



WEEK of AUGUST 7, 1994

STATION NOTES

CALENDAR of EVENTS

Wednesday, August 10, 3:30 pm

A133, Barton Lab

Chairs' and Unit Leaders' Meeting

SEMINARS

Computer Workshop/Developing Series

Third in a Series

Date: Tuesday, August 9

Time: 10:00 am

Place: Auditorium, Jordan Hall

Speaker: Demetrios Ioannides

Topic: Advanced Dialog Searching
Current Contents
SCISEARCH (Science
Citation Index)

*Coffee and donuts will be provided by
SAGES and GEC*

Contact Tina Carrasco x254 with any
questions.

Special Food Science & Technology Seminar

Date: Wednesday, August 10

Time: 10:30 am

Place: Food Science Conference
Room

Speaker: Yen-Fei Liu
(Prof. Harry Lawless'
graduate research assistant)

Topic: Small Panel Wine Hedonic
and Quality Assessments

DEADLINES

Submission for Grant Proposals

August 31—USDA Alternative Agricultural Research and Commercialization Center

September 1—NSF International Opportunities for Scientists and Engineers

September 1—BARD

September 15—Alfred Sloan Foundation Research Fellowships

Open Date—NSF *Arabidopsis* Genome Research Project

See the July 11 issue of *Sponsored Programs Newsletter* for details on the above programs. Application forms are available by calling x212.

HOCH & STAPLES RECEIVE AWARD FOR "ELEGANT" RUST FUNGI RESEARCH

Dr. Harvey C. Hoch, Professor of Plant Pathology at the Geneva Experiment Station, and Dr. Richard C. Staples, Adjunct Professor of Plant Pathology, and G.L. McNew Scientists Professor Emeritus of the Boyce Thompson Institute for Plant Research, will receive the 1994 Ruth Allen Memorial Award on August 10 at the annual American Phytopathological Society (APS) meeting in Albuquerque, in recognition of 15 years of pioneering work in understanding the infectious process of rust fungi.

Wind-born rust fungi cause crop losses in excess of \$1 billion annually to a wide variety of commercial crops, including beans, wheat, and coffee. By means of threadlike hyphal cells, the rust spreads microscopically along the surface of the plants' leaves and invades the stomata—tiny pores through which plants breathe. The rust diseases caused by these fungi lessen the plants' capacity for photosynthesis, affecting vigor and yield by as much as 50 percent.



Dr. Richard Staples and Dr. Harvey Hoch, recipients of the 1994 Ruth Allen Memorial Award.

Hoch and Staples were interested in understanding how rust fungi perceive the "right moment" to make infectious structures. "We wanted to investigate whether the fungus was responding to chemical, topographical or biological signals", said Hoch. The two suspected that it was "tactile" triggers that sent the fungi into infectious frenzy.

"In research, answering one question always leads to others," said Hoch, "but we have unequivocally elucidated that it is a leaf's topographical features which induce appressoria."

To accomplish their work, Staples and Hoch worked closely with Cornell's National Nanofabrication Facility (NNF). Using advanced electron beam lithography, NNF specialists microfabricated surface features into silicon wafers in the form of ridges ranging in height from 0.03 to 5 microns. Hoch and Staples then placed spores of the bean rust fungi, *Uromyces appendiculatus*, onto the wafers. By means of electron microscopy, they proceeded to document that infection structures formed predominately on 0.5-micron-tall-ridges. They also were able to prove that the rust hyphae were very efficient in navigating their way along the topography of the leaf surface in seeking out stomata. Duplicating the stomatal architecture of a leaf led Hoch and Staples to discover that rust fungi is most responsive to ridges between 0.4 microns and 0.7 microns—precisely the average "ridge height" of bean leaf stomata.

Understanding how the fungus infects its hosts may enable plant geneticists to defeat the tiny pathogens by breeding crop strains that either have no stomatal ridges or that have ridges of sizes other than 0.5 microns.

"The research for which Dr. Hoch and Dr. Staples is being recognized has added significantly to our knowledge of how the rust fungi attack plants. This will become

(Continued on pages 2)

NEW TECHNIQUES TAUGHT AT FRUIT SCHOOL

An intensive fruit school, entitled "High Density Planting Systems: How Fast and How Far," was held at the Geneva Experiment Station August 2-4. Through 25 hours of presentations and field demonstrations, the most current information on growing high-density apple orchards was transferred to the 70 growers who attended. This school was developed by the Statewide Fruit Industry Extension Workgroup and marked the first stage of the new Pro-Tech program. Pro-Tech is an innovative program being developed by Cornell faculty & staff for technology transfer through horticultural extension.



Setting posts diagonally for Y-trellis: a demonstration at the Hansen Farm for the Fruit School.

Terence Robinson (Associate Professor of Horticulture), Art Agnello (Associate Professor of Entomology), and Stephen Hoying (Leader of the Lake Ontario Fruit Extension Team) coordinated the fruit school. Robinson and Hoying conducted a large proportion of the talks and demonstrations. Numerous faculty and Cooperative Extension field staff with programs in tree fruit culture, economics, and physiology also contributed to the program.

Half of the growers present were from New York State. Remaining attendees traveled from states as distant as Alabama and Minnesota, and countries as far away as Brazil.

The school was judged a resounding success. Most participants left eager to apply their new knowledge through initiating or expanding high-density apple orchards.

Details from Fruit School presentation are being compiled into a book and will be published next year by the Good Fruit Growers Press in Washington.



"MAC" ATTACK

RECOVER FROM TYPING IN ALL CAPS:

Every type a paragraph or more not realizing that you had typed with Caps Lock on? Word 5's **Change Case** command lets you fix things without retyping. From the **Format** menu, select **Change Case**. Click the radio button of your choice, then click **OK**.

COPY STYLE SHEETS FROM OTHER DOCUMENTS:

When using Word, you can copy a style sheet from another document. From the **Format** menu, select **Style** (or press **Command-T**). With the **Style** dialog box open, select **Open** from the **File** menu. Select the document containing the style sheet you want to copy and press **Open**. Then, click the close box.

(HOCH & STAPLES, *cont.*)

a classic in the field of plant pathology that will be studied by plant pathology students for years to come," said Dr. James E. Hunter, who is a plant pathologist himself. "Their work may open up new avenues for control of this group of fungi that causes tremendous loss of crops throughout the world."

"The Ruth Allen award is the major research award given by the APS Society, and it is clearly an honor for us to receive it," said Drs. Staples and Hoch, who continue to collaborate on a daily basis at Hoch's lab in Geneva. "What we have accomplished has been a neat combination of molecular and biological science." The two acknowledged the important contributions of the many graduate students and research associates who helped shape the direction of their research over the last 15 years. They also praised the microfabrication work of the NNF, and the support of the previous and current directors, Edward Wolf and Harold Craighead.

The primary sponsors of Staples and Hoch's research have been the NSF and the USDA Competitive Grants Program.

"Frontier biological research requires the interaction of biological scientists with various skills and, often, as well, physical scientists. The long-term collaboration of Hoch and Staples and their interaction with the NNF at Cornell enabled the elegant demonstration of 'touch' and 'topography' in plant disease," said Ralph W.F. Hardy, President of Boyce Thompson Institute for Plant Research in Ithaca, NY.

The Ruth Allen Memorial Award was established in 1965 by gifts from the estate of Dr. Ruth Allen through the generosity of her heirs. Allen, a plant pathologist in the USDA from 1918 until 1936, is renowned for her cytological studies of rust infections. The award, consisting of a certificate and income from the invested fund, is given for outstanding contributions to the science of plant pathology.



COMMUNICATIONS SERVICES

COLOR PROCESSING & PHOTOFINISHING

A number of clients are cutting deadlines for posters and presentations very closely because they are unaware of the timeframes involved in the various color slide and print services available through Communications Services. Listed below are the photofinishing services offered by CS and the amount of time that should be allowed for return of each. Remember that cutting deadlines too close to the quick allows little time for correcting errors, and glitches—your's or our's!

SLIDES

- **Ektachrome** (all speeds)—Processed almost daily in Jordan Hall.
- **Custom** (push or pull) processing—Available on request.
- **Fujichrome or any other slide film designated Process E-6**—Can be run in the same machine, i.e. processed almost daily in Jordan Hall.
- **Kodachrome**—Must be sent to an outside lab; takes 7 to 10 days.
- **Presentation Slides from Powerpoint 2.01, 3.0, Aldus Persuasion, or MacDraw Pro**—Regular service usually requires at least 24 hours. Frequently, slides are finished by 2 or 3 pm **IF** you send them to Linda McCandless by 5 pm the night before or 8:30 am. (same day) and **IF** there are not too many rolls of slides ahead of your's. Rush service is available within as little as 4 hrs but you pay more! **ADVICE:** It is better to leave room for error than rush the job, so bring the work in early. Also, indicate the date by which you need the work. We will call you when they are ready.
- **Color slide duplicates**—7 to 10 days

COLOR PRINTS (all sent to outside labs)

- Color print film for processing and printing—2 days
- Color enlargements from prints or slides—7 to 10 days

QUESTIONS FOR COMMUNICATIONS SERVICES???—Don't hesitate to call our main extension number (x248).

LIBRARY NEWS

Please check your offices and labs for the following and return to the Library.
Thank you

634.8 Proceedings of the 9th Meeting of the
In8 International Council for the Study of
1987 Viruses and Virus Diseases of the Grapevine, 1987.

Northwest Wine: the vinifera wines of Oregon, Washington, and Idaho

STATION SOFTBALL

Last week's results:

Thursday, July 28	PP def. ENT
Tuesday, August 2	ENT vs. HS (PPD-rain)
Wednesday August 3	BP def. XT

Softball Standings as of August 3:

BP	9	0
HS	5	3
PP	4	5
GR	3	6
ENT	3	5
XT	2	7

Sympathies:

*The Station Family
extends its sympathies to
Jerry Johnston and his family
on the death of son, Jerry, Jr.,
Monday, July 25.*

SAGES MAILING LISTS

Presently two mailing lists are being used for SAGES:

1. **SAGES_ACTIVITY-L**; for the activities related with SAGES, announcements concerning the students, seminars, schedules of graduate students' car for Ithaca, sports, scientific discussion or any other issue of common concern. Subscription is open to everyone interested, especially students. To subscribe, send a message to listserv@cornell.edu leaving subject blank and in text type: subscribe SAGES_ACTIVITY-L your first and last name.

2. **SAGES_JOBS-L**; to report the availability of jobs in the Ithaca and Geneva campuses in particular, and national and international jobs in general. Subscription is open to faculty, especially project leaders, department secretaries and others who are planning to hire in the future. To subscribe, send a message to listserv@cornell.edu leaving subject blank and in the text type: subscribe SAGES_JOBS-L your first and last name.

A third list **MOLBIO_NYSAES-L** already exists for activities related to molecular biology and biology in general. It is open to everyone for subscription. Send a message to listserv@cornell.edu, leave subject blank and in the message type: subscribe MOLBIO_NYSAES-L.

Subscription through Pine or Eudora mail is simple but through QuickMail could be difficult due to the format of the mail form. If you are interested in subscribing through QM, use a Blank Form from the Public folder of Horticultural Sciences QM. Persons in charge of each QM mailcenter are encouraged to subscribe and post announcements related to departmental activities on these lists. Please send your input to make these lists successful and more useful. Any further questions, contact Tina Carrasco at x254 or through QuickMail at FST.

CLASSIFIEDS

BABY-SITTER NEEDED: Looking for warm, mature, and responsible person to provide full-time care for our nine-month old son who is an active and happy baby. Must be non-smoker and cat-friendly. If interested, please contact Jeremy or Manisha at 789-8600.

FOR SALE: Whirlpool washer (1 year old, excellent condition) and G.E. dryer. \$450 for pair. Call Pete x453 or Carol x313.

FOR SALE: 1982 Cheverlot Impala Wagon. 65,000 miles—runs well. \$750. Call Tom at x312 or 789-1142

ROOM NEEDED: Looking for a room for a visiting professor. Should be within walking distance from the Station, available in late August or early September. Please call Baozhong Meng at x328 or 789-4730 (home) or e-mail at bm10@cornell.edu.

FOR SALE: Sears electric dryer, \$25. Contact Tony at x352, home—789-2310, or drop him an e-mail message.

MARYLOU DUMBLETON

Retirement Party

Sunday, August 21, 1994
1:00 pm ~ Dinner begins at 1:30 pm
Station Pavilion

MENU

*Sliced pork roast; barbecue chicken,
chef salad, macaroni salad, potato salad,
sauerkraut with caraway, salt potatoes, dressing,
corn, gravy, assorted breads, chocolate cake,
beverages*

\$10.50/PERSON

*Dinner checks and gift donations should be made
payable to Sharon Smart, and sent to
Business Office, Jordan Hall.*

Reservations must be received by: August 13, 1994

SEXUAL HARASSMENT WILL NOT BE TOLERATED ON THE CONRELL/GENEVA CAMPUS

Sexual harassment in an academic environment or in a workplace can threaten a person's academic performance or economic livelihood. Cornell University defines sexual harassment as follows:

- Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when:
- submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic status;
- submission to, or rejection of, such conduct by an individual is used as the basis for an employment decision or an academic decision affecting that person;
- such conduct has the purpose or effect of substantially interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or learning environment.

Sexual harassment can take many forms, including:

VERBAL: sexual innuendo and other suggestive comments, humor and jokes about sex or gender-specific traits, offensive written notes or electronic mail, sexual propositions, insults, threats;

NONVERBAL: leering, whistling, suggestive or insulting sounds and gestures;

PHYSICAL: touching the body (e.g., brushing, patting, pinching), kissing, coerced sexual intercourse.