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The Connecticut Agricultural Experiment Station Putting Science to Work for Society since 1875

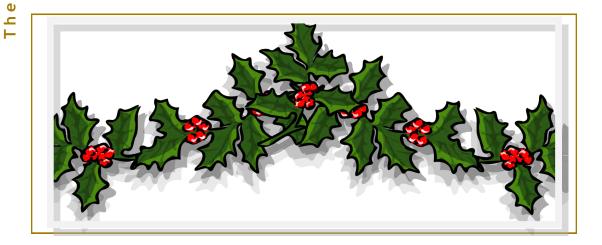
The mission of The Connecticut Agricultural Experiment Station is to develop, advance, disseminate scientific knowledge, and improve agricultural productivity and environmental quality, protect plants, and enhance human health and well-being through research for the benefit of Connecticut residents and 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

## **ADMINISTRATION**

**DR. THEODORE ANDREADIS** attended the annual meeting of Connecticut's Working Lands Alliance held in Hartford (November 17); attended a board meeting of the Experiment Station Associates held at the Station (November 18); presented an invited seminar entitled "*West Nile Virus: The Emergence and Spread of an Exotic Mosquito-Borne Disease in the Western Hemisphere*" at the Yale University School of Public Health (November 19); and attended the annual meeting of the Connecticut Farm Bureau held in Wallingford (November 20).

## ANALYTICAL CHEMISTRY

DR. JASON C. WHITE hosted Professor Lili He of the University of Massachusetts and three of her graduate students for the CAES Seminar series and for discussion of ongoing collaborative projects (November 4); attended the 4<sup>th</sup> Annual Sustainable Nanotechnology Organization (SNO) Conference in Portland Oregon, chaired two sessions entitled "Nanotechnology in Food and Agriculture," and gave a platform presentation entitled "Nanomaterials and crop plants: using molecular response to assess health and environmental safety after exposure" (30 attendees) (November 7-10); along with DR. BRIAN EITZER, MR. MICHAEL CAVADINI, MR. JOSEPH HAWTHORNE, MR. CRAIG MUSANTE, AND MS. TERRI ARSENAULT participated in the month FDA FERN cCAP teleconference call (November 12); met with Professor Saion Sinha of the University of New Haven Department of Physics to discuss collaborative research projects (November 13); remotely participated as a Committee member in the Ph.D. Dissertation Proposal of Ms. Wenjun Cai of the State University of New York College of Environmental Science and Forestry (November 16); gave a lecture entitled "Phytoremediation of Persistent Organic Pollutants" to an undergraduate Phytoremediation class at the University of Massachusetts Amherst (20 attendees) (November 17); and attended as a Committee member the Dissertation Proposal of Mr. Carlos Tamez of the University of Texas-El Paso Department of Chemistry (November 19).

**DR. BRIAN EITZER** attended the monthly Laboratory Preparedness Advisory Committee meeting at the Department of Public Health Laboratory in Rocky Hill CT (November 9); was a leader of the North American Chemical Residue Workshop's organizing committee teleconference call (November 12); and presented a talk entitled "The Analysis of Pesticide Residues in Foods using Liquid Chromatography and High Resolution Mass Spectrometry" (25 attendees); and along with **DR. CHRISTINA ROBB** co-chaired a session on the analysis of contaminants in foods at the Eastern Analytical Symposium in Somerset, NJ (November 16-18).

**DR. CHRISTINA ROBB** attended the Eastern Analytical Symposium (EAS) in Somerset, NJ (November 16-18); attended a board meeting for EAS in the same location (November 15) and a meeting for the Exposition committee (November 18); and was session co-chair of the session "Analysis of Chemical Contaminants in Foods". During the EAS conference, **DR. CHRISTINA ROBB** was interviewed by Ms. Laura Bush of LC-GC on the role and future of high-performance liquid chromatography coupled to high-resolution mass spectrometry (HPLC-HRMS) for pesticide analysis (November 16-18).



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# ENTOMOLOGY

**DR. KIRBY C. STAFFORD III** presented a talk on ticks and tick management for the NOFA Organic Land Care Course in Greenwich, CT (45 attendees) (November 2); participated in a conference call of the Tick IPM Working Group workshop planning committee (November 4); participated in an emerald ash borer interagency planning meeting organized by Chris Connelly, CT DEEP, to discuss outreach and response now that EAB is established in Connecticut (20 attendees) (November 4); visited by Dr. Scott Smedley and his students from Trinity College (16 attendees) (November 10); spoke on invasive forest insects at the annual meeting of the Connecticut Association of Conservation and Inland-Wetland Commissions (CACIWC) (47 attendees) (November 14); participated in the meeting of the Cooperative Agricultural Pest Survey (CAPS) committee at the Cottage at Lockwood Farm (10 attendees) (November 18); and spoke on ticks and tick-borne diseases at the annual meeting of the Connecticut Environmental Industry Council in Plantsville, CT (125 attendees) (November 24).

**DR. DOUGLAS W. DINGMAN** attended the Institutional Biosafety Committee (IBC) training workshop held at State College, PA with instruction by representatives of NIH-OBA (November 17-19).

**MS. KATHERINE DUGAS** attended an EAB Strategy Meeting with **DR. VICTORIA SMITH**, **DR. KIRBY STAFFORD**, and **DR. CLAIRE RUTLEDGE** at the CFPA (November 4); assisted **DR. GALE RIDGE** with a workshop for the CT Reuse and Recycling Industries regarding bed bugs and mattress recycling issues (30 attendees) (November 12); spoke with three 1<sup>st</sup> grade classes at the CREC Academy of Aerospace & Engineering Elementary School about ALB, EAB, and forest pests (60 student attendees) (November 13); staffed a forest pest table at the Connecticut Association of Conservation and Inland-Wetland Commissions (CACIWC) meeting at Villa Capri in Wallingford. She spoke with members of conservation commissions and tree wardens from throughout the state regarding EAB management (November 14); along with **DR. KIRBY STAFFORD** and **DR. VICTORIA SMITH**, attended and ran the State CAPS Committee meeting at Lockwood Cottage in Hamden (November 18); and staffed a CAES/forest pest booth at the CT Farm Bureau meeting at Villa Capri in Wallingford (November 20).

**DR. CHRIS T. MAIER** participated in a meeting of the Advisory Committee of the Cooperative Agricultural Pest Survey at Lockwood Farm, Hamden (November 18); exhibited new entomological literature at a meeting of the Connecticut Entomological Society at the University of Connecticut, Storrs (November 20).

**DR. GALE E. RIDGE** presented a talk to Connecticut transfer station attendants and sanitarians at CAES on how to screen and manage for bed bugs as mattresses enter the recycling stream (30 attendees) (November 12); and visited the Newreach shelter for battered women and children in New Haven to assist with an ongoing problem with bed bugs (November 23).

**DR. CLAIRE E. RUTLEDGE** presented a poster with **DR. ADRIAN ARANGO-VELEZ** as a co-author on "The Southern Pine Beetle moves North: First report of *Dendroctonus frontalis* in southern New England" at the Annual Meeting of the Entomological Society Meeting of America in Minneapolis, MN (November 18).

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# ENTOMOLOGY

**DR. VICTORIA L. SMITH** participated in an emerald ash borer strategy meeting, held at Connecticut Forest and Parks Headquarters in Rockfall, CT (20 participants) (November 4); participated in the fall meeting of the Cooperative Agricultural Pest Survey, held at the Cottage at Lockwood Farm (10 participants) (November 18); and participated in a meeting of the Yale Biosafety Committee held at 135 College Avenue, New Haven (20 participants) (November 19).

**DR. KIMBERLY A. STONER** gave a talk, "Ongoing Research on Movement of Neonicotinoids and Exposure of Bees at The Connecticut Agricultural Experiment Station" as part of a workshop on Ornamental Horticulture and Bees at Penn State University (November 6); gave a talk, "The Buzz About Bees" to the Lower Farmington River and Salmon Brook Wild and Scenic Study Committee and the public at the Simsbury Public Library (35 attendees) (November 9); participated in a meeting of the Landfill Legacy Work Group at the Hartford Department of Public Works, working on several options for the closed Hartford Landfill along I-91, including plantings for monarch butterflies and other pollinators (24 attendees) (November 19); and gave a talk, "The Buzz About Bees" to the Hartland Land Trust at the Hartland School (45 attendees) (November 23).

The Board of Control promoted **DR. CLAIRE RUTLEDGE** to Associate Scientist on November 6, 2015. Congratulations Claire.



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## **ENVIRONMENTAL SCIENCES**

**DR. JOSEPH PIGNATELLO** gave a talk co-authored by **DR. HSIN-SE HSIEH**, "Removal of CH<sub>3</sub>Br from Vent Streams by Catalysis or Adsorption-Catalysis" at the Annual Methyl Bromide Alternatives and Outreach Conference in San Diego, CA (approximately 120 attendees) (November 10); and gave a talk, "Steric and Electronic Effects in the Interactions of Triazine Herbicides with Biochars," at the Soil Science Society of America Annual Meeting in Minneapolis, MN; Nov. 15-19, 2015.

**DR. PHILIP ARMSTRONG** gave a lecture on the statewide mosquito trapping and testing program to a group of students from Long River School in Beacon Falls, Prospect, as part of the Yale-Peabody Fellows SEPA NIH program on mosquito biology (27 students and 3 others) (November 5); and the same lecture to a group of students from High Horizons Magnet School in Bridgeport as part of the Yale-Peabody Fellows SEPA NIH program on mosquito biology (24 students and 3 others) (November 17).

MS. ANGELA BRANSFIELD participated in the 2015 Federal Select Agent Program Webcast (November 19, 2015).

MR. JOHN SHEPARD participated a Board of Directors meeting of the Northeastern Mosquito Control Association in Newport, RI (13 attendees) (November 12).

MESSRS. JOHN SHEPARD AND MICHAEL C. THOMAS conducted a hands -on workshop on mosquito biology to a group of students from Long River School in Beacon Falls, Prospect (27 students and 3 others) (November 5); and the same workshop to a group of students from High Horizons Magnet School in Bridgeport as part of the Yale-Peabody Fellows SEPA NIH program on mosquito biology (24 students and 3 others) (November 17).

MR. GREGORY BUGBEE with MS. JENNIFER FANZUTTI gave a lecture on "Connecticut Soils and Soil Testing" to an environmental science class at the Coop High School in New Haven (approximately 35 students) (November 30); with MS. JENNIFER FANZUTTI gave a talk "Connecticut's Invasive Aquatic Plant Program – Who We Are and What We Do" at the North American Lake Management Society Conference in Saratoga Springs, NY (approx. 80 attendees) (November 18); with MS. JENNIFER FANZUTTI spoke on "CAES Invasive Aquatic Plant Program Surveys of Gardner Lake - Changes from 2006-2015" to the Gardner Lake Association at the Salem Public Library (approx. 25 attendees) (November 12); spoke on "CAES Invasive Aquatic Plant Program Aquatic Plant Surveys of Lake Quonnipaug – A Decade of Changes" to the Lake Quonnipaug Association at the North Guilford Firehouse (approx. 50 attendees) (November 7); and gave a lecture on "Connecticut's Invasive Aquatic Plant Problem - Searching for Solutions" to an Environmental Studies class at the University of Hartford (approx. 50 students) (November 5).

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### FORESTRY AND HORTICULTURE

**DR. JEFFREY WARD** spoke on "Every trees has its place – or – Planting the right tree in the right place" for the Spring Glen Garden Club at Lockwood Cottage (17 attendees) (November 9); spoke of "Right Tree-Right Place: homeowner tree care" for the Bethany Garden Club (21 attendees) (November 9); participated in a Connecticut Invasive Plant Council meeting in Hartford (November 10); and spoke on invasive species control to the Oxford Land Trust (23 attendees) (November 23).

**DR. ADRIANA ARANGO VELEZ** met with Leslie Kane (Audubon Connecticut) to discuss southern pine beetles on the Bent-of-the-River Sanctuary in Southbury (November 2); met with Kevin Broderick (Pequot Fish and Game Preserve) to examine Norway Spruce attacked by southern pine beetle in Newtown (November 2); met with Eric Hansen (Ferrucci & Walicki, LLC) and Bill VanDerBeek & Vic Donahey (Hammonasset Fishing Association) to examine trees infested with southern pine beetle in Madison (November 5); met with Luo Bacchiocchi (Haskins Preserve) to examine Norway and white spruce infested with southern pine beetle (November 6); and attended the Partners in Community Forestry Conference held in Denver, CO (November 18-19).

**DR. ABIGAIL MAYNARD** discussed the New Crops program at the Hindinger Farm in Hamden (November 25) (November 25) and spoke about farming and unusual crops to fourth graders at Hamden Hall Country Day School (2 teachers, 24 students) (November 30).

DR. SCOTT WILLIAMS spoke on "Ticked Off! Invasive Plants, Ticks, Deer and Lyme Disease—A Surprising Connection" at the Annual Meeting of the Connecticut Chapter of the Appalachian Mountain Club in Portland (35 attendees) (November 8); with DEEP Wildlife Division Biologist Michael Gregonis, led an interpretive hike for the Executive Board of the National Wildlife Federation at Yale-Myers Forest in Union (18 attendees) (November 8); met with Maureen Massa (Southold, NY Tick Committee) to discuss about tick management research and strategies (November 10); participated in a Graduate Committee meeting of University of Connecticut master's degree student Kelsey Schwenk to discuss her plan of study and thesis research (November 12); participated in a Graduate Committee meeting of University of Connecticut Ph. D. student MS. MEGAN LINSKE to discuss classes and dissertation research (November 12); and with MR. MICHAEL SHORT and MS. MEGAN LINSKE hosted the Connecticut Future Farmers of America (FFA) Association's Forestry Career Development Event at Lockwood Farm. Thirty-two students and eight teachers from 8 different schools competed in their general forestry knowledge, forestry equipment, tree identification, wood products, tree measurements, and compass use (November 13).

**MR. JOSEPH P. BARSKY** administered forestry examinations at Connecticut Future Farmers of America (FFA) Association's Forestry Career Development Event at Lockwood Farm (32 students, 8 teachers) (November 13).

**MR. MICHAEL R. SHORT** spoke with an undergraduate student from SUNY-ESF about a Wildlife Management class project (November 24).



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### **GRISWOLD RESEARCH CENTER**

**Mr. Robert Durgy** gave a lecture entitled Techniques For Growing Vegetables for the National Gardening Club Gardening Study School in New Haven (35 attended) (October 14); and taught Math Calculations and Calibration for Pesticide Applicator's Training in North Haven (16 attendees) (November 24).

## PLANT PATHOLOGY AND ECOLOGY

**DR. WADE H. ELMER** cohosted a meeting on "Marketing Greenhouse Products" with Dr. Rosa Raudales University of Connecticut and Ms. Leanne Pundt of UConn Cooperative Extension Service in Jones auditorium (43 people attended) (November 3); attended the Costal Estuarine Research Foundation Biennial Meeting in Portland, OR and presented the poster "Si nutrition in relation to the health of *Spartina alterniflora* in dieback sites" (November 8-11); and attended the Sustainable Nanoparticle Organization meeting in Portland, OR and presented the presentation "Nanoparticles of Copper oxides improve growth of eggplant in disease infested soils" (23 people attended) (November 9).

**DR. YONGHAO LI** visited Dr. Pinshan Wu in the Institute of Plant Quarantine at the Chinese Academy of Inspection and Quarantine, Beijing, China and gave a talk 'Sudden Oak Death and Boxwood Blight' to scientists (7 adults) (November 2); visited Dr. Jingzhi Wen in the Department of Plant Protection at the Northeast Agricultural University, Harbin, China and gave a talk on 'Emerging Diseases of Conifers' to faculties and students (60 adults) (November 3), visited Dr. Tingbo Jiang in the State Key Laboratory of Tree Genetics and Breeding at the Northeast Forestry University and worked with graduate students to revise manuscripts for publication in peer-reviewed journals (November 3-6).

**DR. NEIL SCHULTES** attended an executive meeting of the Sigma Xi Quinnipiac Chapter and was elected vice president (September 4); visited Dr. George Mourad at the Dept. of Biology at Indiana Purdue University, Ft. Wayne, IN and served on a Master's Thesis Committee for Ms. Geeta Buda; reviewed current experiments and planned future experiments with seven students (September 7 - 12); presented a lecture on "Plant Biodiversity and Ecology" to the Federated Garden Clubs Master Gardener's School at the Kellogg Center in Derby, CT (25 attendees) (October 6); presented a lecture on "How plant varieties are developed and evaluated" to the Federated Garden Clubs Master Gardener's School in Jones Auditorium (33 attendees) (October 13); presented a series of lectures on "Plant Genetics and GMOs" for the Institute for Learning in Retirement at Albertus Magnus in New Haven (10 attendees) (October 29); hosted a tour of The Experiment Station molecular laboratories for students in his Plant Genetics course in the Institute for Learning in Retirement (10 attendees) (November 4); and presented the CAES seminar on "Purine and pyrimidine transporters in plants and microorganisms" (38 attendees) (November 25).

**DR. QUAN ZENG** visited four faculty members, graduate students, and postdocs in the Dept. of Molecular, Cellular, and Developmental Biology at Yale University and presented a talk University on "Disease emergence and pathogen host specificity, new insights into a bacterial disease on turf grass" (40 adults) (November 16).



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### VALLEY LABORATORY

**DR. JATINDER AULAKH** attended the Connecticut Invasive Plant Working Group meeting at the Valley Lab, Windsor, (November 12); conducted a weed management survey at Planter's Choice nursery in Newtown, CT (November 17); met with Edith Lurvey and Marlee Ross, IR-4 NE regional research coordinators, to discuss potential ornamental plant research grant opportunities (November 19); met with Peter Picone, wildlife biologist with DEEP, CT to discuss invasive plant management studies (November 24); and attended "Workplace Violence Prevention" training in Hartford (November 30).

**DR. RICHARD COWLES** presented "The role of the green industry in enhancing bee health" to the Connecticut Environment Council, Plantsville (150 attendees) (November 24).

**MS. ROSE HISKES** gave a talk on "The Connecticut Agricultural Experiment Station: Who we are and What We Do" to the Squires Men's Club in West Hartford (32 attendees) (November 6); participated in the Connecticut Invasive Plant Working Group Symposium Planning Committee meeting in Windsor (November 12); and participated in the Cooperative Agricultural Pest Survey meeting in Hamden (November 18).

**DR. JAMES LAMONDIA** participated in a conference call meeting of the American Phytopathological Society Divisional Forum (November 2); participated in a grower meeting held at the Valley Laboratory to initiate a Hop Grower Association (23 attendees) (November 3); and discussed Station research programs and IR-4 priorities with Edith Lurvey and MaryLee Ross of the IR-4 program (November 19).

**DR. DEWEI LI** took his one-month sabbatical leave at Nanjing Forestry University (NJFU) from October 12-November 13; made two presentations, "Overview of Major Forest Diseases and Insects in the USA" and "Principles of Research Paper Writing and Publication in English" at College of Forestry, NJFU with 39 and 92 people in the audience, respectively; as well as presented an "Overview of Major Forest Diseases and Insects in the USA" at Jiangsu Provincial Academy of Forestry in Nanjing on October 28 (36 attendees); made two field trips in Hubei provinces and collected over 200 fungal specimens; and conducted laboratory works on the hyphomycete specimens and collaborative studies on fungi associated with pine wood nematode.



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#### DEPARTMENTAL RESEARCH UPDATES NOVEMBER 2015

Eevers, N.; Beckers, B.; White, J.C.; Vangronsveld, J.; Weyens, N. 2015. Comparison between cultivable and total bacterial populations associate with *Cucurbita pepo* using cultivation-dependent techniques and 454 pyrosequencing. *Sys. Appl. Micro.* doi:10.1016/j.syapm.2015.11.001.

Endophytic bacteria often have beneficial effects on their host plants which can be exploited for bioremediation applications, but according to literature only 0.001-1% of all endophytic microbes should be cultivable. This research compared the cultivable endophytic communities of roots and shoots of Cucurbita pepo with the total endophytic communities as determined by cultivation-dependent techniques and 454 pyrosequencing. The ten most abundant taxa of the total communities aligned well with the cultivable taxa; however, the abundancy of these taxa in the two communities differed greatly. Enterobacter showed very low presence in the total communities, while being dominantly present in the cultivable communities. Although Rhizobium dominated in total root and shoot communities, it was poorly cultivable and, only in bacterial growth media containing plant extract. Since endophytes likely contribute to plant-growth promotion, cultivable bacterial strains were tested for their plant-growth promoting capacities; these results were correlated with their abundance in the total community. Bacillus and Pseudomonas showed promising results when considering cultivability, abundancy in the total community and plant-growth promoting capacity. This study demonstrates that although a limited number of bacterial genera are cultivable, current cultivation-dependent techniques may be sufficient for further isolation and inoculation experiments aiming to improve phytoremediation efficiency.

Zhang, Y., J. Pignatello\*, S. Tao, and B. Xing, 2015. Bioaccessibility of PAHs in fuel soot assessed by an in vitro digestive model with absorptive sink: effect of food ingestion, *Environ. Sci. Technol.*, ASAP, DOI: 10.1021/acs.est.5b04342, November 9, 2015.

We investigated the effects of changing physiological conditions in the digestive tract expected with food ingestion on the apparent bioaccessibility  $(B_{app})$  of 11 polycyclic aromatic hydrocarbons (PAHs) in a fuel soot. A previously established in vitro digestive model was applied that included silicone sheet as a third-phase absorptive sink simulating passive transfer of PAHs to intestinal epithelium in the small intestine stage. The  $B_{app}$  is defined as the fraction found in the digestive fluid plus sheet after digestion. We determined that  $B_{app}$ was independent of gastric pH and addition of nonlipid milk representing dietary proteins and carbohydrates, whereas it increased with bile acids concentration (2.0-10 g/L), small intestinal pH (5.00–7.35), and addition of soybean oil representing dietary lipid (100% and 200% of the mean daily ingestion by 2–5 year olds in the U.S.).  $B_{app}$  of PAHs increases with small intestinal pH due to the combined effects of mass transfer promotion from nonlabile to labile sorbed states in the soot, weaker sorption of the labile state, and increasingly favorable partitioning from the digestive fluid to the silicone sink. Under fed conditions,  $B_{app}$  increases with inclusion of lipids due to the combined effects of mass transfer promotion from nonlabile to labile states, and increasingly favorable partitioning into bile acid micelles. Our results indicate significant variability in soot PAH bioaccessibility within the range of physiological conditions experienced by humans, and suggest that bioaccessibility will increase with coconsumption of food, especially food with high fat content.

The Connecticut Agricultural Experiment Station, Station News, Volume 5 Issue 12, December 2015



Li, Y., Douglas, S. Sletten, P., and Patrick. L. 2015. Seed Germination and Purity Analysis 2015. CAES Technical Bulletin 13.

By following the Association of Official Seed Analysts rules, the germination and purity of 337 official seed samples that were collected by inspectors from the Bureau of Regulation and Inspection of the Connecticut Department of Agriculture were tested in 2015. The results showed that 20 of 323 vegetable seed samples did not meet their label claims; 4 of the 5 lawn seed mixture samples contained at least one component which failed to meet the purity claim; and 3 of the 9 crop seed samples failed to meet the germination claim.

Li, D. Johanning E and Yang CS. 2015. Airborne Fungi and Mycotoxins, p 3.2.5-1-3.2.5-21. In Yates M, Nakatsu C, Miller R, Pillai S (ed), Manual of Environmental Microbiology, 4th Edition. ASM Press, Washington, DC. doi: 10.1128/9781555818821.ch3.2.5

This chapter reviews literature on airborne fungi, with emphasis on indoor fungal growth, infestation and contamination, factors affecting airborne fungal spore populations, indoor sources of fungi, and fungal spore discharge mechanisms. It also covers the health effects of fungi and their metabolites (mycotoxins and fungal volatile organic compounds). The diseases associated with indoor fungal exposure, such as infections, allergy, respiratory diseases, hypersensitivity and toxic pneumonitis, mycotoxicoses and mucous membrane/ olfactory irritations are discussed.



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## **GRANTS RECEIVED NOVEMBER 2015**

"Nanoscale elements suppress plant disease, enhance macronutrient use efficiency and increase crop yield." **White, J.C.; Elmer, W**.; Gardea-Torresdey, J.; Dimkpa, C. Awarded from USDA NIFA AFRI in January 2016 for 3 years; \$480,000.

## JOURNAL ARTICLES APPROVED NOVEMBER 2015

**Aulakh, Jatinder S.**, P. S. Chahal, and Amit J. Jhala. Glyphosate-resistant weed control and soybean injury in response to different PPO-inhibiting herbicides. *Journal of Agricultural Sciences* 

**Aulakh**, J., P. S. Chahal, and A. J. Jhala. Glyphosate-resistant weed control and soybean injury in response to different PPO-inhibiting herbicides. *NEPPSC Proceedings* (abstract)

LaMondia, J. A. Curative fungicidal activity against *Calonectria pseudonaviculata*, causal agent of boxwood blight. *Phytopathology* (abstract)

Maurer, K. and J. A. LaMondia. Fungicide sensitivity in the boxwood blight pathogen *Calonectria pseudonaviculata*. *Phytopathology* (abstract)

Servin, A. D. and J. C. White. Nanotechnology in agriculture: next steps for understanding the balance between applications and implications. *NanoImpact* 

**Stoner, Kimberly A.** Pollination of pumpkin and winter squash – thanks to bumble bees! *Proceedings of the New England Vegetable and Fruit Conference* 





**Dr. Yonghao Li** addresses the students and faculty of the Department of Plant Protection at the Northeast Agricultural University, Harbin, China



Thirty-two students participated in the Connecticut Future Farmers of America (FFA) Association's Forestry Career Development Event at Lockwood Farm.

More photos can be found at :

<u>https://drive.google.com/folderview?</u> id=0Byt0qAfqBl6nX0ZfR0R0QXBlNU0&usp=drive\_web

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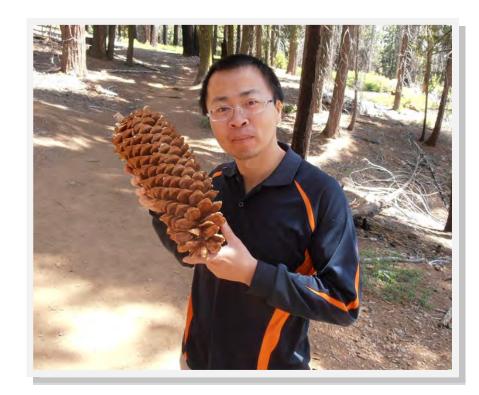
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## ARTICLES OF INTEREST NOVEMBER 2015



**Dr. Hsin-Se Hsieh** joined the Department of Environmental Sciences as a Post-Doctoral Research Scientist in Joe Pignatello's group in late August. He is working on a project investigating low-emission control methods for emissions of methyl bromide used for quarantine and preshipment fumigation. Hsin-Se received his Ph.D. degree from the School of Civil Engineering at Purdue University in August, 2015. Before coming to the United States in 2011, he was as an environmental protection specialist in the Environmental Protection Bureau of Changhua County in Taiwan.

#### The Connecticut Agricultural Experiment Station, Station News, Volume 5 Issue 12, December 2015

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION

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Griswold Research Center 190 Sheldon Road Griswold, CT 06351-3627 Phone: 860-376-0365

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#### WWW.CT.GOV/CAES



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

#### THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION

Back and Current issues of Station News are located on our website at <u>http://www.ct.gov/caes/</u> <u>cwp/view.asp?a=2826&q=378188</u>

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Station News was prepared and edited by Dr. Theodore G. Andreadis, Mrs. Vickie Bomba-Lewandoski, and Ms. Rebecca Carlone.