

ANNUAL SPORE PRINTS

NEWSLETTER

1999

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<http://www.ppath.cas.psu.edu>

210 Buckhout Laboratory
The Pennsylvania State University
University Park, PA 16802

Greetings alumni, faculty, staff and students:

As the new Millennium approaches, it is my privilege as chairperson of the DAIR--Departmental, Alumni, Intercollege, Relations Committee--to make this opening address and congratulate all of you for your excellent representation of our department's commitment to extension, research, and education, both within, and outside of Penn State. The department of Plant Pathology at Penn State is continuously striving to improve its capacity in these three components of our mission.

The recent hiring of Dr. David Beyer as Extension Mushroom Specialist, and Dr. Wakar Uddin in Turf Grass Disease Management complement existing extension programs. Four additional new faculty members - Drs Seogchan Kang (Evolution of Host Specificity Genes), David M. Geiser (Director of the Fusarium Research Center), Timothy W. McNellis (Plant Bacteria Interactions), Gretchen Kuldau (Mycotoxicology, due to arrive Jan 2000) increase the strength of the research/teaching team of the department.

Current research and extension in Plant Pathology at Penn State is, as always, diverse. The range includes (but is not limited to) insect transmission of plant viruses, air pollution impacts on plants, disease studies focusing on vegetables, turf, mushrooms, fruit and forest crops; root biology, bacteriology, systematics and molecular evolution of fungal plant pathogens. By visiting our website, <http://www.ppath.cas.psu.edu>, you can learn details of the entire gamut of research and extension Plant Pathology programs ongoing at Penn State.

The recent funding of a state-of-the-art Core Equipment Facility exemplifies the department's commitment to a "cutting edge" plant pathology research and teaching program. The 1998-1999 school year brought the addition of 14 new graduate students from around the world for a total of 23 students currently working in the department. In addition, with the advent of an interdisciplinary B.S. degree program, Agroecosystems Science, undergraduate students have the option of obtaining a Plant Pathology Minor. What an exciting time to be a Plant Pathologist at Penn State!

This is our department's first newsletter in over a decade. By necessity, this issue is limited to "catching up" - bringing you a picture of the department as it exists in the summer of 1999. Thanks are extended to all those who contributed information, and apologies for being unable to include everything this time around. We hope future issues will serve to share news from many contributors on their current interests and activities. For the next issue of the newsletter, we ask for your

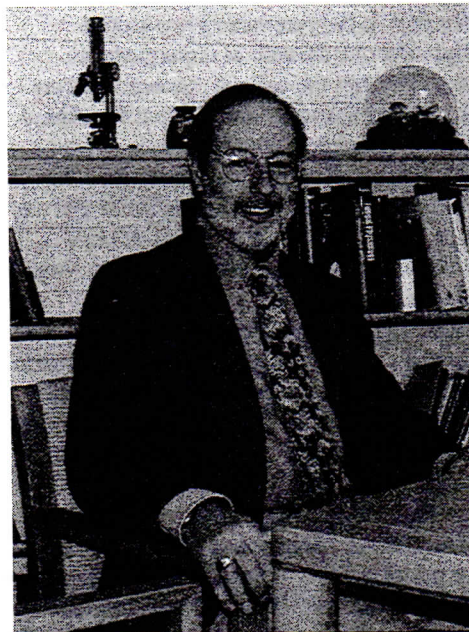
input; on the last page you will find a response sheet. What news would you like to share with your fellow Penn Staters? Do you simply want to catch up with other alumni and former co-workers? Are you looking for potential Post-Doctoral Associates or students? What information would you like us to bring you from the department? I look forward to your responses, and trust that all of you believe as I do, that the future of Plant Pathology is what we make it.

I want to close acknowledging the members of the DAIR Committee whose hard work and agreeable nature brought this newsletter to fruition. Judy Sinn chaired the Subcommittee made up of Nancy Wenner, Rita Smith, Dick Stevenson, Herb Cole, Wakar Uddin, Barrie Overton and myself.

Special appreciation goes to Beth Brantley and Becky Peplinski whose preliminary copy of the newsletter provided guidance to the committee.

Sincerely yours,
Dr. Felix Lukezic
Chairperson—DAIR

Message from the Department Head



The past six years have indeed been interesting, challenging, and rewarding for the department, and I will share some of this with you in this message. But before I begin, some background is in order. It has been years

since the department has produced an annual newsletter, and during this time many changes have occurred across the college and among our staff, graduate students, and faculty. Among the many changes, there has been a change in headship. In 1993, Dr. Herb Cole decided that he wanted to dedicate full time to Sustainable Agriculture and related activities, and I assumed the headship position that year. It was an honor to be elected for the position, and I cannot imagine a more rewarding experience than working with the individuals that make up this department, college, and University. Meanwhile, Herb has remained actively involved as the Northeast Coordinator for Sustainable Agriculture and as our college diplomat at large for animal- and plant-based agriculture in the Commonwealth.

The faculty continues to be very active in teaching, research, extension education, and outreach. Faculty are engaged in teaching in the Plant Pathology degree program as well as across the college and University in the intercollege graduate programs in Ecology, Environmental Pollution Control, Genetics, and Plant Physiology; the undergraduate environmental Resources Management program; and in the Life Sciences Consortium. Under the leadership of the Teaching Committee, the Plant Pathology faculty regularly discuss and evaluate the Plant Pathology graduate curriculum and undergraduate courses to ensure that our courses meet the needs of the students and our profession as our science evolves and as programs in ag production systems change. Our formal role in undergraduate education is now through the college Agroecosystems Science major, in which several of our Plant Pathology courses are either required or recommended. Wakar Uddin has provided our departmental entrée into the electronic age by developing and placing TURF 236 on the World Wide Web. Through the efforts of our faculty, Plant Pathology courses remain central to several majors. For example, Don Davis teaches an undergraduate course in Forest Pathology. Don has seen steady growth in student numbers over the past several years to the point where two sections of the laboratory are required. Fred Gildow teaches the introductory Plant Pathology course, which likewise has seen a significant increase in students; and John Skelly continues to effectively teach an undergraduate course in the Environmental Resource Management major. These courses attract students from across the college and serve our graduate program as well. Our graduate student numbers have increased as have their qualifications. The students continue to make significant contributions to the life of the department in research, teaching, and in our outreach activities. They actively serve on departmental committees, as judges in science fairs, contribute posters and papers, support the Governors School programs for gifted students, and serve as tour guides at Ag Progress

Days. Oh yes, they do attend classes and ask insightful questions that challenge the intellect.

The Plant Pathology staff continue to contribute their talents and experience to our programming in research, teaching, and extension education and outreach. Under the leadership of the departmental Staff Advisory Committee, which was established in 1997, the staff actively participate in Strategic Planning and other affairs of the department. The department staff development fund and support from faculty supervisors has enabled many of our staff to travel to national and international meetings and workshops, where they learn new techniques and share information with others in their fields.

The traditional sources of internal Federal funding for the College of Agricultural Sciences continue to diminish. Faculty have responded by seeking extramural funds through state agencies, commodity groups, and through competitive Federal granting agencies. The level of competitive grants, contracts, and gifts obtained by the faculty has grown dramatically over the past decade. One significant outcome of this trend is that we now have a number of postdoctoral associates and graduate students supported on grants. Our 23 graduate students and 10 post-docs come from the United States and countries around the world, including China, Ireland, Colombia, Norway, India, Costa Rica, Italy, Iran, Peru, Estonia, Brazil, Ecuador, and Canada. Our international colleagues add diversity and depth to the department and enrich the educational experience for us all.

The extension faculty are very active in their educational programming and adaptive research programs. I include outreach here because several of our faculty who do not have extension appointments work closely with commodity groups in turf, mushrooms, and potatoes. Individually and collectively, the extension faculty and their programs are very highly regarded for their impact across the Commonwealth and region. They are addressing problems such as green mold and Verticillium on mushrooms, odors associated with preparing mushroom compost, fire blight on stone fruits, foliar disease and decline of wine grapes, powdery scab, early and late blight of potatoes, nematode-transmitted viruses on fruit trees, improving disease control programs for vegetables, woody ornamental, and floricultural crops, and disease on corn.

The faculty continues to be active in international programs in Europe, Australia, South Africa, Central Europe, South America, and the British Isles. Win Hock heads up the pesticide education program and John Ayers administers the NAPIAP program.

A number of changes have occurred in the faculty due to retirements, resignations, and new hires. Pat Sanders and Bill Merrill have retired. Pat served the University and turf industry with distinction for years. Bill was recognized widely for his contributions to the Christmas tree industry and as an educator. New hires include Drs. Seogchan Kang (fungal molecular genetics), Wakar Uddin (turf diseases), David Geiser (Fusarium Research Center), Timothy McNellis (bacteria-host molecular genetics), and Gretchen Kuldau (mycotoxicology). The department was recently notified that it could initiate a search for a faculty person to fill a newly established position in Field Crops Extension Pathology.

As I close, I wish to express our appreciation for the support that you have shown the department over the years. When you are in the State College area please stop by to visit as you are always welcome. I wish to thank Felix Lukezic, his committee, and everyone involved in preparing this issue of "Spore Prints."

Elwin L. Stewart

Departmental Teaching Activities

The past decade has brought numerous changes and challenges to our teaching curriculum through new faculty and expanding technology and interests. **Dr. Fred Gildow** has led our introductory plant pathology course, "Microbe-Plant Interactions," since 1987. Originally team-taught with **Drs. Gary Moorman** and **Barbara Christ**, the course has evolved and intensified to reach its current format. Here, students gain an appreciation of the complexities of microbe-plant interactions through comprehensive lectures, hands-on laboratory experiments, and field trips.

In recent years, our basic pathogen courses have evolved as demands for expanded courses have increased and faculty have changed directions. **Dr. David Geiser** took over introductory mycology, a.k.a. "Biology of the Fungi," in 1998 and now teaches this expanded "hands-on" 4-credit version from a phylogenetic approach each fall. **Drs. Tim McNellis** and **Felix Lukezic** will also teach a new and expanded course in "Phytopathogenic Bacteria" in alternate years starting in spring 2000. **Dr. Pete Romaine** teaches the "Plant Virology: Molecules to Populations" course as an introduction to molecular biology, and the ecology and pathology of plant viruses. Additionally, Pete will be offering an optional advanced course, "Molecular Biology of the Virus-Plant Interaction" beginning this fall to review current literature pertaining to molecular plant virology, particularly with respect to resistance-related topics. **Dr. Don Davis** continues teaching the "Plant Disease Diagnosis Clinic" course alternate summer semesters.

His trademark field trips are still a great favorite with the students and provide a wonderful learning experience. These core courses are required for all M.S. and Ph.D. plant pathology degrees to assure that all graduate students have the opportunity to learn the biology and basic concepts of pathogenesis for each pathogen group.

Many of our faculty have added novel, revised, or expanded courses to our curriculum. **Drs. Barbara Christ** and **John Ayers** began team-teaching "Pathogen Variation and Host Resistance" in 1992 and currently offer it every other year. **Dr. Jim Travis** assumed the challenge of teaching "Plant Disease Control" in 1997 to equip students with the modern tools and management strategies necessary for successful plant production. **Dr. John Halbrecht** now teaches nematology and makes the trek from Biglerville to teach "Nematodes Causing Plant Diseases" every other spring.

Dr. Seogchan Kang developed the course "Molecular Genetics of Plant-Pathogen Interactions," which incorporates weekly lecture with an intense problem-solving laboratory experience. **Dr. Barbara Christ** also offered a fresh approach with her new "Fungal Genetics" course, a detailed study of the principles of classic genetics applied specifically to the fungal kingdom. **Dr. Gary Moorman**, too, developed an advanced graduate course last spring, "Fundamentals of Phytopathology," in which students utilize primary scientific literature to develop solid phytopathological concepts. **Dr. Don Davis** has been teaching "Forest Pest Management" since 1996, a required course for the Forestry undergraduate major. **Dr. Wakar Uddin** teaches "Turfgrass Disease Diagnosis and Management" in PSU's internationally known 2-year certificate program designed for professionals in the turfgrass industry. **Dr. Uddin** has developed an undergraduate course in plant pathology, "Turfgrass Disease Management" (PPATH297A), which is scheduled for Spring 2000. In cooperation with **Drs. Gregory Hoover** and **Paul Heller** of the Department of Entomology, **Dr. Uddin** has launched an online course on the Internet, "Turfgrass Pest Management", in the Fall of 1999. This is part of the Penn State's WorldCampus(www.worldcampus.psu.edu) program which is currently online. In 2001, the plant pathology component of the course will become a separate and first plant pathology course online from Penn State.

Many of our faculty contribute to interdisciplinary teaching programs, and often cross-list their courses in Plant Pathology. **Dr. Eva Pell** has been the chair and advisor for the Plant Physiology major since 1996. In 1998 she was also Co-chair of the Ecological and Molecular Plant Physiology option in the Integrated Biosciences Graduate Program of the Life Science

Consortium. **Dr. Pell** and **Dr. Hector Flores** have both participated in the plant pathology and plant physiology curricula, with Hector teaching "Plant Biotechnology" and "Science and Creativity" under both headings in addition to his "Seeds of Change" plant pathology course. Dr. Pell has contributed in the Environmental Resource Management program by teaching "Pollution Impacts on Plants," as has **Dr. John Skelly** with his course, "Air Pollution Impacts to Terrestrial Ecosystems", both courses are cross-listed in Plant Pathology.

Dr. Felix Lukezic has been teaching "Principles of Plant Science Research," and a course on ethics and issues in agriculture for freshmen and a second course on decision making in agriculture for seniors. His enthusiastic involvement with the College's "Freshman Seminar" program has made it the most successful in the university and a model for other colleges. In 1997 the Office of Student Affairs named Felix a Faculty Associate in acknowledgement and appreciation of his dedication and commitment to provide students with a meaningful educational experience.

Some of our faculty are involved with undergraduate advising and research through the Women in Science & Engineering program (WISE). Others participate as judges for the graduate and undergraduate research fairs, and still others make time in their busy schedules to share their expertise through creative displays and other programs at various Short Courses, Ag Progress Days, the Master Gardener's Program, the PA Governors' School, and Minority Programs.

Finally, thanks to the efforts of **Dr. Fred Gildow** and the Education Committee there is a new Minor in Plant Pathology available to undergraduates as a part of the developing Agroecosystems Sciences curriculum. This new College interdisciplinary B.S. degree program allows undergraduates selecting the plant pathology minor to fulfill the required 19 minor credits from a list of plant path. course selections. We look forward to seeing these students in Buckhout and engaging them in undergraduate research projects. The Department's Education Committee remains very active in keeping track of our students' needs as our department grows and evolves in our rapidly changing academic environment.

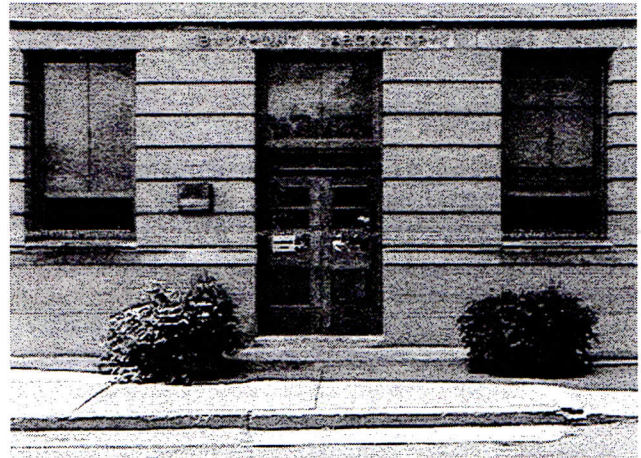
In 1991, an endowed "**Plant Pathology Graduate Studies Enhancement Fund**" was established and formally accepted by Penn State and its Board of Trustees. The creation of the fund was made possible through the collective contributions of alumni and friends of the Department. Annual proceeds are used to enhance the graduate studies program in Plant Pathology and to recognize outstanding academic achievement by

graduate students. In 1998, the earnings generated by the fund made possible the addition of new computer equipment to the graduate student offices.

A special **thank you** goes out to all of the alumni and friends of the Department whose gifts make this endowment possible.

Plant Pathology Physical Resources

If you haven't visited Buckhout in the last 10 years, you are in for a surprise! Major renovations in 1990 and personnel relocations have changed the face and function of our building. Botany was relocated before renovation, and after months of shuffling projects and equipment, tons of concrete rubble, and cascades of drywall dust, a shiny "new" Buckhout emerged which now houses nearly all plant pathology faculty under our new roof. Gone are the commutes to outlying offices and labs at such locations as the Headhouse 4 and Research C!



Alumni remembering their basement graduate student accommodations will be glad to hear that current students now occupy newly furnished and sunlit offices on 3rd floor. Our stockroom remains in the basement, condensed and efficient under the supervision of Teresa Shirk who, as our facilities coordinator, now also keeps all of Buckhout and equipment in tip-top shape.

Many improvements have been made to Buckhout Lab in the years since 1990 as well. Visitors will find that new doors have been installed on all entrances, including a handicap accessible door on the west wing entrance. New planters now mirror the east entrance and a new and larger, non-keyed elevator with handicap access was installed in 1998. Other less obvious improvements have been a new roof, renovated cold rooms and rooftop still, and water filtration system.

Many laboratory and equipment rooms have been modernized to adapt to our changing requirements and new faculty interests. Teaching, seminar, library, and

conference rooms have been upgraded, and the conference rooms now contain conference-call capabilities. Other spaces have been developed and are being used much more efficiently. In addition to our graduate student offices, we also dedicated new office space in 1998 to house our rapidly increasing numbers of Post Docs and Visiting Scientists. We developed a graphics-media room, equipped with Mac and PC computers, three slide-makers, a flatbed scanner, and CD burner. Other new equipment such as teaching microscopes, digital camera, camcorder, and powerbook with LCD projector has enhanced the department's presentation capabilities and quality.

As mentioned in Dr. Lukezic's introduction, the 1998 installation of the departmental "Core Facility" on 4th Buckhout has been a major step in advancing the teaching, research and collaborative capabilities for many of our faculty. The facility houses an ABI 377 automated DNA Sequencer, a Strategene Gel Documentation System, 2 Sorvall Centrifuges, a Perkin-Elmer Bioassay Reader, a Beckman Spectrophotometer, and a 2nd Millipore Water System. This facility allows our department dedicated use of these wonderful tools for DNA sequencing and other molecular biology and biochemical techniques.

Buckhout is now part of the global workplace with Internet access and networking capabilities widely available since installation of the computer backbone system. We invite friends and alumni to visit us, either in "real time" or in virtual reality through our web page! <http://www.ppath.cas.psu.edu>

Many of the departmental facilities beyond Buckhout lab have also had notable changes and improvements in recent years. **Thomas Rhodes** has assumed the responsibility of managing the day-to-day operations of both the Mushroom Research Center (MRC) and the Mushroom Test-Demonstration Facility (MTDF). The retirement of **Harry Muthersbaugh** and **Jim Spicer** from the MRC and the departure of **Linda Scibilia** at the MTDF, created management challenges at the two facilities. In 1994, administrative responsibility for the MTDF was transferred to **Dr. Elwin Stewart** in Plant Pathology. The MTDF continues to operate as a self-supporting college-wide facility.

Although we no longer utilize the little "Botany" greenhouse adjacent to Buckhout, we acquired increased campus greenhouse space and facilities, which were newly renovated in 1998. These updated greenhouses have a computer-monitored environmental system, air conditioning, and air-sealed doors. The headhouse area has a fire safety sprinkler system, increased counter work space, new pesticide storage area, and soil mixing and storage areas.

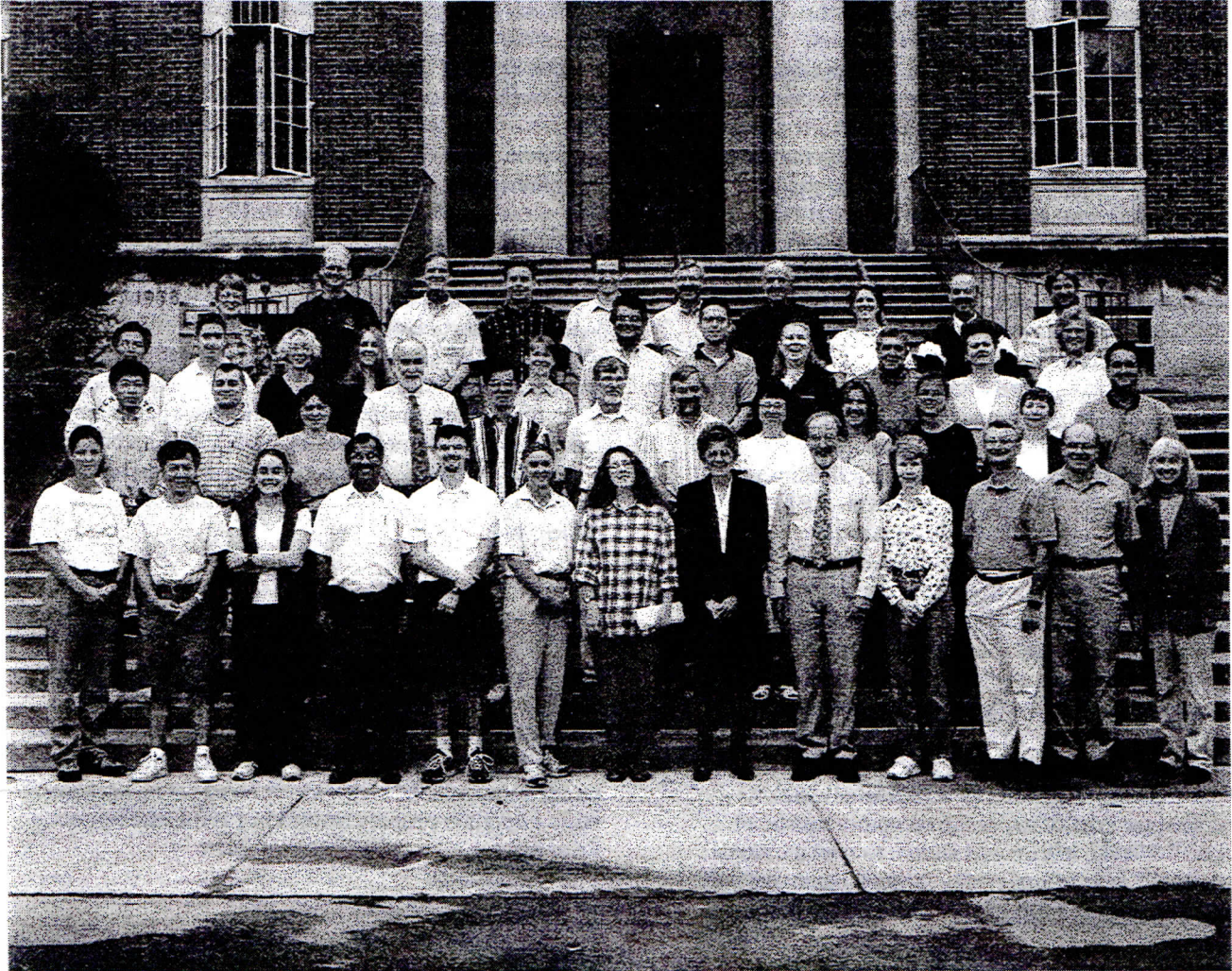
The Rock Springs Plant Pathology Farm, now known as part of the "Russell Larson Agricultural Research Center at Rock Springs" has also benefited through the years with expanded acreage and upgraded facilities. Most visitors will notice the newly blacktopped access road, equipment and vehicle upgrades, and the 1997 greenhouse improvements. **Randy Dreibelbis** became part of the permanent farm staff in 1998 and now assists **Larry Jordan** in management of the daily plant pathology farm activities. Increased field research has necessitated the lease of land from the Campbell farm land for several years. Currently, a Letter of Agreement with the USDA allows Plant Path to manage and utilize parts of the USDA farm as well. The access to these 60 acres of irrigated land so close to the Plant Path. farm is a great help to many projects. In 1998, PSU purchased the Harry Peters farm and these 100 acres should allow additional field plot studies useable in the new millennium.

Who's Who around Buckhout Lab.....

The Plant Pathology website is a great place to discover details of departmental programs and the faculty who make them run. Yet, there are individuals working with the faculty who haven't yet "hit the web". Please read up on the faculty on the web, but read here for an account of other important people involved in Plant Pathology at Penn State.



Office Staff: Front row: Becky Peplinski, Teresa F. Shirk. Back row: Susanne Hart, Rita M. Smith, Jean Bloom, Heather Rhodes.



August 26, 1999

Department of Plant Pathology personnel: photo taken on Ferguson Building steps

(left to right)

bottom row: Holly Chamberlain, Zhaowei Liu, Priscila Chaverri, Ramanjulu Valluru, Stefano Costanzo, Barbara Christ, Cory Sica, Jean Bloom, Elwin Stewart, Jean Juba, Fred Gildow, Gary Moorman, Becky Peplinski

second row: Qing Shen, John Pecchia, Nancy Wenner, Felix Lukezic, Seogchan Kang, Alan MacNab, Jim Travis, Fran Moorman, Gro Torsethaugen, Cosima Weise, Teresa Shirk, Mike Peck

third row: Weimin Gao, Ewen Mullins, Merrilee Anderson, Heather Rhodes, Jennifer Miller, Wakar Uddin, David Geiser, Rita Smith, Larry Jordan, Vija Wilkinson, Shirley Gryzcuk

top row: Susanne Hart, Philip Northover, John Peplinski, Patrick Collopy, Tim McNellis, Win Hock, Herb Cole, Judy Sinn, John Skelly, Randy Dreibelbis

POST-DOCTORAL ASSOCIATES AND VISITING SCIENTISTS



left standing: Zhaowei Liu, Ewen Mullins, Gro Torsethagen, Jose Sanchez-Vazquez, Xiaoping Xue, Gnana A. Viji, Xi Chen, Manuel Ospina-Giraldo, Ramanjulu Valluru.

seated: Svetlana Luk'yanova

Xi Chen (Ph.D., Penn State). After completing her graduate studies in 1998, Xi took a research position in the lab of Dr. Pete Romaine. She is currently working to develop a transformation system for *Agaricus* mushroom using *Agrobacterium*.

Payam Fallah (Ph.D., University of Illinois). Stationed at the USDA Lab in Beltsville, Payam is working with Dr. Gary Samuels and Dr. Elwin Stewart on an NSF Partnerships Enhancing Expertise in Taxonomy (PEET) grant monographing the *Hypocreales*.

Philip Jensen (Ph.D., Michigan State). Phil comes to Penn State from Indiana University, Bloomington. He is working with Dr. Eva Pell and Dr. Ming Tien (MCB), using antisense *Arabidopsis* plants to examine potential protective function of methionine sulfoxide dismutase during ozone stress.

Zhaowei Liu (Ph.D., South Dakota State University). Zhaowei is working with Dr. Barbara Christ, investigating the molecular genetics of late blight resistance in potato.

Svetlana Luk'yanova (Ph.D., Ukrainian National Technical University). Since June of 1998, Svetlana has worked with Dr. Eva Pell, investigating the effects of ozone on amino acid composition in leaves and sap of hybrid Poplar. She is on sabbatical from her position as a lecturer in the Department of Chemical Technology at the Ukrainian National Technical University.

Ewen Mullins (Ph.D., University College Cork, Ireland). Ewen comes to the department via the USDA-ARS lab in Orlando. He joined Dr. Seogchan Kang's lab in March of 1999, and is working to manipulate the avirulence genes of *Magnaporthe grisea* ('leaf blast') in order to study their function and role.

Manuel Ospina-Giraldo (Ph.D., Penn State). A native of Columbia, Manuel graduated in 1998 and has stayed on as a Post Doctoral Associate in Dr. Dan Royle's lab to research genes differentially expressed during *A. bisporus* development.

Kadri Poldmaa (Ph.D., University of Estonia). Stationed at the USDA and Mycology Lab in Beltsville, Kadri is working with Dr. Gary Samuels and Dr. Elwin Stewart on an NSF Partnerships Enhancing Expertise in Taxonomy (PEET) grant monographing the *Hypocreales*.

Dr. Raninder S. Rana began a three-month visit in Dr. Dan Royle's lab in August, 1999. He joins us from the Department of Plant Pathology, CCS Haryana Agricultural University, Hisar, India. Dr. Rana is the recipient of an FAO fellowship and will be working on *Agaricus* genetics and specialty mushroom cultivation.

Gro Torsethagen (Ph.D., University of Oslo, Norway). Gro first came to Penn State in 1996 as a visiting scientist during the course of her Ph.D. research. After completing her degree in Norway, she has returned to work with Dr. Eva Pell and Sally Assmann (Biology) on the effects of ozone on stomatal regulation.

Jose Ernesto Sanchez-Vasquez, Professor and director of the program on Tropical Mushrooms, Department of Environmental Biotechnology, ECOSUR, Tapachula, Mexico, began a one-year sabbatical in the department in August, 1998. He is working with Dr. Dan Royle on *Trichoderma* green mold of mushrooms.

Ramanjulu Valluru (Ph.D., Andhra Pradesh Agricultural University, Hyderabad, India). Ram is interested in the role of lipoxygenase in disease resistance against late blight of potato, and is working with Drs. Christ and Reddy.

Gnana Asir Viji (Ph.D., University of Madras, India). In October of 1998, Viji joined Dr. Wakar Uddin to work on blast disease which affects turf on golf course fairways, studying the epidemiology of the disease and genetics/molecular biology of the pathogen. Viji is also working on biocontrol of the disease using bacterial antagonists.

Xiaoping Xue (Ph.D., University of Regina, Canada). Xiaoping joined the department in January, 1999. He is working with Drs. Ayers, Kang, and Geiser on the development of a *Fusarium* computer database.

FULL-TIME STAFF

Jean Bloom: Staff Assistant. For the past 8 years, Jean has handled the multitude of accounting responsibilities for the department. She was instrumental in converting the departmental accounting system to the computer soon after she began working in Plant Pathology.

Randall (Randy) L. Dreibelbis: Research Support Technologist. Randy has worked in various related positions in the department since 1980. Most recently Randy was a member of Dr. Barbara Christ's crew, before joining Larry Jordan at the Rock Springs farm as "second in command".

Angela Gennaccaro: Research Technologist. Angela is a new member of the department, having joined Dr. Hector Flores' lab in Dec. 1998 when she replaced Hector's long-time assistant, **Paula Michaels**. In addition to managing Dr. Hector's lab, she is conducting research on the fungal-inhibitory effects of shikonin.

Susanne Hart: Staff Assistant. Susanne provides primary support for the Plant Pathology graduate program and maintains the department website. Susanne rejoined the department (having worked in the office several years ago) in December, 1998. Susanne achieved her 25-year anniversary with Penn State in September 1998!

Bryan Hed: Research Support Technologist. Bryan joined Jim Travis' team in April of 1999, working at the Erie Grape R & E Center, coordinating the grape disease research program. He replaced **Andy Muza**, who has taken the position of Erie County extension agent.

Larry J. Jordan: Manager, Farm & Greenhouse Operations

Jean H. Juba: Research Support Technologist. Since 1988, Jean has overseen the *Fusarium* Research Center, a premier collection of over 17,000 cultures from more than 100 countries. Jean first worked in the FRC under the direction of Dr. Paul Nelson, and now works with Dr. David Geiser.

Douglas Keith: Biological Technician. Doug has been an employee of the Mushroom Research Center since April of 1994. Doug's duties include assisting with preparation of mushroom substrate as well as processing

other phases of the mushroom crop, including harvesting and collecting data for research.

Jacquelyn J. Kremser: Senior Research Technologist. Jacki has worked with Dr. Dave Beyer and Dr. Paul Wuest for 2-1/2 years. She serves on the departmental social committee and also on the departmental staff advisory committee.

Roxanne J. Lease: Research Support Technologist. Roxanne has assisted Dr. Gary Moorman in his work on ornamental and greenhouse floricultural crops for the past 11 years. Prior to working for Dr. Moorman, Roxanne assisted in several other departmental programs, including Dr. Barbara Christ's potato program and Pat Sanders' turf pathology work.

Joseph Martain: Biological Technician, B. Joey has been a full time employee of the Mushroom Test-Demonstration Facility since March of 1993. Joey's duties include assisting in processing and preparation of all phases of mushroom production. In addition, Joey harvests mushrooms and assists in data collection, as well as the sale and delivery of mushrooms produced at the MTFD.

Fran Moorman: Senior Research Technologist. For the last two growing seasons, Fran has diagnosed diseased commercial turf samples sent in to the Plant Disease Clinic. For the past year, she has also worked with Dr. Wakar Uddin, primarily studying *Pyricularia grisea*, the gray leaf spot pathogen.

Mike Peck: Research Support Technologist. In 1982, Mike joined the Plant Pathology farm crew as a Research Technician. Three years later, he took his current position overseeing the operation of Dr. Barbara Christ's potato program.

John Peplinski: Coordinator, Plant Disease Clinic. John has marked nearly 23 years of service as Coordinator of the Plant Disease Clinic. He joined the Plant Pathology staff after receiving his M.S. in Plant Pathology from our department. John is responsible for diagnosing clinic samples that include field and floriculture crops, fruit, vegetables, and woody ornamentals. John has assisted Dr. Don Davis with PPATH 502, Plant Disease Diagnosis, for many years.

Becky Peplinski: Administrative Assistant. Becky joined Plant Pathology in 1971 as Extension secretary and is now administrative assistant for the department. She provides administrative support for a range of departmental functions and assists Dr. Stewart with various projects. It is notable that Becky has had the opportunity to work with all of the heads of our

department. The DAIR committee thanks Becky for her valuable assistance in getting the newsletter back in production.

Thomas Rhodes: Manager of Operations, Mushroom Test-Demonstration Facility(MTDF) and Mushroom Research Center(MRC). Tom assumed his management role at both facilities in following administrative rearrangements.

Jo Rytter: Research Support Assistant. Jo has worked with Dr. Jim Travis, coordinating all research projects with the primary focus on apple and grapes diseases for the past 11 years. She is involved in teaching various aspects of the fruits pathology program at different levels, which include extension education, involvement in departmental courses, outreach programs, Master Gardeners and the education of the general public. Jo has created and developed the Fruit Pathology Website, which can be reached at: <http://fpath.cas.psu.edu/>

Bill Sackett: Research Support Technologist, Dr. Fred Gildow. Bill received his B.S. and M.Ed. degrees from Penn State. He worked for Dr. Felix Lukezic from 1989-1997 in the Phytobacteriology Lab on various bacterial plant diseases and on biocontrol of plant diseases with predatory bacteria and other biological agents. He currently works for Dr. Fred Gildow on aphid-vectored virus diseases. These include Barley Yellow Dwarf Virus and Potato Leaf Roll Virus.

Henry Shawley: Biological Technician, B. Henry has been an employee of the Mushroom Research Center since December of 1996. Henry's duties include weighing material for composting and substrate preparation for Agaricus, Shiitake, and Pleurotus mushrooms. In addition, Henry harvests mushrooms and collects and enters data for research.

Teresa F. Shirk: Coordinator, Facilities, Services and Safety. Teresa joined the department in 1980, overseeing the physical resources for Buckhout Lab. She manages the general stockroom and the centralized lab glassware preparation area, as well as acting as the department contact for Safety issues, and maintenance support. Teresa currently serves on the college Safety committee.

Rita M. Smith: Staff Assistant. Rita has been with the department for 10 years as our receptionist and as the staff assistant for extension. Many of us also know Rita as the copy-machine guru. She is an enthusiastic participant in the DAIR and Social committees in Plant Pathology.

Michael D. Soika: Research Support Technologist, Turf Pathology Program. Mike coordinates the turf

pathology field research program for Dr. Uddin. He has worked in the department since 1986, working with Pat Sanders until her retirement at the end of 1995.

Daniel Wasson: Mushroom Grower/Equipment Repairer. Dan has worked at the Mushroom Test-Demonstration Facility since June of 1997. His duties include assisting in crop substrate preparation, monitoring controls and setpoints to maintain crop-growing parameters. In addition, Dan must maintain and repair equipment for processing different phases of the mushroom crop.

Vija Wilkinson: Research Support Technologist. Vija has supervised the Mushroom Spawn lab since 1986, working first with Dr. Lee Schisler, and now with Dr. Paul Wuest. Vija maintains master culture collections of a wide variety of edible mushrooms, and fills requests from around the globe for pure culture samples. She also created the Spawn Lab's web page at: <http://mushroomSpawn.cas.psu.edu/>

Several College and Regional programs are administered by Plant Pathology faculty and are currently housed in Buckhout.

NE Sustainable Agriculture Research & Education Program (SARE)

E-mail: susag@psu.edu

Penn State participates in the NE Regional SARE project which initiates and fosters state and regional programs to promote sustainable agricultural concepts and techniques. **Dr. Herbert Cole** serves as the Professional Development Coordinator for the NE region. **Dr. John Ayers** also participates as the Pennsylvania Extension Coordinator for this program.

Shirley Gryczuk: Staff Assistant, provides administrative and program support to the Northeast Region Sustainable Agriculture Research and Education (SARE) Professional Development Program and to Penn State's Sustainable Agriculture Task Force. Shirley works with Dr. Herb Cole, who is the Regional Coordinator, SARE Professional Development Program.

Pesticide Education Office

E-Mail: Pesticide@psu.edu

Penn State's Pesticide Education Office, under the direction of **Dr. Winand Hock**, provides pesticide education programs for the Commonwealth of Pennsylvania, including training for pesticide users and handlers, health personnel, farm workers and their families, students, and consumers. The programs help

farmers, businesses, and consumers better monitor how pesticides are used, and Win's staff supervise certification and training programs that ensure pesticide applicators are qualified to apply pesticides safely.

Sharon Gripp: Publications Specialist. Sharon is the editor of the joint pesticide newsletter with the Pennsylvania Department of Agriculture. She maintains the web page, and provides other writing support as needed.

William Hoffman, Senior Extension Associate. Bill coordinates the National Pesticide Impact Assessment Program. He promotes informed pesticide regulatory decisions by the federal government and keeps Pennsylvania stakeholders abreast of regulatory changes. Bill surveys Pennsylvania farm managers on pest management techniques and reports the economic impact of these techniques to the USDA and EPA as necessary.

Kerry Hoffman Richards: Senior Extension Associate. Kerry is the Pesticide Education Program's coordinator for youth and consumer education programs. She takes an active role in the development of test preparation materials, provides pesticide safety training for certification, and presents update training seminars for pesticide applicators. Kerry also develops IPM/pesticide safety curriculum for high school science and agriculture programs.

Thomas Oyler, Jr.: Coordinator, Urban Pesticide Initiative, is located at the Department of Agriculture Building in Harrisburg.

Janis Marshall: Staff Assistant. Janis is the head staff assistant for the Pesticide Education Program. She is responsible for overseeing the daily operations of the office.

Julie Watson: Staff Assistant. Julie assists Bill, Kerry, and Sharon with word processing, graphics, updating the web page, maintaining calendars, and other relevant tasks.

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REVIVAL OF THE 'SPIRIT OF BUCKHOUT'

No, the ghost of Professor Buckhout is not walking the halls of Buckhout lab. But there has been an unseen force of another sort filtering through the building. Due to our department members' diversity of interests, we may not have frequent opportunities for interaction with one another. But there has been a movement afoot to change that.

In August 1993, Dr. Elwin Stewart introduced the departmental newsletter, 'Spore Prints.' This weekly update keeps department members tuned to current issues, and lets us share newsworthy events with our coworkers.

The departmental social committee has done a tremendous job to build a spirit of camaraderie among the individuals in our building. Some recent events we have enjoyed are the Brown Bag lunches with faculty, students, staff, and post docs, the fall Welcome Breakfast, the Valentine Death by Chocolatefest, Strawberry Socials, Sundae on Tuesday Social, Holiday Luncheons at Hoss's, Pizza with a Twist Luncheons, Rock Springs Farm Tour, and Tour of the Creamery.

ANNIVERSARY AWARDS

The College of Agricultural Sciences Service Award Program recognizes employees for continuous years of service in the College. Five-year award recipients receive a Penn State Letter Opener; ten-year award recipients receive a Penn State Pewter Dinner Bell; fifteen-year award recipients receive a Penn State Pewter Plate. The twenty-year service award is a Penn State pen in a marble base; and a Nittany Lion statue is given as the twenty-five year service award. The University also traditionally awards a Penn State chair to employees who mark twenty-five years of service.

In 1999 we celebrated service award anniversaries with the following individuals:

5-Year Award

Joseph Martain, Biological Technician
Elwin Stewart, Professor and Head

10-Year Award

Hector E Flores, Professor
John M. Halbrendt, Associate Professor
Jean H. Juba, Research Support Technologist
Joann L. Rytter, Research Support Technologist

15-Year Award

Frederick E. Gildow, Associate Professor
Gary W. Moorman, Associate Professor

25-Year Award

Eva J. Pell, Professor
Thomas W. Rhodes, Manager, MTFD & MRC
Susanne Hart, Staff Assistant

STUDENT SCHOLARSHIPS AND AWARDS

Each year, deserving students are awarded scholarships through the department in recognition of their academic and research achievements.

One of the awards, **The Howard J. Miller Endowed Grant-in-Aid** was established in memory of Dr. Harold J. Miller, Class of 1942, to recognize plant science undergraduate students who show outstanding potential. The Miller endowment for 98/99 was awarded to **Matt Taylor**, a Horticulture major enrolled in the Plant Science option of the new Agroecosystems Science program.

The most recent recipients of the following graduate student awards are noted in the bios in a later section of the newsletter.

The Lester P. Nichols Memorial Award is presented in recognition of outstanding accomplishments by a graduate degree candidate in Plant Pathology. This endowed award was established by alumni, family, and friends of Lester P. Nichols, Extension Plant Pathologist from 1948-1982.

The Henry W. Popp Award is presented in recognition of outstanding accomplishments by a graduate degree candidate in the Department of Plant Pathology. This award was established by Mary Jean Popp Smeal and Frank P. Smeal in honor of Dr. Henry W. Popp, Head of the Department of Botany and Plant Pathology from 1950-1958.

The L. F. Lambert Spawn Company Endowed Scholarship in Memory of James P. Roberts was established by family and friends of James P. Roberts to recognize outstanding students pursuing studies in Mushroom Science Technology in the Department of Plant Pathology.

GRADUATE STUDENTS

Buckhout is bustling with a large, busy crew of students. Here is a brief sketch of students currently enrolled in Plant Pathology graduate degree programs, as well as those advised by faculty members in our department but enrolled in interdisciplinary graduate programs.

Merrilee Anderson (Plant Pathology)

Ph.D., Dr. Paul Wuest and Dr. David Beyer: Epidemiology and etiology on the interaction of *Trichoderma harzianum* biotype 4 and the cultivated mushroom, *Agaricus bisporus*. Merrilee has her B.A. in Biology from Washington and Jefferson University, and an M.S. in Plant Pathology from Clemson University.

Awarded the Popp scholarship in 1998, she also received the Sinden Scholarship in 1997 from the American Mushroom Institute, and travel awards from APS and the College of Ag. Sciences.

Douglas Bielenberg (Plant Physiology)

Ph.D., Dr. Eva Pell: The effect of nitrogen availability upon accelerated leaf senescence in ozone stressed hybrid poplar. Douglas won a top prize for his talk at the 1999 Environmental Chemistry Symposium at PSU. He is part of an NSF "Plant Responses to the Environment" Research Training Grant, and was a recipient of a fellowship from the Graduate School at PSU in 95/96. Douglas' B.S. in Biology is from the University of Northern Iowa.

Elizabeth A. Brantley (Plant Pathology)

Ph.D., Dr. Donald Davis: Growth and sporulation of the artillery fungus (*Sphaerobolus stellatus*) in landscape wood and bark mulch. Beth's B.S. in Biology is from Stetson University and her M.S. in Forest Resource Management is from Duke University. Prior to entering PSU, she worked as an instructor at the University of Montana and as a pathologist for the USDA's Southern Region. Beth received the Nichols Memorial award in 96/97. For the last two years, she has been teaching classes at the Penn State Mont Alto campus while completing her degree.

Marcos Paz Saraiva Câmara (Plant Pathology)

Ph.D., Dr. Elwin Stewart and Dr. Mary Palm: Fungal systematics. In the 97/98 academic year, Marcos was selected to receive the Nichols Memorial award. After spending his first semesters pursuing coursework in Buckhout, Marcos took up residence at the Systematic Botany and Mycology Lab in Beltsville, MD to complete his research. His B.S. in Agronomy is from the Universidade Federal Rural do Rio de Janeiro; Marcos' M.S. in Plant Pathology was awarded by the Universidade de Brasilla.

Holly Chamberlain (Plant Pathology)

M.S., Dr. Elwin Stewart and Dr. Gary Samuels: Systematics of *Podostroma* sp. in the *Hypocreaceae*. Holly's B.S. degree in Plant Pathology and Natural Resource Management was earned at Rutgers University, Cook College.

Priscilla Chaverri (Plant Pathology)

Ph.D., Dr. Elwin Stewart and Dr. Gary Samuels: Systematics of *Hypocrea* with Green Ascospores. Priscilla's B.S. degree is in Forestry from her native Costa Rica's Technology Institute. In 1999, Priscilla received a travel award from the College of Ag Sciences.

Patrick Collopy (Plant Pathology)

M.S., Dr. Daniel J. Royse: Expressed sequence tag (EST) analysis of button mushroom (*Agaricus bisporus*) fruit-body development. Patrick joined the Royse lab after receiving his B.S. in Botany from the University of Wisconsin. In 1999, the Patrick was awarded travel support from the College of Ag Sciences.

Norman Conrad (Plant Pathology)

Ph.D., Dr. Barbara Christ: Foliar nematode of *Poa annua*. Norm has his M.S. from W.V.U. in 1981 and is county extension agent in neighboring Union County. Prior to that he worked at Clemson and Oregon State in nematology. Norm was a recipient of the 98/99 Edward L. and Dessa B. Keller Memorial Scholarship, and a national award from the National Association of Ag. County Agents for a videotape/television program he produced.

Stefano Costanzo (Plant Pathology)

Ph.D., Dr. Barbara Christ: Identification of resistance genes in potato against *Phytophthora infestans*. Stefano earned a B.S. in Agriculture at the Statal University of Milan, Italy.

Teresita Flores (Plant Physiology)

Ph.D., Dr. Hector Flores: Storage proteins from the Andean tuber crop *Oxalis tuberosa*. Tere was awarded the 1999 Evans Family award for outstanding graduate research in agriculture. Teres' previous degrees are a B.S. in Forestry Engineering from the National University of Costa Rica and an M.S. in Plant Physiology from Penn State.

Weimin Gao (Plant Pathology)

Ph.D., Dr. Seogchan Kang: Genomic organization and polymorphism of subtelomeric regions of *Magnaporthe grisea*. Weimin has his M.S. in Microbiology from Beijing Agricultural University, Beijing, China.

Rejane Guimaraes (Plant Physiology)

Ph.D., Dr. Hector Flores: Determination of defense molecules in mashua (*Tropaeolum tuberosum*) tubers. Rejane received her B.S. in Biology and M.S. in Molecular Biology from the University of Brasilia. In 1996, she received an award from ASCB.

Kelly Ivors (Plant Pathology)

Ph.D., Dr. David Beyer: Molecular characterization of the microbial diversity in commercial mushroom compost. Kelly joined our department after working at the USDA-ARS-HCRL in Corvallis, Oregon from 1995-1998. Kelly's B.S. in Bioenvironmental Science and her M.S. in Plant Pathology were both awarded by Texas A&M University.

Jeanne Jagodzinski (Environ. Pollution Control)

M.S., Dr. John Skelly: Ground level ozone transport in Pennsylvania, using back trajectory computer models to locate significant source regions of ozone. Jeanne received a Graduate Fellowship American Meteorology Society for 98/99. She earned her B.S. in Meteorology from Penn State.

Brian J. Joyce (Forestry)

Ph.D., Dr. John Skelly: Variation in relationships among water use, leaf gas exchange, and environmental parameters in black cherry trees of varying size. While completing work on his dissertation, Brian has been teaching at Montreat College, in North Carolina.

Beth Krueger Gugino(Plant Pathology)

M.S., Dr. James Travis: The identification of root pathogens associated with grapevine decline in Pennsylvania. Beth previously earned her B.S. degree in Horticulture from Penn State.

Chaoyang Li (Entomology)

Ph.D., Dr. Fred Gildow: Aphid-virus interaction, especially host factors determining transmission ability of virus. Chaoyang' B.S. and M.S. degrees in Ecology are from the Institute of Zoology, Nanjing University, China.

Jennifer Miller (Plant Physiology)

Ph.D., Dr. Eva Pell: Effect of ozone on senescence-associated gene expression and the potential role of ethylene in this process. Jennifer is currently funded by the EPA Science to Achieve Results Graduate Environmental Education Fellowship and a one year NASA Space Grant Fellowship. Jennifer won the Environmental Research Symposium in '98 sponsored by the Center for Environmental Chemistry and Geochemistry. Her B.S. in Biology is from the University of Northern Iowa.

Philip Northover (Plant Pathology)

Ph.D, Dr. James Travis: Environmental requirements for infection of grapevine shoots by *Guignardia bidwellii*, (the causal agent of black rot of grape), and spread of the fungus through the grapevine canopy. In 1997 and 1998, Phil was awarded travel grants by the College of Ag. Sciences to attend national APS meetings, and in 1998, he was awarded the department's Popp scholarship. Phil's previous degrees are a B.S. in Ecology from the University of Manitoba, and an M.S. in Plant Pathology from Penn State.

Barrie Overton (Plant Pathology)

Ph.D., Dr. Elwin Stewart and Dr. Gary Samuels: Delineating the *Hypocrea citrina* complex, a morphological and molecular phylogenetic approach to

monography. A native of Michigan, Barrie has an MS from Southern Illinois University at Carbondale. He was awarded travel support from the College of Ag Sciences in 1999. Barrie is currently working in Dr Samuels lab in Beltsville.

John Pecchia (Plant Pathology)

Ph.D., Dr. Paul Wuest and Dr. David Beyer: The use of forced air in-vessel Phase I composting systems to reduce odors associated with mushroom substrate preparation. In 1998, John was awarded the Sinden Scholarship from the American Mushroom Institute, and in 1999, the Popp scholarship. John earned a B.S. in Environmental Biology at Lock Haven University and an M.S. in Biology at Bloomsburg University. John also worked for two years in the food industry as a microbiologist and Specifications technologist prior to his arrival at Penn State.

Steve Pechous (Plant Physiology)

Ph.D., Dr. Eva Pell: Determination of the defensive signaling molecule(s) in potato tuber responses to fungal pathogens. Steve is part of "Plant Responses to the Environment" NSF research training grant. He has served as head of the GSA gardening committee for three years, and has been elected as GSA rep. to the faculty senate. Steve recently received first place in the Graduate Exhibition poster competition. His B.S. in Biology is from CSU-Sacramento.

Marcus Schaub (Ecology)

Ph.D., Dr. John Skelly and Dr. Donald Davis: Influence of soil moisture on ozone uptake and plant response seedlings as well as forest canopy trees. Marcus came to PSU after having worked in Switzerland as a Forest Engineer. His current work is being conducted in collaboration with scientists in the USA, Finland, Great Britain, Germany, Italy and Spain. Marcus' B.S. and M.S. degrees in Forestry Engineering are from the Federal Technical University (ETH) and the Federal Research Station for Forest, Snow, and Landscape Research, Switzerland.

Katerina Serlemitsos (Plant Pathology)

Ph.D., Dr. Wakar Uddin: Epidemiology of gray leaf spot (blast) of perennial ryegrass turf on golf course fairways. Katerina received her B.S. and M.S. degrees from the University of Maryland. Prior to her M.S. work, Katerina has worked for USDA/ARS in Beltsville, Maryland, as research technician for three years.

Qing Shen (Plant Pathology)

Ph.D., Dr. Dan Royse: Molecular systematics and phylogeny of *Grifola*. Prior to joining our department, Qing earned a M.S. in Microbiology at Nanking University, China.

Cory Sica (Plant Pathology)

M.S., Dr. Barbara Christ: Determination of genetic variation in North American populations of *Spongospora subterranea* f. *sp. subterranea*, the causal agent of Powdery scab in potatoes. Before joining Dr. Christ's lab, Cory earned a B.S. degree in Environmental and Plant Biology Dept. Ohio University (not Ohio State!).

Jorge Vivanco (Plant Pathology)

Ph.D., Dr. Hector Flores: Studies on the physiology and biochemistry of ribosome inactivating proteins in *Mirabilis* species, an Andean tuber crop. Among the numerous awards Jorge has received are the Popp Scholarship in 97/98, the Graduate Research Award for the Best Oral Paper at the '98 meeting of APS' Potomac division, and 2nd place in the '98 Graduate Research Exhibition at Penn State. Jorge has also been an actively involved with the journal club and DAIR committee in our department. He earned a B.S. in Agronomy at Universidad Nacional Agraria, La Molina.

Caimiao Wei (Plant Pathology)

Ph.D., Dr. John Skelly: The Influence of Lightflecks on Plant Responses to Ozone in Black Cherry, Red Maple, and Hybrid Poplar. Caimiao earned a B.S. in Botany at Zhongshan University, Guangzhou, China and an M.S., also in Botany from the South China Institute of Botany, Academia Sinica, in Guangzhou.

Stefany Weightman (Plant Physiology)

M.S., Dr. Eva Pell and Dr. Assman: Ozone interaction with guard cells and the potential signalling role of cytosolic calcium in eliciting a stomatal response. Before coming to Penn State, Stefany earned her B.A. in Botany at Rutgers University

Cosima B. Wiese (Plant Pathology)

Ph.D., Dr. Eva Pell: Effects of ozone on plant cell walls and possible implications in signaling of plant defense responses, and on leaf growth and development. Cosima was the recipient of the Popp Award in 94/95 and in 97/98 was awarded a Fulbright Fellowship for a year's study in Germany. Before beginning her current studies, she earned a B.A. in Biology and German from Bucknell University and an M.S. in Plant Pathology at Penn State.

Ruofang Zhang (Plant Pathology)

Ph.D., Dr. Barbara Chrst: Mapping early blight resistance genes in potato using AFLP's and SSR. Ruofang received her B.S in Botany and her M.S. in Plant Virus Biochemistry from the Inner Mongolia University. She worked at the Inner Mongolia Academy of Agricultural Sciences for several years before earning a second M.S. (in the Plant Breeding Dept.) at Wageningen Agric. Univ. in the Netherlands.

**PLANT PATHOLOGY GRADUATES:
May 1998 - 1999**

Congratulations to the following most recent graduates of our department:

Nora Catlin, M.S., 1999: Sources of inoculum of *Trichoderma* green mold of the cultivated mushroom *Agaricus bisporus* Lange (Imbach) caused by *Trichoderma harzianum* rafai. (Dr. Paul Wuest, advisor). In 1998, Nora was awarded the Lambert Spawn scholarship. She previously earned her B.S. in Environmental Resource Management at Penn State. Nora is pursuing a Ph.D. at U Mass, studying pathogens of cranberries in Cape Cod.

Xi Chen, Ph.D. 1998: *Trichoderma* green mold disease on *Agaricus bisporus*: Evidence for the introduction of a new genotype of the pathogen. (Dr. Pete Romaine, advisor). Before coming to Penn State, Xi received a B.S. in Plant Pathology and M.S. in Microbiology from Beijing Agricultural University. In 96/97, Xi was awarded the Lambert Spawn award, and the following year was a co-recipient of the Popp award. Xi is currently a post-doctoral associate in our department.

John Guardino, M.S. 1998: The performance, microbiology and disease suppressive nature of spent mushroom substrate used as casing for the production of the button mushroom *Agaricus bisporus*. (Dr. Paul Wuest, advisor). John received his B.A. in Cultural Anthropology from Indiana University and worked as an archeologist before changing his field of study. While pursuing his degree, he served as a member of the DAIR committee. John is presently working with Dr. David Geiser in our department.

Manuel Ospina-Giraldo, Ph.D. 1998. Molecular phylogenetic analyses of *Trichoderma* spp. associated with mushroom green mold and their relationships with biological control agents. (Dr. Dan Royse, advisor). Manuel came to Penn State after working as an instructor at the Universidad de Sucre and as a research associate at the Virology Research Unit of CIAT at Cali, Columbia. His previous degrees (B.S., Biology and M.S., Biochemistry and Molecular Biology) were achieved at the Universidad del Valle in Cali. Manuel has been active on several departmental committees. In 96/97, he was a co-recipient of the Popp Award, and in 97/98, was selected to receive the Lambert Spawn award. Manuel continues to work in our department as a post-doctoral associate.

Kyle Kouterick, Ph.D., 1999: Foliar symptoms of Birch associated with acidic fog and *Septoria betulae* Pass. (Dr. John Skelly and Dr. Stan Pennypacker, advisors).

Kyle already had earned two degrees from Penn State: a B.S. in Wildlife and Fisheries Science (minor in Environmental Resource Management) and an M.S. in Plant Pathology. Kyle was the recipient of the 1998-99 Nichols scholarship.

James E. Savage, M.Ag., 1999: Plant bioindicator responses to ambient ozone exposure in the Commonwealth of Pennsylvania: Survey results from the 1988 forest health monitoring plots and air quality monitoring sites. (Dr. John Skelly, advisor). Jim is currently the Project Coordinator for Dr. Skelly's air pollution forest effects program.

Michael Thon, Ph.D. 1998. Evolutionary relationships among members of the genus *Lentinula* and other selected basidiomycetes based on beta-tubulin and ribosomal DNA sequences. (Dr. Dan Royse, advisor). Mike was selected to be a co-recipient of the Popp award in both 95/96 and 96/97. He came to Penn State from Eastern Illinois University, where he earned a B.S. in Botany with a minor in Zoology. Since graduating, Mike has taken a post-doctoral position at The University of Kentucky in Louisville.

Tianshu Wu, M.S., 1999. Root herbivory in vitro: interaction between roots and aphids grown in aseptic cocultures. (Dr. Hector Flores, advisor). Before coming to Penn State, 'Tina' earned her B.S. in Biology from Beijing Normal University. After graduating, Tina took a position at North Carolina State University.

RETIREMENTS

The Department gratefully acknowledges the contributions of the following long-time members of the department who retired since the last newsletter:

Walter Albright- Office of Physical Plant – Walter, our janitor during the '70's & '80's is retired and lives locally. He and "Mrs. Walter" still join us for our PPath holiday luncheons. Many of our alumni appreciated Walter's presence as they 'burned the midnight oil' in Buckhout, and fondly remember "Mrs. Walters" holiday pies.

Peg Blair - Secretary B - retired from Penn State in 1988 and is enjoying retirement locally. Peg began at PSU working in various clerical wage-payroll positions from 1962 until 1976. She worked full-time in Plant Pathology from 1976 until her retirement.

Bill Brown - (a.k.a. Brownie, Commander Brown) - retired in December 1994. Bill retired from his position of Greenhouse Manager after more than 33 years in the

department. Bill still lives in Stormstown, often drops by the Rock Springs research farm to visit, and enjoys his grandchildren and golf game.

John Coppolino - John retired from Penn State on July 1, 1989. He came to PSU in 1953, and from 1976 until his retirement, he held a joint appointment with the Center for Air Environment Studies and the PPath Dept., assisting in air pollution research.

William Corl - Bill retired on March 31, 1985. Hired in 1971, Bill worked in greenhouse and field studies in PPath, and served as Supervisor of the Potato Breeding Research Facility from 1977 until his retirement.

Harold Gummo - marked 27 years of service to Penn State when he retired in 1993. Harold was a member of the crew at the Mushroom Research Center from the beginning of his career in 1966 until his retirement.

Millie Jodon - Millie retired on March 31, 1986 from her position as Research Assistant in Plant Pathology. Millie joined the department in 1967, and from 1976 until her retirement she worked in the mushroom research program and was responsible for maintaining the Penn State mushroom culture collection.

Dr. Kenneth T. Leath - Ken was an adjunct professor in Plant Pathology from 1966 to 1995. As Research Plant Pathologist at the USDA Pasture Research Lab on campus, Ken specialized in pathogens of forage legumes, primarily alfalfa. He also studied root rot complex in alfalfa and red clover, and interactions between insects and forage pathogens. Ken was a member of the graduate faculty and served on committees for several M.S. and Ph.D. students in our department.

Dr. Williaml Merrill - Professor, Plant Pathology retired May 1, 1999 after 35 years. Bill joined the department in 1962, initially pursuing Oak Wilt research. He played a leading role in undergraduate and graduate education in Plant Pathology and initiated and lead the Plant Science undergraduate major for many years. In recognition of Bill's success and love of teaching he received the University's Lindback Award for Teaching Excellence. In addition to teaching, Bill continued his research in Christmas Tree Pathology. He initiated the first Christmas tree short course in the country and completed numerous research projects and contributions on foliar diseases of conifers. Bill and his wife, Mary, plan to reside in State College through their retirement years.

Harry Muthersbaugh - Manager of the Mushroom Research Center, retired in 1995, with 25 years of service to the University. In his years at the MTRF and the MRC, Harry greatly enjoyed leading tours of the facilities, and in later years became involved with "Ag in the Classroom," the educational outreach program aimed at elementary teachers.

Patricia Sanders - retired from the faculty as an Associate Professor on December 31, 1995, after more than 21 years of service to Penn State. During her years in Plant Path, Pat studied fungicide effectiveness and resistance in turf pathogen systems, and taught courses in the 2-year turf program.

Dr. Richard Schein - Professor, Plant Pathology retired November 11, 1985. Rick came to Penn State in 1955 as an Assistant Professor specializing in plant disease epidemiology. Dr. Schein held numerous extradepartmental positions including becoming the Assistant Dean for the College of Science in 1964, the Associate Dean of the College of Science from 1965 to 1971, and the Director of Environmental Quality Programs at Penn State from 1971 to 1975. He was a Senior Research Fellow at the Agricultural University of the Netherlands. During his stay there, he co-authored a major textbook on plant disease epidemiology. He divides his time now between Illinois and State College.

Dr. Lee Schisler - Professor, Plant Pathology retired January 1, 1989. Lee joined Plant Pathology as an associate professor in 1964. A fungal physiologist, Lee was the coinventor of a delayed release supplement for mushroom compost that introduced a completely new technology to the industry. He was one of the chief planners of the MTRF and designed much of the specialized equipment there. He served on the graduate faculty, and enjoyed working with undergraduates on Special Problems; many of his former students have gone on to positions in the mushroom industry.

Jim Spicer - retired in December 1994. Jim marked 33 years of service at his retirement from his position on the crew at the Mushroom Research Center.

Kenneth Zeiders - retired as an adjunct faculty member in Plant Pathology in 1989. Ken was appointed adjunct instructor in 1960, and from 1957 until his retirement he was a Plant Pathologist at the USDA Pasture Research Lab on campus.

IN MEMORIAM

Biruta Eimanis-Ahn passed away December 1995, in Rochester, New York. Biruta received her Ph.D. from Penn State in 1961 and taught at the University of Rochester from 1963 to 1982. From 1983 to 1995 she was a full-time and part-time biology professor at Monroe Community College. Biruta is survived by her husband and two sons.

Roslyn G. Levine died January 6, 1994, in State College. Roz worked with Dr. Lukezic as a research assistant in Plant Pathology for 25 years, before retiring in 1990. Roz had many interests outside the department, including the piano and cello. She was a member of the Nittany Valley Symphony, and in 1995 the Roz Levine Memorial Chair was established in her memory. Roz is survived by her husband Leonard, and two sons.

Dr. Lowry P. Massie died in January 1995. Lowry received his Ph.D. in Plant Pathology from this Department in 1973. He had previously attended Rutgers University, earning a B.S. degree in forestry, and an M.S. degree in plant pathology. Lowry was employed by Zeneca Ag Products in Wilmington, DE at the time of his death, and he and his wife owned and operated an orchard in Huntingdon County. Lowry is survived by his wife, Judy.

Dr. Paul E Nelson died Aug. 11, 1996. He was a professor of Plant Pathology at Penn State since 1965, serving as interim department head from 1981 to 1982. He was a co-founder in 1970, with Dr. T. A. Toussoun, of the Fusarium Research Center at Penn State, which he directed until the time of his death. He gave more than 70 invited lectures at scientific meetings on the taxonomy of *Fusarium* species that infect plants and animals and was particularly in demand for his knowledge of those species of the *Fusarium* that produce toxins in grain crops. He belonged to many professional organizations, including the American Phytopathological Society and the Mycological Society of America. He received Penn State's Faculty Scholars Medal for Outstanding Achievement in Life and Health Sciences in April 1984 and the Alex and Jessie C. Black Award for Excellence in Research in April 1992.

Dr. John W. Oswald, President Emeritus of Penn State and Professor Emeritus of Plant Pathology, died February 2, 1995, at the age of 77. Dr. Oswald was Penn State's thirteenth President, and served from July 1, 1970 until his retirement in 1983.

Mary Leona Price died March 27, 1997, at the age of 79. She worked in the department as stockroom and lab attendant for 22 years until her retirement in 1982. She

was survived by three daughters, fourteen grandchildren and twenty-two great-grandchildren.

Perrina G. "Perri" Schultz died December 20, 1996 at the age of 82. Perri served as a research assistant for the Mushroom Research group from 1949 until her retirement in 1976, first with Dr. James Sinden, and later with Drs. Leon Kneebone, Lee Schisler, and Paul Wuest. She was an honorary member of the American Mushroom Research Project. Perri was very active in our community, as a member of the Nittany Lion Club, Center Community Hospital Auxiliary, Our Lady of Victory Catholic Church, the Catholic Golden Age Society, and the Protective Order of the Elks Auxiliary.

Bob Struble died July 25, 1998 at the age of 86. Bob had been a greenhouse supervisor for the department for 38 years, retiring on March 31, 1981. He was a Houserville native, a veteran of WWII and an avid hunter and fisherman. Bob was survived by 5 children and 12 grandchildren.

Dr. C. Lee Campbell, Professor of Plant Pathology, North Carolina State University, died of a stroke on 13 July 1999 at the age of 46.

Charles Lee Campbell was born in Denver, CO on 5 July 1953. Following graduation from Englewood High School in 1971, he received three degrees in Plant Pathology. He graduated "With Highest Distinction" when he earned the Bachelor of Science degree in Plant Pathology at the Colorado State University, Ft. Collins in May 1974. In June 1974 Lee joined the Department of Botany and Plant Pathology at Colorado State University and under the direction of Dr. Jack Altman, received the Masters of Science degree in Plant Pathology in May 1976. While at the Colorado State University, he also pursued extensive studies in German.

In 1976 Lee joined the Department of Plant Pathology at The Pennsylvania State University and under the direction of Dr. S. P. Pennypacker, received the Doctor of Philosophy degree in May 1979 in Plant Pathology with a minor degree in Statistics. The research portion of his graduate work focused on the epidemiology of hypocotyl rot of snapbean. During his tenure as a graduate student at Penn State, his love of the history of our science and knowledge of the German language was clearly demonstrated when he translated *The Fischer-Smith Controversy: Are There Bacterial Diseases of Plants? 1899.* by Alfred Fischer and Erwin F. Smith. Lee published that translation as a Phytopathology Classic in 1981.

Immediately following graduation from Penn State, Lee accepted a position as Assistant Professor in the

Department of Plant Pathology at North Carolina State University, Raleigh. His research interests during his tenure at NCS continued to be in the areas of experimental design, disease detection, and comparative botanical epidemiology.

Lee was the author of numerous scientific publications and book chapters. He was co-author of three textbooks: *Introduction to Plant Diseases: Identification and Management*; *Introduction to Plant Disease Epidemiology*, and *The Formative Years of Plant Pathology in the United States* which, "...describes more completely than ever before, the history of where and how the scientific interest in plant disease arose and was developed."

During his relatively short 20-year tenure at NCS, Lee was recognized for his outstanding teaching, research, and service provided to both the Department of Plant Pathology and the university at large.

Lee was a member of many National Honor Societies and Professional Societies and received several awards for his contributions to the profession of plant pathology. He was a very active member of the American Phytopathological Society for which he served as Editor-in-Chief of *Phytopathology NEWS*. His leadership abilities were recognized early in his career and while serving on many committees of our society he was elected to serve as President of APS in 1997. Lee was among the youngest leaders we had in the history of our Society.

In addition to his leadership abilities, Lee will be remembered for his teaching and profound interest in the history of plant pathology; and, the lectures and seminars he presented to students of many plant pathology departments worldwide.

I had the fortune of knowing Lee as a student, colleague, and friend whom was truly dedicated to our science. During his short career he contributed a great deal to both our profession and to all that knew him either personally or through the reading of his many published articles. Loss of the talents and dedication toward plant pathology that Lee possessed will certainly affect our colleagues and profession for some time. For I know, Lee had the potential and enthusiasm to do so much more to enhance our science and the teaching of plant pathology. He will be missed by many.

Lee is survived by his wife Karen.

S. P. Pennypacker
17 November 1999

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