

ASPB News



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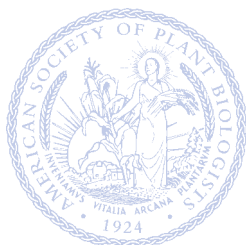
Acquiring Information

As many of you know, a major issue facing our Society this year is the proposal by the editor-in-chief of *Plant Physiology*, Natasha Raihkel, to change the name of the journal. I want to use this letter to update you on steps the Executive Committee will use to address this issue. I also want to clarify the organizational structure of the Executive Committee, which has primary responsibility for governing the Society.

In the September issue of *Plant Physiology*, Natasha Raihkel wrote a letter outlining her reasons for proposing a name change for the journal (<http://www.aspb.org/plantphysnamechange/letter.cfm>). She provided an e-mail address to which the readership could provide comments. In case some members did not see this letter, the Executive Committee notified all members via e-mail and put this discussion on the ASPB web site. We felt that through this mechanism all interested members could share their opinions with others. After reading through the comments I have arrived at three major conclusions. First, this is clearly a very emotional issue for many members. Second, members can and do disagree on the need for a name change for *Plant Physiology*. Third, whether the final decision is for or against a name change for the journal, some people will be disappointed. In addition to being an important business decision for our Society, this is a controversial issue with the potential of affecting the attitude of members toward the Society and its leadership. I would like to emphasize that the leadership intends for the name change to be decided openly and only after careful consideration. As discussed above, we have begun to solicit input from the membership. In addition, the Publications Committee has been charged

by the Executive Committee to evaluate the proposal. This work involves obtaining additional information to address questions raised by members of the Publications and Executive Committees. Some of the questions being addressed include impact on finances, library subscriptions, readership, manuscript submissions, and membership, as well as legal ramifications. Data are also being gathered on the impact of a name change on other journals that have taken that step. The Publications Committee will submit a written report and make a recommendation to the Executive Committee. I think it is important for everyone to understand that although we need to move through this process in a timely manner, we need to make sure that all aspects have been carefully considered. It is difficult at this writing (mid-December) to provide a timeline for the decision. The process may be iterative. Questions may arise as the reports are being prepared and discussed, questions that may only be answered with more study and by seeking input from others.

For me, one of the most disturbing aspects of reading through members' comments on the web site was the "conspiracy" theory that surfaced more than once. I suspect one reason for such distrust of the leadership comes from a lack of understanding of how the Society is governed. Those of you already familiar with how the Society is governed can skip the paragraph below, but I think it may be useful to others for me to review the makeup and roles of the Executive and the Publications Committees. I certainly was not aware of the governing structure of our Society until I was elected to serve on the Executive



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ASPB Officers & Staff

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Deadline for May/June 2002
ASPB News: April 10, 2002

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ASPB News

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Contact: Nancy A. Winchester, Editor, *ASPB News*, 15501 Monona Drive, Rockville, MD 20855-2768 USA; e-mail nancyw@aspb.org; telephone 301-251-0560, ext. 117.

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Committee. In my opinion, our Society founders designed a committee hierarchy with election and appointment structures that greatly limits the ability to conspire and prevents anyone from railroading important Society decisions. In fact, one could argue that the structure forces decisions to be made at a painfully slow pace.

The Executive Committee, which is composed of both elected and appointed personnel as detailed in the Bylaws, is the primary governing body of the Society. The nationally elected members include the president, immediate past president, president-elect, the secretary, and three at-large members. At least one candidate for each of these elected positions must come from nominations by members-at-large and the other comes from the Nominations Committee. This structure prevents either the current leadership or a faction of the membership from stacking the election slate. Each section within ASPB also elects

a representative (current sections are Midwestern, Northeastern, Southern, Washington, DC, and Western). The appointed members of the Executive Committee are the treasurer and the chairs of the following committees: Board of Trustees, Education, Minority Affairs, Publications, and Women in Plant Biology. The president-elect is charged with making committee appointments to replace the people whose terms expire and appointing committee chairs. All the committees contain multiple members with staggered terms such that no one person can dramatically change the makeup of any committee. For most of the committee and chair appointments, the nomination by the president-elect has to be ratified by the Executive Committee. The Publications Committee has five appointed members with staggered terms. Its mandate is to supervise and report to the Executive Committee on all non-editorial aspects of the Society's journals and other pub-

lications. Details on each committee's makeup are provided in the membership directory, as is the Constitution and Bylaws of the Society. Recent committee reports can be found on the ASPB web site.

I truly believe that the goal of all members, the editors-in-chief, the editorial boards, and the Society leadership is the same: to have the best possible journals in which to publish our science. At the moment, we do not all agree on how best to achieve this goal. It is important as the debate and discussion continue that we keep the journal name change issue in perspective and not let this issue become divisive. One way to achieve this is to respect each other's position and recognize that one of the strengths of our Society is the right to disagree. ✎

Vicki Chandler

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Fulbright Offers Lecturing/Research Grants in 140 Countries

The Fulbright Scholar Program is offering lecturing/research awards in some 140 countries for the 2003–2004 academic year. The competition opens March 1.

Traditional Fulbright awards are available from two months to an academic year or longer. A new short-term grants program—the Fulbright Senior Specialists Program—offers two- to six-week grants in a variety of disciplines and fields.

Application deadlines for 2003–2004 awards are

- **May 1** for Fulbright Distinguished Chair awards in Europe, Canada, and Russia
- **August 1** for Fulbright traditional lecturing and research grants worldwide
- **November 1** for the summer German Studies Seminar and for spring/summer seminars in Germany, Korea, and Japan for academic and international education administrators
- Fulbright Senior Specialists Program—**rolling deadline**

For information, contact the Council for International Exchange of Scholars (CIES) at 3007 Tilden Street, NW, Suite 5L, Washington, DC 20008-3009. Telephone: 202-686-7877; e-mail: apprequest@cies.iie.org. Information and an online application are also available on the Web at www.cies.org.

The Fulbright Scholar Program is sponsored by the United States Department of State, Bureau of Educational and Cultural Affairs.

Thank you to all the students and advisers who applied for the ASPB Summer Undergraduate Research Fellowships.

The closing date for applications was January 15, 2002. The names of students selected to receive this fellowship will be announced near the end of February.

Visit the ASPB web site for further updates.



ASPB members share a common goal of promoting the growth, development, and outreach of plant biology as a pure and applied science. This new column will feature some of the dedicated and innovative members of ASPB who believe that membership in our Society is crucial to the future of plant biology.

If you are interested in contributing to this feature, please contact Kelley Noone, ASPB membership and marketing manager, at knoone@aspb.org.

Name: Patrick O'Mahony

Place of work: Food Safety Authority of Ireland

ASPB member since: 1996



1. Has being a member of ASPB helped you in your career? If so, how?

I was a bench scientist until October 2000, and as a plant biologist, being a member of ASPB (ASPP then) was essential to my research in that I kept abreast of the discipline in general. The expertise I gained as a scientist in plant biology and in particular with plant biotechnology is the reason I was offered my current position.

2. Why has membership in ASPB been so important?

Being a member of ASPB as a scientist is critical to being an erudite and respected research scientist. Being a member of ASPB now is important as it shows that I have the ability and willingness to keep up-to-date with scientific advances, even though I am no longer directly working as a scientist. I find that many of those who regulate

science are not equipped to do so because they do not have a scientific background.

3. Was anyone instrumental in getting you to join ASPB?

Dr. Mel Oliver and Dr. John Burke of the USDA/ARS as my bosses between 1995 and 2000 encouraged me to present results at the annual ASPB meetings and thus become a member.

4. What would you tell a nonmember to encourage them to join?

If they are serious about plant biology, then ASPB is a good source of information and contacts that can help them become a leader in their discipline.

5. What are you reading these days?

In my current position I have to keep abreast of national (Irish) and international legislation relating to food and food production, and thus I do read a lot of legal-type documents. I also read news articles that I receive through the variety of e-mail news sources daily, and this keeps me up-to-date on topical issues relating to food, food production, and the evolving technology involved. I sometimes get a chance to read scientific journals like *Plant Physiology*, *Science*, *TIPS*, and others, but not as often as I would like.

6. What do you think is the next big thing in plant biology?

The next big thing in plant biology will be providing developing countries with the means to produce sufficient crops to sustain their own population. This will probably happen through donation of technology rights in a number of years when much more is known about

the biology of plants through genomics/proteomics/metabolomics.

7. Do you still read print journals? Where do you usually read them: work, home, library, in the car, on the bus?

We have a small library at my workplace that I browse from time to time.

8. Do you have any hobbies (outside plant biology)?

I play racquet sports such as tennis and racquetball, but mostly squash.

9. What is your most treasured possession?

My good health.

10. What person, living or dead, do you most admire?

The person I admire most was not a scientist. It is my father, and he is deceased.

11. What do you still have left to learn?

I have more to learn than I have learned, but I would really like to learn how to get the general public to be more aware and even appreciate what science has done and can do for society. The general public, unfortunately, is too easily misinformed, and getting the right message out subsequently becomes very difficult. Also, scientists are not good communicators outside their own realm, and thus if I could learn to change their ethos in that respect, it would also help the public become more aware and less vulnerable.



ASPB International Committee

The ASPB International Committee was formed in 1998 to meet the needs of our growing overseas membership (now 40 percent of the total Society membership). The committee strives to effectively integrate the activities of the Society in the international arena. The committee, originally ad hoc, is currently being formalized and will soon be given regular standing status. It makes recommendations to the Executive Committee on a range of international issues, such as how ASPB publications are allocated to needy institutions or countries. Its current membership represents Argentina, Australia, France, India, Japan, Taiwan, and the United States. Since its inception, the committee has


- Developed a need-based policy for distributing journal subscriptions and the Society's textbook, *Biochemistry & Molecular Biology of Plants*.
- Recommended that ASPB join the Open Society Institute's Electronic Information for Libraries (eIFL) Science and Technology Project under development by OSI (part of the Soros Foundations Network) and EBSCO Publishing. eIFL represents a mechanism for distributing ASPB journals to under-subscribed countries considered either very poor or of lower-middle or higher-middle income. In addition to increasing outreach, the eIFL project brings new revenue opportunities for our publications as a result of differential pricing for target countries, as well as new marketing opportunities.
- Provided guidance to the Program Committee on meeting sites, including the 2003 annual meeting in Hawaii, and on arranging contact with relevant societies in key Pacific Rim countries (Australia, China, India, Korea, Mexico, Taiwan).
- Made recommendations to the Executive Committee on a variety of other issues, such as support for symposia and workshops in developing countries.

- Advised the Society through representation on the Membership and Executive Committees.

At present, the committee is

- Engaged in ongoing discussions with the Federation of European Societies of Plant Physiology on holding a joint future meeting in Europe, perhaps Lisbon.
- Drafting a general policy for granting funds for support of meetings in developing countries and related activities in the nations represented by ASPB members.

In addition to its more formal activities, the committee provides a way for international members to participate in activities of the Society. Several of our international members will be presenting their views in future articles in the *ASBP News*.

In the few years since its inception, the International Committee has become an integral part of our Society. It acts as a conduit to test new ideas, develop new policies, and respond to the needs of our members from abroad. International members of ASPB are invited to provide input by contacting committee members. Visit our web site at http://www.aspb.org/committees_societies/international.cfm for the names and affiliations of committee members and to learn more about the committee and its vital work. 

Bob Buchanan

Chair, ASPB International Committee
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Call for 2002

Nominations for

ASPB Awards

will be sent to all

members in February.

Nominations are due at

ASPB headquarters by

Wednesday, March 27.

Questions should be

addressed to

John Lisack, Jr.,

executive director, at

jlisack@aspb.org

World's Worst Diseases Face New Foe: Biotechnology

By Jeremy Smith

LONDON (Reuters)—Genetic engineering, often slammed by environmental and consumer groups for its role in altering staple foods, may have found a niche where it can help save the lives of millions from the world's most endemic diseases.

By using biotechnology to incorporate useful genes into an almost limitless variety of common plants, from rapeseed and tobacco to potato, tomato and banana, scientists aim to produce cheap and stable vaccines in an edible form—and beat disease.

Scourges such as cholera, tuberculosis and hepatitis, all responsible for the deaths of millions every year including many children in developing countries, have been targeted as candidates for vaccines which can be engineered from plants.

And in another use of biotechnology, there is now some realistic hope that mankind's centuries-old battle against malaria may soon be nearing its end due to a breakthrough last year in producing the world's first transgenic mosquito.

So far, there seems to be no obvious end to the sheer variety of biotechnology's potential applications in the fight against disease. Even the roots of the humble tobacco plant are being used to mass-produce a vaccine against scorpion stings in Brazil, which may eventually be incorporated into fruit.

"It's a relatively recent technology and I don't know when we would ever see commercially available vaccines. But it's quite exciting," said Mike Steward, immunologist at the London School of Hygiene and Tropical Medicine (LSHTM).

"It doesn't matter in what plant you insert them [genes] as the molecular biology principles are identical. The versatility is amazing," he said.

Genetic modification (GM) involves exchanging or splicing genes of unrelated species that cannot naturally swap with each other, and the species can be as different as chalk and cheese.

Scientists have spliced spider venom genes into maize and other food crops as a "natural pesticide" to deter insects and birds from feeding on the plants, and inserted fish anti-freeze genes into tomatoes to extend their growing season into winter.

VACCINES FIND NEW HOME IN VARIETY OF COMMON FOODS

The first human clinical trial of an edible vaccine took place in 1997 when volunteers ate raw potatoes which were genetically engineered against the common *E. coli* bacteria (<http://search.news.yahoo.com/search/news?p=%22E.%20coli%20bacteria%22&c=&n=20&y=c&c=news&cs=nw> and <http://search.yahoo.com/bin/search?p=E.%20coli%20bacteria&cs=nw>).

Since then a whole range of plants, most often vegetables, has come under the bioscientist's knife for adaptation as a possible host for vaccines. Foods under study include bananas, potatoes, tomatoes, lettuce, rice, wheat, soybeans and corn.

"One day children may get immunized by munching on foods instead of enduring shots. More important, food vaccines might save millions who now die for lack of access to traditional inoculants," said leading journal *Scientific American* in an article last year on edible vaccines.

"The advantages would be enormous," the article said. "Nothing would be more satisfying than to protect the health of many millions of now defenseless children around the globe."

Last year, the spotlight fell on hepatitis B, a virus which can cause high fever, lifelong infection, cirrhosis of the liver and liver cancer. More than 60 percent of liver cancers worldwide have been linked to hepatitis B.

Mice were fed with modified potato, containing an oral vaccine for hepatitis B which passed through the animals' stomachs without being broken down and stimulated the production of antibodies against the disease.

Scientists now say tomatoes and bananas genetically modified to contain such a vaccine may be able to eradicate the virus.

Clinical trials have been conducted on pigs using an edible vaccine for transmissible gastroenteritis in corn, while work is continuing on a vaccine using tomatoes for RSV, a respiratory virus which can be fatal for infants less than six months old.

One recent offbeat development was the isolation in a British laboratory of a non-toxic protein within the venom of a tiny yellow scorpion which is common in parts of Brazil.

When injected into animals, the protein proved to be a good potential vaccine as it set up a strong immunity to the venom. But the problem was that only very limited amounts of the protein could be obtained, just enough for a handful of people.

Scientists managed to crack the protein's genetic code—and used the roots of the tobacco plant to purify the home-grown gene into larger amounts of protein vaccine, with no risk of the scorpion gene getting out into plant species.

Stings from scorpions, which tend to live in shoes, clothing or bed-linen, or under surface debris such as leaves, represent a significant medical problem in many of the world's tropical areas. Mortality rates can be high and thousands die every year.

LIGHT AT END OF TUNNEL IN FIGHT AGAINST MALARIA?

So far, the most trumpeted success story of biotechnology's use in medicine probably came last year when an Anglo-German team of scientists inserted a foreign marker gene into the mosquito genome, allowing the possibility of genetic alteration.

While recognizing that the breakthrough was not yet a cure for malaria, the team hailed the achievement as their "holy grail" and a major advance in malaria control—after 15 years of efforts to create the world's first transgenic mosquito.

At the time, the team said it might now be possible to create a mosquito that was stable, safe and physically unable to transmit the malaria-causing parasite, maybe within six years.

Now, according to one of the team's leaders, there may be reason to rejoice sooner as the battle nears its end against malaria, a tropical disease responsible for more than a million deaths every year, mainly among young children in Africa.

"Progress has been incredible in this field and probably it may take less time," said Andrea Crisanti at the Department of Biology at London's Imperial College. "Progress has been very fast during the last year, faster than anticipated.

"More release trials will be carried out on islands where malaria is endemic. If this

proves successful, then a different and more sophisticated approach will be undertaken," he said. "The idea is to introduce a mosquito which is then able to breed with indigenous mosquitoes and so spread the resistance gene."

GM'S USE IN MEDICINE STILL HAMPERED BY POLITICS, CRITICS

The world biotech industry is no stranger to controversy and comes under regular attack from environmentalists and concerned consumers, mainly on account of its work in modifying food crops for what its critics see as purely commercial motives.

Although still in their infancy, edible vaccines which are man-made using bioengineering are unlikely to avoid this debate and will

in any case be subjected to years of rigorous testing before commercial licensing can be granted, experts say.

"Even if we all got all the science right and produced an edible vaccine . . . I can't imagine it would be less than five or 10 years before it got through all the hoops," said LSHTM's Steward. "Those are the scientific and clinical hoops. Then there are the political ones.

"It's pretty low key at the moment. When it was first discussed at an immunology congress, people were rather amused by the whole thing. It's still pretty much in its infancy." 🌿

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A Special Collection of Articles from *The Plant Cell*
September 1999–January 2001

Plant Genomics: Emerging Tools

As we enter the new millennium, the age of genomics is in full swing. Much more than the study of individual genes and their functions, genomics implies the study of the interacting networks of genes, proteins, and metabolites that make up a whole organism. Large-scale genome sequencing projects form the base of all genomics studies, but radiating out from this base is a host of other tools that allow us to figure out the biology that is governed by DNA sequence.

Between September 1999 and January 2001, *The Plant Cell* published a series of articles on genomics technologies and

approaches specially written for the plant science community. These articles, together with a number of research papers on plant genomics published during this period, have been bound into a volume called *Plant Genomics: Emerging Tools*. This compilation provides readers interested in the applications of genomics to plant science with a single resource covering the most recent developments in this emerging field.

Plant Genomics: Emerging Tools

ISBN 0-943088-42-9. Item 30044. Price \$25.00

For ordering information go to
www.aspb.org

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American Society
of Plant
Physiologists)



President Bush Personally Welcomes Arntzen to President's Council of Science Advisors

Charles Arntzen, past president of ASPB, has been selected by President Bush to serve on the President's Council of Advisors on Science and Technology (PCAST). Arntzen and others selected to the council met privately in the White House with President Bush on December 12 for about one hour.

Arntzen, chairman of the Department of Plant Biology at Arizona State University, is the one active laboratory scientist on PCAST. Arntzen is joined on PCAST by a number of university administrators and industry leaders.

Issues that will be addressed by the council include whether the federal government should alter its pattern of spending on research projects and emphasize scientific applications that could help stimulate the economy; more effective ways to combat terrorism; how to improve energy efficiency; and how to enhance the nation's broadband Internet links.

PCAST was originally established by President George Bush in 1990 to enable the president to receive advice from the private sector and academic community on technology, scientific research priorities, and math and science education.

The organization follows a tradition of presidential advisory panels on science and technology dating back to Presidents Eisenhower and Truman. Since its creation, PCAST has been expanded and currently consists of 18 members from the private sector plus the assistant to the president for science and technology, who serves as the committee's co-chair. The committee members, all distinguished individuals appointed by the president, are drawn from industry, education, and research institutions and other nongovernmental organizations.

News of the announcements and, earlier, advance speculation on appointments were run by major news wire services. Following is an Associated Press story that was published on the PCAST appointments:

Wednesday December 12 8:02 PM ET

BUSH ASKS TERROR FIGHT STRATEGIES

WASHINGTON (AP)—At the first meeting of his science and technology advisers, President Bush (news - web sites) asked panel members Wednesday to recommend long-term strategies for combatting terrorism. "Technology is a movable feast, as they say, and it keeps improving. We realize we have to stay ahead of those who would oppose us with their tools," said Floyd Kvamme, co-chairman of the President's Council of Advisors on Science and Technology.

Other subcommittees of the 24-member council are to give Bush advice on what kinds of basic science the government should invest in; ways to improve energy efficiency; and communications infrastructure for the 21st century, focusing on how to make broadband technology available to all Americans.

The counterterrorism panel will address questions such as how to develop better detectors for anthrax and other biological weapons, better baggage scanners. . . and better systems for sanitizing contaminated mail, said John Marburger, director of the White House Office of Science and Technology Policy. He



Arntzen, chairman of the Department of Plant Biology at Arizona State University, is the one active laboratory scientist on the President's Council of Advisors on Science and Technology.

Charles Arntzen, adviser to President Bush.

also is council co-chairman. That panel also will want to gather the best available civil engineering information on the World Trade Center's twin towers designs in order to make recommendations on "how to design buildings that won't collapse in the future," said Marburger, council co-

chairman. The inaugural meeting, billed as an administrative session, was held behind closed doors. But the council's regular meetings, which will be held once every three months, are to be open to the public and the press.


Just one of the president's appointees to the council is an active laboratory scientist—Charles Joel Arntzen of the Arizona State University Department of Plant Biology. The council primarily intends to get its technical expertise from outside sources, Marburger said. Asked in a conference call with reporters about priorities in funding basic science, Marburger replied: "There are more things

than we can possibly do at once. The president has asked the panel to advise him in how to make those priorities.”

Dr. Bernadine Healy, outgoing president of the American Red Cross (news - web sites) and former director of the National Institutes of Health (news - web sites), was among the council appointees announced Wednesday by the White House.

Also named to the council were: Norman R. Augustine, former CEO of Lockheed Martin; Carol Ann Bartz, CEO of Autodesk in California; M. Kathleen Behrens of the California investment management firm of

Robertson, Stephens & Co.; Erich Bloch, former head of the National Science Foundation (news - web sites); Stephen B. Burke, president of Comcast; Gerald Wayne Clough, president of the Georgia Institute of Technology; Michael S. Dell, CEO of Dell Computers; Raul Fernandez, founder of Proxicom; Marye Anne Fox, chancellor of North Carolina State University; Martha Diane Winters Gilliland, chancellor of the University of Missouri, Kansas City; Ralph E. Gomory, president of the Alfred P. Sloan Foundation; Robert John Herbold, former executive vice president of Microsoft; Barbara Kilberg, president of the

Northern Virginia Technology Council; Walter Eugene Massey, president of Morehouse College; Gordon E. Moore, chairman emeritus of Intel; Kenneth Nwabueze, CEO of Sagemetrics; Steven Gerald Papermaster, chairman of Powershift Group; Dr. Luis M. Proenza, president of the University of Akron; George Martin, president of the Semiconductor Industry Association; and Charles M. Vest, president of the Massachusetts Institute of Technology (news - web sites). 

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NSF Spending Boosted 8.4 Percent; Plant Genome Research Up 15 Percent to \$75 Million

Fiscal year 2002 funding for the National Science Foundation (NSF) under Public Law 107-73 is \$4.789 billion, an 8.4 percent increase over FY2001.

The NSF Biological Sciences Directorate appropriation for FY2002 includes a \$75 million designation for the Plant Genome Research Program. This is up from \$65 million in the NSF budget request for the Plant Genome Research Program. The FY2001 level was also \$65 million. This brings to \$290 million the total in new funds that Congress has provided for the NSF Plant Genome Research Program beginning with its inception in FY1998.

Senator Christopher Bond (R-MO) championed the Plant Genome Research Program each of the past four years, and he again led efforts with Senator Barbara Mikulski (D-MD) and their colleagues this year to increase funds for plant genome research. ASPB supported efforts this year and in years past led by Senator Bond to increase support for plant genome research and NSF overall.

For NSF Research and Related Activities, FY2002 funding is at \$3,598,340,000 instead of \$3,642,340,000 as proposed by the House and \$3,514,481,000 as proposed by the Senate. Biological Sciences research support is at \$509 million.

With the urging of NSF Director Rita Colwell, Congress provided additional funds to allow for increases in the graduate stipend level to \$21,500. 

Important Dates in 2002

- March 1:** Abstract submission deadline for Plant Biology 2002
- March 15:** Application Deadline—ASPB Travel Award Program for Plant Biology 2002
- March 15–16:** Midwest Section/ASPB meeting at Marcum Conference Center, Miami University, Oxford, Ohio. Contact John Z. Kiss at kissjz@muohio.edu. See also the Midwest Section home page at http://www.aspb.org/committees_societies/midwestern/index.cfm.
- May 3–4:** Northeast Section/ASPB meeting at Wellesley College, Wellesley, Massachusetts. Contact Gary Harris at gharris@wellesley.edu.
- May 31:** Plant Biology 2002—Early bird registration cutoff
- July 1:** Plant Biology 2002—Housing registration cutoff
- August 3–7:** Plant Biology 2002—Denver, Colorado

NSF Awards Research Grants to Explore Plant Genomes

The National Science Foundation (NSF) has awarded 24 new grants totaling more than \$71 million over the next five years for plant genome research. These awards will be shared by 109 investigators at 39 institutions in 27 states.

ASPB members made up a number of the recipients of awards from the National Science Foundation in the intense competition for plant genome research grants. ASPB members who won plant genome research awards as principal investigators include Douglas Cook, \$5,803,691; Claude DePamphilis, \$7,399,286; Debby Delmer, \$471,134; Gary Drews, \$1,564,877; Sarah Hake, \$5,343,199; Jan Leach, \$500,000; Peggy Lemaux, \$1,532,663; Rob Martienssen, \$1,990,821; Kathleen Newton, \$2,339,810; Thomas Peterson, \$648,549; Lee Pratt, \$3,576,195; Steven Tanksley, \$6,499,895; Michael Thomashow, \$5,072,963; and Kan Wang, \$4,227,981. The grant awards are generally shared with partners.

The latest grants bring NSF's total investment in the Plant Genome Research Program to more than \$215 million. Many of these new projects build on research success from the previous three years of the program. For example, when NSF began this program in 1998, only about 3,100 segments of DNA, known as ex-

pressed sequence tags (ESTs), were identified in corn and available in the public databases. Now 106,595 ESTs are identified in corn and another 285,925 in soybeans.

"There has been an enormous growth in information on plant genomes. The new awards are building on these recent accomplishments and will help increase our understanding of the basic life processes in plants, which can, in the long term, provide the underpinning for advances in plant biotechnology," said Dr. Mary E. Clutter, NSF assistant director for biological sciences.


The overall plant genome research program was designed to build an understanding of the structure and function of plant genes important to agriculture, environmental management, energy, and health. Individual research projects seek to understand, at the whole genome scale, how plants grow and what controls important plant traits. The research awards support studies of economically important crops like barley, cotton, corn, rice, sorghum, soybean, and tomato.

Some of the new projects will focus on innovative methods for gene discovery and characterization. These include the development of homologous gene replacement, massively parallel signature sequencing, and mutations induced by transposons.

Scientists will investigate the genetic control of form and function in flowers, from flowering to seed production. Projects will characterize the genes controlling the differentiation of flower cells and examine genes that play a central role in development of plant features.

Other research will investigate the complex gene networks that regulate plant response to environmental conditions such as drought, disease, temperature, and flowering time.

The growing field of bioinformatics will be critical to processing the volumes of data from the Plant Genome Research Program. Two new NSF awards are focused on developing tools to accurately manipulate the data and make the data accessible to the wider community. Researchers will develop new computer algorithms to process data and new interfaces for scientific manipulation of the data.

Senator Christopher Bond (R-MO) championed the creation of the Plant Genome Research Program in coordination with NSF. Senator Bond, joined by Senator Barbara Mikulski (D-MD) and their colleagues, led successful efforts for an increase in support for plant genome research of \$10 million for fiscal year 2002. As a result, the plant genome research program grows to \$75 million in fiscal year 2002. 

Submit e-Letters to *Plant Physiology* and *The Plant Cell*

ASPB has added a new feature to *Plant Physiology* and *The Plant Cell Online* to make it easy for readers to comment on published papers. e-Letters is a monitored forum for letters to the editor about papers published in the two journals. A menu box at the beginning of each research article now includes a link to e-Letters. By clicking on this link, readers can easily e-mail a letter to the editor for possible publication online. All letters are monitored by the editorial office and are circulated to editorial board members for review.

Readers can follow the correspondence regarding any paper by clicking on a link on the opening page of the electronic journal. Letters are indexed by published article and can be viewed according to author, time submitted, and title.

The editors hope that this feature will encourage thoughtful and constructive dialogue on the scientific advances published in *The Plant Cell* and *Plant Physiology*. They want to hear from you!

www.plant.org

House Science Subcommittee Approves Bill Supporting Plant Biotechnology and Genomics Research

The House Science Subcommittee on Research approved by voice vote December 12 a bill to bolster research in plant biotechnology and genomics. H.R. 2051, sponsored by Subcommittee Chairman Nick Smith (R-MI), would establish a program at the National Science Foundation (NSF) to develop plant genome research centers. The subcommittee approved a manager's amendment by voice vote, which included provisions authored by ranking member Eddie Bernice Johnson (D-TX) to develop research partnerships focusing on plant biotechnology in the developing world. A number of ASPB members have testified before Smith and Johnson and their colleagues on the subcommittee on matters that relate to the legislation.

Smith said, "A better understanding of gene expression will eventually allow researchers


to develop an array of new beneficial plant varieties that will only be limited by the resourcefulness and imagination of our scientists. The research centers will help extend plant genomics research and accelerate the development of new beneficial plant varieties."

"Unless food production is dramatically increased in the regions where it is most needed, persistent hunger will become more prevalent, and malnutrition will claim even more victims than it does today," added Johnson. "This legislation addresses this issue, along with a host of others, by providing for the establishment of regional plant genome and gene expression research and development centers. By authorizing NSF to establish a grant program for partnerships between U.S. research organizations and those in developing countries for research on plant bio-

technology targeted to the agricultural needs of the developing world, we are addressing agricultural issues and problems worldwide."

The research centers would boost basic research into plant genomics in such areas as making plants better able to survive extreme conditions. The bill authorizes \$9 million for fiscal year 2002 and \$13.5 million for each of the two following years.

Smith added, "I am confident the benefits realized through these Plant Genome Expression Centers and Plant Biotechnology Partnerships in the developing world will allow us to harness fundamental knowledge and solve many different challenges."

H.R. 2051 now heads to the full Science Committee for consideration. 

NRI Up 14 Percent for Fiscal Year 2002


Under the fiscal year 2002 Agriculture Appropriations bill signed into law November 28, the National Research Initiative Competitive Grants Program (NRI) receives an increase of 13.9 percent or \$14,685,000 for fiscal year 2002. This also represents an increase of more than \$14 million over the department's request for the NRI.

Senator Herb Kohl (D-WI) and his Senate colleagues worked with Rep. Henry Bonilla (R-TX) and other conferees in the House to secure this substantial increase for the NRI. Key ASPB Campus Contacts and their colleagues sent letters to Congress in support of the NRI and contributed to the successful rejection of an amendment that would have cut

funding for the NRI. NRI staff recently commented that ASPB members are among the NRI's most active supporters.


The Agricultural Research Service (ARS) receives an increase of more than 9 percent to \$979,464,000 this year under the spending law. This is up from \$915,591,000 requested by USDA and is more than \$82 million higher than the FY2001 appropriation.

Funding was prohibited for the Initiative for Future Agriculture and Food Systems (IFAFS) program as it had been in a previous year. Those grants already awarded will continue to be funded. The source of funding for IFAFS has been viewed as controversial by some members of Congress because it uses

"mandatory" funds. Virtually all research programs are funded using "discretionary" funds that are under the jurisdiction of the Appropriations Committee. The IFAFS program will come up again for consideration next year (FY2003) as an authorized mandatory program. The effort to allow funding for IFAFS in FY2003 will likely face opposition again by some in Congress. In the past, some in Congress have discussed funding for IFAFS and the NRI as an either/or proposition. (Public Law 107-76 providing appropriations for the Department of Agriculture can be found at <http://thomas.loc.gov/cgi-bin/query/z?c107:H.R.2330.ENR.>) 

\$32.4 Million for DOE Energy Biosciences

The Energy and Water Development appropriations signed into law for fiscal year 2002 provide \$32.4 million for the Department of Energy (DOE) Energy Biosciences program. This is the same level as the DOE budget request. Appropriations for other Basic Energy Sciences programs such as materials sciences, chemical sciences, and engineering and geosciences were also approved at the budget level requested by DOE. The conference-approved DOE budget request for Energy Biosciences is down \$1.3 million or 3.8 percent from \$33.7 million in FY2001. Conference-approved budget requests for other Basic Energy Sciences programs are also down from FY2001. The overall budget request reflected the administration's priorities in the areas of spending on education, biomedical research, and defense.


ASPB worked with its Campus Contacts and jointly with the National Corn Growers Association and American Phytopathological Society in support of the Energy Biosciences program. The Senate earlier voted for an increase in spending on Basic Energy Sciences programs including Energy Biosciences before reaching the agreement with the House in conference. 

Seeds of Health Explains Use of Plant Research to Improve Human Nutrition

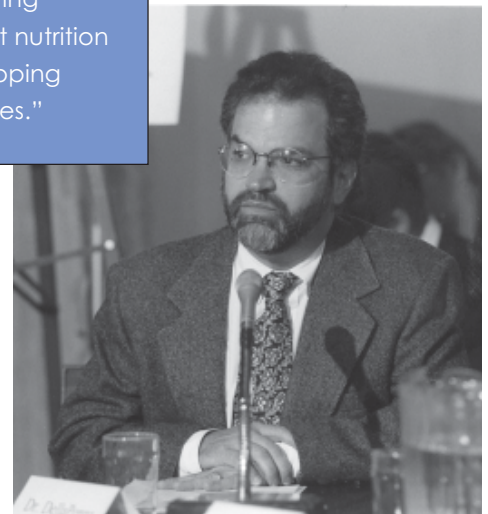
Seeds of Health, a newsletter recently launched by the International Food Policy Research Institute (IFPRI), features plant research that will lead to more nutritional food crops.

IFPRI notes that *Seeds of Health* is "a newsletter for practitioners in agriculture and human nutrition." ASPB member Dean DellaPenna wrote an article for this premiere issue titled "Nutritional Genomics: Using Molecular Biology to Improve Human Health." Ingo Potrykus, recipient of the 2001 ASPB Leadership in Science Public Service Award, co-authored an article entitled "Golden Rice: Proof of Concept and Beyond."

IFPRI's acknowledgment of the importance of this area of research with a newsletter specially dedicated to the subject could contribute to further public recognition of the opportunities plant research offers to improve human nutrition. IFPRI describes the newsletter as presenting "scientific findings and issues relevant to agricultural strategies, and in particular plant breeding, for improving micronutrient nutrition in developing countries."

The first issue of the newsletter can be found at <http://www.ifpri.org>. 

IFPRI describes *Seeds of Health* as presenting "scientific findings and issues relevant to agricultural strategies, and in particular plant breeding, for improving micronutrient nutrition in developing countries."



Dean DellaPenna

Our Bioethics column, edited by Dina Mandoli, will return in the March/April 2002 issue of the *ASPB News*. In the meantime, Dina urges interested readers to take a look at the article "100 Percent Safe? GM Foods in the UK," by CropGen.

<http://www.aspb.org/downloads/GMFoodRpt.pdf>

International Society of African Scientists Strongly Endorses Agricultural Biotechnology

The International Society of African Scientists (ISAS) held a technical conference on October 5, 2001, on the “Potential Benefits of Biotechnology to Agriculture in Africa and the Caribbean.” The following position statement on agricultural biotechnology applications in Africa and the Caribbean is based on the deliberations at this conference.

The International Society of African Scientists (ISAS) believes that agricultural biotechnology represents a major opportunity to enhance the production of food crops, cash crops, and other agricultural commodities in Africa, the Caribbean and other developing nations.

Application of modern biotechnology to agriculture in the advanced countries has already made possible significant crop improvements including insect-resistant corn and cotton; herbicide tolerant soybean; virus-resistant potatoes; delayed ripening tomatoes; and soybeans and corn with higher quality and content of oil and other food components. Africa and the Caribbean cannot afford to be left further behind in acquiring the uses and benefits of this new agricultural revolution.

Developing nations, and the African continent in particular, face acute needs to increase food production. These countries stand to derive great benefits from increases in agricultural productivity. Although most biotechnology research to date has focused on agriculture in the advanced nations, ISAS strongly advocates that future research and applications of agricultural biotechnology should place particular emphasis on food production and agricultural needs of developing nations.

Governments and civil society in Africa and the Caribbean nations must actively participate in the worldwide debate on the use of

agricultural biotechnology. African scientists need to be at the forefront of this research and debate to help clarify the issues to their communities. African governments must develop policies and programs to foster rapid developments in agricultural biotechnology as an adjunct to other agricultural techniques, in order to ensure a safe and sufficient supply of food for their populations. In addition, the production and marketability of important cash crops must be promoted to enable African farmers to raise their standards of living.

As a matter of priority, African and Caribbean governments must establish adequate regulatory oversight and appropriate scientific protocols for agricultural biotechnology. Such regulatory protocols are essential for the introduction of agricultural biotechnology in a manner which does not pose unacceptable health and other environmental risks.

ISAS further recommends the following specific priority measures for implementation of effective agricultural biotechnology policies and programs in Africa and the Caribbean:

- Educate African and Caribbean policy-makers regarding the opportunities, as well as the potential risks, associated with agricultural biotechnology.
- Increase biotechnology research on food crops important in Africa and other tropical nations including cassava, cowpea, maize, millet, sorghum and sweet potatoes.
- Focus research on technologies that offer the most immediate potential for substantial crop and yield improvement in Africa and the Caribbean. Among these technologies are insect resistance, viral and fungal disease resistance and improved nutritional quality of foods.

- Strengthen the capacity for agricultural biotechnology in university and non-governmental research institutions in Africa and the Caribbean. Improve availability of scholarships, fellowships, and training grants to African and Caribbean students to learn the new science in order to facilitate the transfer and application of these new technologies to Africa and the Caribbean.
- Increase support for agricultural biotechnology research from both Multilateral Development Organizations and Foreign Aid Donors.
- Develop regulatory protocols suitable for Africa and the Caribbean and provide appropriate training for regulatory personnel.
- Promote internationally accepted standards for trade involving bioengineered foods, including considerations for potential implications on export crops from Africa and the Caribbean such as bananas, coffee, tea, cocoa, etc.
- Develop mechanisms for the transfer of technology and intellectual property rights from private biotechnology companies and advanced nation research institutions to Africa and other developing regions.
- Promote entrepreneurship and local private sector participation in biotechnology in Africa and the Caribbean.

“We cannot turn back the clock on agriculture and only use methods that were developed to feed a much smaller population. It took some 10,000 years to expand food production to the current level of about 5 billion

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tons per year. By 2025, we will have to nearly double current production again. This increase cannot be accomplished unless farmers across the world have access to current high-yielding crop production methods as well as new biotechnological breakthroughs that can increase the yields, dependability, and nutritional quality of our basic food crops. We need to bring common sense into the debate on agricultural science and technology and the sooner the better!” Norman Borlaug, 1970 Nobel Peace Prize recipient.

ISAS: The International Society of African Scientists (ISAS) is a tax-exempt, non-profit organization founded in 1982 to promote the advancement of science and technology among people of African descent. ISAS provides a medium through which scientists and engineers can channel their skills to solve technical problems facing Africa and the Caribbean.

For more information, visit the ISAS web site: <http://www.dca.net/isas>. Conference rapporteurs: Victor Atiemo-Obeng, Neil Belson, Kodzo Gbewonyo. Source: kodzo_gbewonyo@merck.com.



ASPB Member Jane Silverthorne of NSF (second from left) responds to questions on plant research from students who attend Calverton High School, Huntingtown, Maryland, on December 9 at the ASPB exhibit at the American Society for Cell Biology Convention in Washington, DC. Teacher Shannon Campbell (left) is joined by Jane and students Katherine Burton and Katie Clancy.



Education Committee members joined by Past President Dan Cosgrove (center) met at ASPB headquarters December 15 to plan exciting educational programs, then gathered for dinner. From left are Sheila Blackman, Chair Eric Davies, Dan, Larry Griffing, and Gary Kuleck. (Not shown is Ken Nadler.)

Deadlines for *ASPB News*

We invite you to submit articles and letters to the *ASPB News*. Deadlines for submission of copy follow:

Issue	Deadline
May/June 2002.....	April 10, 2002
July/August 2002.....	June 10, 2002
September/October 2002.....	August 10, 2002
November/December 2002.....	October 10, 2002
January/February 2003.....	December 10, 2002
March/April 2003.....	February 10, 2003



Compiled and edited by Gary Kuleck, Biology Department, Loyola Marymount University, 7900 Loyola Blvd., Los Angeles, CA 90045, e-mail gkuleck@lmu.edu

Project Kaleidoscope

Project Kaleidoscope (PKAL) is an informal national alliance working to build strong learning environments for undergraduate students in mathematics, engineering, and the various fields of science. Worth taking a look at is PKAL's series of interviews with the new NSF 2001 Distinguished Teaching Scholars. DTS awardees describe how they maintain the environment in which their students learn—what their classrooms are like and the difficulties they have encountered in balancing and integrating responsibilities for research and education. Details concerning this and other NSF education programs can be found at <http://www.ehr.nsf.gov/ehr/DUE/>.

PKAL will also host Roundtables on the Future, jointly sponsored by Sigma Xi at Duke University on the topic of "Assessment in the Service of Student Learning" March 1–2, 2002. The PKAL 2002 Summer Institute will be held from May 29 to June 5, 2002, in Williamsburg, Virginia, and will feature workshops addressing programs that cross traditional disciplinary and institutional reform of education. For more information on PKAL and its activities, visit <http://www.pkal.org/>.

The Council on Undergraduate Research (CUR) is a national educational organization supporting and promoting high-quality undergraduate student–faculty collaborative research and scholarship. The 9th National CUR Conference, "Undergraduate Research for All," will be held June 19–22, 2002, at Connecticut College in New London. The conference will highlight undergraduate research and is a great opportunity for interested faculty and administrators to share experiences and knowledge. More information on CUR and its activities can be found at <http://www.cur.org/>.

Plant Biology 2002

"Plant Biology 2002: Heightened Frontiers in Plant Biology" will be held from Saturday, August 3, through Wednesday, August 7, 2002, at the Adams Mark Hotel in Denver, Colorado. As in the past several years, the Plant Education Committee will host the Plant Education Booth at a prominent location with member exhibitors. There are four ways to take part directly in educational activities at the meeting: (1) submit an education poster, (2) attend the Education Workshop, (3) visit (or volunteer at—even better!) the Ed booth, and (4) submit an application to be an exhibitor at the booth. These are all fantastic opportunities to showcase your activities in the education arena and interact with other members interested and active in education in ASPB. Of course, we encourage you to participate at all levels. We especially urge you to contribute an education poster so that we can celebrate your efforts and demonstrate the vitality of the educational community within our Society. If you would like to volunteer to work in the booth or participate in some way, please e-mail me at gkuleck@lmu.edu.

This year's Education Workshop will focus on "Effective Participation in K–12 Outreach." Details concerning the organization of the workshop and speaker(s) have yet to be finalized.

3rd Annual ASPB Education Booth Exhibitor Competition

Grants Available to ASPB Members in Education Exhibit Competition

Have you developed new ways of carrying out hands-on science in your teaching laboratory or classroom? The Education Commit-

tee cordially invites you to share your activity with the ASPB membership by hosting an interactive exhibit/demonstration at the Education Booth at the annual ASPB meeting this summer in Denver, August 3–7.

We are looking for new ideas and technology that is being used in the classroom, and, as an incentive, we are offering a cash grant of \$500 and registration costs for up to three presenters.

Your proposal should be no longer than four double-spaced pages. It should include a title and the address and contact information of the presenter. Please address the following questions in your proposal:

1. State clearly the rationale behind the exhibit. Highlight the use of new techniques or technology. How is this presentation exciting and new?
2. Provide a clear, detailed summary of how the exhibit will function. (A diagram would be helpful.) In particular, it will be important to illustrate how the visitors can interact with the exhibit.
3. Indicate the equipment that will be required for the exhibit. Please indicate whether a computer, Internet connection, or VCR and monitor will be needed. We will make every effort to meet your needs.

Note that awardees are expected to spend some time hosting their exhibit and interacting with members at the booth each day. You're welcome to choose the times most convenient for you.

We can't think of a better opportunity to showcase your new approaches or new technology for the plant biology classroom. We hope that you will consider submitting a proposal and will join us at the booth for these exciting exhibits!

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Your proposal should be addressed to gkuleck@lmu.edu and submitted as an e-mail attachment (Microsoft Word) by no later than **April 30, 2002**. Winners will be notified by May 10, 2002.

K-12

Know of an outstanding K-12 teacher? An exciting opportunity exists for them to participate in the national public policy arena as an Albert Einstein Distinguished Educator Fellow in Washington, DC. Current public or private elementary and secondary mathematics, technology, and science classroom teachers with demonstrated excellence in teaching have an opportunity to provide practical in-

sight in establishing and operating education programs for Congress as well as organizations such as the Department of Energy (DOE), the National Aeronautics and Space Administration (NASA), and the National Science Foundation (NSF). Fellows serve to increase understanding, communication, and cooperation between legislative and executive branches and the science, mathematics, and technology education community. The Triangle Coalition, a Washington, DC-based nonprofit organization comprising members from science, education, business, and governmental agencies, is administering the program. Visit its web site at <http://www.triangle-coalition.org/>.

Education Committee

The Education Committee welcomes new members Larry Griffing, associate professor from the Department of Biology at Texas A&M University, and Dr. Sheila Blackman, from the Biology Department of Grand Valley State University. Larry and Sheila bring their considerable expertise and interest in education, not to mention their boundless energy, to our committee. We look forward to their contributions. 

Biochemistry & Molecular Biology of Plants

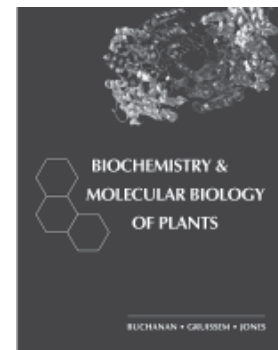
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Prices do not include shipping & handling. Contact ASPB at the phone numbers or e-mail address above for information.



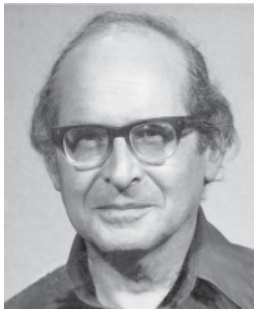
Bob B. Buchanan
Wilhelm Gruissem
Russell L. Jones





David Siminovitch

David Siminovitch, a longtime member of ASPB and researcher on frost hardiness of plants, passed away on November 5, 2001, in Ottawa, Canada. He had not been in good health for several years and was virtually bedridden. He sorely missed his wife, Helen, who had succumbed to



cancer in 1986 at the same time that he himself was recuperating from lymphoma. David claimed that the treatments for this often-fatal disease had left his once brilliant mind “cloudy.”

Dave was born May 29, 1916. He received his B.Sc., M.Sc., and Ph.D. degrees in his hometown of Montreal, Quebec, at McGill University, finishing his Ph.D. under the prominent botanist G. W. Scarth in 1939. His early work, published between 1938 and 1941 with Scarth and collaborator and close friend Jacob Levitt, formed part of the foundation of modern plant stress physiology.

Following the suggestion made by the Russian scientist N. A. Maximov in 1912, Siminovitch, Levitt, and Scarth demonstrated that disruption of the plasma membrane was the primary cause of freezing injury in plants. Dave showed that intracellular ice was universally lethal to the plant cell and that such freezing did not occur in hardy plants. He and Levitt showed the importance of plasma membrane permeability in avoiding intracellular ice and showed how plasma membrane permeability increased during cold acclimation. More important, they showed that extracellular ice caused cell dehydration, which could lead to disruption of the plasma membrane and “deplasmolysis injury” during thawing. This is now recognized as one of the key mechanisms of frost injury to cold hardy plant cells. Siminovitch, Levitt, and Scarth also predicted that for the plasma membrane to survive expansion during thawing with

“constant thickness,” the incorporation of membrane “mobile reserves” would be required. Their early insights into the mechanism of freezing damage linked to plasma membrane disruption were remarkable for their time. They would wait almost 40 years to be fully appreciated, when Peter Steponkus identified

expansion-induced lyses in isolated protoplasts. Once, when asked how such progress could be made with only a light microscope in a walk-in freezer chamber, Dave said, “The light microscope was a powerful instrument in the 1930s for effective study of the dynamics of the cell and plasma membrane. In addition, Scarth had a particularly good understanding of protoplasmatology and Jake Levitt had a good grasp of chemistry and physical chemistry.”

In 1940, Dave moved to the University of Minnesota on a Royal Society Fellowship for two years and then returned to Montreal to work on penicillin for the remaining years of World War II. He returned to Minnesota, where in 1948 he received a second Ph.D. in agricultural biochemistry with D. R. Briggs as adviser. There he initiated a series of studies of the biochemistry of trees with particular emphasis on the plasma membrane during winter acclimation. He used black locust as a model system, and this work continued long after he joined the Canadian Department of Agriculture in 1950 as a research scientist, ultimately heading the winter hardiness section of the Chemistry and Biology Research Institute. There he focused on changes in proteins, ribonucleic acids, soluble carbohydrates, and phospholipids in response to cold acclimation. Among the major finds with Ian de la Roche and Jas Singh was a thorough characterization of phospholipid unsaturation during cold acclimation. This work discounted one of the then-held simple ideas that lipid

unsaturation and plasma membrane fluidity were responsible for winter hardiness in plants. Their later work involved use of liposomes and free protoplasts. Jas notes that Dave was the first to use free protoplasts to characterize the freezing and thawing process. This development helped lay the foundation of modern work characterizing the role of membranes in plant cold hardiness.

By today’s standards, Dave’s output of scientific publications was modest, about 50 papers in all. He once confessed that it took him a long time to accept that the road to success—that is, promotion—required a continuous stream of published papers detailing step-by-step progress. His preference was to immerse himself in a problem and not to publish until it was solved, no matter how many years it took. Nevertheless, even after his enforced retirement at the age of 65, Dave continued to paint the fine details so important to the development of his chosen field of research. In the end, his work came at the right time and the impact was great. Among the many awards Dave received in recognition of his work are the Gold Medal of the Canadian Society of Plant Physiologists in 1972, election to the Royal Society of Canada in 1973, and the Board of Governor’s award from the Cryobiology Society in 1987.


All who knew Dave well were aware of his remarkable level of intensity, energy, and focus, and he had to stand for a great deal of kidding about these qualities. There were stories about his girdling black locust trees in Ottawa parks, gaining unfavorable attention for Agriculture Canada in Parliament. Jake Levitt’s favorite Siminovitch story described intensity and forgetfulness: “Dave inadvertently locked himself in a freezing chamber during one of those early freezing experiments—experiments which [are] now classics. It was late at night, he was alone, and it got colder and colder, Dave and his microscope

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going to -5° , -10° , -15° . . . Centigrade. The experiment went uninterrupted. Finally, with the microscope as his tool, he broke the chamber window and escaped.” So indeed, as Dave himself said, “The light microscope was a powerful instrument in the 1930s”!

Dave Siminovitch set the highest standards for himself, and his contributions are significant, not only at the theoretical, fundamental level but also from the practical point of view. In his Gold Medal address at the joint ASPP/CSPP meeting in Calgary in 1973, Dave described his work with J. W. Butler of the Laurentian Concentrates Company in developing a protective foam that could be laid down over tender plants when overnight freezing temperatures were expected, thereby lengthening the growing season.

He will be missed, not only by his children, David, Jane, and Michael, but also by his colleagues and friends. 

Michael J. Burke

Professor and Associate Dean
Oregon State University

Constance Nozzolillo

Retired Professor
University of Ottawa

Elijah B. Romanoff

Eli was a man amongst men—a real mensch! Saying this brings tears to our eyes; there simply is no replacement for this wonderful human being, who died November 24, 2001. Eli knew feelings. He knew love and deep personal loyalties. But he also knew science and budget restrictions. He sweated and agonized over each and every National Science Foundation panel decision, knowing full well how much each one meant for science and for the applicant. Anyone holding the illusion that government workers are uncaring about the public welfare had best study the life of Dr. Elijah B. Romanoff.

A native of Massachusetts, Eli Romanoff was born February 15, 1913. His childhood and early school years were spent in Clinton, Massachusetts. He received a bachelor's of science degree in chemistry in 1934 and a master's in engineering, both from the Worcester Polytechnic Institute. He received his doctorate in biochemistry from Tufts University in 1949. His working experience was at the Worcester State Laboratories and then with the U.S. Army from 1941 to 1945. He then worked at the Worcester Foundation for Medical Research under Gregory Pincus. His

interests lay in steroid chemistry and physiology. Underlying this interest was his conviction that much human suffering could be avoided with better knowledge of methods for preventing unwanted conception. Thus, his work at the foundation, where the first knowledge for prevention of unwanted pregnancies was produced, held both scientific and humanistic interest, as was true of all his interests and characteristic of his entire life.

Eli left the Worcester Foundation in 1968 and accepted the position of panel director of the Metabolic Biology Section of the NSF, initially as a rotator and then later as permanent staff. He soon became known to principal investigators and would-be PIs by his intense personal interest in their work, their hopes, and their visions—and, of course, their day-to-day results.

Inevitably, as in any large organization, there arose at NSF problems of bureaucracy that became especially intense as competition for the limited funds increased. Eli felt this competition keenly and personally. Often he would call a grantee and say simply, “talk to me.” He listened intently as the PI spelled out the details of his or her research. For Eli, this



From left to right: Eli Romanoff, Henry Reeves, and Martin Gibbs at Deep Canyon, in the desert near Palm Springs, California, 1982.

peaceful interlude with concentration on the science, and the persona of science, restored his strength. He could then return to the inevitable struggles of a large organization. Eli retired from the foundation in 1983.

The debt of the plant science community to Eli is immense. There was a time in the post-Sputnik era when there was a huge escalation in federal funding for science. However, in biology, it was microbial biochemistry and genetics that totally swept the field. The advantages of *E. coli* genetics seemed so huge that there was no room for genetic studies with higher plants. So true was this that at one time NSF was funding only *one* plant genetics proposal and that *one* grant was threatened. Eli recognized immediately that the vast potential of plant biochemistry and genetics was in danger of being lost. He was aware of the unique aspects of plant metabolism and of the vital need for promotion of plant science with the ultimate objective of feeding a hungry world.


There is little doubt that the growth of plant physiology between 1968 and 1983 correlated with Eli's tenure as a panel director for the NSF. He diligently studied the workings of the foundation so that he might have an influence on the various fields. He did this in many ways, including the funding of the annual symposia in botany at Riverside, California, and the marine botany course at Woods Hole. He worked together with several dedicated co-workers such as Van Robertson, Jane Shen Miller, and Carter Kimsey. He was aided greatly in this work by the division director, Mary Clutter. In every plant science initiative, one finds Eli's footprints.

How did he accomplish so much? Eli responded to the field's needs by contacting the leading researchers in plant science and started

them on a movement toward special consideration for plant science research proposals. There was much resistance to this notion of an "affirmative action" movement for the plant sciences. With Eli's persistence, though, and with the volunteers he gathered around him, this near demise of plant science funding was avoided.

Almost 10 years after Dr. Romanoff retired from the foundation, the director of the NSF biology division called him and said, "We have finally funded the last of your deferred applicants." One may only surmise that Eli breathed a sigh of relief at having saved these worthy proposals. The proposals had been deferred because Eli knew he did not have the money to fund them but also knew that the work was excellent and that the applicants were excellent investigators and that a refusal would hurt them. Who says the government is autocratic and unfeeling?

There is no doubt that the plant sciences would not have enjoyed the enormous resurgence of interest in the unique capabilities of plants had Dr. Romanoff not intervened. In recognition of his unique contributions to the plant sciences, the American Society of Plant Physiologists bestowed upon him the Adolph E. Gude Award in 1993, making him the fifth recipient of that distinguished prize.

When Eli retired from NSF in 1983, he sent a simple letter to his colleagues and PIs with the words of the song "September" as the message. In that spirit one may say that truly a golden leaf has fallen, fallen from the tree of life, with a loss for us all. 

Robert S. Bandurski
Professor Emeritus, Plant Biology
Michigan State University

Martin Gibbs
Burg Professor Emeritus
Brandeis University

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

Future ASPB Annual Meeting Sites

2002: Denver, Colorado
Saturday, August 3, through
Wednesday, August 7

2003: Honolulu, Hawaii
Saturday, July 26, through
Wednesday, July 30

2004: Orlando, Florida
Saturday, July 24, through
Wednesday, July 28

2002

FEBRUARY

February 12–14
Chemexpo 2002—Indian Chemistry for Global Competitiveness
Mumbai, India

For information visit us at <http://www.chemexpo2002.com/> or e-mail info@chemexpo2002.com.

MARCH

March 2–4
Southern Section's Annual Meeting
Georgia Center for Continuing Education
University of Georgia Campus, Athens

Ruth Grene (formerly Alscher) is the organizer, working with Scott Merkle, local host. For information contact Ruth Grene, Department of Plant Pathology, Physiology and Weed Science, Virginia Tech, Blacksburg, VA 24061-0330; telephone 540-231-6761, fax 540-231-5755, e-mail ralscher@vt.edu.

March 15–16
Annual Meeting of the Midwest Section of the American Society of Plant Biologists
Marcum Conference Center, Miami University
Oxford, Ohio

For information contact John Z. Kiss, Section Chair, Miami University, Department of Botany, Oxford, OH 45056; kissjz@muohio.edu. See also the Midwest Section home page at http://www.aspb.org/committees_societies/midwestern/index.cfm.

March 23–26
6th International Conference on Plasma Membrane Redox Systems and Their Role in Biological Stress and Disease
Ravenna, Italy

For information contact Paolo Trost, Department of Biology, University of Bologna, telephone +39-051-2091329, fax +39-051-242576, e-mail trost@alma.unibo.it, or visit the web site at <http://www.unibo.it/redox2002>.

APRIL

April 8–12
Society for Experimental Biology
Annual Main Meeting
Swansea, Wales, United Kingdom

Contact the SEB office at: telephone, +44-207-439-8732, fax +44-207-7287-4786, e-mail c.trimmer@sebiology.org. See web site at www.sebiology.org.

April 11–14
5th Workshop on Sulfur Assimilation in Higher Plants: "Sulfur Transport and Assimilation—Regulation, Interaction, Signaling"
Montpellier, France

For more information on the program and how to register, visit the web site at http://cost829.dhs.org/planned_meetings/. Workshop limited to 120 participants. Contact Prof. Jean-Claude Davidian, ENSA-M / INRA (UMR 5004) 2, Place Viala, 34060 Montpellier, France, davidian@ensam.inra.fr.

April 15–17
17th Long Ashton International Symposium
"New Frontiers in Plant Development: From Genes to Phenotype"
Bristol, United Kingdom

For information contact Christine Cooke at +44-1275-549341, fax +44-1275-549397, e-mail Christine.Cooke@BBSRC.AC.UK.

April 17–21
Evolution of Developmental Diversity
Cold Spring Harbor Laboratory, New York

For information contact Meetings Office, Cold Spring Harbor Laboratory, 1 Bungtown Rd., Cold Spring Harbor, NY 11724; telephone 516-367-8346, fax 516-367-8845, e-mail meetings@cshl.org, web site <http://nucleus.cshl.org/meetings/2002Divers.htm>.

April 23–27
VI International Meeting on Biology and Biotechnology of the Plant Hormone Ethylene
Murcia, Spain

For information contact Dr. M. Vendrell, e-mail mvmagr@cid.csic.es, or Dr. F. Romojaro, e-mail ethylene@cebas.csic.es. Meeting Secretariat: CEBAS-CSIC, Campus Universitario de Espinardo, Apartado de Correos 4.195, 30100 Murcia, Spain; telephone +34-968-396328, fax +34-968-396213.

MAY

May 9–17
Analytical & Quantitative Light Microscopy
Marine Biological Laboratory, Woods Hole, Massachusetts

Application deadline is February 6, 2002. Contact: Carol Hamel, Admissions Coordinator, Marine Biological Laboratory, 7MBL Street, Woods Hole, MA 02543-1015; telephone 508-289-7401, e-mail admissions@mbl.edu.

May 16–18
Plant Reproduction 2002: From Evolutionary and Physiological Analyses to Molecular and Cellular Studies

Pennsylvania State University, University Park Contact Dr. Teh-hui Kao, 403 Althouse Lab, The Pennsylvania State University, University Park, PA 16802; telephone 814-863-1042, fax 814-863-9416, e-mail txk3@psu.edu, web sites <http://conferences.cas.psu.edu/> and <http://www.lsc.psu.edu/phys/annualsym.html>.

May 20–22
Urban Agriculture: Emerging Opportunities in Science, Education, and Policy
Dallas, Texas

Call +972-231-5362 for more information or visit <http://urbanag.tamu.edu>.

May 21–28
Microinjection Techniques in Cell Biology
Marine Biological Laboratory, Woods Hole, Massachusetts

Application deadline is February 6, 2002. Contact: Carol Hamel, Admissions Coordinator, Marine Biological Laboratory, 7MBL Street, Woods Hole, MA 02543-1015; telephone 508-289-7401, e-mail admissions@mbl.edu.

JUNE**June 2–6****International Conference on Legume Genomics and Genetics****Minneapolis-St. Paul, Minnesota**For information see <http://www.agro.agri.umn.edu/iclpg/>.**June 3–8****18th North American Conference on Symbiotic Nitrogen Fixation****University of Missouri, Columbia**For information contact Lorie Thunhorst, 344 Hearn, University Extension Conference Office, University of Missouri, Columbia, Missouri 65211; telephone 573-882-2429, fax 573-882-1953, e-mail thunhorstls@missouri.edu.**June 20–23****4th Annual Plant Sciences Institute Symposium on “Proteomes: Structure, Changes, Interactions and Functions”****Iowa State University and the Plant Sciences Institute, Scheman Building, Iowa State Center, Ames**For information, contact Gulshan Singh and Tini Bajwa, Symposium Coordinators, Symposium Office, 3208 Molecular Biology Building, Iowa State University, Ames, IA 50011; telephone 515-294-7978, fax 515-294-2244, e-mail pbmb@iastate.edu, web site <http://molebio.iastate.edu/~gfst/phomepg.html>.**June 23–28****11th International Symposium on Iron Nutrition and Interactions in Plants**
Udine, ItalyContact: Roberto Pinton, Department Produzione Vegetale e Tecnologie Agrarie, University of Udine, Via Delle Scienze 208 I-33100 Udine, Italy; telephone +390432558641, fax +390432558603, e-mail iron.symp@dpvta.uniud.it, web site <http://www.ironsymp2002.unimi.it>.**June 28th–July 2****13th International Conference on Arabidopsis Research**
Sevilla, SpainRegistration deadline: April 15. Deadline for abstract submission: April 30. See <http://www.arabidopsis2002.com> for official web site and please visit <http://www.arabidopsis.org/news> for more information on previous years' conferences.**JULY****July 7–12****XXIst International Carbohydrate Symposium**
Cairns, Queensland, AustraliaFor information, contact The Secretariat, Congress West, 12 Thelma Street, PO Box 1248, West Perth, Western Australia 6872; fax +61-8-9322-1734, e-mail conwes@congresswest.com.au, web site <http://www.ics2002.uwa.edu.au/>.**July 14–19****Gordon Research Conference on Cellular Basis of Adaptation to Salt and Water Stress in Plants**
Queen's College, Oxford, United KingdomFor information contact Mike Hasegawa, Center for Plant Environmental Stress Physiology, 1165 Horticulture Building, Purdue University, West Lafayette, IN 47907-1165; e-mail paul.m.hasegawa.1@purdue.edu or see <http://www.grc.uri.edu/programs/2002/salt.htm> or <http://www.grc.uri.edu/>.**July 21–26****International Symposium on Nitrate Assimilation: Genetic and Molecular Aspects**
Cordoba, SpainOrganizers: Emilio Fernandez, Conrado Moreno, Aurora Galvan. For information, contact these individuals at the Department of Bioquímica y Biología Molecular, University of Cordoba, Campus Rabanales, Edif. Severo Ochoa, 14071, Cordoba, Spain; e-mail nitrate2002@uco.es or bb1feree@uco.es, or visit the web site at <http://www.uco.es/vida/congresos/namga2002>.**July 28–August 1****Plant Growth Regulation Society of America**
Westin Nova Scotian, Halifax, Nova ScotiaContact Dr. Wayne A. Mackay, Program Chair, Texas A&M University, 17360 Coit Road, Dallas, TX 75252-6599; telephone 972-231-5362, fax 972-962-9216, e-mail w-mackay@tamu.edu, web site <http://www.griffin.peachnet.edu/pgrsa>.**AUGUST****August 1–4****Tissue Remodeling**
Scheman Continuing Education Building
Iowa State University, Ames

Deadline for abstracts is May 31, 2002. Registration deadline is July 1, 2002. Travel grant application due May 31, 2002. Contact Growth Factor and Signal Transduction

Conferences, Symposium Office, 3208 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260; telephone 515-294-7968, fax 515-294-2244, e-mail gfst@iastate.edu, web site <http://molebio.iastate.edu/~gfst/homepg.html>.**August 3–7****The Annual Meeting of the American Society of Plant Biologists**
Adams Mark Hotel
Denver, ColoradoFor information see <http://www.aspb.org/meetings/pb-2002/index.cfm>.**August 11–14****SOY 2002: The 9th Biennial Conference of the Cellular and Molecular Biology of the Soybean**
University of Illinois at Urbana-ChampaignFor information, please contact us via e-mail at soy2002@aces.uiuc.edu or visit our web site at www.soy2002.uiuc.edu.**August 11–16****Gordon Research Conference on “CO₂ Fixation & Metabolism in Green Plants”**
Mount Holyoke College, South Hadley, MassachusettsFor detailed information see <http://www.grc.uri.edu/programs/2002/co2.htm>, the February 15th, 2002 issue of *Science*, and/or contact one of the Co-Chairs, Ray Chollet (RCHOLLET1@unl.edu) or Christine Foyer (christine.foyer@bbsrc.ac.uk).**August 11–17****XXVI International Horticulture Congress and Exhibition**
“Horticulture: Art and Science for Life”
Toronto, CanadaThe Toronto Knowledge & Scholarship Forum is planned August 13, 2002. Offers of oral or poster presentation specifically intended for this forum must be received by e-mail (crom@uark.edu) by November 30, 2001. To see the third announcement and call for abstracts, visit <http://www.ihc2002.org/>.**August 22–26****2nd Silicon in Agriculture Conference**
Tsuruoka, Yamagata, JapanFor information, please contact ian Feng Ma, Faculty of Agriculture, Kagawa University; telephone +81-87-891-3137, e-mail maj@ag.kagawa-u.ac.jp, web site <http://cpln.kais.kyoto-u.ac.jp/silicon>.

SEPTEMBER

September 1–6

**13th International Congress of the Federation of European Societies of Plant Physiology (FESPP)
Heraklion, Crete, Greece**

For information please contact Professor Kalliopi A. Roubelakis-Angelakis; telephone +30-81-394073/304459, fax +30-81-394459, e-mail poproube@biology.uoc.gr; fespp@biology.uoc.gr; web site www.biology.uoc.gr/meetings/fespp.

September 9–12

**International Conference on Polyphenols
Marrakech, Morocco**

See <http://www.ucam.ac.ma/fssm/jiep2002> or <http://www.worlcalendar.com> (keyword: polyphenols). For additional information contact Professor Ismail El Hadrami, Laboratoire de Physiologie Végétale, Département de Biologie, Faculté des Sciences Semlalia, BP. 2390, 40 001 Marrakech-Maroc; telephone +212-44-439997/434649 poste 521, fax +212-44-439997/330251/436769, e-mail hadrami@ucam.ac.ma or hadramii@hotmail.com.

September 15–19

**6th International Conference on Pseudomonas Syringae Pathovars and Related Pathogens
Maratea (PZ), Italy**

For information contact Nicola Sante Iacobellis, Dipartimento di Biologia, Difesa e Biotecnologie Agro-Forestali, Università degli Studi della Basilicata, Campus Macchia Romana, 85100 Potenza, Italy; telephone +39 0971 205498, fax +39 0971 205503, e-mail pseudomonassyringae@unibas.it, web site www.unibas.it/utenti/pseudomonassyringae.

September 19–22

Molecular Targets for Dietary Intervention in Disease**Scheman Continuing Education Building
Iowa State University, Ames**

Abstracts due July 19, 2002; registration deadline: August 19, 2002. Travel grant application due July 19, 2002. Contact Growth Factor and Signal Transduction Conferences, Symposium Office, 3208 Molecular Biology Building, Iowa State University, Ames, IA 50011-3260; telephone 515-294-7968, fax 515-294-2244, e-mail gfst@iastate.edu, web site <http://molebio.iastate.edu/~gfst/homepg.html>.

OCTOBER

October 7–9

**Biotechnologie Vegetales: VIII JS-AUF
Marrakech, Morocco**

See <http://www.bioveg.refer.org>. For additional information contact Professor Ismail El Hadrami, Laboratoire de Physiologie Végétale, Département de Biologie, Faculté des Sciences Semlalia, BP. 2390, 40 001 Marrakech-Maroc; telephone +212-44-439997/434649 poste 521, fax +212-44-439997/330251/436769, e-mail hadrami@ucam.ac.ma or hadramii@hotmail.com.

October 10–19

Optical Microscopy & Imaging in the Biomedical Sciences**Marine Biological Laboratory, Woods Hole,
Massachusetts**

Application deadline is July 25, 2002. Contact Carol Hamel, Admissions Coordinator, Marine Biological Laboratory, 7MBL Street, Woods Hole, MA 02543-1015; telephone 508-289-7401, e-mail admissions@mbl.edu.

Plant Physiology 75th Anniversary Conceptual Breakthroughs in Biology



Three major technological advances stand out as crucial to plant science during the past 25 years: the development of molecular tools, the development of plant transformation, and the widespread adoption of Arabidopsis as a model organism.

To celebrate the 75th anniversary of *Plant Physiology*, the flagship journal of the American Society of Plant Biologists, 42 short commentaries were featured in the January 2001 issue that attempt to summarize these and other conceptual breakthroughs. The authors, representing various fields of study, compiled a concise overview of the important concepts and paradigms that have emerged during the past 25 years. These commentaries are fascinating taken one at a time, but together they demonstrate just how far plant biology has come in a relatively short while.

Along with analysis of the three breakthroughs mentioned above, the remaining articles draw from research in the following areas: whole plant physiology and biochemistry; signal transduction; developmental, cell, and molecular biology; genetics; and biotechnology. They have been reprinted in this special book to commemorate the enormous advances in plant science.

**Plant Physiology 75th Anniversary
Conceptual Breakthroughs in Biology**

ISBN 0-943088-41-0. Item 30050. Price \$25.00

For ordering information, go to www.aspb.org



ASPB Placement Service Form

This form may be used only by members of the American Society of Plant Biologists. Please print or type your placement information on this form (curriculum vitae will not be accepted) and send to: **Donna Gordon, ASPB Headquarters, 15501 Monona Drive, Rockville, MD 20855-2768 USA; e-mail dgordon@aspb.org**

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

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Fields of interest, specialties, and publications titles: _____

Thesis, dissertation topics, professor: _____

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

Employer and location	From	To	Position, title, and duties

References (names, addresses, and telephone numbers): _____



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

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

II. Placing a Position Ad in the ASPB News and on the ASPB Homepage

Submit all ads by e-mail to Sylvia Braxton Lee at sbraxton@aspb.org (or by mail to Sylvia Braxton Lee, 15501 Monona Drive, Rockville, MD 20855-2768 USA). If you are submitting a chargeable ad, please include billing information when you send the ad.

- **Academic/Government/Industry Permanent Positions (Ph.D. level):**
Fee: \$150. Includes listing in one issue of the *ASPB News* and 12 weeks on the ASPB online Job Bank.
Word Limit: 200 for print ad; no limit for online ad.
- **Postdoctoral Positions**
Fee: No charge for universities, nonprofit organizations, and government installations; \$150 for commercial companies. Includes listing in one issue of the *ASPB News* and 12 weeks on the ASPB online Job Bank.
Word Limit: 200 for print ad; no limit for online ad.
- **Research/Technical Positions (non-Ph.D.)**
Fee: No charge for universities, nonprofit organizations, and government installations; \$150 for commercial companies. Includes listing in one issue of the *ASPB News* and 12 weeks on the ASPB online Job Bank.
Word Limit: 200 for print ad; no limit for online ad.
- **Assistantships, Fellowships, Internships**
Fee: No charge; ad will appear in two issues of the *ASPB News*—the first time at full length and the second time in an abbreviated form—and 12 weeks on the ASPB online Job Bank.
Word Limit: None.

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

Assistant Professor/Assistant Postharvest Biochemist University of California, Davis (Received 11/09)

The Department of Vegetable Crops at the University of California, Davis, invites applications for a tenure-track academic position that has 40% research appointment in the Agricultural Experiment Station and 60% teaching and research appointment in the College of Agricultural and Environmental Sciences. Competence in modern physiological, biochemical and/or molecular techniques to investigate the fundamental bases of postharvest biochemistry of vegetables and seeds is expected. Possible program areas include functional genomics, proteomics, gene discovery, metabolic biology and/or cellular signal transduction where fundamental discoveries can be expected to impact nutritional value, flavor, quality, safety and/or postharvest pathology of vegetables and seeds. The successful appointee will generate

extramural research funds and teach undergraduate and graduate level courses related to biochemistry and postharvest biology. Applicant must hold a Ph.D. and preferably have postdoctoral research experience in an appropriate field such as plant biology, biochemistry, genetics, molecular biology, plant physiology, or related area. Send completed application including curriculum vitae, publication lists (both published and submitted including representative reprints), statement of teaching and research interests and experience, official undergraduate and graduate transcripts (if within five years of graduation), and the names and addresses of five professional references to M.E. Saltveit, Search Committee Chair, Department of Vegetable Crops, One Shields Avenue, University of California, Davis, CA 95616-8631; telephone 530-752-1815, fax 530-752-4554, e-mail mesaltveit@ucdavis.edu. The position will remain open until filled, but to ensure consideration applications must be received by March 1, 2002. The University of California is an affirmative action/equal opportunity employer.

Ph.D. Research Assistant Rutgers University, New Brunswick, New Jersey

(Received 11/16)

A research assistant is needed to study potential weediness and fertility of hybrids between creeping bentgrass and related *Agrostis* species. This project will involve considerable field work comparing the potential for weediness of the hybrids with that of the parental species. The project will also involve backcrossing the hybrids and progeny analysis investigating the potential for gene flow to other species. Please e-mail curriculum vitae to Dr. Faith Belanger at belanger@aesop.rutgers.edu.

Assistant or Associate Professor Gordon College, Wenham, Massachusetts (Received 11/26)

The Department of Biology seeks candidates for a position in plant biology to begin August 15, 2002. We are seeking an educator committed to excellence in the integration of Christian faith and the highest standards of teaching in the only nondenominational, Christian, liberal

THE DEADLINE FOR ADS FOR THE MARCH/APRIL ISSUE OF *ASPB News* IS FEBRUARY 28, 2002.

Check ASPB's web site (<http://www.aspb.org/jobbank/>) every Friday for new job listings. Jobs with early application deadlines are listed on the web site but might not appear in the *ASPB News*.

arts college in the Northeast. A Ph.D is required, and previous teaching and postdoctoral research experience is strongly preferred. Primary Teaching Responsibilities: botany, plant physiology and genetics. Other courses that may be required are crops and society and upper-level courses in an area of expertise. The position also serves as on-campus liaison and recruiter for the Sustainable Tropical Agriculture course (International Seminar). A letter of application, vitae a two-page statement of educational philosophy and a statement of ongoing research focus should be directed to Dr. Mark Sargent, Provost, Gordon College, 255 Grapevine Road, Wenham, MA 01984; telephone 978-927-2306, ext. 4294, fax 978-524-3726, e-mail chersey@gordon.edu.

**Assistant or Associate Professor
Gordon College, Wenham, Massachusetts
(Received 11/26)**

The Department of Biology seeks candidates for a position in biochemistry/molecular biology to begin August 15, 2002. We are seeking an educator committed to excellence in the integration of Christian faith and the highest standards of teaching in the only nondenominational, Christian, liberal arts college in the Northeast. A Ph.D. is required, and previous teaching and postdoctoral research experience is strongly preferred. Primary Teaching Responsibilities: biochemistry and molecular biology. Teaching in immunology and a portion of the Introductory Biology series may be required. Involvement in advising students in the biotechnology concentration and guidance in student research and internships is expected. A letter of application, vitae and two-page statement of educational philosophy and a statement of ongoing research focus should be directed to Dr. Mark Sargent, Provost, Gordon College, 255 Grapevine Road, Wenham, MA 01984; telephone 978-927-2306, ext. 4294, fax 978-524-3726, e-mail chersey@gordon.edu.

**Assistant Professor
Texas A&M University, College Station
(Received 11/27)**

The Faculty of Molecular and Environmental Plant Sciences (MEPS) invites applications for a 12-month, tenure-track position in reproductive biology of plants, primarily monocots. The area of research interest is from early floral evocation to early embryo development including but not limited to gene regulation signal perception and transduction, reproductive differentiation, fertilization and apomictic development. The successful candidate will use the modern tools of molecular biology, functional

genomics and plant physiology to develop an independent, extramurally funded research program. Willingness to augment research efforts on apomixis and floral initiation will be expected. A well-equipped laboratory, start-up funds, access to major research facilities and equipment, technician support, and graduate student funding will be provided. Teaching responsibilities will include one or two courses in the MEPS interdepartmental program in the areas of plant development, plant biochemistry or plant physiology. Salary is dependent on qualifications and experience. Applicants must have a Ph.D. and postdoctoral training. Review of applications will begin March 1, 2002; position available June 1, 2002. Send a curriculum vitae, transcripts, names of three references and a statement of research interests and teaching philosophy to Dr. Mark A. Hussey, Professor and Head, Department of Soil & Crop Sciences, Texas A&M University, College Station, TX 77843-2474; telephone 979-845-3401, fax 979-845-0456.

**Faculty Recruitments
University of Illinois
(Received 11/30)**

We offer two positions in Plant Bioinformatics, one assistant, and one assistant/associate professor funded by Post-Genomics Initiative to expand bioinformatics and build a Post Genomics Institute. Candidates must be educated in bioinformation sciences, computer sciences, genomics, or related areas. Successful applicants will develop externally funded research programs of international stature, collaborate with faculty within and outside of the UI, and teach well. Applications received by February 26, 2002, will receive full consideration. Starting date is May 21, 2002. Candidates must have Ph.D.; post-Ph.D. experience desired. Candidates should assemble and submit an application packet with: cover letter; curriculum vitae; statement of research and teaching goals; plus arrange for complete set of certified academic transcripts and three letters of reference to be received by: Professor G. H. Heichel, Head, Dept. of Crop Sciences, University of Illinois, 1102 South Goodwin Ave, Urbana, IL; telephone 217-333-9480. Further information can be obtained from Professor Lila Vodkin, Chairperson, Bioinformatics Search, e-mail l-vodkin@uiuc.edu See web site at <http://www.cropsci.uiuc.edu> for more information about department and complete job announcements. Please cite announcement numbers 1101a-8101(asst./assoc.) or 1101b-8102(asst.) when applying. The University of Illinois is an affirmative action/equal opportunity employer.

**Assistant Professor
University of Minnesota, St. Paul
(Received 11/30)**

A 12-month tenure-track teaching (75%) and research (25%) position; tenure-home in Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul is available July 1 and no later than August 1, 2002. The position is part of an educational partnership between the University of Minnesota and Southwest State University at Marshall, MN. Teaching at SSU includes courses (11-12 semester credits) in intro crop science, weed/crop management, and inter-institutional offerings, plus academic advising activities. Research on some aspect of sustainable cropping systems will be conducted at the Southwest Research and Outreach Center, Lamberton, MN. Ph.D. required by date of appointment in agronomy/crop science or a closely related field, demonstrated teaching ability with strong oral and written communication skills, and documented ability to design, conduct and report independent research. Application review begins March 1, 2002, and continues until filled. Send resumé, copies of transcripts, a one- to two-page statement of personal teaching and research philosophy, and have three letters of reference sent independently to V. C. Cardwell, Department of Agronomy and Plant Genetics, University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108-6026. The University of Minnesota is an equal opportunity educator and employer.

**Faculty Position
Central Washington University, Ellensburg
(Received 12/04)**

The Biological Sciences Department invites applications for a nine-month, tenure-track assistant/associate professor botany position to begin September 2002. We are searching for a plant scientist with a focus in plant physiology. The position requires a broad academic background in botany and a Ph.D. in an appropriate field. Candidates should be prepared to teach introductory courses as well as advanced courses and demonstrate a commitment to teaching and research involving students. Screening will begin January 21, 2001. For position details and application procedures, see our web site at <http://www.cwu.edu/~biology/positions.html> or contact Search Committee Chair, Dr. S. Johnson; telephone 509-963-2300, e-mail johnsonsh@cwu.edu. Affirmative action/equal employment opportunity/Title IX Institution.

Visiting Land-Grant Chair for Research Minnesota Landscape Arboretum

St. Paul, Minnesota
(Received 12/06)

The Department of Horticultural Science and the Minnesota Landscape Arboretum (MLA) at the University of Minnesota have established an endowed visiting chair to support research pertinent to the genetic improvement, production, use, or maintenance of woody landscape plants. The Chairholder's research must be in collaboration with a faculty member of the University of Minnesota, and must be defined as a discreet ending at one-year project. Chairholders will carry out a significant portion of their work at the Arboretum. Proposals must be jointly submitted with a faculty member of the University of Minnesota, preferably from the Department of Horticultural Science. Projects must be from six months to one year in duration, with possibility of up to one-year renewal, and should include at least one semester of residency at the Arboretum/Twin Cities Campus. Funding from the endowment can be used to supplement sabbatical salary and/or provide research supplies and salary for support staff. To apply for the MLA Land-Grant Chair for Research, please submit a concise description of the project (five-page maximum), a letter of support from the collaborating University of Minnesota faculty member, a copy of your curriculum vitae, and names and addresses of two additional references to Paul Li, Professor, Department of Horticultural Science, University of Minnesota, 1970 Folwell Avenue, St. Paul, MN 55108; telephone 612-624-1757, fax 612-614-4941, e-mail lixxx008@tc.umn.edu. The University of Minnesota is an equal opportunity educator and employer.

Assistant Professor Washington State University, Pullman (Received 12/07)

The Institute of Biological Chemistry at Washington State University invites applications for a tenure-track assistant professor position to begin August 2002. Applicants must have a Ph.D., or equivalent, as well as a strong record of research and publications in plant biochemistry, molecular genetics, genomics, or another area of modern plant biology. The ability and commitment to build a dynamic, well-funded program of international stature is essential. The Institute (<http://ibc.wsu.edu>)

provides an excellent research environment with more than 120 scientists, excellent equipment and facilities, and ready access to specialized techniques in biochemistry, cell biology, and genomics. Candidates should submit a curriculum vitae, statement of research interests, and a description of future plans. In addition, applicants should arrange for three letters of reference to be sent to Dr. John Browse, Search Committee Chair, Institute of Biological Chemistry, Washington State University, PO Box 646340, Pullman, WA 99164-6340; telephone 509-335-5496, fax 509-335-7643, e-mail maertens@wsu.edu. Review of applications will begin on January 15, 2002, and continue until the position is filled. EEO/AA/ADA.

Assistant Professor Crop Scientist University of Missouri-Columbia (Received 12/19)

A crop scientist for the Agronomy Department, Plant Sciences Unit, University of Missouri-Columbia is sought. Position is a tenure-track, 11-month, 60% teaching and 40% research appointment. The successful applicant will play a central role in undergraduate teaching, advising, recruiting, and student activities. Undergraduate teaching includes development of a lecture and laboratory course to provide a foundation in the plant sciences. Teaching will also include a course in crop physiology, management, or ecology. Development of an extramurally funded research program that complements ongoing research is required. Participation in graduate education is also expected. A Ph.D. in Agronomy or a related area is required; postdoctoral experience is desirable. The successful applicant must have teaching experience or a demonstrated interest in teaching, and the desire for student interaction. Written and oral communication skills are essential. Salary commensurate with experience. EEO/AA/ADA Employer with ADA/TTY accommodations. Applications from minorities are encouraged. Application screening will begin March 1, 2002. Applicants should send a cover letter stating goals, teaching philosophy and research interests, curriculum vitae, and official transcripts to Margie Anglen, 1-41 Ag Building, University of Missouri, Columbia, MO 65211. Three letters of reference should be sent independently. Direct questions to Dr. Anne L. McKendry at (573) 882-7708, email: mckendrya@missouri.edu.

Assistant Scientist Position The Connecticut Agricultural Experiment Station, New Haven (Received 1/02)

The Department of Biochemistry & Genetics invites applications for a 100% research position at the assistant scientist level starting January 2002. The appointee is expected to develop an independent program of externally funded research that complements ongoing plant molecular biology research in the department. New laboratories and office space for the department are scheduled for completion in June 2002. Proximity to Yale University offers excellent opportunities for collaboration with a broad range of plant molecular biologists. Qualified candidates must possess a Ph.D. and relevant postdoctoral experience. Please submit a curriculum vitae, a statement of professional goals and research interests, names of five references, their addresses, e-mails, and telephone and fax numbers to Dr. Neil, Department of Biochemistry & Genetics, PO Box 1106, The Connecticut Agricultural Experiment Station, New Haven, CT 06504; e-mail Neil.McHale@po.state.ct.us. CAES is an equal opportunity/affirmative action employer with a strong institutional commitment to the achievement of diversity among its faculty and staff.

POSTDOCTORAL POSITIONS

Postdoctoral Position Texas A&M University, College Station (Received 11/09)

Postdoctoral position in plant cell biology and cell biology education is open immediately. This is a research and education position in imaging the 3D/4D dynamics of plant endomembrane traffic. Background in 3D imaging, software engineering, or molecular cell biology and an interest in education and communication strategies (particularly grades 7-12) are desired. The project will investigate plant cell endomembrane traffic using real time confocal and deconvolution-based data acquisition and 3D form and motion analysis. The candidate will help develop strategies for publishing and delivering the data over variable bandwidth to grades 7-12 and undergraduate classrooms and labs. Assessment strategies for how effectively the information can involve undergraduates and grades 7-12 in research will be further developed. An opportunity for experience in teaching senior-level undergraduate cell biology is also available. This is a two-year appoint-

ment, with annual review. It is part of the NSF-sponsored Information and Technology in Science (ITS) Center at Texas A&M University. Contact Larry Griffing, Biology Department, Texas A&M University, College Station, TX 77843-3258; e-mail griffing@neo.tamu.edu.

**Postdoctoral Research Associate
University of Minnesota, St. Paul
(Received 11/19)**

A two-year postdoctoral position is available immediately to study the role and function of cytokinins in maize kernels during the early stages of development. Specifically, the research will focus on (1) characterization of the developmental and temporal regulation of cytokinins by identification of the full spectra of cytokinins (using HPLC/MS) and characterization of the activity, expression, and localization of cytokinin synthesis and catabolism genes, as basis for investigation of their metabolic regulation; (2) determining if the transient accumulation of cytokinins in maize kernels and component tissues (i.e. endosperm, embryo and pedicel) early after pollination is associated with local *de novo* cytokinin biosynthesis using *in vivo* incorporation of ¹⁵N labeled substrates and *in vitro* enzyme assays; (3) characterizing the effects of substrates and end products on regulation of cytokinin oxidase and determination of its role in down-regulation of cytokinin levels in developing maize kernels and component tissues. Molecular biology experience (northern and western blots, RT-PCR, in situ hybridization and immunolocalization) is preferred. To apply, please send a brief description of research experience, curriculum vitae (contain a list of publications) and three references to Dr. Robert J. Jones, Department of Agronomy and Plant Genetics, University of Minnesota, 411 Borlaug Hall, 1991 Upper Buford Circle, St. Paul, MN 55108. The information requested may also be sent as an e-mail attachment to jones012@umn.edu. The University of Minnesota is an equal opportunity/affirmative action employer.

**Two Postdoctoral Positions
Michigan State University, East Lansing
(Received 11/21)**

Two positions are available in the area of oilseed metabolism and genetic engineering. Postdoctoral candidates with strong backgrounds in biochemistry and/or molecular biology are encouraged to apply. Additional experience in one or more of the following

areas would be advantageous: genetics, physiology, genomics, cell biology, lipid chemistry and the engineering and/or modeling of metabolic networks. Plant metabolic engineering is a growth area in biotechnology and these positions offer an excellent opportunity to explore the interface between basic knowledge and its uses in the area of renewable resource development while working in an academic environment. Attractive salary, benefits and interactions with the Oilseed Engineering Alliance are available. See <http://www.msu.edu/user/oilseeds/>. Positions available late 2001 or early 2002. Candidates interested in applying for these positions should send a letter by e-mail to Mike Pollard (pollard9@msu.edu) or John Ohlrogge (ohlrogge@pilot.msu.edu).

**Postdoctoral Position
University of California at Berkeley
(Received 12/05)**

Postdoctoral scholars are needed to participate in on-going research, seeking to develop unicellular green algae into bio-product over-expression systems. The green algae *Chlamydomonas reinhardtii* and *Dunaliella salina* are currently used as the model organisms for mutagenesis/transformation and genetic, molecular and biochemical analyses. Over-expression of protein, pigment and hydrogen are currently of interest to the lab. Applicants should have a strong background in molecular biology, genetics or biochemistry. Experience with unicellular microorganisms or green algae is desirable but not essential. Beginning salary is \$32,000/y plus benefits. Send inquiries to Dr. Tasios Melis, Plant & Microbial Biology, University of California, Berkeley, CA 94720-3102; e-mail melis@nature.berkeley.edu. The University of California is an equal opportunity/affirmative action employer.

**Postdoctoral Position
Michigan State University, East Lansing
(Received 12/11)**

A postdoctoral position is available immediately to study the molecular genetics of flowering. Highly creative person is invited to participate in the advanced characterization of two specific genes regulating flowering in *Arabidopsis*. This project provides various opportunities compatible with a range of expertise/interests, including protein work (epitope tagging, purification, affinity chromatography), traditional genetics (mapping, enhancer/suppressor screens), and molecular techniques (RNA interference, in situ

RNA analysis). There is a significant potential for close interactions with some of the many plant scientists on the MSU campus. This is a two-year project, with opportunities for extension. Interested candidates should respond with a letter and curriculum vitae by e-mail to Dr. Steve van Nocker (vannocke@msu.edu).

**Postdoctoral Position
University of Toronto, Toronto, Canada
(Received 12/12)**

A postdoctoral position is available in *Arabidopsis* functional genomics at the Department of Botany, University of Toronto. The project involves the identification of auxin signal transduction genes in plant embryo and vascular development. Review of applications will begin in January 2002. A strong background in molecular biology, genetics, and particularly microarray transcript profiling is highly desirable. Please send curriculum vitae, publication list, and three letters of reference to Dr. Thomas Berleth, Department of Botany, University of Toronto, 25 Willcocks Street, Toronto M5S 3B2, Canada; e-mail berleth@botany.utoronto.ca.

**Postdoctoral Positions
University of Alabama, Tuscaloosa
(Received 12/12)**

Two postdoctoral positions are available to study gene expression in basal angiosperms and gymnosperms as part of a multi-institutional, NSF-funded Plant Genome Research project investigating the evolution of flowers. The work at UA will involve development and implementation of high-throughput in situ RT-PCR assays (see *Plant Physiol.* **123**, 1203; 2000) for a variety of plant species. Applicants should be interested in evolutionary aspects of plant development and hold a Ph.D. in plant molecular biology or a related discipline. Experience with in situ hybridization techniques is preferred. Additional opportunities exist for collaborative research with Dr. Victor Albert at the University of Oslo, Norway. Applicants should send a cover letter, curriculum vitae, copies of up to five relevant publications, and contact information for three references to Dr. David G. Oppenheimer, Department of Biological Sciences, University of Alabama, 301 Biology, Tuscaloosa, AL 35487-0344; e-mail oppenhei@bama.ua.edu. The University of Alabama is an affirmative action, equal opportunity employer.

Postdoctoral Position
University of Maryland, College Park
(Received 12/14)

There is an opening for a postdoctoral position to study the responses produced by hypoxic stress in detached plant organs, such as fruits, leaves, and flowers. In particular we plan to identify a putative oxygen "sensor" which appears to sense the oxygen concentration and when the latter drops below a certain level, on the one hand it suppresses the expression of genes involved in fruit ripening and on the other it induces and/or enhances the expression of anoxic proteins. Applicants for the position must have a Ph.D. in plant biology. Good skills in molecular biology techniques are a requirement. Additional skills in protein biochemistry are highly desirable. Send a cover letter and a curriculum vitae to Dr. Theo Solomos, Department of Natural Resource Sciences and Landscape Architecture, University of Maryland, College Park, MD 20742; e-mail ts22@umail.umd.edu. Starting date is immediate.

Postdoctoral Position
Estación Experimental del Zaidín (CSIC)
Granada, Spain
(Received 12/15)

A two-year postdoctoral position is offered to a European Union non-Spanish national to work in an EU project at the Estación Experimental del Zaidín, CSIC, Granada, Spain. Candidates should have experience in plant molecular biology, and knowledge of plant cell biology and biochemistry is desirable. The work will involve the cloning, sequencing, and expression of cDNAs of different antioxidative enzymes of plant peroxisomes. Some cDNAs will be used to overexpress antioxidative enzymes in *E. coli* in order to obtain high amounts of recombinant proteins. The monthly net salary is Euros 2260. To apply, please send curriculum vitae, a description of your research experience, and the names and addresses (including e-mail) of three references to Professor Luis A. del Río, Estación Experimental del Zaidín, Depto. Bioquímica, Biología Celular y Molecular de Plantas, Apartado 419, E-18080 Granada, Spain; fax +34-958-129600, e-mail ladelrio@eez.csic.es.

Postdoctoral Research Associate
USDA/ARS Western Wheat Quality Lab,
Pullman, Washington
(Received 12/17)

ARS invites applications for a research plant molecular biologist/geneticist/biochemist (plants) position. Research objectives are to identify and characterize molecular and biochemical components of wheat endosperm relating to end-use quality. Topics include, but are not limited to, identification of potential genes/loci conferring the 'Super Soft' (SS) kernel trait and development of rapid methods to recognize these genes. Ph.D. in biochemistry, molecular biology, plant physiology, food science, genetics, or a related field is required. Training and experience in molecular biology, genetics, plant transformation technology and/or enzyme biochemistry are desirable. Experience in molecular genetics of wheat end-use quality is beneficial. Salary is GS-11/12 position (\$43,326–\$56,322) will be based on qualifications and experience. For more information, contact Dr. Craig F. Morris, Western Wheat Quality Lab, Box 646394, E-202 FSHN East, WSU, Pullman, WA 99164-6394; telephone 509-335-4062, fax 509-335-8573, e-mail wwql@wsunix.wsu.edu. A résumé or curriculum vitae, with references, is acceptable for application and should be mailed to Dr. Morris. The position will remain open until filled. Candidates will be considered as applications are received. ARS is an equal opportunity provider and employer.

Postdoctoral Research Affiliate/Associate
USDA/ARS, Western Wheat Quality Lab
(Received 12/21)

ARS invites applications for a plant molecular biologist/geneticist/biochemist (plants) position. Research objectives are to identify and characterize molecular and biochemical components of wheat endosperm relating to end-use quality. Topics include, but are not limited to: identification of quantitative genes and gene products relating to the quality of wheat-based Asian foods such as noodles and steamed bread and development of methods to rapidly screen for these genes. Ph.D. in biochemistry, molecular biology, plant physiology, food science, genetics or a related field is required. Training and experience in molecular biology, genetics, plant transformation technology and/or enzyme biochemistry is desirable. Experience in molecular genetics of wheat end-use quality is beneficial. Salary for this GS-9/11 position (\$35,808–\$56,322) will be based on qualifications and experience. For

more information, contact Dr. Craig F. Morris, Western Wheat Quality Lab, Box 646394, E-202 FSHN East, WSU, Pullman, WA 99164-6394; telephone 509-335-4062, fax 509-335-8573, e-mail wwql@wsunix.wsu.edu. A résumé or curriculum vitae, with references, is acceptable for application and should be mailed to Dr. Morris. The position will remain open until filled. Candidates will be considered as applications are received. ARS is an equal opportunity provider and employer.

Postdoctoral Position
University of North Texas, Denton
(Received 12/17)

A postdoctoral position is open immediately in an NIH-funded interdisciplinary program aimed at identifying plant-derived lipids with potential for development as analgesics. This research stems from the recent discovery of lipid compounds in seeds of higher plants that interact with the endocannabinoid signaling pathways of vertebrates. This represents an excellent opportunity to work at the interface of phytochemistry and neuroscience (<http://www.cnns.org/>). A Ph.D. in plant biochemistry or related discipline with a strong background in analytical chemistry is desired. Please send curriculum vitae and three letters of recommendation to Kent D. Chapman, University of North Texas, Department of Biological Sciences, PO Box 305220, Denton, TX 76203-5220; e-mail chapman@unt.edu.

Postdoctoral Position
Oklahoma State University, Stillwater
(Received 12/21)

A postdoctoral position is available at Oklahoma State University in an NSF-sponsored program (<http://isotope.bti.cornell.edu>) to work on genomic analysis of water-use efficiency in tomato. The person will spend an initial period at Boyce Thompson Institute, Ithaca, NY to develop uniform protocols among several involved institutions. Responsibilities include development of mapping populations, high-throughput genotyping, fine mapping of chromosomal region(s) containing QTL for water-use efficiency using existing and new markers, and generation of near-isolines containing the target QTL. The successful candidate should have a Ph.D. degree in a discipline related to molecular biology/genetics with substantial experience working with molecular markers. The position is renewable annually for up to three and a half years contingent on funding and research progress.

Screening of applicants will begin on January 31, 2002 and continue until the position is filled. The expected starting date is March 1, 2002. Please e-mail or mail a letter describing research experience and interests, curriculum vitae, transcripts, and names, telephone numbers and e-mail addresses of three references to Dr. Bjorn Martin, Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, OK 74078; telephone 405-744-9642, e-mail bcm@mail.pss.okstate.edu or Dr. Charles G. Tauer, Department of Forestry, Oklahoma State University, Stillwater, OK 74078; telephone 405-744-5438, ctauer@okstate.edu.

Postdoctoral Positions

Washington State University, Pullman

(Received 12/24)

Applications are invited for two postdoctoral positions to join a research program funded by the NSF 2010 Project at the Institute of Biological Chemistry. This three-year study will establish the physiological functions of 248 Arabidopsis enzymes and proteins presumed to be involved in various networks of phenylpropanoid-acetate metabolism. One position requires a Ph.D. in molecular biology with expertise in protein over-expression in suitable hosts as well as in Arabidopsis transformation and/or metabolic engineering and gene expression. The second position requires a Ph.D. with extensive experience in enzyme purification and characterization. To apply, please send a brief description of research experience and interests, curriculum vitae with list of publications, and three reference letters to Dr. Norman G. Lewis, Institute of Biological Chemistry, Washington State University, Pullman, WA 99164-6340; fax 509-335-8206, e-mail lewisn@wsu.edu.

Postdoctoral Research Associate

University of Wisconsin, Madison

(Received 01/02)

A postdoctoral research associate position is available within the Maize Transformation Consortium (NSF grant #0110023). The overall goal of the project is to establish robust maize transformation technologies through the following research: Development of a routine, standard binary-based, agrobacterium-mediated maize transformation system, enhancement of transgene integration and expression, investigation of in planta germline transformation technologies, and extension of protocols to a wide range of genotypes. Candidate is to work as part of a team to

establish and optimize in vivo and in planta, *Agrobacterium*-based maize transformation systems. Investigate effects of MARs and chromatin remodeling genes on transgene integration and expression. Conduct molecular genetic and expression analysis on transgenic plants, progenies, and controls. Collect and summarize data, submit reports, and prepare results for timely publication. Basic qualifications and requirements include a Ph.D. in genetics, plant biology, molecular biology, or related field. Experience with sterile cell culture required, and *Agrobacterium*-based plant transformation preferred. Experience with cereal tissue culture a plus, but not required. Experience with Southern blot, Northern blot, and PCR assays required. Experience in molecular cloning techniques and protein analysis preferred. Candidates must be currently in the United States and available for interview. Send application to Dr. Heidi F. Kaeppler, Department of Agronomy, University of Wisconsin, 1575 Linden Drive, Madison, WI 53706. E-mail submission of application is also acceptable and can be sent to hfkaeppl@facstaff.wisc.edu.

RESEARCH/TECHNICAL POSITIONS

(Non-Ph.D.)

Research Assistant Positions

Purdue University, West Lafayette, Indiana

(Received 12/04)

Several positions are available immediately for technical research assistants to work in a plant molecular biology laboratory. The underlying theme of the laboratory is to understand the mechanism of how *Agrobacterium* genetically transforms plant cells. We are currently emphasizing identification and characterization of plant genes involved in the transformation process. In accord with these analyses, we need several additional technical research assistants to help in running an Arabidopsis reverse genetics facility, vector design and construction, cloning of plant genes, and analysis of transgenic plants. The successful candidates must have an A.B. or B.S. degree in some area of biological sciences, plus two years research experience. A M.S. degree is preferred. The positions involve sterile growth of Arabidopsis plants and plant suspension culture cells, DNA extraction, PCR and RT-PCR, and DNA blotting techniques. The successful candidates should have experience in all of these areas. Experience in fluorescence microscopy, in situ hybridization, and in situ RT-PCR is also desirable. Salary will be commensurate with

experience. All candidates, including international candidates, must currently be in North America and available for a personal interview. Please send your curriculum vitae and three letters of recommendation to Dr. Stanton B. Gelvin, Department of Biological Sciences, Purdue University, West Lafayette, IN 47907-1392; telephone 765-494-4939, fax 765-496-1496, e-mail gelvin@bilbo.bio.purdue.edu. Purdue University is an affirmative action/equal opportunity employer.

ASSISTANTSHIPS, FELLOWSHIPS, INTERNSHIPS

Graduate Research Assistantships

Louisiana State University, Baton Rouge

(Received 11/06)

Research assistantship positions to support graduate study leading to a Ph.D. degree in plant molecular biology will be available starting the fall semester of 2002 in the Department of Plant Pathology and Crop Physiology at Louisiana State University and LSU Agricultural Center. Particular areas of training emphasis include studies of gene regulation in transgenic rice, protein structure/stability relationships and transcriptional regulation of bean and rice seed storage proteins. Please refer to our recent publications; Dyer et al., Protein Chem. **14**, 665-678, 1995; Kawagoe et al., Plant J. **5**, 885-890, 1994; Zheng et al., Plant Physiol. **109**, 777-786, 1995; Sen et al., Transgenic Research **2**, 21-28, 1993. Research assistantships are available from the Department of Plant Pathology and Crop Physiology. Other fellowships are available from the LSU Board of Regents Graduate Fellowships in Agricultural and the LSU Alumni Federation Graduate Fellowships. Stipend ranges from \$13,000 to 18,000 annually. Research facilities include state-of-the-art equipment for molecular and cellular biology, biochemistry, biophysics and computation. Candidates should have a strong background in molecular biology, genetics, plant physiology, biochemistry, or related fields. Please submit a letter of interest, résumé, undergraduate and graduate transcripts, and GRE/TOEFL scores and arrange to have three letters of reference sent to Dr. Norimoto Murai, Department of Plant Pathology and Crop Physiology, Louisiana State University and LSU Agricultural Center, Baton Rouge, LA 70803-1720; telephone 225-578-1380, fax 225-578-1415, e-mail nmurai@lsu.edu.

Graduate Research Assistantship
The Ohio State University, Columbus
(Received 11/15)

A research assistantship is available in the Department of Horticulture and Crop Science for a student pursuing a Ph.D. in the area of physiology and molecular biology of flower senescence. The successful applicant will join a research team investigating the molecular mechanisms underlying flower senescence in petunia. The goal of the research program is to identify genetic targets that can be used to delay flower senescence and thereby increase the horticultural performance of ornamentals. Research will utilize a genomic approach to identify senescence up regulated genes that will subsequently be characterized to determine their role in the initiation and execution of the senescence program in flowers. Biochemical and morphological characteristics of programmed cell death will also be investigated in ethylene sensitive and insensitive petunia lines to determine the role of the plant hormone ethylene in the regulation of senescence. The assistantship is available for summer or fall 2002. Online applications are available at <http://gradapply.osu.edu/>. Please send three reference letters and letter of intent describing research interests and goals to Graduate Studies Chair, Horticulture & Crop Science, 216 Howlett Hall, 2001 Fyffe Court, Columbus, OH 43210. Questions about the position should be addressed to Dr. Michelle L. Jones, telephone 330-263-3885, e-mail jones.1968@osu.edu.

Fellowships
Texas A&M University, College Station
(Received 11/28)

Texas A&M University is pleased to announce newly established fellowships in Plant Genomics, making possible the award of multiyear funding opportunities for outstanding candidates for graduate study. Plant Genomics is a graduate training program administered by faculty members from seven departments emphasizing formal academic education and research training on contemporary topics ranging from gene expression to quantitative biology using genomic

tools. Entering students are awarded program fellowships and rotate among laboratories sharing their area of interest during the first year to gain familiarity with faculty and ongoing research programs. Funding for subsequent years comprises a combination of fellowships and research and teaching assistantships to provide a comprehensive educational experience. Degree programs are developed jointly between students and their faculty advisory committee, affording flexibility in academic preparation for professional careers. Enrichment activities include outstanding seminar series in genetics, biology, and biochemistry and professional enhancement scholarships to attend scientific meetings. The financial support package includes a year-round monthly stipend, waiver of out-of-state tuition, and comprehensive health care coverage for students and their dependents. Current stipends are \$20,000 for outstanding Ph.D. student candidates. The deadline for application is March 1, 2002. For information about the training program, please contact Dr. Z. Jeffrey Chen c/o Judy Pruitt, Plant Genomics Graduate Training Program, MS 2474, Texas A&M University, College Station, TX 77843-2474; e-mail zjchen@tamu.edu or jpruitt@taexgw.tamu.edu. A list of faculty participants and their research interests is shown below. Jeffrey Chen, Plant functional genomics, epigenetic regulation of gene expression; Timothy Hall, Gene transfer and expression in higher plants, rice biotechnology; Carol Loopstra, Tree genomics, gene expression and function of wood development; Thomas McKnight, Protein secretion in plants, plant genome organization and evolution; John Mullet, Functional genomics of plant stress and development; William Park, Gene expression in storage tissues, rice genomics; Alan Pepper, Comparative genomics of plant development; Dorothy Shippen, Telomerase function and plant genome integrity; David Stelly, Molecular cytogenetics, comparative genomics in plants; Terry Thomas, Functional genomics of plant development and environmental controls; Claire Williams, Pine genome evolution, quantitative genetics; Hongbin Zhang, BAC construction, genome assembly, and gene discovery.

Fellowships
Texas A&M University, College Station
(Received 11/30)

Texas A&M University is pleased to announce newly established fellowships in molecular and environmental plant sciences, making possible the award of multi-year funding opportunities for outstanding candidates for graduate study. MEPS is an intercollegiate program administered by a 50-member faculty from nine departments emphasizing formal academic education and research training on contemporary topics ranging from gene function and regulation to ecology. Entering students are awarded program fellowships and rotate among laboratories sharing their area of interest during the first year to gain familiarity with faculty and ongoing research programs. Funding for subsequent years comprises a combination of fellowships and research and teaching assistantships to provide a comprehensive educational experience. Degree programs are developed jointly between students and their faculty advisory committee, affording flexibility in academic preparation for professional careers. Enrichment activities include an outstanding seminar program, professional enhancement scholarships to attend scientific meetings, and a graduate student club. The financial support package includes a year-round monthly stipend, waiver of out-of-state tuition, and comprehensive health care coverage. Current stipends are \$15,000 for M.S. and \$16,500 for Ph.D. students, with opportunities for additional funding and complete tuition offset for truly outstanding candidates. The deadline for application is March 1, 2002. For information about the MEPS graduate program, visit our web site at <http://meps.tamu.edu/> or contact Chair, MEPS Program, Department of Soil & Crop Sciences, Texas A&M University, College Station, TX 77843-2474. AA/EOE.

Graduate Student Openings
McGill University, Montreal Canada
(Received 12/05)

Graduate student openings are available to investigate genome evolution in natural populations and in model systems (*Arabidopsis thaliana* and rice). Ongoing projects include the role of transposable elements in genome evolution and mutation, population level studies of genomic diversity, and rice comparative genomics. The Biology Department at McGill University (Montreal, Canada) is especially well equipped for studies in plant biology and molecular genetics. The department has a state-of-the-art plant growth facility (the McGill Phytotron) and is the recipient of recent Canadian Foundation for Innovation awards for laboratory facilities in plant genomics. More information is available on our web sites at <http://www.mcgill.ca/biology/faculty/schoen> and <http://www.tebureau.mcgill.ca/>. Interested students should contact Dr. Daniel J. Schoen (dan.schoen@mcgill.ca) or Dr. Thomas E. Bureau (thomas_bureau@maclan.mcgill.ca), Department of Biology, McGill University, 1205 Avenue Dr., Penfield, Montreal, PQ H3A 1B1 Canada.

Ph.D. Graduate Assistantship Position
Michigan State University, East Lansing
(Received 12/11)

Positions are available immediately to study the molecular genetics of flowering. Highly creative person is invited to participate in the advanced characterization of genes regulating flowering in *Arabidopsis*. This project provides various opportunities compatible with a range of expertise/interests, including protein work (epitope tagging, purification, affinity chromatography), traditional genetics (mapping, enhancer/suppressor screens), and molecular techniques (RNA interference, in situ RNA analysis). There is significant potential for close interactions with some of the many plant scientists on the MSU campus. Graduate students may enroll in the Program in Genetics, Cell and Molecular Biology, Plant Breeding and Genetics, or Department of Horticulture (more info: see <http://www.msu.edu/user/gradschl/plantsci.htm>). Interested candidates should first respond with a letter by e-mail to Dr. Steve van Nocker (vannocke@msu.edu).

Graduate Fellowships
City University of New York, Bronx
(Repeat)

For information, contact Dr. Eleanore Wurtzel, Chair, Plant Sciences Ph.D. Program, Department of Biological Sciences, Lehman College, CUNY, 250 Bedford Park Blvd. West, Bronx, NY 10468; telephone 718-960-8643, fax 718-960-7348, e-mail etwlc@cunyvm.cuny.edu. (Details November/December 2001 *ASPB News*)

Graduate Fellowships and Assistantships
Michigan State University, East Lansing
(Repeat)

Contact Ms. Judy Ward, The Graduate School, Michigan State University, 118 Linton Hall, East Lansing, MI 48824; telephone 517-355-0301, e-mail wardj@msu.edu, or visit the MSU Plant Science Web Page at www.msu.edu/user/gradschl/plantsci.htm. (Details November/December 2001 *ASPB News*)

Graduate Assistantship in Horticulture
University of Florida, Gainesville
(Repeat)

Contact Bala Rathinasabapathi, Ph.D., Assistant Professor, Horticultural Sciences Department, University of Florida, PO Box 110 690, Gainesville, FL 32611-0690; telephone 352-392-1928 x 323, lab phone 352-392-3991, fax 352-392-5653, e-mail brath@mail.ifas.ufl.edu, web site <http://www.hos.ufl.edu/sabaweb/>. (Details November/December 2001 *ASPB News*)

Graduate Assistantships
University of Florida, Gainesville
(Repeat)

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 rgoetz@ufl.edu. (Details November/December 2001 *ASPB News*)

Ph.D. Assistantships
Pennsylvania State University, University Park
(Repeat)

Contact Jonathan Lynch, Department of Horticulture, Pennsylvania State University, University Park, PA 1680; telephone 814-863-2256, e-mail JPL4@psu.edu. (Details November/December 2001 *ASPB News*)

ASPB Headquarters

Telephone Extensions and E-Mail Directory

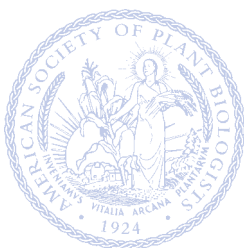
For your convenience, keep this listing of extension numbers and e-mail addresses handy when you contact ASPB headquarters so that you can reach the person best able to assist you.

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Subscriptions, individual					●											
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Disposition of a manuscript															●	●
All other questions												●				
<i>The Plant Cell</i> (except missing issues)																
Disposition of a manuscript														●		
All other questions										●						
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Address changes					●											
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Membership problems					●											
Accounts payable			●													
Accounts receivable				●												
Accounts payable/receivable problems		●														
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