DEPARTMENTAL NEWS

A MEMBER OF THE AGRICULTURAL EXPERIMENT STATION WAS THE FIRST PRESIDENT OF THE LOCAL NEW HAVEN AMERICAN CHEMICAL SOCIETY SECTION.

Article Submitted by Walter Krol
Written by Philip E. Browning
chemists in the city and its vicinity a card asking them to meet on the evening of January 24, 1912, at the Sheffield Chemical Laboratory, to organize a New Haven Section of the American Chemical Society.


The meeting was called to order by P. E. Browning, who read selections from the Constitution of the American Chemical Society and a letter from Secretary Parsons giving permission for the organization of the New Haven Section. The following officers were elected: President, J. P. Street; Secretary, G. S. Jamieson; Treasurer, R. W. Langley. The president appointed Messrs. Browning and Foote as a committee to draw up by-laws. At the following meeting A. P. Beardsley was added to the committee, and it was asked to serve with the officers as an executive committee.

From this small beginning the membership has grown until at present it numbers about one hundred and sixty. During the eighteen years of its history meetings of the section have averaged about six a year. In 1918 only four meetings were held, but in the years 1920–22 there were eight meetings a year. In the period of greatest activity, an effort was made to hold meetings alternately in New Haven and Bridgeport, but the plan proved not very successful, because of the difficulty of getting a sufficient number of New Haven members to make the trip to Bridgeport. About 75 per cent of the membership reside in New Haven. An occasional meeting, however, is still held in Bridgeport.

Two joint meetings with the Connecticut Valley Section have been held in Meriden in March, 1922, and March, 1925, and a joint meeting with the New England Association of Chemistry Teachers was held in Bridgeport in December, 1925.

Our section has been fortunate in its list of speakers. From abroad we have had Fritz Paneth, George Barger, Paul Walden, Ernst Cohen, and Ulick Evans; and we have heard many distinguished American chemists. At the time of the dedication of the Sterling Chemistry Laboratory, in April, 1928, when the American Chemical Society held its meeting in New Haven, we were privileged to see and hear J. J. Thomson, F. G. Donnan, and J. C. Irvine, of England; G. Urbain, of France; G. Bruni, of Italy; T. Svedberg, of Sweden; F. G. Holleman, of Holland; and W. Lash Miller, of Canada.

Philip E. Browning
THE SURVEY AND INSPECTION TEAM AT THE EASTERN PLANT BOARD MEETING
By Victoria L. Smith

Back row, from left: Stephen Sandrey, Peter Trenchard, Mike Arnold (President), Mark Taylor, Jason Fuller.
Seated, from left: Tia Blevins, Sarah Scally

The 84th Annual Meeting of the Eastern Plant Board was held April 6-9, 2009 at the Holiday Inn by the Bay in Portland, Maine, in conjunction with the 35th Annual Meeting of the Horticultural Inspection Society (HIS) and the Cooperative Agricultural Pest Survey. During the EPB Meeting, Victoria Smith presented annual reports on behalf of the National CAPS Committee and the National Plant Board P. ramorum Working Group, and was elected Vice President of the Eastern Plant Board. For the HIS meeting, Peter Trenchard presented two talks titled “CWR Strikes Again” and “Trace-back Troubles: another P. ramorum Saga.” Peter was also elected Newsletter Editor for HIS, Stephen Sandrey was elected Archivist, and Tia Blevins was elected Treasurer. Rose Hiskes attended the CAPS meeting as the State Survey Coordinator for Connecticut, and participated in discussions on data management, GIS mapping, surveys, and taxonomy.

EPA BED BUG SUMMIT
APRIL 13 – 15
WASHINGTON DC
By Gale E. Ridge

In the middle of April, the EPA held a two day conference on bed bugs in Washington DC. They had four goals: share information, come to common understanding, provide a forum for open frank communication, and share ideas and develop recommendations for future actions on the management of bed bugs in America. The 300 delegates came from all over the continent representing the pest management, hospitality and housing management industries, health departments, academia, research, congressional representatives, flight attendant and pilot unions and government agencies including CDC, HUD, USDA and so on.

The conference was divided into two parts. The first morning was dedicated to 17 ten-minute talks on bed bug biology, impact of infestations, control methods, and responses to public health and local government requests. Ten working groups were formed, and Dr. Gale E. Ridge was elected the leader of her group. The working groups were given five topics: research, role of government at all levels, consumer education and communication, pest control operator education and training, and the role of property owners and managers. The groups had to identify the most significant contributing factors, discuss options and solutions, and provide recommendations.

The closing session of the conference was a plenary meeting where each working group leader addressed the body of delegates with recommendations. They are now on the EPA web site for public comment under “National Bed Bug Summit Summary Materials Available” at http://www.epa.gov/pesticides. In her speech Dr. Ridge pushed the CDC to designate bed bugs as a public health pest. If this is done, government monies would be released for national programs and research. The conference was extensively reported in the media and was carried by every major media outlet worldwide.
ADMINISTRATION
DR. LOUIS A. MAGNARELLI made opening remarks at our annual Spring Open House in New Haven (142 adult attendees)(April 23); attended a Board meeting of the Experiment Station Associates and gave a report on research programs (April 27); and attended a meeting of an adaptation subcommittee of the Governor’s Steering Committee on Climate Change in Windsor (April 27).

ANALYTICAL CHEMISTRY
DR. BRIAN EITZER along with DR. KIM STONER gave a talk on “Pesticide Residues in Pollen collected by Foraging Honey Bees” to the Connecticut Beekeepers Association in New Haven (April 4) and presented a seminar on the same topic to Department of Plant, Soil and Insect Sciences at the University of Massachusetts Amherst (April 7).

BIOCHEMISTRY AND GENETICS
DR. RICHARD PETERSON attended the 26th Eastern Regional Photosynthesis Conference in Woods Hole, MA. He presented a poster entitled: “LHCB7 Regulates Photoprotective Quenching and Linear Electron Transport” authored by Peterson and Neil Schultes (April 17-19) and The Quinnipiac Chapter of Sigma Xi has awarded DR. JASON WHITE the 2009 Research Paper of the Year Award. His submission
was entitled: “Optimizing Planting Density for p,p’-DDE Phytoextraction by Cucurbita pepo”. **RICHARD PETERSON** is the Vice President of the Chapter and moderated the contest.

**DR. NEIL SCHULTES** and **DR. RICHARD PETERSON** met with Dr. Peggy Lemaux of UC-Berkeley on April 16 to discuss genetically modified organisms and agriculture (April 16).

**DR. DOUG DINGMAN** presented a seminar titled “Honeybee health and American foulbrood” at the Connecticut Beekeepers Association in Hamden, CT (April 4); presented a talk on honeybees and American foulbrood research to AP biology students at Hamden High School Hamden, CT (April 20); and presented a demonstration on honeybees and American foulbrood research activities for the “Gardening in Connecticut” program of The Connecticut Agricultural Experiment Station’s annual Open House in the Spring (April 23).

**ENTOMOLOGY**

**MS. ROSE BONITO** presented a display on ticks and Lyme disease at the Biodiversity Day event, ‘Backyard Bloodsuckers: Biodiversity Bites Back!’ held at the Peabody Museum of Natural History, Yale University, New Haven (678 visitors) (April 17).

**MS. ROSE HISKES** participated in the Eastern Plant Board Meeting in Portland, ME (April 6-9); chaired a meeting of the Connecticut Asian Longhorned Beetle and Emerald Ash Borer Outreach team in Windsor (April 14); was interviewed by Mr. Kerry of the Waterbury Republican about bees (April 14); participated in a regional conference call of the NE Exotic Forest Pest Outreach and Survey Team (April 16); and gave a talk on “Invasive Plants” to the Vernon Greenways Volunteers in Vernon (20 attendees) (April 27).

**MR. IRA KETTLE** provided a honey bee presentation for the Hungerford Park Youth Day held at the Hungerford Park in Kensington (150 attendees) (April 25) and provided a honey bee presentation show for kids in the after school Agricultural/Environmental Program at Lake Street School in Vernon (25 students and adults) (April 27).

**DR. CHRIS T. MAIER** displayed new entomological literature and U.S. postal stamps at the Annual Dinner Meeting of the Connecticut Entomological Society in Jones Auditorium (April 17) and spoke about the discovery of the brown marmorated stink bug, a potential fruit pest, in Connecticut during a twilight meeting of the Connecticut Pomological Society at the Silverman Farm in Easton (April 28).

**DR. VICTORIA SMITH** participated in a meeting of the CT State CAPS Committee, to get an update on the Asian Longhorned Beetle (ALB) program, discuss and coordinate outreach efforts for the state, and discuss and coordinate any survey efforts, held at the Windsor Valley Laboratory (10 participants) (March 3); participated in the Winter Meeting of the North East Sustainable Agriculture Research and Education Administrative Council, held at the Hilton in Burlington VT (35 participants) (March 4-6); participated in a meeting on firewood regulations, held at the George Washington Wildlife Management Area in Chepachet RI (10 participants) (March 13); was the Keynote Speaker at the 17th Annual Meeting of the Tree Wardens Association of CT, and presented a talk titled “The Asian Longhorned Beetle: Update”, held at St. Clements Castle in Portland, CT (100 participants) (March 26); presented a lecture to Liza Knapp’s Ecology Class at Eastern CT State University, on Asian Longhorned Beetle and other invasive species (25 participants) (April 15); participated in a meeting on regional emergency planning and response, held at the USDA-APHIS-PPQ Office in Wallingford (8 participants) (April 17); and participated in the Twilight Meeting of the CT Pomological Society, held at Silverman’s Orchard in Easton, CT, with a presentation on results of the survey for Light Brown Apple Moth (approximately 35 participants) (April 28).

**DR. KIRBY C. STAFFORD, III** spoke on Connecticut Beekeeping at the meeting of the Connecticut Beekeeping Association in Jones Auditorium. (67 attendees) (April 4); spoke at the Monroe Public Library on ticks and Lyme disease (10 attendees) (April 7); participated in an Asian longhorned beetle (ALB) outreach planning group meeting at the Valley Laboratory (April 14); spoke on ticks and Lyme disease and introduced the Asian longhorned beetle at Connecticut Light and Power in Middletown, CT (58 attendees) (April 16); spoke on ticks and Lyme disease prevention at a meeting of the Connecticut Naturopathic
Practitioners Association in Cromwell, CT. (95 attendees) (April 18); spoke on ticks and Lyme disease prevention at a Lyme disease conference at Norwalk Hospital in Norwalk, CT (April 22); spoke on ticks and Lyme disease as part of Representative John Stripp’s Environmental Information Sessions in Weston, CT (14 attendees) (April 27); and participated in a meeting of the NIH/Peabody Museum Advisory Council at the Yale Peabody Museum in New Haven (9 attendees) (April 28).

MS. HEIDI STUBER provided a monitor, microscope, and preserved tick specimens for a display on ticks and Lyme Disease at the Biodiversity Day event, ‘Backyard Bloodsuckers: Biodiversity Bites Back!’ held at the Peabody Museum of Natural History, Yale University, New Haven (April 17) (678 visitors).

FORESTRY AND HORTICULTURE
DR. JEFFREY WARD along with J.P. BARKSY, conducted a field workshop on controlling invasive shrubs for Stephen T. Hladun, Special Projects Coordinator - City of Bridgeport, Stanley Dynia, Vice President – GZA GeoEnvironmental, Inc, and staff of the Bridgeport Parks and Recreation Department (6 attendees) (April 1); spoke on "Alternative methods of controlling Japanese Barberry and impact on Lyme Disease" at the Yale Forest Forum (30 attendees) (April 2); interviewed about the health of Connecticut's urban forest by Ed Stannard of the New Haven Register (April 16); conducted field workshop on controlling invasive shrubs for trail master of the Sleeping Giant Association in Hamden (7 attendees) (April 18); along with DR. SCOTT WILLIAMS, hosted a visit by Tom Rawinski, USDA Forest Service - Northeastern Area State and Private Forestry (April 29).

DR. MARTIN GENT gave a talk to Greens Farms Garden Club in Westport CT on “Extending vegetable production using cold frames and row covers” (25 people) (April 7); Barbara Broughel visited Lockwood Farm to see greenhouses and discuss vertical farming for industrial buildings in inner cities (April 27); and visited Steitzel Family Farm in Redding CT to discuss hydroponic production of watercress (April 28).

DR. ABIGAIL MAYNARD interviewed by Jan Spiegel of the New York Times about the New Crops Program (April 13); spoke on the New Crops Program at Heritage Village in Southbury (42 adults) (April 15); interviewed by Teresa Barger of the Hartford Courant about the New Crops Program (April 16); assisted Hamden Hall Country Day School students on their science projects (9 students and 1 teacher) (April 16); spoke on Unusual Vegetables to Grow in your Garden at the Station’s Spring Open House (160 adults) (April 23); and spoke on the New Crops Program as part of Earth Day activities at Sikorsky in Stratford (9 adults) (April 29).

DR. WILLIAM NAIL participated in the annual National Viticulture Extension Educators meeting in Oklahoma City, OK (March 31-April 2) and met with Jerry Savino of Savino Vineyards in Woodbridge to discuss grape management practices for the growing season (April 21).


GRANTS AND FUNDRAISING OFFICE
TESS FOLEY presented an overview of the work of the CAES and the research being conducted for CT agriculture at the Fairfield County Farm Bureau “Grow Your Own Workshop” at the Extension Center in Bethel, CT (Attendance 5) (March 28); was interviewed on WMNR radio about her work at the CAES (March 29); arranged for presentations by DR. JASON WHITE and DR. WALTER KROL at the Sikorsky Corporate Headquarters in Stratford, CT for their Earth Day Celebration (Attendance 200) (April 22); along with DR. KIMBERLY STONER and DR. HUGH SMITH, represented the Experiment Station at the CT Folk Festival kick-off event on Earth Day to promote awareness of this year’s CT Folk Festival and Environmental Green Expo at the Peabody Museum (Attendance 140) (April 22); and arranged for presentations by DR. ABIGAIL MAYNARD, DR. FRANCIS FERRANDINO, DR. TODD MERVOSH, and GREGORY BUGBEE for the Sikorsky Heavy Lift Helicopter development center for their Earth Day Celebration (Attendance 35) (April 27).
PLANT PATHOLOGY AND ECOLOGY

DR. SANDRA L. ANAGNOSTAKIS met with members of the New Haven Garden Club to discuss a project on “Elms for the Elm City” in Jenkins (10 adult attendees) (April 6).

DR. SHARON M. DOUGLAS participated in the monthly meeting of the Board of Directors of the CTPA in New Haven (April 14); met with Dr. Li-Jun Ma, The Broad Institute, and discussed the Department of Plant Pathology and Ecology and CAES. Dr. Ma was invited by the department (DR. WADE ELMER) to give a Lockwood Lecture (April 15); gave a presentation entitled “New ways to control an old foe—Dutch elm disease” and organized the program of the CTPA Workshop “Pesticides—An update for the working arborist. New tools for old problems” at the Lyceum in Hartford (89 adult attendees) (April 16); and organized the program and content of the Station’s Spring Open House entitled “Gardening in Connecticut” (142 adult attendees) (April 23).

DR. FRANCIS J. FERRANDINO gave a talk about grape powdery mildew at the Sikorsky Earth Day event held in Trumbull (12 adult attendees) (April 29).

MS. PAMELA SLETEN was chosen by the North Haven Inland Wetlands Commission, of which she is a member, to attend a Land Use Leadership Alliance Training Program. This four-day course teaches participants how to use land-use law, conflict resolution, and community decision-making techniques to accomplish sustainable community development. The program was developed by Pace Law School in White Plains, New York, in 1995, and has graduated over 450 local leaders since its inception. Pamela’s tuition for this course was paid by a grant from the Quinnipiac River Fund through the Community Foundation for Greater New Haven, which supports ecological activities and advocacy efforts that protect the river and its surrounding watersheds.

SOIL AND WATER

DR. THEODORE ANDREADIS gave an oral presentation on West Nile virus and a tour of the Biosafety Level 3 and electron microscope laboratories to a group of 14 students from the Walsh Intermediate School in Branford as part of the NIH/NSF sponsored Peabody Fellows Program, Yale University (April 16); presented a talk entitled, West Nile Virus: An Exotic, Emerging Mosquito-Borne Disease in the Western Hemisphere to a class of 20 students enrolled in a course in Medical Entomology at the University of Connecticut, Storrs (April 12); attended an Advisory Council meeting of the Peabody Fellows Biodiversity and Human Health Program held at Yale University (9 attendees) (April 28); and presented a lecture entitled, West Nile virus: a ten year perspective on what we have learned and what we can expect in the future at a Mosquito and Biting Fly Pesticide Applicator Workshop sponsored by Clarke Mosquito Control, held in East Hartford, CT (25 attendees) (April 29).

GREGORY BUGBEE with MARTHA BALFOUR sponsored two events on Soil Testing as part of the Connecticut Science Olympiad at UCONN in Storrs (35 participants) (April 4); was interviewed about Ponds by Pamela Weil for the Connecticut Gardener magazine (April 13); presented two talks on Soil Testing and Invasive Aquatic Plants at Soil Testing Day in Sherman, CT (25 participants) (April 18); spoke
JOHN SHEPARD AND MICHAEL THOMAS spoke to 14 students from the Walsh Intermediate School in Branford and provided hands on activities about mosquito biology and arbovirus surveillance as part of the NIH/NSF sponsored Peabody Fellows Program, Yale University (April 16) and presented a display on West Nile Virus and Mosquito Biology at the Biodiversity Day event, “Backyard Bloodsuckers: Biodiversity Bites Back!” held at the Peabody Museum, Yale University (April 23).

DR. CHARLES VOSSBRINCK April 28–30 presented two lectures entitled The Microsporidia, Phylogeny, Ecology and Molecular Biology to the Department of Sericulture at the South China Agricultural University in Guangzhou, China (April 28) and, to the Division of Microbiology, Institute of Sericulture and Systems Biology, at the Northwestern University in Chongqing, China (April 30). Dr. Vossbrinck was also given an extensive tour of Silk and Silkworm production in the countryside.

DR. JASON WHITE participated in an EPA-sponsored conference call to discuss the December 2009 International Phytotechnology Society Meeting; J.C. White is Vice President of the Society (April 9); visited The Department of Energy’s Brookhaven National Laboratory on Long Island New York. We have established the Northeast Phytotechnologies Research Consortium, which includes scientists from Brookhaven NL, CAES, The University of Massachusetts and the Army Corps of Engineers (April 16); presented a lecture entitled Phytoremediation of soils contaminated with persistent organic pollutants at the University of Connecticut’s Department of Civil and Environmental Engineering weekly seminar series (April 17); presented a poster entitled Phytoremediation of soils contaminated with persistent organic pollutants for the Earth Day Celebration held at Sikorsky Corp. in Stratford CT (April 22); visited the University of New Haven and met with Professor Saion Sinha of the Physics Department to discuss the results of collaborative experiments and to begin work on a joint grant proposal to NSF (April 24); and was awarded Outstanding Paper of the Year (2008-2009) by the Quinnipiac University Chapter of Sigma XI. The paper is entitled Optimizing planting density for p,p’-DDE phytoextraction by Cucurbita pepo that appeared in Environmental Engineering Science (2009) 26: 69-375 (April 30).

VALLEY LABORATORY


DR. JAMES A. LAMONDIA spoke about research on tobacco root disease management and results of the breeding program for multiple pathogen resistance at the CPS Tobacco Growers meeting held in Windsor Locks (120 persons) (April 15).

DR. DEWEI LI visited the Farlow Library and Herbarium at Harvard University to access mycological literature, examine specimens of Stachybotrys and Memnoniella and visit Dr. Don Pfister and several other mycologists/visiting scientists in his laboratory (April 6) and visited the New York State Museum to examine Stachybotrys spp. and the type specimen of Stachybotrys elongata collected by C. Peck, and participated in a meeting with NY state mycologist, Dr. John Haines and members of the NY Department of Environment Conservation to discuss Bat White Nose Syndrome and possible research collaboration (April 9).

DR. TODD MERVOSH served on the scholarship selection committee for the Connecticut Nurserymen’s Foundation at a meeting at the Valley Laboratory in Windsor (15 attendees) (April 7); gave a presentation on “Identifying and managing weeds in gardens” at the Spring Open House at CAES in New Haven (142 adult attendees) (April 23); spoke about mile-a-minute vine and other invasive plants at an Earth Day event at Sikorsky Corporate Headquarters in Stratford (12 attendees) (April 29); and presented a display about...
CAES and the Valley Laboratory at a career night at Suffield High School (approximately 50 youth and 50 adult attendees) (April 29).

DR. HUGH SMITH gave a presentation on management of arthropod pests of tobacco at the CPS tobacco meeting at the Clarion Suites, East Windsor (120 people in attendance) (April 15).

JOURNAL ARTICLES APPROVED APRIL 2009

Andreadis, Theodore G. and Roger J. Wolfe. Evidence for Competitive Reduction of Native Species by the Invasive Exotic Mosquito *Ochlerotatus japonicus japonicus* (Diptera: Culicidae). *Journal of Medical Entomology*


GRANT AWARDS APRIL 2009

DR. SHARON M. DOUGLAS has received a $3,500 grant from the Community Foundation for Greater New Haven, Fund for Women and Girls that was submitted through The Connecticut Agricultural Experiment Station Research Foundation for a Middle School Girls’ Science Mentoring Program.

DR. WADE H. ELMER The APS Press publication *Mineral Nutrition and Plant Disease*, edited by Lawrence Datnoff (Louisiana State University), Wade Elmer, and Don Huber (Purdue University) was awarded the Current Review for Academic Libraries CHOICE Award for Outstanding Academic Title for 2008. The award is given each year to select author(s) for Academic titles ranked “the Best of the Best.”

DR. THEODORE ANDREADIS and DR. PHILIP ARMSTRONG received an Epidemiology and Laboratory Capacity for Infectious Disease Grant for West Nile Virus Surveillance for $55,000 from the Centers for Disease Control and Prevention and the State of Connecticut Department of Public Health.

DR. GOUDARZ MOLAEI and DR. THEODORE ANDREADIS received $2,500 from Mercer County Mosquito Control in New Jersey to investigate the blood feeding behavior of the invasive exotic mosquito, *Ochlerotatus japonicus*.

GREGORY BUGBEE has received a $30,000 grant from FirstLight Power to survey lakes Candlewood, Lillinonah and Zoar using remote sensing to meet Federal Energy Regulatory Commission requirements.
GREGORY BUGBEE has received a $9,600 grant from the Connecticut Department of Environmental Protection to survey Silver Lake in New Britain and assess the affects of dredging.

GREGORY BUGBEE has received a $4,000 grant from the Bashan Lake Association to conduct aquatic weed control in Bashan Lake in East Haddam, CT.

DR. JAMES LAMONDIA received $6,000 in support of his research program on management of tobacco blue mold from Syngenta Crop Protection.

DR. WILLIAM NAIL was awarded a grant of $4,758 by Viticulture Consortium East for "Coordinated Wine Grape Variety Evaluations in the Eastern USA" (April 1).

DR. WILLIAM NAIL was awarded a grant of $1,800 by Viticulture Consortium East for "Effects of Graft Union Height on Vine Performance and Winter Survival" (April 1).

ARTICLES OF INTEREST APRIL 2009

Published and posted on the Brookhaven National Laboratory website.

USING PLANTS TO HELP THE ENVIRONMENT

NORTHEAST PHYTOTECNOLOGY RESEARCH CONSORTIUM PROPOSED

In a Biology Department greenhouse are (from left) DR. JASON WHITE, The Connecticut Agricultural Experiment Station; Charles (Mike) Reynolds, Army Cold Regions Research & Engineering Laboratory; Daniel (Niels) van der Lelie, Safiyh Taghavi, Sebastien Monchy, and Lee Newman, all of BNL; and Guy Lanza, University of Massachusetts.

On April 16, three scientists from the Biology Department — Daniel (Niels) van der Lelie, Safiyh Taghavi, and Lee Newman — met at BNL with Guy Lanza of the University of Massachusetts, Charles (Mike) Reynolds of the Army Cold Regions Research & Engineering Laboratory, and Jason White of the Connecticut Agricultural Research Station to start the Northeast Phytotechnology Research Consortium.

Phytotechnology is defined by the group as using plant-based technologies to deal with environmental issues. This includes phytoremediation, or cleaning environmental pollutants using plants, carbon sequestration, biomass for biofuel production, and plants for environmental risk assessment.
Now, van der Lelie and Taghavi, who have extensive experience in plant/microbe interactions, and Newman, a leader in phytoremediation who additionally is co-editor-in-chief of the International Journal of Phytoremediation, met with Lanza, Reynolds, and White, all experts in different areas of phytotechnologies. The group hopes to harness their particular expertise to understand issues such as how plants can address environmental challenges or adapt to changing environmental conditions. This knowledge can be exploited to improve environmental restoration, carbon sequestration, sustainable production of biofuel feedstocks on marginal soils, or to understand the fate of nanomaterials in the environment.

Said van der Lelie, "Plants can fulfill a central role to address many of DOE's mission needs in energy production and environmental stewardship."