UC DAVIS DEPARTMENT OF ENTOMOLOGY

BUG BYTES

For alumni, faculty, students, staff and friends

Spring 2009

Former Department Chair Oscar Bacon: 'Oscar of All Trades'

He's chased aphids, lygus bugs and potato tuber moths; he's evaluated pesticides; and he's pursued predators, parasites and pathogens.

Oscar Gray Bacon, who will be 90 in November, did all that. And more.

During his 63-year association with the University of California, he taught classes at UC Berkeley; coordinated the conversion of the two-semester system to the quarter system at UC Davis; chaired the UC Davis Department of Entomology; and developed "The Natural History of Insects" into one of the most popular undergraduate classes on the UC Davis campus.

As a 41-year UC agricultural entomologist, he specialized "in the biology, ecology and population dynamics of insects associated with field crops." He pioneered the biological control course on the UC Davis campus and was



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Honey of a Garden: Winning Design Selected

http://entomology./ucdavis.edu/news/oscarbacon.html.

and an indepth feature on the UC Davis Department of Entomology Web site at www.



It's a honey of a garden, the judges unanimously agreed.

A Sausalito-based team created a series of interconnected gardens with such names as "Honeycomb Hideout," "Nectar Nook" and "Pollinator Patch" to win the international bee-friendly garden design competition, a gift to UC Davis from the Häagen-Dazs[®] brand.

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Frank Zalom, Michael Parrella Selected as ESA Fellows

Professors Michael Parrella and Frank Zalom are newly elected Fellows of the Entomological Society of America (ESA).

Parrella, associate dean of the Division of Agricultural Sciences, College of Agricultural and Environmental Sciences, and former chair of the UC Davis Department of Entomology; and Frank Zalom, an integrated pest management (IPM) specialist and former vice chair of the department, received the honor at the ESA 2008 annual meeting, held Nov. 16-19 in Reno.

"These are highly prestigious awards, granted only to 10 or fewer entomologists every year," said Lynn Kimsey, chair of the Department of Entomology. "Michael Parrella and Frank Zalom are carrying on our department's tradition of excellence and commitment." Eight other UC Davis entomologists have received the honor since 1947.

Fellows are selected for their outstanding contributions in entomological research, teaching, extension or administration, said ESA spokesperson Richard Levine. Up to 10 entomologists from among the 5700-member organization are singled out for the annual award.

Parrella, who joined the UC Davis faculty in 1988, maintains a teaching/research program in entomology and develops IPM strategies for ornamental crops, with an emphasis on biological control. His laboratory is an incubator for the development of research/extension personnel working in floricultural entomology.

Zalom, engaged in international research and teaching, served as director of the UC Statewide IPM Program for 16 years. Zalom's

Chemical Ecologist Walter Leal Wins ESA Recognition Award

Chemical ecologist Walter Leal, UC Davis professor of entomology, is the 2008 winner of the ESA's Recognition Award in Insect Physiology, Biochemistry and Toxicology.

Leal received the award for his innovative and creative research involving insect communication. His lab last August revealed the

mode of action for the mosquito repellent, DEET. Contrary to previous hypotheses, DEET doesn't jam the senses or mask the smell of the host; mosquitoes smell the repellent directly and avoid it.

A pioneer in the field of insect olfaction, Leal is best known for his research on the mode of action of odorant –binding proteins and odorant-degrading enzymes on the identification and synthesis of insect sex pheromones and on insect chemical communication.





Michael Parrella

Frank Zalom

research and extension activities focus on developing alternatives to conventional pesticides for insect and mite pests of fruit, nut, and vegetable crops, and on mitigating pesticide movement into surface waters.

Richard M. Bohart (1917-2007), for whom the Bohart Museum of Entomology is named, was the first UC Davis entomologist to be selected an ESA Fellow (1947). Seven others followed: Donald McLean, 1990; Harry H. Laidlaw Jr. (1907-2003), 1991; John Edman, 1994; Robert Washino, 1996; Bruce Eldridge, 2001; William Reisen, 2003; and Harry Kaya, 2007. (See more information at http://entomology.ucdavis.edu/ news/2008esaawards.html)

More News on Web Site

The Department of Entomology's Web site includes a news section, chronicling awards, research, and features. See http://entomology.ucdavis. edu/news/index.html

Behind Bug Bytes

Bug Bytes is a quarterly publication of the UC Davis Department of Entomology, One Shields Ave., Davis, CA 95616. (http://entomology.ucdavis.edu) Department Chair: Lynn Kimsey Iskimsey@ucdavis.edu or (530) 752-0475 Editor: Kathy Keatley Garvey kegarvey@ucdavis.edu or (530) 754-6894.

Andrea Lucky Named Outstanding Graduate Student Teacher

For excellence in teaching in the lab, field and classroom, entomology doctoral candidate Andrea Lucky has won a 2009 UC Davis Outstanding Graduate Student Teaching Award, sponsored by the Graduate Council, Office of Graduate Studies and the Teaching Resources Center.

Chancellor Larry Vanderhoef presented the award April 6 in the Walter A. Buehler Alumni and Visitors' Center. Lucky was one of only 12 to receive the coveted award this year.



Andrea Lucky

Ward, her major professor who nominated her for the award, praised her "stellar teaching assistance" and her "exceptional commitment to science teaching and outreach in general."

Lucky, who joined the Ward lab four years ago, served as his teaching assistant in a five-week field taxonomy and ecology course last summer at the Sagehen Creek Field Station, northern Sierra Nevada. The course, Entomology 109 and also known as "Bug Boot Camp," introduces

Honey of a Garden...

(continued from page 1)

The design, the work of landscape architects Donald Sibbett and Ann F. Baker, interpretative planner Jessica Brainard and exhibit designer Chika Kurotaki, will be brought to life this year on a half-acre site at the Harry H. Laidlaw Jr. Honey Bee Research Facility on



Bee Biology Road on the UC Davis campus. A public dedication is planned in October.

Last December Häagen-Dazs ice cream committed \$125,000 to the UC Davis Department of Entomology for the garden project. This encompasses site planning, preparation and the design competition.

The key goals of the garden are to provide bees with a yeararound food source, to raise public awareness about the plight of honey bees and to encourage visitors to plant bee-friendly gardens of their own. students to the diversity of California insects in natural habitats.

Lucky interacted with the students 12 to 14 hours a day, from dawn at the breakfast table to late at night in the lab, six days a week, Ward said. "Entomology 109 is a demanding course for both students and teachers, yet Andrea was unfailingly upbeat, engaging and responsive to students. She was willing to assist in the lab, the field and even the kitchen when the situation demanded."

For more information, see the entomology Web site at http://entomology.ucdavis.edu/news/andrealucky.html.

Eli Sarnat Creates Interactive Ant Key

If you want to identify red imported fire ants and other invasive ants found in the Pacific Island region, a newly launched Web site by Eli Sarnat of the Phil Ward lab will help you do just that.



Sarnat created the interactive ant

Eli Sarnat

key to assist users in identifying invasive ant species commonly encountered in the Pacific Island region. The key is at www.lucidcentral.org/keys/v3/PIAkey/ index.html.

"This is one of the most clearly organized and informative sites I've ever seen," said Lynn Kimsey, professor and chair of the UC Davis Department of Entomology and director of the Bohart Museum of Entomology. "It should be an invaluable resource for anyone needing information about pest ants in the Pacific Basin and elsewhere."

Invasive ants threaten the native biodiversity, food security and quality of life, said Sarnat, whose doctoral dissertation involved the systematics, biogeography and conservation of ants in Fiji.

Oscar Bacon...

(continued from page 1) instrumental in forming the Plant Protection and Pest Management Graduate Group. He is credited with co-authoring the term, "integrated pest control."

He worked on field crops, including seed alfalfa, potatoes and small grains, establishing a state, national and sometimes global presence (potato crops in Bolivia). He targeted the lygus bug, the main pest of alfalfa seed production.

When he retired in 1987, he took on other challenges: restoring antique cars and classic boats, and serving as a Coast Guard Auxiliary commodore in a unit that covered at that time northern California and parts of Utah, Nevada and Wyoming. For the past 12 years, he's volunteered as a docent at the Heidrick Ag History Center, Woodland.

That's not all. He's crafted furniture as fine as you'll ever see in a showroom and he's carved ducks so realistic you can almost hear them quack.

"I'm the jack of all trades," he says, "and master of none."

Absolutely not. As an agriculturist, entomologist, researcher, professor, administrator, mechanic, furniture builder, boating enthusiast and ag history docent, there's very little that this "Oscar of all trades" hasn't mastered.

Bacon, who lives in Davis with his wife, Barbara, looks back upon his six decades with the UC system like the author of a well-thumbed book.

When he joined the entomology



UC Davis Department of Entomology faculty in 1970. In front (from left) Dick Bushing, Frank Summers, Bob Schuster, Al Grigarick, Bob Washino, Harry Lange and Harry Laidlaw Jr. in back from left are Charles Judson. Robbin Thorp, Vern Burton, Elmer Carlson, Oscar Bacon, Frank Strong, Don McLean, Ward Stanger and Ed Loomis.

faculty at UC Davis in 1953, it was part of the UC Berkeley Department of Entomology, he recalled. The Davis faculty included Stanley Bailey, Richard Bohart, John Eckert, Harry H. Laidlaw Jr., W. H. Lange, Leslie Smith, Eugene Stafford and Frank Summers and himself. He is the last surviving member of the original faculty. "The UC Davis department separated or became autonomous from UC Berkeley in 1963," he said.

During his career, he hand-stamped an indelible mark on the agricultural and academic communities with his vision, passion and talents. Whether it was helping growers, researchers, administrators, faculty, Cooperative Extension specialists, farm advisors or students, he looks back with fond memories.

"I enjoyed it," Bacon said. "I've always been interested in agricultural things, the applied side of entomology."

Emeritus professor Robbin Thorp, a native pollinator specialist, remembers collaborating with Bacon on alfalfa leafcutter bees in the mid-1960s. "I always had a great deal of respect and admiration for Oscar as a meticulous scientist, outstanding teacher, leader and person," Thorp said.

"Oscar was a dedicated, considerate teacher who was comfortable working with grower groups, students or researchers," said Vern Burton, a retired Cooperative Extension specialist. "He was a meticulous researcher, consistently employing those principles presented in his 1952 publication resulting in more efficient use of control measures while reducing the pesticide load on the environment."

Bacon chaired the Department of Entomology (1967-1974) through rapid growth spurts, including the move to the newly constructed Briggs Hall in 1972.

Many academics remember him as a chancellor's assistant. In 1964 UC President Clark (continued on page 5)

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Oscar Bacon...

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Kerr announced a plan to convert the entire UC system from two semesters to four quarters. UC Davis Chancellor Mrak asked Bacon to head the conversion efforts at UC Davis.

"We had 1687 courses, and they all had to be reviewed and shortened from 15 weeks to 10 weeks," recalled Bacon. The conversion effort required the efforts and cooperation of every department and faculty member. Remarkably, the conversion took only a year.

Who is Oscar Gray Bacon?

Born Nov. 8, 1919, he's a former farm boy with roots that stretched deep in the San Joaquin Valley and a spirit that soared from the depths of the Great Depression.

He and his parents—he was an only child--farmed 60 acres seven miles from Sanger, Fresno County. He harvested grapes, figs and peaches, drove tractors, raised 4-H pigs, and renovated worn-out Model T's.

Young Oscar attended school in a tworoom schoolhouse. He graduated from Sanger High School, Reedley Junior College and Fresno State College, majoring in zoology. He planned a career as a ranger naturalist with the National Parks Service, but the federal agency had no openings. So he accepted a position with the USDA Dried Fruit Insect Laboratory, Fresno, as field aide.

It proved to be a two-year stint. In 1943, his boss steered him toward entomology and encouraged him "to get a degree" at UC Berkeley and return to the USDA.

In typical Oscar Bacon-fashion, he earned not one but two degrees from



Oscar Bacon

UC Berkeley. He completed his master's degree in entomology in 1944, and his doctorate in entomology in 1948.

And he never returned to his position in the dried fruit insect lab.

His major professor at UC Berkeley was the legendary entomologist Edward O. Essig (1884-1964), but Bacon worked more closely with Abraham Michelbacher (1899-1991).

He landed his first full-time job in entomology in 1946 as an associate in the agriculture experiment station. Upon completing his Ph.D., he became a junior entomologist and instructor. As a Ph.D., his starting salary was less than \$5000 a year.

Bacon's first major crop work: controlling aphids in spinach. Then it was on to other crops, including sweet corn, seed alfalfa, potatoes, small grains, tomatoes and melons.

"In 1953 I had the opportunity to come to Davis to develop my own programs," Bacon said. "I was grateful for the opportunity."

During his career, Bacon became UC's "No. 1 Alfalfa Seed Insect Man." In 1987, the California Alfalfa Seed Production Board recognized him for 13 years of service. In 1975, the Pacific Seed Association, based in Los Angeles, named him "Man of the Year."

Integrated pest management specialist Frank Zalom, former vice chair of the department and a Fellow of the Entomological Society of America, has long admired Bacon as an advocate for agricultural entomology research.

"Many entomologists may not appreciate that the credit for first using the term 'integrated control' is generally attributed to Abraham Ezra Michelbacher and Oscar Bacon, who in a 1952 paper in the Journal of Economic Entomology on control of codling moth mentioned the importance of 'considering the entire, entomological picture in developing a treatment for any particular pest."

In his personal life, Bacon is a husband, father and grandfather. He and his first wife, the late Dorothy Flagg Bacon, raised three daughters, Beverly and Gayle (both deceased) and Bonnie of Lincoln Hills.

Accolades follow Oscar Bacon like lygus bugs to alfalfa. The plaques that line his study in his Davis home attest to his significant contributions by a grateful and appreciative army of administrators, colleagues and students.

One thing, however, has always puzzled and impressed his friends: How Bacon could tuck his 6-foot, 4-inch frame inside his Triumph TR3, a tiny British sports car he restored.

He was a master of that, too. (*Editor's Note: See more photos on Department of Entomology Web site.*)

Charlie Summers Wins Woodworth Award

Charles "Charlie" Summers, a UC entomologist whose career spans 39 years in the pest management of field and vegetable crops, is the winner of the prestigious Charles W. Woodworth Award from the Pacific Branch of the Entomological Society of America.

Summers, stationed at the UC Kearney Agricultural Center, Parlier, since 1970, and a member of UC Davis Department of Entomology faculty since 1992, received the award at the branch's 93rd annual meeting, held March 29-April 1 in San Diego.

"This is the major award of the Pacific Branch to professionals and is very prestigious," said Pacific Branch president Walt Bentley, an integrated pest management specialist at Kearney Agricultural Center. "The award recognizes his contributions to entomology over the last 10 years but in reality it is for a career of meaningful work."

Throughout his career, Summers has worked to solve pest problems impacting California agriculture. He has conducted field studies in the Central Valley from Chico to Bakersfield, working with 15 different field and vegetable crops, more than 20 different insect pests and their natural enemies, and at least 10 insect-vectored diseases.



Charlie Summers

UC Rice Researchers: Circle of Life Award

A nine-member UC Cooperative Extension team won the annual Circle of Life Award from the California Rice Commission for two decades of dedication, commitment and accomplishments to the rice industry.

"When we look back at what has made rice the environmental commodity, we see one partner with us for over 20 years – the UC Cooperative Extension," said Tim Johnson, president and chief executive officer of the commission, in presenting the award March 11. "They are there, with us in our fields and at our research station. They make us be better farmers. They help us be better stewards of the resources we all share."

The team members are Larry Godfrey, Cooperative Extension specialist, UC Davis Department of Entomology; James Hill, Cooperative Extension specialist, UC Davis



Larry Godfrey

Department of Plant Sciences; James Thompson, Cooperative Extension specialist, UC Davis Biological and Agricultural Engineering; Christopher Greer and Glenn Nader, farm advisors, Sutter-Yuba counties; Randall Mutters, farm advisor, Butte County; Luis Espino, farm advisor, Colusa County; Mick Canaveri, farm advisor and county director, San Joaquin County; and Daniel Dooley, vice president of the UC Agriculture and Natural Resources.

Almond IPM Team Receives ESA Award

The UC Almond Pest Management Alliance Integrated Pest Management Team received the Entomological Foundation's "2008 Award for Excellence in IPM" at the Entomological Society of America's 2008 meeting. The team includes IPM specialist Frank Zalom, UC Davis professor of entomology and a newly selected ESA Fellow; Carolyn Pickel, UC Cooperative Extension, Sutter-Yuba counties; Walter Bentley, UC Kearney Agricultural Center, Parlier; UC Cooperative Extension farm advisors Mario Viveros, Kern County, Roger Duncan, Stanislaus County, and Joe Connell, Butte County; and scientist Barat Bisrabi, Dow AgroSciences. Both Pickel and Bentley are UC IPM advisors.

In Remembrance of Our Colleagues ...

Timothy Prout June 14, 1923 - Jan. 5, 2009

Timothy Prout, emeritus professor affiliated with the UC Davis Department of Entomology, died Jan. 5, 2009 in his home after a short illness. He was 85.

A 34-year resident of Davis, Dr. Prout was born in Waterbury, Conn., to Curtis Prout and Edith MacPhail Prout on June 14, 1923, and grew up in Summit, N.J. Dur-

Jack Root Sept. 20, 1943 - March 11, 2009

Jack Dallas Root, 65, of Aztec, Colo., a former student in the UC Davis Ecology Graduate Program, died Wednesday, March 11, 2009 following a skiing accident at the Durango Mountain Resort, Colo.

Born Sept. 20, 1943, in Lorain, Ohio, he grew up in Avon, Ohio, and attended Ohio State University and Pennsylvania State University. He then enrolled in the Ecology Graduate Program at the UC Davis,



Timothy Prout

ing the World War II, he served in Italy as a member of the 10th Mountain Division.

He received his doctorate from Columbia University in zoology in 1954 and soon after

joined the newly formed UC Riverside faculty, where he worked 20 years before moving to UC Davis to join the genetics and evolution faculty.



where he met Helen North. They were married in 1972 at Menlo Park.

The couple lived in Davis and Mr. Root worked in the agricultural chemical industry

until 1978.

He and his wife then moved to Scottsdale, Ariz., where he continued in that field until 1988, and later, worked for the state of Arizona.

Mr. Root semi-retired and moved to Aztec in 1994, to fulfill his dream of owning

Dr. Prout was well liked and respected by his many students. Dr. Prout remained active in research, working on his beloved Drosophila, and was publishing papers well past his official retirement. He enjoyed the outdoors: trout fishing, skiing and backpacking. He is survived by Marjorie Lester Prout, his wife of 58 years, two children, Mary Prout and David Prout, and two grandchildren, Ellen Slatkin and Eric Hu.

a farm on the river and living in a timber frame home. He and his wife started North & Root Consulting and later established Animas Exterminating.

He was a devoted Ohio State Buckeye fan, was a news and technology "junkie" and loved to read, travel and ski. He collected old tractors and was active in the farm community, as well as his professional organizations, including the Entomological Society of America.

He is survived by his wife, Helen, of Aztec; mother, Jessie Root, of Avon; brother, Frank Root Jr., of Avon; and numerous nieces, nephews and cousins.



Fred Iltis

Wilfred 'Fred' Iltis: April 20, 1923 - Dec. 11, 2008

Wilfred "Fred" Iltis, 85, who received his doctorate in entomology at UC Davis, died Dec. 11, 2008 in San Jose.

Born April 20, 1923 in Brno, Czechoslovakia, he immigrated to the United States with his family in 1938 during the Nazi invasion. He served with the U.S. Army in the South Pacific.

He married Julia Patricia Zrinyi (1926-2004), a scientific illustrator and artist, in 1948. They settled in San Jose where Dr. Iltis taught in the biology department at San Jose State University until his retirement in 1988. He focused his research on the biosytematics and life cycle of mosquitoes. He also was an excep-

tional photographer.

Dr. Iltis is survived by his brother, Hugh Iltis, emeritus professor of botany at the University of Wisconsin-Madison, and nephews, Frank and Michael Iltis, of Madison, Wis., and John and David Iltis, of Salt Lake City, Utah, and many friends. Department of Entomology One Shields Ave. University of California Davis, CA 95616

Community Ecologist Louie Yang Joins UC Davis Faculty

Community ecologist Louie Yang, who received his doctorate in population biology at UC Davis in 2006, has joined the UC Davis Department of Entomology as an assistant professor, effective Jan. 2.

"Louie is one of our rising stars," said Lynn Kimsey, chair of the Department of Entomology and director of the Bohart Museum of Entomology. "His work on resource pulses has led to the creation of a new field of ecological study."

"It's great to be back," Yang said. "UC Davis is truly one of the best places on the plant to study ecology, and it's an honor to be a faculty member here. I'm looking forward to it immensely."

Yang's research interests include community ecology, species interactions, temporal variation, extreme events in nature, and the integration of ontogeny and phenology.

"My research program studies how resource pulses, disturbance events and the timing of species interactions affect ecological communities," Yang said. "I describe myself as a community ecologist. Much of my research is aimed at understanding the temporal dimension of ecological communities: How do natural systems respond to changing conditions?"

His work emphasizes "the fundamental idea that ecological systems are constantly changing over multiple time scales." He was formerly with the Ecology, Evolution and Marine Biology at UC Santa Barbara.

