Since 1947, IRREC professors have served the state’s agricultural interests with solutions to production issues. The next few decades brought change, new professors and more research programs. As what became the world-renowned Indian River citrus brand industry rose to prominence, the center’s research projects reflected that industry’s value.

In 1998, IRREC’s academic program was new. Degree and offerings met that decade’s educational needs with agribusiness and horticulture education. Over the next decade, the industry’s needs for environmental protection became more prominent. And as a result, IRREC’s research programs and degree program offerings adjusted to those needs. Technology became more sophisticated as an increasing number of students enrolled in high technology distance education programs.

Today at IRREC, Dr. Sandra Wilson leads the center’s environmental horticulture program with award-winning and highly innovative distance education contributions, a cutting-edge research program and two on-site botanical gardens. Dr. Wilson’s teaching and research programs prosper, as do the graduate students she supervises. This month she was elected as Education Division Vice President for American Society for Horticultural Science.

This summer Professor Emeritus Dr. Robert “Bob” Bullock passed away following a lengthy illness. He will be remembered by us and the citrus industry for his many contributions to the University of Florida, the center and the industry.

Earlier this year we welcomed a new post-doctoral scientist to Dr. Barrett Gruber’s citriculture program. Dr. Prem Kumar will assist Dr. Gruber in his efforts to sustain the region’s citrus industry.

Within this issue, please find a feature on IRREC’s current graduate student Ellen Cochrane. She earned a B.S. degree in Environmental Management and is now pursuing a M.S. in Environmental Horticulture.

As the Indian River region continues to adapt, IRREC research and academic professors model research and education programs to meet these needs. And IRREC students are earning degrees and will make valuable contributions for the sustainability and of food production and to ensure the protection of native natural resources and for valuable crop production.

This month she was elected as Education Division Vice President for American Society for Horticultural Science.

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A prominent Professor of Environmental Horticulture, Dr. Sandra Wilson has been elected as Education Division Vice President for American Society for Horticultural Science (ASHS). Dr. Wilson leads the environmental horticulture program at IRREC.

Her position as Education Division VP for the ASHS will provide an opportunity for Dr. Wilson to assist the society in its lead role for the advancement of horticultural science education globally.

“With the use of increasing technology and integration for delivery of the world’s cutting-edge horticulture education, I know Dr. Wilson will contribute greatly to this position,” said Dr. Pete Stoffella, IRREC director.

Dr. Wilson has for more than two decades instructed courses in horticulture. She began a teaching career as a teaching assistant while a student at the University of Delaware; she conducted research while earning a doctorate at Clemson University; and, was a visiting scientist at Chiba University in Japan. She is now a professor at the UF research location, having been promoted three times, where she instructs undergraduate and graduate students, and conducts research published in the world’s most prestigious scholarly horticulture journals. Her current course offerings are: Plant Propagation, Annuals and Perennials, Florida Native Landscaping and Environmental Plant Identification.

In accepting her new position with ASHS, Wilson said, “I am really excited about the prospect of serving ASHS in this capacity. The organization is one for which I have been a proud member for my entire career.”

She has been celebrated with multiple awards at international, national, state and local levels. Among her most outstanding achievements are: an Outstanding Education Publication Award from ASHS in 2012; the coveted Roche Professorship with UF for academic 2011-2012; an Outstanding Undergraduate Educator Career for 2009 from ASHS; and, among others, the North American Colleges of and Teachers of Agriculture Fellow Award in 2005.

With student evaluations that rank consistently high and cutting-edge multi-disciplinary curriculum development, Dr. Wilson’s contributions to higher education in horticulture are impressive. Her education development work conducted along with fellow educators has garnered more than a

Dr. Wilson hails the 150th anniversary of the Morrill Act signed by Abraham Lincoln that established the nation’s land-grant university system.

“The land-grant university system not only promoted agricultural science, transformed our society, and transitioned our workforce, but made higher education more accessible to more people.”
In addition to Dr. Wilson’s teaching duties, she is a highly successful research professor, which further enhances and supports her role as an educator. Her current research focuses on the invasive potential of ornamental plants and the propagation of native plants. She has published over 61 manuscripts refereed by peers, 49 proceedings or trade articles and 57 abstracts.

Dr. Wilson’s service to ASHS is distinguished with work on six groups appointed to handle industry topics related directly to her work as an educator and as a researcher. Those positions include leadership as chair and vice chair of the invasive plant and propagation working group, and as a member of several awards committees.

Founded in 1903, the American Society for Horticultural Science (ASHS) is the world’s largest organization dedicated to advancing all facets of horticultural research, education, and application. More information can be found at ashs.org. Dr. Wilson notes that membership is complimentary to all undergraduate students and encourages them become members.
Dr. Robert “Bob” Bullock passed away peaceably, following a lengthy illness, at Lawnwood Regional Hospital in Fort Pierce, Tuesday morning, July 31. He was 87. Dr. Bullock was born October 16, 1924, in New York, New York.

Young Robert grew up in New York. While he attended college as an undergraduate, he served as summer 4-H camp counselor, where he first discovered entomology (the study of insects). Dr. Bullock enlisted in the U.S. Army and served for a decade in both active and reserve service to the country, during which time he was decorated with a Bronze Star Medal in recognition of “meritorious achievement.” His wartime service was with the U.S. Army Medical Department through which he was promoted to Sergeant. He served onboard the charter mobile medical Army Surgical Hospital in Burma during the Burma Police Action in April, 1944. Bullock was mentioned in Dr. Gordon S. Seagrave’s classic novel, “Burma Surgeon.”

Upon retirement from his military career, Dr. Bullock’s interests returned to entomology. A second career was launched and continued until his death. His work was characterized with steadfast devotion and numerous repeated solutions for a broad range of insect problems faced by agriculturalists among multiple horticultural industries throughout Florida and abroad. His erudite achievements include both a Ph.D. in 1954, and a Master of Science degree in Entomology in 1950, from the University of Connecticut. He earned a Bachelor of Science degree in Biology from St. Lawrence University.

His first post as an entomologist commenced in 1954, with the United Fruit Co., in La Lima, Honduras. There he served for six years as a research scientist on the leading edge of fruit production and distribution. His position with the company took him to South and Central America on multiple occasions as he studied banana crop production and crop protection methods.

Bullock accepted a faculty position at the University of Florida/IFAS Indian River Research and Education Center in Fort Pierce in 1962. It was at the center of the world’s premier grapefruit region—and the place where Bob Bullock became renowned as: “a grower’s best friend and research pioneer.” The 1970s and 80s were the “Golden Age of Florida Citrus,” a time when the industry produced more than 55 million boxes from 1 million acres of trees annually. With scholarly knowledge, applied research techniques and findings, steadfast devotion and enthusiasm, Bob earned his reputation as the Indian River Region’s premier entomologist, prominent throughout the state and among growers in international citrus growing regions. Many Florida fresh fruit growers credit Bullock for their ability to market products free of insect-damage, and to meet demand for the highest quality product available to the world. Chinese scientists invited Dr. Bullock to then-Peking, for a tour of their country’s leading
edge agricultural production methods and "green" practices, as Dr. Bullock’s pioneering integrated pest management practices were sought after worldwide. Bullock’s work to identify insects and naturally occurring fungus to replace chemical sprays was paramount.

Dr. Bullock’s peers, who were research professors, and growers with whom he worked during his long and successful career, elevated his contributions with the industry’s highest honors. They celebrated him as a professor who always led on the cutting edge, a pioneer, a great teacher and an entertainer—a man of spectacular talent coupled with a brilliant sense of humor. In recognition of Dr. Bullock’s worldwide contributions to entomology, and to all of the world’s citrus industries, an insect, Polytes bullocki Eger, was named in honor of Dr. Bullock. The insect is indigenous to South America. In 1991 the Crop Science Society of America recognized his pioneering work for pesticide spray natural alternatives with certification for a crop germplasm, R. C. Bullock, Florida Experiment Station Fungus, Irfl-4655. Macroptilius Stropurpursum (DC.) Urb.germplasm reg. number GP-102. For his achievements as a research professor, the Indian River Citrus League recognized Bullock in 2009 with its prestigious career award, “Legend of the River,” in appreciation and in recognition for his pioneering integrated pest management expertise and teachings. And, for his contributions to the world’s highest quality citrus products, he was in 2011 inducted to the Florida Citrus Hall of Fame. His installation in the Citrus Hall of Fame is distinguished as he is the single research professor to achieve the honor.

Dr. Bullock’s work took him to Central and South America and Egypt where he represented the U.S. Department of Agriculture as a consultant. He identified citrus leaf miner in Egypt, a major contribution to their enterprise. His techniques for the then-new Temik® and Admire ® products brought recognition to the Florida State Horticultural Society, as the results of his findings positioned the society as the source for domestic and international growers seeking cutting-edge pest control methods. Bullock’s work was largely with integrated pest management for the citrus industry. Yet, his reputation also brought him research projects for vegetable and forage crops. Producers continue to reference Dr. Bullock’s publications and outstanding contributions made to the Florida State Horticultural Society’s Proceedings’ collections. He taught the entire industry how to balance the use of chemical resources with natural resources for the mutual protection of the environment and fresh fruit product. In 2008, Dr. Bullock was named an Honorary Member of the Florida State Horticultural Society.

Following retirement from the University of Florida in 1999, Dr. Bullock continued the work he so loved, as he assisted horticultural growers with entomological solutions. He was a research scientist at the U.S. Department of Agriculture Agricultural Research Service at the U.S. Horticultural Research Laboratory in Fort Pierce. He then served as a consultant for Keyplex Inc. until his death.

Dr. Bullock was a longtime member of Truth Church in Fort Pierce. He served on the Board of Bible Lands Missionaries and volunteered for youth programs at the Golden Rule Academy at Truth Church. A distinguished community serviceman, he volunteered his time to youth 4-H entomology programs and delivered Integrated Pest Management presentations to UF/IFAS Extension participants. An avid volleyball player, he was active in the sport well into his late 70s. He was a member of the Kiwanis Club in Fort Pierce and was a Past President. In addition, he served as a volunteer for Meals on Wheels and as a reading tutor at Fort Pierce public schools.

Dr. Bullock is survived by his wife of 59 years, Jean G. Bullock; son David W. Bullock, and daughter Susan Hawkins, all of Fort Pierce; two grandchildren, Eva Marie Campbell and Amanda Sue Karmali, and seven great-grandchildren. He was preceded in death by grandson Josh Hawkins, formerly of Fort Pierce; and a brother, Judge Forman Bullock, formerly of California.
An experienced research scientist with a doctorate in plant science has joined the citriculture research laboratory at the University of Florida Indian River Research and Education Center in Fort Pierce. Dr. Prem Kumar will serve as post doctorate, under the direction of Dr. Barrett Gruber, the center’s lead citrus researcher, and assistant professor. Dr. Kumar brings to the new position several years’ experience with plants under botany and forestry, including citrus. In his new role at the UF Fort Pierce location, Kumar will assist Dr. Gruber with citrus research for the world’s renowned citrus legacy, in an effort to improve the industry’s efficacy.

“Dr. Kumar’s experience and educational credentials demonstrate his competency to serve the industry in this capacity,” said Dr. Peter Stoffella, UF/IRREC Director. “He has conducted research involving citrus trees recently and will contribute to the industry.”

Dr. Kumar’s experience ranges from citrus germination, propagation, to plant protection and disease management. He served at the UF/IFAS Lake Alfred, Florida, in the citrus transformation facility under the guidance of Dr. Vladimir Orbovic. He prepared various growth media for growing citrus tissues, and explants from etiolated hypocotyls were treated with agrobacterium for incorporating genes of desired attributes. He was involved in the extraction of DNA from citrus leaves and performed PCR reactions to detect the presence of the gene of interest. He also performed micro-tip shoot grafting in vitro for outplanting purpose.

While serving as post-doctoral research associate at Miami University, Ohio, Dr. Kumar worked on a NASA-funded project and explored the tropistic responses of Arabidopsis seedlings. He conducted tropistic studies on NASA-built hardware on the ground as well as on the International Space Station. Additional duties were plant propagation, protection of plants against diseases and pests, and safe management of laboratory, including student training.

Dr. Kumar’s research has been published in reputed science journals including, Advances in Space Research, Environmental and Experimental Botany, Functional Plant Biology, New Phytologist, Physiologia Plantarum, and Trees. As an invited speaker, Dr. Kumar made presentations before the American Society of Plant Biologists and American Society for Gravitational and Space Biology.

Among Dr. Kumar’s awards are the 2010 NASA Ames Honor Award for excellence in group leadership; the 2010 NASA Ames Research Center Award for Outstanding Support and Team Effort; a 2007 European Space Agency (Germany) Award for successful completion of experiments on space hardware; a Group Achievement Award from NASA Headquarters, Washington, D.C., for successful experiments completed in 2007; and a NASA Ames Honor Award, for successful experiment completions.

Dr. Kumar earned a Ph.D. in Plant Science and a Master of Science degree in Forest Resources, both from Oklahoma State University. He earned a Master of Science and Bachelor of Science degrees in Botany from Calicut University, Kerala State, India, and Diploma in Forestry from Forest Research Institute & Colleges, Dehra Dun, India.
Port St. Lucie resident Ellen Cochrane recently completed a bachelor’s degree with the university’s highest honors. She has earned a B.S. in Environmental Management, Summa Cum Laude, at IRREC. In addition to a perfect academic record she completed a required honor’s theses in a topic related to her degree.

“The administrators and professors at IRREC took a dream I had and made it a reality for me,” she said. “The student services and professors at the local UF campus made all the difference in my success.”

Her honor’s theses involved the study of two separate soils commonly found along the Treasure Coast and the ability of those soils to move nutrients rapidly, onto water sources. The research she conducted took place in soils situated on horse farms. Ellen has a personal interest in the topic due to her interests in both environmental protection and horse farm management. She and her husband own a horse farm in Port St. Lucie.

Her research was conducted under the direction of Dr. He. They concluded horse manure, when combined with pine shavings from horse stalls, will retain nutrients in soil more effectively. This is important she said, because nutrients retained in soils do not leach into ground water supplies or contribute to pollution. The research also concluded the two elements help soils retain moisture, a safe practice for equestrian operations.

Ellen is at this time interested in the biology of plants. She said her interests evolved as she has obtained more education and experience working in research laboratories. In her mid-40s, Ellen believes non-traditional students will enjoy the rewards education provides at an older age.

“I worked very hard in the last two decades and have achieved some of the material goals young people are striving to achieve,” she said. “Attending college at a mature age has made me a devoted student who appreciates the value of education and personal development—in a local setting.”

She is at this time employed full time at the US Department of Agriculture U.S. Horticultural Research Laboratory. There she serves as a biological science technician under the direction of Dr. Ed Stover, who heads a citrus scion breeding laboratory. Her work at the laboratory involves tissue culture analysis and biotechnology. She has served there for two years.

She was able to earn an A.A. degree in Biology at IRSC while employed as a laboratory technician in the science labs there. She is now employed at the federal lab while she pursues a master’s degree. Ellen says she is amazed with what she was able to accomplish without having to move where a large university is located.

“At IRSC I learned the basics about science, and now I’m learning about how the environment is impacted by human inputs,” she said. “Now I am learning about the biology of plants. When you initiate an experiment and then watch them grow and start changing, it’s so exciting to watch the responses. I love plants and I love going to work. It’s really fun.”

This fall Ellen is scheduled to begin a Master of Science degree in Environmental Horticulture, under the direction of Dr. Sandra Wilson.

“I am amazed at what I have been able to accomplish near my own home and I am so grateful for the support provided to me by the professors and staff at IRREC,” she said. “Dr. He and Dr. Wilson were patient when I did my research theses and Jackie White made sure I was on track with academic requirements so I could concentrate on my work and finish my degree program.”
Fall Semester 2012

Undergraduate Course Offerings:
- Plant Propagation
- Human Resources Management
- Agribusiness Management
- Insect Classification

For full listing of UF courses visit: http://www.register.ufl.edu/soc/

For Graduate Course Offerings check the UF/IRREC website: www.irrec.ifas.ufl.edu

Important Dates:
- Fall Semester courses begin: August 22
- Labor Day Holiday: September 3
- UF Homecoming observed: November 9
- Veteran’s Day observed: November 12
- Thanksgiving Holiday Break: November 21-24
- Fall Semester Finals: December 8, 10-14

UF/IRREC Degree and Certificate Program Offerings:

Bachelor Degrees:
- Environmental Management
- Microbiology and Cell Science

Master Degrees:
- Ecological Restoration
- Environmental Sciences
- Environmental Horticulture
- Entomology and Nematology
- Agricultural Education and Communication

Certificates:

Undergraduate
- Geomatics
- Urban Pest Management
- Landscape Pest Management
- Pest Control Management

Graduate
- Ecological Restoration
- Non Profit Management
- Sustainable Land Resource and Nutrient Management
- Soil Ecology Services
- Wetland and Water Resource Management

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