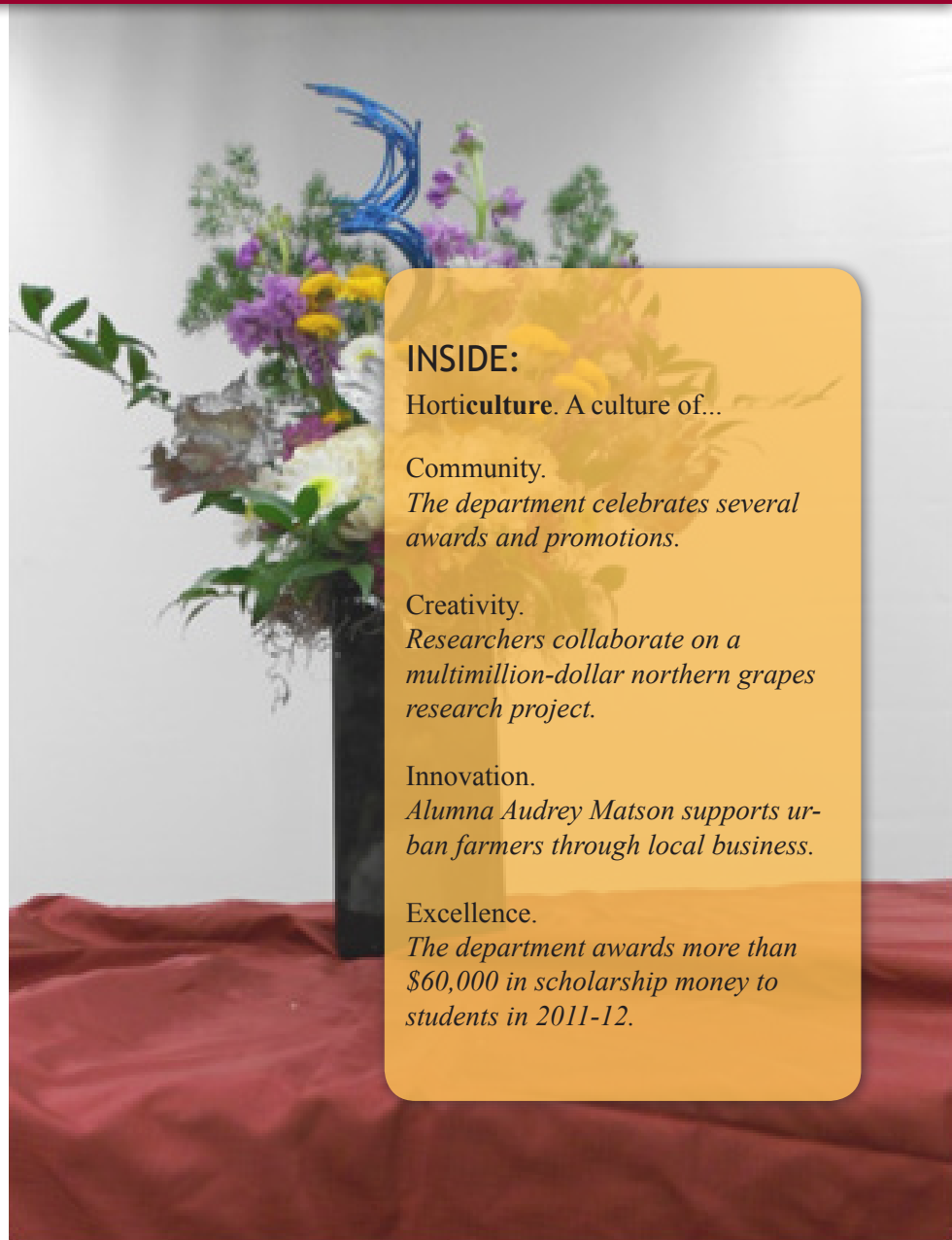


Horticulture

Department of Horticultural Science
Winter/Spring 2012

Community. Creativity. Innovation. Excellence.



INSIDE:

Horticulture. A culture of...

Community.

The department celebrates several awards and promotions.

Creativity.

Researchers collaborate on a multimillion-dollar northern grapes research project.

Innovation.

Alumna Audrey Matson supports urban farmers through local business.

Excellence.

The department awards more than \$60,000 in scholarship money to students in 2011-12.

Floral Designers: Each semester students in Professor Neil Anderson's Floral Design course learn concepts and techniques to build beautiful designs out of a variety of materials. Last winter students were required to create a design using skeletonized leaves. These images reflect a few of their creative pieces.

UNIVERSITY OF MINNESOTA

Driven to DiscoverSM

Creativity.

Researchers Collaborate on Multimillion-Dollar Northern Grapes Project



Left: Research Scientist Peter Hemstad and Professor Jim Luby taste grape varieties at the Horticultural Research Center. Right: Enology Project Leader Katie Cook examines Minnesota wines at the HRC. For more information, visit www.northerngrapesproject.org.

Just like a fine wine, the University of Minnesota grape breeding program has only continued to grow better with age. Its newest project: a multimillion-dollar collaboration with experts from the Midwest and Northeast to consider together how best to grow, process, and market wines made from cold hardy grapes.

“Most states in the cold climate wine region have few people working on grapes and wine—often just one,” said Professor Jim Luby. “This project pools the resources of many states to provide a critical mass of research and extension expertise.”

Luby, along with Enology Project Leader Katie Cook, Assistant Professor Adrian Hegeman, and Research Scientist Peter Hemstad are among the almost 40 collaborators from 13 universities and research stations joining the project team. The project will fill an important need to develop practices specifically for cold hardy, *Vitis riparia*-based wine grape cultivars using a holistic systems approach – that is, integrating

production; distribution and processing; marketing tools; and best business practices for optimal outcomes. These cultivars, which first emerged in the 1920s, have different growth habits and fruit compositions than the traditional *V. vinifera*-based hybrids. As a result, both growers and consumers must become more familiar with the grapes and the wine styles they produce. The long-term success of these varieties growing in Minnesota depends on good practices and a knowledgeable public.

“Since the rest of the wine research world is working on studies with established cultivars, this really allows us to get a good jump to quickly expand the knowledge base surrounding our own grapes,” Cook said.

The project is funded through a USDA Specialty Crops Research Initiative (SCRI) grant. It began in September 2011 and is expected to run until September 2016.

Several other team members share connections with our department: Kevin Iungerman from Cornell (M.S.), Anna Katharine Mansfield from Cornell (former enology project leader), Anne

Fennell of South Dakota State (Ph.D. and post-doc), Rhoda Burrows of South Dakota State University (Ph.D.), and Paul Read of the University of Nebraska (former faculty member).

Cook says a benefit of the project is its clear path to disseminate findings to industry members and make a direct impact on the Minnesota community now, and in the future. Already the team has started webinars, which are held on the second Tuesday of each month.

“Our webinars are a great start,” Cook said. “We are also working on regional workshops for growers and winemakers and are continuing to develop the project website as a great source of information for anybody wishing to learn more about these new grape cultivars.”

Luby said the team aims to bring information directly to Minnesota growers in a user-friendly format.

“With collaboration from the many scientists and grower cooperators from other states who have a wealth of expertise, we should eventually be able to develop an ‘owner’s manual’ for these cultivars that can be used by our own growing industry,” he said. ♦

Innovation.

Making An Impact: A Snapshot of Graduate Student Research in 2011-12

Every year our graduate students complete innovative research and experience great success in the field, and this year is no exception. Read a few of the many examples below:

Cece Martin, a Ph.D. student in Plant Biological Sciences (PBS), was recently featured in the CFANS magazine for her work in collaboration with Aveda to develop products from natural ingredients found in native Minnesota plants.

Mike Wilson was awarded a Charles J. Brand Fellowship for the 2012-2013 academic year. The fellowship is offered through the University, and awardees are selected based on their excellent academic records and professional promise. Mike is pursuing a Ph.D. in the PBS program and studies plant auxins.

Xing Liu completed her Ph.D. in PBS this spring. Her thesis is titled “Roles of Multiple Mechanisms in Regulating Auxin Levels during Plant Growth and Development.” Liu was advised by Professor Jerry Cohen and Professor Gary Gardner. She recently accepted a position as a postdoctoral associate at the California Institute of Technology. ♦



Above: The Cohen and Gardner lab groups on Liu's last day this spring. From left to right: Mike Wilson (Ph.D. student), Peng Yu (Ph.D. student), Professor Gary Gardner, Maksym Karpyak (junior scientist), Xing Liu (Ph.D. graduate), Research Assistant Professor Paul Boswell, Professor Jerry Cohen, Will Menzel (junior scientist), Erin Jewett (junior scientist), Doug Brinkman (junior scientist), Jessica Biever (Ph.D. student) and Cece Martin (Ph.D. student).

Read more about our graduate students' research online at <http://z.umn.edu/hortgrad>.

Alumnae Spotlight: Supporting Urban Farmers through Local Business

Growing up, Audrey Matson never thought she wanted to live in the city. She spent her childhood on a farm in Minnesota and enjoyed the experiences she had there, caring for chickens and canning fruits and

vegetables.

“I came to St. Paul for college, but I thought I would end up back in the country,” said Matson, M.Ag. '10 and owner of Egg|Plant Urban Farm Supply. “That is, until I met my husband, who was from south Minneapolis, and we realized we really liked living in the city.”

As a result, they came up with ways to bring the joys of the country to city living. First, they first bought chickens for their backyard. Around the same time they started a 4-H group with their children and led an assortment of activities.

“We realized there was a real interest in learning some of the things we had done regularly in the country,” Matson says.

Around that time Matson also began the Master of Agriculture (now known as the Master's of Professional Studies in Horticulture) program through the Department of Horticultural Science with the intent to become a garden designer. She

took classes under Professors Jeff Gillman and Bud Markhart, and she was involved in the Cornercopia Student Organic Farm.

As she started her studies, Matson began to form the idea of combining a garden center that focused on food with other homestead activities. She changed her focus from garden design to garden management, began incorporating business classes into her program, and gained experience as she worked toward opening her own store.

Matson's dream became complete when she and her husband opened Egg|Plant on April 1, 2010. During her first few months as a business owner, she completed her Master's of Agriculture degree by designing a business plan for her company for her final project.

The store now sits on a pleasant, peaceful block of Selby Avenue. A colorful rooster and its propped-open door welcome a variety of visitors to the many offerings within the shop. And an entrepreneurial dream, though ever evolving, has met success. ♦



Top: Egg|Plant Urban Farm Supply on Selby Avenue in St. Paul. Egg|Plant first opened its doors in 2010. Below: Audrey Matson, co-owner of Egg|Plant and M.Ag. ('10)graduate.

Excellence.

Celebrating Success: More than \$60,000 in Scholarships Awarded

Approximately 100 students, staff, faculty, family, and community members joined the Department for its annual Kermit Olson Scholarship Ceremony, Lecture, and Reception on March 21, 2012. The guest lecture was given by David Granastein, sustainable agriculture specialist from Washington State University.

As always, the day was filled with celebration. The annual seminar has been a treasured celebration of awarding student scholarships, graduate fellowships, and staff awards, as well as a guest lecture given by an expert in a timely topic.

“We always say this is the best day of the year to be in administration,” Department Head Emily Hoover said. “It is a joy to be able to give away this support to such deserving students.”

This year the department awarded talented students more than \$60,000 in scholarships and fellowships as a result of generous donations and support.

Following the scholarship ceremony, Granatstein presented a lecture on the topic “Sustainability and Horticulture,” using tree fruits as an example to examine the sustainability movement as a whole. He discussed different ways to define the term sustainability, and suggested a perspective of sustainability as a continual movement toward improvement rather than a destination.

The Kermit Olson Lecture is part of the department seminar series, which began in January of 1913. Founders of the series, which runs weekly throughout the school year, hoped to bring together students and faculty interested in horticulture to engage in general discussions of the literature and problems pertaining to the field of work. Today the seminar still carries on each Wednesday afternoon, engaging our community in timely topics. The seminar will celebrate its 100th anniversary in January 2013 and is one of the longest-running seminars of any department at the University of Minnesota. ♦



1: Morgan Mangelsen with members of the Soil and Sunshine Garden Club. 2: Department Head Emily Hoover with guest speaker David Granatstein. 3: Civil Service Award Winner Jeff Nelson with Professor Christian Thill. 4: Graduate fellowship winners Cari Schmitz (Daniels Fellowship) and Matt Clark (Alderman Fellowship) with advisor, Professor Jim Luby. 4 & 5: Students enjoying the reception and receiving scholarships. For a complete list of awards and winners, visit <http://z.umn.edu/kermitolson>

New Hueg Fellowship Winner: Jennifer Boldt

As a result of generous donations, the Department was proud to present a new graduate fellowship this year: The Hueg Landscape Arboretum Research Fellowship.

William F. and Hella Mears Hueg established the fellowship to recognize their joy and participation in the Landscape Arboretum, and William Hueg’s active role as a trustee ex-officio, trustee, and honorary trustee. The fund honors the strong tie between the academic and research work of

the Department of Horticultural Science and the outreach work of the University of Minnesota Landscape Arboretum.

Ph.D. candidate and fellowship winner Jennifer Boldt works with switchgrass at the Arboretum and is using two cultivars as model plants to investigate and compare anthocyanin levels with changing environmental conditions. She is co-advised by Professor John Erwin and Mary Meyer. ♦

Community.

From the Department Head...

As another school year comes to a close, we in horticulture know the fun is only beginning. A summer full of planting, harvesting, and enjoying the outdoors is ahead of those of us in the fields, as well as continued research and discovery in the laboratories.

With the warm winter and early spring, our Design and Trial Gardens have taken off. There are over 282 species in the garden, so the plants in bloom are changing every week and there is always something beautiful and interesting to find. There is plenty of seating tucked among the trees and flowers, so we invite you to have lunch with a friend or sit by the pond and read a book. When you stop by, don't forget to see the trial gardens in the back; you can explore the Winter Hardiness Trials plot, the Chinese Herb Garden which was started this year, and the Master Gardner Biochar Garden.

As some of you know, I am stepping down during the summer to begin my year-long sabbatical, and I want to thank you for all your interest and support in Horticulture. Our department will continue to create high-impact programs and do innovative research, and we couldn't do it without you.



Dr. Emily Hoover, Professor & Head

Room Renovation Revives Learning Space



This winter our main seminar room received a face lift! Stop by to see the new set up, complete with framed photos of many of the department's releases, research and accomplishments. A special thanks to the supporters who made this possible.

Department News

New Staff Welcome the following staff who began working in the department in 2011-12:

- **Stefanie Dukowic-Schulze**, postdoctoral researcher from Germany.
- **Erin Jewett**, junior scientist
- **Maksym Karypak**, junior scientist
- **Erin Streff**, research fellow
- **Aizhan Zhussapova**, a Visiting Fulbright Scholar from Kazakhstan.

Congratulations This spring Associate Professor **Stan Hokanson** was promoted to Full Professor, and Assistant Professor **Chengyan Yue** was promoted to Associate Professor.

Research Assistant Professor **Paul Boswell** received a \$1.6 million grant from the NIH to work on a method which will improve the ability of existing LC-MS instrumentation, improving research abilities in many biological fields.

Assistant Professor **Adrian Hegeman** won the Arthur C. Neish Young Investigator Award from the Phytochemical Society of North America. The award was given during their 2011 meeting in December, which marked the 50th anniversary of the society.

Professor **Tom Michaels** was awarded the CFANS 2011-12 Innovation in Undergraduate Education Award for his efforts to develop a hybrid (online and in-person) course using active learning technology and his creation of an 'Augmented Reality' field trip.

Research Scientist **Chad Giblin** was awarded the CFANS 2011-12 Civil Service/Bargaining Unit Staff Award. The award recognizes staff members who make outstanding contributions to their fields.

Assistant Professor **Chengyan Yue** and her husband welcomed their first child into the world on April 17, 2012. At birth, Emma was seven pounds, 10 ounces and 20 inches.

Associate Professor **Jeff Gillman** co-authored a new book released in December, titled "Decoding Gardening Advice: The Science Behind the 100 Most Common Recommendations."

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Galatowitsch Introduces Ecological Restoration Text to Universities

For 30 months Professor Sue Galatowitsch prepared, researched, wrote and rewrote drafts to create *Ecological Restoration*, the first comprehensive textbook in the field of restoration ecology. The text includes 10 chap-

ters of information ranging from basic science to public policy application. The text also includes recent case studies from restoration sites all over the world.

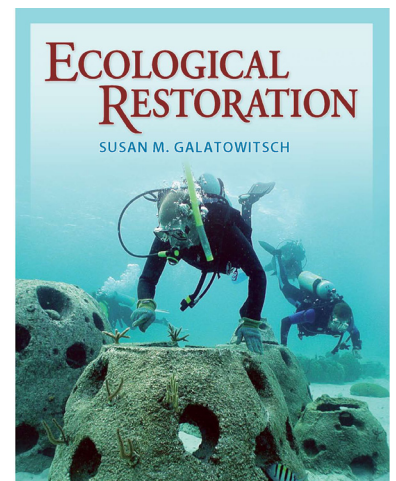
Twenty years ago, only a handful of universities offered a course

in ecological restoration. Today, many universities offer courses and even degree programs in the field. Many instructors have relied on a fast-growing body of academic literature on ecological restoration for course content; however, a comprehensive textbook on the subject remained unavailable.

Galatowitsch says she hopes the text will help fill the previous void and benefit students with a text that is both comprehensive and practical.

“It covers all kinds of ecosystems, from marine to terrestrial,” Galatowitsch explains. “It also focuses on what’s going on in the real world, not only in academia.”

Writing a textbook takes many long hours and difficult decisions, but Galatowitsch says she has appreciated the learning and growth that have come along with the work.



“It created many opportunities to network with people I might not have otherwise contacted,” she says. “I depended on a very large group of people who work in a wide range of areas to create the book, and I learned a lot from them.” ♦

Connect with Us!

By Mail: 1970 Folwell Ave., St. Paul, MN 55108

By Phone: 612-624-5300

Online: <http://www.horticulture.umn.edu>

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