, with the position #9859 in the subject area, to novartisbiotech@recruitmentsolutions.cpm. Principals only. We are an equal opportunity employer, m/f/d/v.

Laboratory Researcher

Waksman Institute, Rutgers University

Piscataway, New Jersey

(Received 10/06)

This is an opening for a qualified individual to carry out research in a genomics project funded by the NSF/Plant Genome Program. The project aims to use the transposon *Ac* as a gene-searching engine in the maize genome. The position requires a B.S. in biochemistry or biology. Proficiency in recombinant DNA technology (PCR, plasmid manipulations, Southern and Northern blot analysis, DNA sequencing, etc.) essential. Salary commensurate with experience, plus a comprehensive benefits package. Please send your resume to Dr. Hugo K. Dooner, Waksman Institute, Rutgers University, Piscataway, NJ 08855; e-mail dooner@waksman.rutgers.edu.

Research Positions

INRA, Versailles, France

(Received 10/07)

INRA is creating a new laboratory in the field of plant genomics. This facility will be set up in the

close vicinity of GENOSCOPE, the French national sequencing facility at Evry-GENOPOLE in the Paris area. The aim of this laboratory is to develop new tools to study the structure and expression of plant genomes as well as the rapid identification of plant gene function. Four long-term positions are opened from September 1999 in this laboratory. One position is for a research director with experience of team management in the field requested. Candidate will coordinate projects on the functional analysis of the Arabidopsis genome (exploitation of insertion mutant collections, gene expression studies, and bioinformatics). There are three research scientist positions available with postdoctoral experience requested. One is for a research scientist exploiting new technologies (microarrays and chips) in the field of plant gene expression. The second position is for a research scientist analyzing the structure and organization of the genomes of crops (physical maps and synteny with model genomes). The third position is for a research scientist in charge of the positional cloning of genes of agronomic importance in crops. Applicants should send their curriculum vitae with two letters of reference to Michel Caboche, Programme Cénoplane, Laboratoire de Biologie Cellulaire, INRA, 78026 Versailles, Cedex, before January 14, 1999.

Biological Scientist

University of Florida, Lake Alfred

(Received 10/27)

An opening is available immediately to join an interdisciplinary program in citrus abscission. This position will provide general lab support as well as conduct supervised research. Applicants must have a bachelor's degree in biological sciences and laboratory experience in molecular biology. Experience in cloning, cDNA library construction and screening, Northern and Southern blotting, PCR, and tissue culture is desirable. Send a letter of application; curriculum vitae; and names, addresses, and phone numbers of three references to Dr. D. J. Lewandowski, University of Florida, Citrus Research and Education Center, 700 Experiment Station Road, Lake Alfred, FL 33850; e-mail djlew@tangelo.lal.ufl.edu.

ASSISTANTSHIPS, FELLOWSHIPS, INTERNSHIPS, ETC.

Graduate Assistant

University of Saskatchewan, Canada

(Received 09/21)

A graduate assistant is sought to do research on the molecular and biochemical analysis of Arabidopsis isocitrate dehydrogenase and its roles in nitrogen assimilation. The candidate may pursue an M.S. or a Ph.D. Research will include enzyme purification and characterization, molecular cloning and sequencing, and generation and analysis of transgenic plants. Another project is involved in structure-function relationship and engineering of enzymes with bacterial isocitrate dehydrogenase and isopropylmalate dehydrogenase as model system. Research will include protein purification and characterization, enzyme assays and kinetics,

molecular cloning and sequencing, and site-directed mutagenesis. B.S. or M.S. in biochemistry, microbiology, biology, plant science, or related degree is necessary. A stipend of \$12,000 with a B.S. and \$14,000 with an M.S. is available. The position is available immediately. Send letter of application, resume, official transcripts, and names and addresses of three references to Dr. Ridong Chen, Department of Biochemistry, University of Saskatchewan, 107 Wiggins Road, Saskatoon, SK S7N 5E5, Canada; telephone 306-966-4364, fax 306-966-4390, e-mail chenr@duke.usask.ca

Undergraduate Internships in Plant Molecular and Cellular Biology

University of Florida, Gainesville

(Received 09/22)

Paid research internships are available through the University of Florida Interdepartmental Program in Plant Molecular and Cellular Biology (PMCB). Internships are available on a flexible schedule during winter, spring, or summer 1999 for undergraduates who are juniors or beginning seniors. Successful applicants select a faculty mentor on the basis of scientific interests. Faculty research interests include genome organization and mapping; chromatin structure; gene structure and regulation; plant responses to the environment; organelle genetics and biogenesis; genetic basis of development; cell culture, regeneration, and transformation; and plant-microbe interactions. Applicants should have a strong background in some aspect of the life sciences and serious interest in applying to graduate programs in the molecular plant sciences. Additional information can be found on the program Web site: <http://www.ifas.ufl.edu/~PMCB/index.htm>. For further information and an application packet, contact Dr. L. Curt Hannah, Graduate Coordinator, PMCB Program, c/o Horticultural Sciences Department, PO Box 110690, University of Florida, Gainesville, FL 32611-0690; telephone 352-392-1928 ext. 315, e-mail PMCB@gvn.ifas.ufl.edu.

Graduate Research Fellowships

Oregon State University, Corvallis

(Received 10/02)

The Horticulture Department at Oregon State University is offering two graduate research fellowships, the ARCO and Swallow Fellowships, to conduct research that leads to an M.S. or a Ph.D. degree. Successful candidates have the option of choosing a faculty adviser or working with two to three faculty members during the first year. Faculty interests include plant physiology, molecular biology, breeding and genetics, sustainable agriculture, and horticultural systems. Selection will be based on academic achievements, GRE scores, academic and/or work experience, letters of reference, and a personal letter describing goals and interests in research. The fellowship stipend is \$15,000 for M.S. candidates and \$16,000 for Ph.D. candidates; tuition will be waived. The application deadline is February 15, 1999. For information contact Dr. Machteld Mok, Department of Horticulture, Oregon State University, ALS 4017, Corvallis, OR 97331-7304; e-mail mokm@bcc.orst.edu, Web site <http://www.orst.edu/dept/hort/grad>.

Graduate Assistantships
University of Florida, Gainesville
(Received 10/13)

Research/teaching assistantships are available for studies leading to an M.S. or a Ph.D. Program areas include plant production and nutrition, postharvest physiology and technology, physiology, 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, PO 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 1114. The University of Florida is an equal opportunity employer.

Postdoctoral Researcher
The Ohio State University, Wooster
(Received 10/19)

A postdoctoral position is available the Department of Plant Pathology, Ohio Agricultural Research and Development Center (OARDC), The Ohio State University. The successful candidate will define potyvirus replication and movement in maize and will investigate mechanisms limiting virus infection of resistant maize lines. Qualifications: a Ph.D. in plant science, molecular biology, or related area. Experience with molecular and/or in situ techniques is desirable. The position is for one year, with extension possible. Please send a letter of application, curriculum vitae, and a list of three references to Dr. Peg Redinbaugh, Department of Plant Pathology, OARDC, 1680 Madison Ave., Wooster, OH 44691; fax 330-263-3841, e-mail redinbaugh.2@osu.edu.

Graduate Research Assistantship
North Carolina State University, Raleigh
(Received 10/22)

A research assistantship at the M.S. or Ph.D. level will open January 1999 to investigate the role of the sugar alcohol mannitol in stress tolerance in plants. The candidate will integrate physiological, biochemical, and molecular research to clarify the role of mannitol metabolism in environmental stress responses in plants. The assistantship carries a stipend of \$14,000 per year. Candidates for the Ph.D. program must have an M.S. in a related field (e.g., biochemistry or plant physiology) and will be guaranteed funding for the full three-year program. Interested candidates should send a letter of interest, curriculum vitae, and a list of three referees with addresses, phone numbers, and e-mail addresses to Dr. Stewart Warren, Graduate Program Coordinator, Department of Horticultural Sciences, North Carolina State University, Raleigh, NC 27695-7609. For additional information contact Dr. Mason Pharr at 919-515-1217, e-mail mason_pharr@ncsu.edu, or Dr. John D. Williamson at 919-515-5366, e-mail john_williamson@ncsu.edu. For a review on our work, see Stoop, Williamson & Pharr (1996), *Trends in Plant Science* 1, 139-144.

Graduate Assistantship
University of Florida, Gainesville
(Received 10/27)

The University of Florida, Horticultural Sciences Department, is seeking a Ph.D. candidate to work on a project in an established research program related to lettuce seed thermotolerance. The specific research program will evolve around hormonal control by ethylene of cell wall degrading enzymes. Details and reprints from the program will be furnished upon request. Stipend pays a minimum of \$15,000 per year (with raises annually) and includes in/out-of-state tuition waivers. For further information, please contact Daniel J. Cantliffe, Professor and Chair, University of Florida, IFAS, Horticultural Sciences Department, 1251 Fifield Hall, PO Box 110690, Gainesville, FL 32611-0690; telephone 352-392-1928 ext. 203, fax 352-392-6479, e-mail djc@gnv.ifas.ufl.edu.

Graduate Fellowships in Plant Biotechnology
Worcester Polytechnic Institute
Worcester, Massachusetts
(Received 11/11)

USDA National Needs Graduate Fellowships (Ph.D.) are available for interdisciplinary research and studies in plant biotechnology at Worcester Polytechnic Institute (WPI). WPI excels not only in interdisciplinary research, but also in faculty mentorship of students. The aim of the program is to prepare students to enter either academia or industry with the knowledge and skills necessary to succeed in an environment that requires more and more cross-disciplinary communication and research. Program features include training in both molecular biology and bioprocessing, research in cutting-edge basic and applied problems in plant biology, and training in teaching and ethical issues relevant to the field. The faculty include plant biologists, biochemists, a physicist, and engineers who have been working together for a number of years to address complex problems in plant biotechnology. Current topics include molecular responses of roots to changes in bioreactor environments, optical transmission properties of roots in bioreactors, balancing biosynthesis and degradation of sesquiterpenes, scale-up of micropropagation in bioreactors, physical measurements of membrane-wall connections using laser scissors and tweezers, and the chemistry of aerosols in nutrient mist bioreactors. See our Web site: <http://www.wpi.edu/Academics/Depts/Bio/IPRC/index.html>. The annual stipend is \$17,000 with tuition remission for three years and includes funds for travel to scientific meetings or research. Applicants must be U.S. citizens or permanent residents. For information and an application packet, contact Professor Pam Weathers, Department of Biology and Biotechnology, Worcester Polytechnic Institute, 100 Institute Rd., Worcester, MA 01609; telephone 508-831-5196, fax 508-831-5196, e-mail weathers@wpi.edu. Deadline: January 15, 1999.

Graduate Research Assistantship
Kansas State University, Manhattan
(Repeat)

Contact Dr. Bingru Huang, Department of Horticulture, Kansas State University, Manhattan, KS 66506; telephone 785-532-1429, e-mail bhuang@oz.oznet.ksu.edu. (Details September/October 1998 *ASPP NEWS*)

Graduate Assistantships
University of Florida, Gainesville
(Repeat)

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. (Details September/October 1998 *ASPP NEWS*)

Graduate Assistant
University of Arkansas, Fayetteville
(Repeat)

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

Undergraduate Summer Research Fellowships in "Radical" Biology
Pennsylvania State University, University Park
(Repeat)

Contact 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). (Details September/October 1998 *ASPP NEWS*)

Graduate Fellowships in "Radical" Biology
Pennsylvania State University, University Park
(Repeat)

Contact 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). (Details September/October 1998 *ASPP NEWS*)



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