

Department of *Horticulture*

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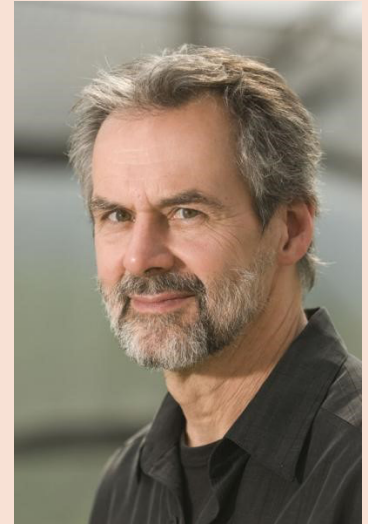


Dr. Richard Veilleux, Department Head

December 2017

The holidays are nearly upon us as our first snow of the season falls on Blacksburg and fall semester approaches its end. We have completed the interview process for four candidates for director of SPES and now it is up to the search committee and the dean to decide upon an offer. Most of us who participated in the interviews were impressed with the quality of all four candidates so we are optimistic that the search will yield a positive result. Our curriculum committee has been updating our selection of landscape courses to include a special study that Scott Douglas will teach, Introduction to Outdoor Design, this upcoming spring semester. Additional landscape offerings are planned for next year. Two of our staff, Pris Sears and Earl Petzold, completed their M.S. and Ph.D. degrees in Horticulture, respectively, this semester. We applaud them for the long-term dedication and achievement required when working full-time while taking courses

one at a time over many years, and then finding time to conduct research. Our search for a new fiscal technician is underway – Tabitha, Aparna and Debbie are holding down the fort in the interim but we look forward to having a new staff person in that position to pick up the load – maybe January? I stopped by The Inn recently to check out the Horticulture entry into the Christmas tree decorating competition (see below) – it is a work of art. Hope many of you will have a chance to see it. Wishing everyone a happy holiday season and a prosperous new year.



– Richard



Horticulture Tree at the Inn!

The Hahn Horticulture Garden and VT Floral Design has decorated a tree at the Inn at VT. There are approximately 20 trees decorated by different local organizations. The theme of our tree, *The Faces of Horticulture*, exhibits the many jobs within the horticulture industry. Several durable plants, including succulents, tillandsia (air plants), agaves and moss, were used for the decoration. They are visible in the image if you look closely but they can be much better appreciated if you stop by the Inn for a visit.

Dining Services Farm

Another successful season at the Dining Services Farm at Kentland has come to a close. The total harvest of fruits, vegetables, and herbs for 2017 weighed in at nearly 38,000 pounds. All produce and herbs were served on campus in Virginia Tech's award-winning dining halls. Students in the Sustainable Agriculture Practicum gain hands-on sustainable farming skills by working at the farm during the spring and fall semesters. The Dining Services Farm's success is the result of a unique collaboration among students, staff, and faculty in the Department of Horticulture, Dining Services, and the College of Agriculture and Life Sciences.

Students in the Home Gardening course make pickles with executive chef Mark Moritz of Turner Place dining hall. Photo by Victoria Betzel.



Environmental Horticulture junior Taylor Phelps shows off a monster rutabaga harvested at the Dining Services Farm at Kentland.

Visitor

James Friel, an M.S. Student from the University of Galway, Ireland supervised by Prof. Charles Spillane has come (Nov 2017 - Apr. 2018) to work in the Bombarely lab for six months on elucidation of the genetic components of the triploid block using Arabidopsis under the project SexSeed, a MSCA-RISE-Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE) European Initiative.



Photo taken by Laura Kaderabek-Barth.

Guest Lecturer

Ed Scott, owner of Clearvue Orchid Nursery in Marion, SC and VT alum (class of '63), gave a guest lecture (on orchids, of course) for all three sections of the *Indoor Plants* course on November 16th. Mr. Scott shared a wealth of knowledge with the students and also brought beautiful *Phalaenopsis* orchids for all 90 students! Thank you Mr. Scott for your generosity!

Grants and Fellowships

Chuansheng Mei and Scott Lowman, at the Institute for Advanced Learning and Research in Danville, VA, and Jayesh Samtani were awarded \$54, 201 by USDA Specialty Crop Block Grant for their proposal *Disease Inhibition in Strawberry Using Biological Controls*.

Megan O'Rourke was selected as a CALS Global Opportunity Fellow where she will train with a cohort of six CALS faculty in international research and development. The seven month training fellowship will culminate in a two week workshop in Kenya July, 2018.

Mark A. Williams received one of ten agriculture-related block grants to fund research on specialty crops. His project, entitled Alternative fertilizer recommendations that support helper soil microbial communities in high-density apple orchards, is focused on understanding how microbial communities assemble and function in soil ecosystems and root-zone habitats. This research is expected to aid in the development



of low/no fertilizer agro-ecosystems. The project addresses how particular waste products (compost, wood chips) support the growth of beneficial fungus-root interactions (mycorrhizae). Such beneficial mycorrhizal fungi can infect plant roots to help extend a plant's (e.g., apple) reach to obtain otherwise inaccessible nutrients (and sometimes water) in the soil.

Publications

Angelella, G., O'Rourke, M. (2017) Pollinator habitat establishment after organic and no-till seedbed preparation methods. *HortScience*. 52 1349-1355. doi: 10.21273/HORTSCI11962-17

This research found that organic establishment methods that entail tillage are consistently worse than using Round-Up to prepare seedbeds for establishing native wildflowers.

Dek, M. S. P., Padmanabhan, P., Sherif S., Subramanian, J. (2017). Upregulation of phosphatidylinositol 3-kinase (PI3K) enhances ethylene biosynthesis and accelerates flower senescence in transgenic *Nicotiana tabacum* L. *International Journal of Molecular Sciences*, 18: 1533.

Montero-Pau J, Blanca J, Bombarely A, Ziarsolo P, Esteras C, Martí-Gómez C, Ferriol M, Gómez P, Jamilena M, Mueller L, Picó B, Cañizares J. (2017). De novo assembly of zucchini genome: a whole genome duplication associated with the origin of the *Cucurbita* genus. *Plant Biotechnology* DOI: 10.1111/pbi.12860 (<http://onlinelibrary.wiley.com/doi/10.1111/pbi.12860/full>)

Samtani, J.B., C. Johnson, R. Flanagan III, K. Starke, B. Poling, and R. Martin. 2017. Mixed infection of strawberry mottle virus and strawberry mild yellow edge virus in the Southeastern United States. Virginia Cooperative Extension Publication. HORT 268P.

Saremba, B. M., Tymm, F. J., Baethke, K., Rheault, M. R., Sherif S. M., Saxena, P. K., Murch, S. J. (2017). Plant signals during beetle (*Scolytus multistriatus*) feeding in American elm (*Ulmus americana* Planch). *Plant Signaling & Behavior* 12: e1296997.

Shennan, C., J. Muramoto, S. Koike, G. Baird, S. Fennimore, J. Samtani, M. Bolda, S. Dara, O. Daugovish, G. Lazarovits, D. Butler, E. Roskopf, N. Kokalis-Burrelle, K. Klonsky and M. Mazzola. 2018. Anaerobic soil disinfestation is a potential alternative to soil fumigation for control of some soil borne pathogens in strawberry production. *Plant Pathol.* 67:51–66.

Sherif S.M., Erland L.A., Shukla M.R., Saxena P.K (2017) Bark and wood tissues of American elm exhibit distinct responses to Dutch elm disease. *Scientific Reports* 7:7144. DOI: 10.1038/s41598-017-07779-4

Soorni A, Fatahi R, Haak D, Salami SA, Bombarely A. (2017). Assessment of genetic diversity and population structure in Iranian *Cannabis* germplasm by genotyping-by-sequencing data. *Scientific Reports* 7:15668 doi:10.1038/s41598-017-15816-5 (<https://www.nature.com/articles/s41598-017-15816-5>)

Hahn Horticulture Garden News



New Seating Area

The Hahn Horticulture Garden recently completed the construction of a seating area with a beautiful view of the stream garden waterfall. The project was built in memory of Jane Floyd, a Master Gardener and an avid supporter of the HHG, and was funded through a donation by her husband, Jim Floyd, and family. The project, constructed by *Back to Nature*, involved site grading, a small wall, stone paving, a bench, and new plantings. The HHG is honored to be a part of the Floyd family's legacy and we welcome everyone to come and enjoy this space the next time you are on campus. If you would like to learn about upcoming opportunities to support the Hahn Horticulture Garden, please contact the Garden Director, Scott Douglas, via email: dsd1@vt.edu or 540-231-7432.

Upcoming Events at the Hahn:

Talk

Thursday, January 25, 2018 6:30 - 7:30 pm

Birds, Bees, Flowers, Trees: The Phenological Impacts of Climate Change with Jeremy Hoffman, Climate and Earth Scientist, Science Museum of Virginia

Co-sponsored by Institute for Creativity, Arts, and Technology

Please register by **Monday, January 22 at 5 pm**, by contacting Stephanie at vtgarden@vt.edu or 540-231-5970

\$10 Friends of the Garden members/ \$15 general public

Learn at Lunch (FREE)

Wednesdays noon to 1 pm

- **Jan 10th noon to 1 pm:** *The Great American Chestnut and Efforts of Restoration* with Carl Absher
- **January 24** *Doing it in the Dark: the World of Nighttime Pollinators* with Tim McCoy, VT Entomology Dept.
- **March 7** *Behind the Scenes at Stonecrop Farm* with co- owner, Gwynn Hamilton

Visit <http://www.hort.vt.edu/hhg/events.html> to learn more!



Art in the Garden

- **Nov. 1 to Dec. 31** Art in the Garden: Pat West (acrylic) in the Hahn Pavilion.
- The 2018 Simply Elemental Outdoor Art Exhibition is currently accepting artist applications. Application deadline **April 15, 2018**. More information at <http://tiny.cc/18elemental>