

STATION NEWS

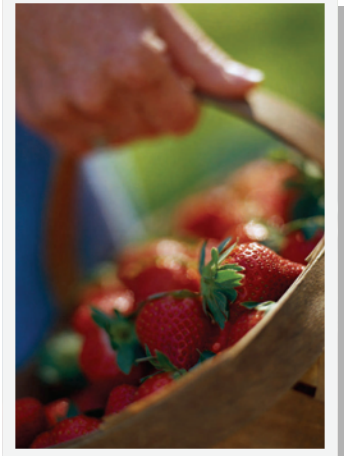
THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION



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STATION NEWS
*PUTTING SCIENCE TO WORK FOR
SOCIETY*

The mission of The Connecticut Agricultural Experiment Station is to develop, advance, and disseminate scientific knowledge, improve agricultural productivity and environmental quality, protect plants, and enhance human health and well-being through research for the benefit of Connecticut residents and the nation. Seeking solutions across a variety of disciplines for the benefit of urban, suburban, and rural communities, Station scientists remain committed to "Putting Science to Work for Society", a motto as relevant today as it was at our founding in 1875.



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DEPARTMENTAL NEWS

ANALYTICAL CHEMISTRY

DR. JASON C. WHITE met with Jessie Young of Congressman Chris Murphy's Office (May 2); participated in the monthly Laboratory Preparedness Network meeting at the Department of Public Health in Hartford (May 7); spoke with Dr. Heather Henry of the National Institute of Environmental Health Sciences Superfund Basic Research Program regarding a grant to fund student travel to the upcoming International Phytotechnologies Conference in Hasselt Belgium (May 9); participated in an FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (May 10); served as a judge for the CT AgriScience Fair which was held at Jones Auditorium (May 11); hosted a group of students from the Hooker School and provided a tour and description of the Department laboratories and programs (20 attendees) (May 18); attended the first meeting of the CT Environmental Nanotechnology Working Group at the University of Connecticut Center for Environmental Sciences and Engineering and gave a presentation entitled "Nanomaterial contamination of agricultural crops" (15 attendees) (May 23); participated with Department staff in an FDA/USDA FERN-wide conference call (May 24); and presented an invited lecture at the Yale University Occupational and Environmental Medicine Program (Yale OEMP) entitled "Nanomaterial contamination of agricultural crop species" (18 attendees) (May 29).

DR. BRIAN EITZER participated in an FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (May 10); participated in an FDA MFRPS conference call (May 23); and participated in an FDA FERN LC-MS Executive Working Group conference call (May 30).

DR. WALTER KROL participated in an FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (May 10); hosted approximately 60 students, teachers and parents who attended an award banquet in the Jones Auditorium as part of the New Haven Section American Chemical Society National Chemistry week and presented awards for both the 2011-2012 Poster Contest and the Chemistry Olympiad, which was held in March in the Quinnipiac University Chemistry Laboratory (May 22); and participated in an FDA MFRPS conference call (May 23).

DR. CHRISTINA ROBB participated in an FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (May 10).

DR. ROBERTO DE LA TORRE ROCHE attended the first meeting of the CT Environmental Nanotechnology Working Group at the University of Connecticut Center for Environmental Sciences and Engineering (May 23).

MS. TERRI ARSENAULT attended the Girl Scout 100th Anniversary Jubilee with **MS. ROSE HISKES** and **MS. KATHERINE DUGAS** at the Durham Fairgrounds on a Saturday and co-presented a poster focused on making scientific observations of different insects, and identification of two invasive insects. About 300 Girl Scouts visited our table and drew insect models for display (May 19).

MS. KITTIPATH PRAPAYOTIN-RIVEROS participated in an FDA MFRPS conference call (May 23); and spoke with Emmanuel Apau from eLEXNET/FDA and reinitiated the data exchange program between the Analytical Chemistry Department and eLEXNET/FDA (May 30).



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Pictures from Girl Scout Jubilee



BIOCHEMISTRY AND GENETICS

DR. DOUGLAS DINGMAN presented a seminar on digital video editing and production to Station personnel at the 11 AM lecture series (May 1); presented the second part of the digital video editing and production seminar (May 2); served as one of four Judges from the Station for the New Haven Public School science fair (May 15-16); presented a short discussion on honey bee diseases research to students from Hooker Public school (New Haven) (May 18); and attended a meeting with David Blocher (past president and board member of the Back Yard Beekeepers Association, Fairfield, CT) regarding AFB research and the organization of a workshop to train beekeepers on use of a compound light microscope to monitor bee hives for *Nosema* spore presence (May 24).

DR. NEIL SCHULTES taught Amanda Dogul and Scott Tardif how to clone PCR DNA fragments into TOPO-pCR2.1 vectors, transform *Escherichia coli*, prepare DNA for DNA sequencing and analyze DNA sequence data. Amanda is a senior and Scott a freshman in the Forensics department at the University of New Haven and are detailing genomic polymorphisms in accessions of *Cannabis sativa* project with forensic plant biologist Dr. Heather Miller-Coyle (April 10, 17, and 24); and worked with Kalynn Nemecek to subclone and generate a DNA construct placing the coding region of a maize adenine guanine transporter gene into a yeast expression vector. Kalynn is a student and biology major from Middlesex Community College working on an internship in molecular biology in the Biochemistry & Genetics department. She is also working with **MS. REGAN HUNTLEY** and **DR. NEIL MCHALE** (May 22-23, 25, 29).



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ENTOMOLOGY

MS. KATHERINE DUGAS, with **MS. ROSE HISKES** and **MS. TERRI ARSENAULT**, attended the Girl Scouts 100th Anniversary Jubilee held at the Durham Fairgrounds, staffing a booth that included information about scientific observation, invasive forest pests, and promoting Plant Science Day. Over 8,000 attendees were recorded by the Girl Scouts of Connecticut, and at least 300 girls stopped by the CAES booth to make plant and insect drawings (May 19).

MS. ROSE HISKES, with **MS. KATHERINE DUGAS** and **MS. TERRI ARSENAULT**, attended the Girl Scouts 100th Anniversary Jubilee held at the Durham Fairgrounds, staffing a booth that included information about scientific observation, invasive forest pests, and promoting Plant Science Day. Over 8,000 attendees were recorded by the Girl Scouts of Connecticut, and at least 300 girls stopped by the CAES booth to make plant and insect drawings (May 19).

DR. GALE E. RIDGE spoke about bed bugs at the Northeast Recycling Council conference in Northampton, MA (April 17); visited and advised a major organic poultry operation in central Massachusetts that had two concurrent populations and forms of bed bugs (April 17); was interviewed about bed bugs by WTIC Radio (April 19); spoke about insect physiology to visiting students from Middletown High School (15 students) (April 20); spoke about bed bugs to delegates at the Western Connecticut Mental Health Network Bed Bug Forum overseen by the Northwest Regional Mental Health Board in Waterbury (90 attendees) (April 20); spoke about bed bug management protocols and legal implications at the New England Resident Service Coordinators conference in Providence, RI (110 delegates) (May 3); ran a bed bug in-service training for the Visiting Nurse Association in New Haven (35 attendees) (May 11); spoke at a Chrysalis Charities bed bug workshop on how to manage bed bugs in poor and underserved populations of Hartford (150 attendees) (May 15); was interviewed about bed bugs by the Waterbury Republican (May 16); spoke about insect behavior and evolution to visiting students from the Worthington Hooker Middle School in New Haven (15 students attended) (May 18); was notified that the bed bug training video titled "They're Back," which she produced, had won the Bronze Tally Award for internet/online informational video (May 29); and assisted soldiers from the Army Special Ops, stationed in Afghanistan, with IPM including heat treatment of bed bugs in their barracks. Treatment had to be modified due to the high altitude location of the buildings in the mountains bordering Afghanistan and Pakistan (May 31).

DR. VICTORIA L. SMITH participated in an Emerald Ash Borer Response meeting at the Valley Laboratory in Windsor (15 participants) (May 3); and, with **MR. PETER TRENCHARD**, met with Patrick Marino and Kim Merentz, of USDA-APHIS-Plant Protection and Quarantine Export Services, at Imperial Nursery in Granby, to discuss compliance agreements for shipping barberry to Canada, and to observe Best Management Practices in the nursery (May 17).

DR. KIRBY C. STAFFORD III was interviewed about honey bees and the bee inspector position by Erin Logan of WTNH-TV (May 9); with **DR. JEFFREY S. WARD**, was a guest on the Faith Middleton Show, WNPR, and discussed barberry, ticks, and Lyme disease (May 10); was interviewed about honey bee swarms by Jodie Mozdzer of the Valley Independent Sentinel, Ansonia (May 11); and was interviewed about tick bite prevention and tick control by Jenny Everett for Martha Stewart Living Magazine (May 17).

ENVIRONMENTAL SCIENCES

DR. THEODORE ANDREADIS was interviewed about the mosquito and arbovirus surveillance program for the 2012 and the outlook for this summer's mosquito population and West Nile virus activity by Brian McCready New Haven Register (May 11); was interviewed about the mosquito and arbovirus surveillance program for the 2012 and the outlook for this summer's mosquito population and West Nile virus and eastern equine encephalitis activity by Steve Kotchko, Connecticut Radio Network (May 31).

DR. PHILIP ARMSTRONG met with fellow scientists at the University of Western Australia and gave an invited seminar entitled, *West Nile Virus: Ecology and Evolution of an Invasive Pathogen in Northeastern U.S.A.* (May 8 and 9).



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MR. GREGORY BUGBEE with Jordan Gibbons gave an update to the Grannis Lake Association in East Haven on “*CAES IAAP Research on Grannis Lake and Prospects for the Future*” (approx. 25 attendees) (May 1); spoke to the Cheshire Garden Club on *Soil Fertility and Compost* (approx. 25 attendees) (May 7); judged the Future Farmers of America Science Fair in the Jones Auditorium (May 11); spoke to the Fence Rock Lake Association in Guilford on CAES IAPP surveillance for Brazilian Waterweed possible control options (approx. 25 attendees) (May 14); and spoke to students from the Hooker School in New Haven on “*Invasive Aquatic Plants*” (approx. 25 attendees) (May 18).

DR. GOUDARZ MOLAEI participated at Worthington Hooker Elementary School spring fair in New Haven and operated a booth to introduce public to the activities at the CAES particularly at the Center for Vector Biology & Zoonotic Diseases (May 12); and presented an invited lecture entitled, *Mosquitoes and Transmission of Viruses in the Metropolitan Area* at the Office of Vector Surveillance and Control, NYC Dept. of Health and Mental Hygiene, New York (May 16).

DR. JOSEPH PIGNATELLO attended and presented the talk entitled *Novel pathways in the adsorption of weak organic acids by black carbon* at the 6th SETAC World Congress, Berlin, Germany (May 20-24).

MR. JOHN SHEPARD participated in a Board of Directors meeting of the Northeastern Mosquito Control Association in Northboro, MA (10 attendees) (May 3); spoke to a group of Talented and Gifted students from Worthington Hooker School about mosquito biology and the state Mosquito Trapping and Testing Program (25 attendees) (May 18).

DR. CHARLES VOSSBRINK presented an invited talk on *Phylogenetic Methods* at the University of Southwest China, Chongqing China and met with students and faculty at the Institute of Sericulture and Systems Biology to discuss planned cooperative research on the silkworm pathogen *Nosema bombycis* (May 6-12).

FORESTRY AND HORTICULTURE

DR. JEFFREY WARD participated in the CT Statewide Vegetation Management Task Force in Rocky Hill (May 8); was interviewed by Faith Middleton of Connecticut Public Broadcasting Network about controlling Japanese barberry to reduce risk of Lyme disease exposure (May 10); spoke on using propane torches to control invasive shrubs at Vermont National Guard Camp Johnson in Colchester, VT (22 attendees) (May 15); meet with Suzanne Miller, Carrot Patch Early Learning Center, to discuss hazard trees and vegetation in Hamden (May 16); was interviewed about tree longevity by Will Rowlands of the Connecticut Gardener (May 16); visited Rebekah's Hill forest in Norfolk to advise Hallie Metzger, Hiram Rosenberg, and Harry While about forest management options (May 17); participated in the CT Statewide Vegetation Management Task Force in Middlefield (May 22); and gave five talks on "Fruits of the Forests" to 4th grade students at the Southington School Nature Day (118 students, 18 adults) (May 31).

DR. ABIGAIL MAYNARD discussed the New Crops program to Upper School students at Hamden Hall Country Day School (12 students, 2 teachers) (May 17); and discussed the New Crops program with John Holbrook at Holbrook Farm in Bethel (May 24).

DR. WILLIAM NAIL participated in a national conference call meeting of the eXtension Viticulture Extension Educators Community of Practice (GCoP) (May 24).

DR. SCOTT WILLIAMS along with **MR. JOSEPH P. BARSKY** and **MR. MICHAEL SHORT** conducted a natural resources inventory at the request of the Guilford Land Conservation Trust on a 13-acre property currently under contract, during which time, **MR. JOSEPH P. BARSKY** confirmed the presence of a previously unknown population of the Connecticut endangered plant *Sibbaldiopsis tridentata* (three-toothed cinquefoil). The crew also collectively documented a previously unreported population of the Connecticut species of special concern *Opuntia humifusa* (eastern prickly pear) in the vicinity (May 9); **DR. SCOTT WILLIAMS**, **MR. MICHAEL SHORT**, and **MR. JOSEPH P. BARSKY** were awarded certificates of appreciation at the State Future Farmers of America (FFA) Convention at Suffield High School for their continued partnership with the organization (May 19); and attended the executive board meeting of the Connecticut Urban Forest Council in Bridgeport, CT (May 31).



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MR. JOSEPH P. BARSKY gave six talks on "How trees grow" to 4th grade students at the Southington School Nature Day (132 students, 21 adults) (May 31); and represented CAES at a booth at the Norwalk-Wilton Tree Festival at Cranbury Park, Norwalk (May 19).

LOCKWOOD FARM

MR. RICHARD CECARELLI lead two different field trips (38 fifth graders) (May 2 and May 10). They are students of Mr. Clough and Ms. Kountz of the New Haven Public Schools' Talented and gifted Program. The students were from the following schools: Nathan Hale, Barnard, Betsy Ross, Conte-West Hills, Daniels, Hill Central, King-Robinson, East Rock, Fair Haven, Ross-Woodward, Davis, and Beecher.

PLANT PATHOLOGY AND ECOLOGY

DR. SANDRA L. ANAGNOSTAKIS staffed a table with Station information at the Worthington Hooker School Fair in New Haven (~300 attendees) (May 12); spoke about tree growth and problems to a group of visiting students from Worthington Hooker Middle School in New Haven (20 youths and 2 adults attended) (May 18); staffed a table with Station information at the Norwalk-Wilton Tree Festival (1,160 adults and 840 youths attended) (May 19); and gave a talk titled "Orchard and timber chestnuts for Connecticut" for the East Granby Land Trust (15 adults attended) (May 24).

DR. SHARON M. DOUGLAS gave a presentation titled "Diseases of woody ornamentals used for bonsai" for the Bonsai Society of Greater New Haven in Jones Auditorium (30 adult attendees) (May 10); assisted in judging projects at the State FFA Agriscience Fair held in Jones Auditorium (May 11); was interviewed about boxwood blight and its impact on landscape design and use by Constance Casey from Landscape Architect Magazine (May 15); organized and participated in a meeting of the CTPA Education Committee to develop a workshop on soil health as it relates to tree health in New Haven (May 21); and gave a presentation titled "The history of plant disease—The Irish Potato Famine and more" for the Orchard Valley Garden Club of Southington in Southington (52 adult attendees) (May 22).

DR. WADE H. ELMER attended the Connecticut State Agricultural Science and Technology Education Consulting Committee meeting in Rockville (8 adult attendees) (May 3); co-sponsored and served as a judge at the State FFA Agriscience Fair held in Jones Auditorium (33 students and 9 adults attended) (May 11); attended Joe Samela's high school senior class presentation on "Salt marsh decline" at the Sound School in New Haven; Joe is a volunteer working for Dr. Elmer (12 students and 3 adults attended) (May 15); and gave a presentation entitled "Sustainability in the garden" at Comstock Ferre Seed Company in Wethersfield (5 adult attendees) (May 20).

MS. MARY K. INMAN staffed the CAES booth and answered questions about the invasive insects Emerald ash borer and Asian longhorned beetle and tree diseases at the Norwalk-Wilton Tree Festival (1,160 adults and 840 youths attended) (May 19).

DR. YONGHAO LI spoke about plant disease diagnostics to a group of visiting students from Worthington Hooker Middle School in New Haven (20 students and 2 adults attended) (May 18).

DR. ROBERT E. MARRA, with **DRS. SHARON DOUGLAS, DOUGLAS DINGMAN**, and **RICHARD PETERSON**, participated in the New Haven Public School Science Fair as a judge for both the CAES Award and the Albert Dimond Award (May 15-16); attended the Awards Ceremony for the New Haven Public School Science Fair, and presented the Experiment Station award to Ms. Jane Hosen's 2nd grade class from Wexler-Grant School (May 17); joined **DR. SANDRA L. ANAGNOSTAKIS**, **MS. MARY K. INMAN**, and **MR. JOSEPH P. BARSKY** in representing CAES, fielding questions related to trees and tree health, at the Norwalk-Wilton Tree Festival. Dr. Marra presented information on the Department of Plant Pathology and



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Ecology, including fact sheets on common problems of trees and shrubs, and also a demonstration of sonic and electrical impedance tomography (1,160 adults and 840 youths attended) (May 19); and hosted the visit of Dr. David Houston, who presented a Lockwood Lecture on Beech Bark Disease (May 22-24); participated in a teleconference with other members of the Arrangements Committee in preparation for the 2012 annual meeting of the Mycological Society of America in July (May 29).

VALLEY LABORATORY

DR. RICHARD COWLES presented "Managing armored scales in Christmas trees" and conducted a walking tour of pests for RI Christmas Tree Growers' Association, Exeter, RI (35 attendees) (May 5).

DR. JAMES LAMONDIA spoke about CORESTA guidance residue levels and strategies to reduce pesticide residues in wrapper leaves at a meeting hosted by Crop Production Services in Broad Brook (80 attendees) (May 2); visited plant breeder Dr. Nick Belfield-Smith of Floranova in Norfolk, UK to discuss blue mold resistance breeding in ornamental tobaccos (May 10); was interviewed about shade tobacco production by Cheryl Ursin for Tobacco Retailer trade magazine (May 15); and was interviewed by Alex Collins, high school freshman, about science careers (May 18).

DR. TODD L. MERVOSH participated in a symposium planning meeting for the Conn. Invasive Plant Working Group at the Valley Laboratory (10 attendees) (May 2); presented a talk on management of invasive swallow-worts on a livehuddle.com webcast organized by Stewardship Network in Michigan (48 participants) (May 9); and led an invasive plant management walk for three volunteers at Tyler Mill Preserve in Wallingford (May 21).



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JOURNAL ARTICLES APPROVED MAY 2012

ANDERSON, JOHN F. and PHILIP M. ARMSTRONG. Prevalence and Genetic Characterization of Powassan Virus Strains Infecting *Ixodes scapularis* in Connecticut. *American Journal of Tropical Medicine & Hygiene*

DINGMAN, DOUGLAS W. Protocols for American Foulbrood. www.coloss.org/BEEBOOK, eds. Dietermann, V., Newmann, P., Ellis, J.

GENT, MARTIN P. N. Effect of Daily Integrated Irradiance on Composition of Lettuce (Abstract). *ISHS Symposium on Light in Horticulture*

MOLAEI, GOUDARZ, THEODORE G. ANDREADIS, PHILIP M. ARMSTRONG, MICHAEL C. THOMAS, T. Deschamps, E. Cuebas-Incle, W. Montgomery, M. Osborne, S. Smole, P. Matton, W. Andrews, C. Best, F. Cornine III, E. Bidlack, and T. Texeira. Vector-host Interactions of *Culiseta melanura* and Epizootiology of Eastern Equine Encephalitis virus in Massachusetts, USA. *Vector-Borne and Zoonotic Diseases*

DE LA TORRE ROCHE, R., J. HAWTHORNE, Y. Deng, B. Xing, W. Cai, L. Newman, C. Wang, X. Ma, JASON C. WHITE. Fullerene-enhanced Accumulation of DDE in Agricultural Crop Species. *Environmental Science Technology*

LAMONDIA, JAMES A. Connecticut River Valley Blue Mold Web Page. 2012. CAES website URL:<http://www.ctvalleytobacco.org>

LATTAO, CHARISMA, Y. LI, X. Cao, J. Mao, K. Schmidt-Rohr, M. A. Chappell, L. F. Miller, A. L. dela Cruz, and Joseph J. Pignatello. Sorption Selectivity in Natural Organic Matter Studied with Nitroxyl Paramagnetic Relaxation Probes. *Environmental Science and Technology*

Teixido, M., C. Hurtado, **JOSEPH J. PIGNATELLO, J. L. Beltran, M. Granados, and J. Peccia.** Predicting Contaminant Adsorption in Black Carbon (Biochar)-Amended Soil for the Veterinary Antimicrobial, Sulfamethazine. *Environmental Science and Technology*

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Griswold, CT 06351-3627
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*Putting Science to work
for Society.*



Entrance to The Connecticut Agricultural Experiment Station in New Haven on Huntington Street



Main Laboratories, New Haven



Lockwood Farm, Hamden



Griswold Research Center, Griswold



Valley Laboratory, Windsor

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