RiceCAP News

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Annual Meeting with Advisory Boards

RiceCAP held its fourth annual PI and Advisory Board meeting in conjunction with the 32nd Rice Technical Working Group (RTWG) meeting in San Diego, CA on February 18, 2008. The meeting format consisted of the Boards receiving an overall report from project director Jim Correll, followed by reports from the individual objective team leaders including Anna McClung (objective 1), Yinong Yang (objective 2), Clare Nelson (Bioinformatics), Jim Correll (objective 3), and Rick Cartwright (objective 4). The program for the meeting is available on-line at http://www.ricecap.uark.edu/Management/Rice-CAP_Meetings/2007_annual_brd_mtg.htm as well as copies of the presentations at the same link.

The Advisory Board members provided an oral report to the group at the conclusion of the meeting.

A written report from the advisory boards is pending along with a response from the RiceCAP Executive Committee.

The next annual RiceCAP meeting will be held in conjunction with the 2009 Plant & Animal Genome XVII meeting in San Diego, CA, January 10-14, 2009. A tentative date for the RiceCAP meeting has been set for Monday, January 12, 2009.


Up to 40 million people across the globe eat Australian rice every day. Australia produces over 1 million tonnes of rice annually, exports it to over 70 countries, generates more than $500 million from value-added exports annually, and contributes to supporting 63 regional towns across the NSW Riverina and Northern Victoria. Their rice industry is the first Australian agri-industry to initiate biodiversity enhancement, greenhouse gas reduction strategies and a project to recover water under the Living Murray Project. Growers only grow temperate rice varieties that suit their climate. Australian rice growers are the most efficient and productive in the world.


RiceCAP Scientific and Stakeholder Board members in attendance at the 2/18/08 annual meeting (L-R): Ernest Girouard, David Mackill, William Crosby, Melissa Fitzgerald, Chuck Wilson, Ron Phillips, Don McCaskill, Dwight Roberts, and Marvin Hare, Jr. Not available for photo: Susan McCouch.
Scientists Identify Plant Barcode Gene

Scientists from London’s Imperial College and the Royal Botanic Gardens have identified a “barcode” gene that can distinguish the majority of plant species on Earth. Barcode genes contain DNA sequences that vary greatly among different species but not at all within them. These genes can be used in cataloging different plant species in an area, identifying plant ingredients in powdered substances, such as in traditional Chinese medicine, and can help monitor illegal trading of endangered plants.

The scientists tested more than 80 plant species from South Africa and Costa Rica using eight barcode genes. A particular gene, matK, has been shown to correctly classify over 90 percent of the species.

Panicle Rice Mite — Additional Information

Natalie A. Hummel, Assistant Professor and Rice Extension Entomologist at the LSU AgCenter, gave an informative presentation to attendees at the rice breeder’s meeting in Monroe, LA, on Feb 7. Dr. Hummel has agreed to allow her presentation and a rice mite fact sheet that she co-authored with colleagues at LSU and Texas A&M to be placed on the RiceCAP web site.

Please visit the fact sheet section of RiceCAP’s Outreach download page at http://www.ricecap.uark.edu/outreach_downloads.htm for Dr. Hummel’s material in addition to another rice mite fact sheet authored by Dr. Fernando Correa-Victoria of CIAT in Columbia, South America.

The rice Tarsonemid mite is extremely small in size, ~ 1/100 inch long, and is difficult to scout. (Photo and text from N. Hummel presentation at Monroe LA on 2/7/08.)

The rice Tarsonemid mite feeds inside leaf sheath & on developing panicles, and has many modes of dispersal. (Photo and text from N. Hummel presentation at Monroe LA on 2/7/08.)
Ray J. Wu, Cornell professor of molecular biology and genetics, widely recognized as one of the fathers of plant genetic engineering and who developed the first method for sequencing DNA and some of the fundamental tools for DNA cloning, died at Cayuga Medical Center in Ithaca Feb. 10. He was 79. The cause of death was cardiac arrest.

Born in Beijing (called Peking at the time), he came to the United States in 1948 at the urging of his father who was attending professional meetings in San Francisco. Wu earned his bachelor’s degree in chemistry from the University of Alabama, Tuscaloosa, in 1950 and a doctorate in biochemistry from the University of Pennsylvania in 1955. He worked at Penn, MIT and the Medical Research Council Laboratory in Cambridge, England, before joining Cornell in 1966. He spent the rest of his career there, working up until the time of his death. He became a naturalized U.S. citizen in February 1961, but retained close ties with China throughout his career.

In advisory roles to both the Chinese and Taiwanese governments, Wu was instrumental in establishing the Institute of Molecular Biology, the Institute of Bioagricultural Sciences of Academia Sinica in Taiwan and the National Institute of Biological Sciences in Beijing. He also served as a scientific advisor to several other Chinese institutions. Wu founded the China-United States Biochemistry and Molecular Biology Examination and Application program, which from 1982 to 1989, brought over 400 of the top Chinese students to the U.S. for graduate training, and produced more than 100 faculty members in major universities or key members in industry. These scientists, with colleagues from the Chinese Academy of Sciences, formed the Ray Wu Society to promote life sciences frontiers.

Wu was elected a fellow of the American Academy for the Advancement of Science in 2003; and elected a fellow in the Chinese Academy of Engineering. He was given the prestigious Frank Annunzio Award in Science and Technology in 2002, which is presented by the Christopher Columbus Fellowship Foundation.
In 1970, Wu developed the first method for determining the nucleotide sequence of DNA. His technique was adopted and made more efficient by Frederick Sanger, who received the 1980 Nobel Prize in Chemistry for his efforts. Following his pioneering work in the 1980s on the development of efficient transformation systems for rice, Wu and his group genetically engineered rice plants resistant to pests, drought and salt. A gene from the potato, called protease inhibitor II (or PIN-II), caused the rice plants to produce a protein that interferes with the digestive process of the pink stem borer, causing the insect to eat less, thus reducing plant damage. In a second study, a barley gene enabled rice plants to produce a protein that makes them salt- and drought-resistant so that they grow in saline conditions and recover quickly from dry conditions. A third study increased the tolerance of rice for drought, salt and heat by introducing the bacterial gene for a sugar called trehalose. Special promoters were inserted along with the gene so that the sugar is produced only when the rice plants need it.

At Cornell, in 1999 he committed to a gift of $500,000 to establish the Ray Wu Graduate Fellowship in Molecular Biology and Genetics to support a first-year graduate student. He funded the gift over the next five years to create a permanent endowment to support one graduate student each year in the field of molecular biology and genetics.

Volker M. Vogt, professor of molecular biology and genetics, said: "...His 'can do' attitude toward solving both scientific and human relationship problems, always with respect for others and without anger or prejudice, set the highest standard for all of his colleagues..." In generosity of spirit Ray was unmatched. His personal donations to help support or honor Chinese or Chinese-American graduate students in the department and at Cornell were a manifestation of this generosity. In unselfishly giving so much of himself in all of his endeavors, Ray truly left a mark. His colleagues and friends in the department, at Cornell, and all over the world will miss him greatly."

Susan McCouch, professor of plant breeding and genetics, said: "Ray Wu was a gentleman and a scholar. He will be fondly remembered by his many friends, colleagues and students for his devotion to rice research, his enthusiasm for new knowledge and his mentoring of a generation of young scientists."

Wu’s longtime collaborator Ajay Garg, a senior research associate, said: "His untiring help, generosity and legacy will remain with us forever. We had a vision and a commitment to see that the research results are of benefit globally."

His son, Dr. Albert Wu, a professor at the Johns Hopkins Bloomberg School of Public Health, said of his father, "...he was extremely modest. I didn’t even know he had been nominated for a Nobel Prize until years later, when I read about it in a newspaper."

He is survived by his wife of 51 years, Christina; a son, Dr. Albert Wu ’80, M.D. ’84, a daughter, Alice Wu ’82, M.S. ’86, and three grandchildren.

News Sources:
### Calendar of Events

#### March 2008

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### Schedule of Events

- **5/18-6/8/08**—IRRI Rice Production shortcourse, Philippines. (Deadline application was January 10, 2008)
- **8/20-23/08**—4th International Symposium on Rhizoctonia, Berlin, Germany.
- **1/12/09**—Tentative date for RiceCAP annual meeting for the 2008 report.

For all event details, see the appropriate link at [http://www.ricecap.uark.edu/calendar_upcoming.htm](http://www.ricecap.uark.edu/calendar_upcoming.htm)

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RiceCAP

A coordinated research, education, and extension project for the application of genomic discoveries to improve rice in the United States. A project supported by the National Research Initiative (NRI) of the Cooperative State Research, Education and Extension Service (CSREES).

**We're on the web!**

[www.ricecap.uark.edu](http://www.ricecap.uark.edu)

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