



News from the Plant Biology Graduate Program at UMass Amherst

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Peter van Gisbergen
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PB Admissions

Sam Hazen (Chair)
Ana Caicedo
Michelle DaCosta
Geunhwa Jung
Danny Schnell

PB Newsletter

Jennifer Normanly
Michelle DaCosta
Nicole Soper Gorden
(student representative)

Save the date: October 6, 2012

10th Annual Symposium in Plant Biology:
"WAR or PEACE? INTERACTIONS BETWEEN
PLANTS AND MICROBES.

Register no later than September 21, 2012.

<http://www.bio.umass.edu/plantbio/symposium12.html>



Ten new members of the PB Ph.D. Program in 2012

In January 2012, **Andrea Vu** joined the Ma lab with an MS in Plant Pathology from the University of Tennessee, Knoxville and a BS in Plant and Soil Sciences from UMass Amherst, and **David Chan Rodriguez** joined the Walker lab from the Instituto Tecnológico de Merida, Mexico with a fellowship from CONACYT, the Mexican National Council for Science and Technology. In fall of 2012, **Amanda Bousquet**, University of Vermont, **Josh Coomey**, UMass Amherst, **Sandra Romero-Gamboa**, Universidad de Los Andes, **Christina Stonoha**, Sacred Heart University, **Lakshmi Sugavanam**, Bangalore University, and **Colby Witherup**, Northwestern University will join the PB program along with **Elisha Allan** from the University of New Hampshire, who has been awarded a Graduate School Fellowship and will join the Jung lab. **Muviri Tjiurutue**, from University of Namibia and currently here as an MS student on a Fulbright fellowship in the Adler lab, will continue as a PhD student.

First Annual Life Sciences Graduate Research Symposium

The Life Sciences Graduate Research Council (LSGRC) was formed with the goal of fostering communication and collaboration between life sciences graduate students on campus. The first annual LSGRC Symposium was held on November 18, 2011, with talks from 20 graduate students, including PB students **Carrie Thurber**, **Pubudu Handakumbura** (pictured), and **Nicole Soper Gorden**. Overall, more than 200 people attended the symposium. To find out more information about the LSGRC, the symposium, or how to get involved, contact Nicole Soper Gorden (nsopereg@cns.umass.edu), or see <http://www.umass.edu/gso/lsgrc/Home.html>



PB Faculty Honored

Magdalena Bezanilla (Biology) was named Emerging Scholar of the Year for 2012 by the magazine, *Diverse: Issues in Higher Education*, one of 12 "under 40" scholars from around the country who are making their mark in academia through teaching, research and service.



Elizabeth Vierling (BMB) and Danny Schnell (BMB) were named Fellows of the American Society of Plant Biologists in 2012, an honor awarded to 0.2% of the society membership annually, ~5000 members worldwide.



Celebrating three successful PB student defenses

Burcu Kokturk Yordem (Walker lab) defended her thesis, *Establishing Brachypodium distachyon as a New Model System for Understanding Iron Homeostasis in Grasses*, and is a postdoc with Corby Kistler at the USDA in Minneapolis working on plant-pathogen interactions. **Carrie Thurber** (Caicedo lab) defended her PhD thesis, *The Evolutionary Genetics of Seed Shattering and Flowering Time, Two Weed Adaptive Traits in U.S. Weedy Rice* and will be starting a post doc with Pat Brown at the University of Illinois investigating flowering time, height and possibly shattering in Sorghum. **Kenny Vasques** (Walker lab) defended his MS thesis *Investigation of Maize YS1 and Iron Signaling in Arabidopsis thaliana* in March of 2012.



Burcu



Carrie



Pubudu



Kenny

The 2012-2013 Gilgut Fellowship was awarded to **Pubudu Handakumbura**, a 4th year PhD student in the Hazen Lab for her work on *Transcriptional regulation of cellulose biosynthesis in Brachypodium distachyon*.

The **2012 Torrey Scholarship** was awarded to **Andrew Cauley** (BMB) to work in the Schnell Lab on *GTPase-deficient TOC receptors in Arabidopsis thaliana*

Publications from PB Grad Students

H., Pubudu P., Hazen, S.P. (2012) Transcriptional regulation of grass secondary cell wall biosynthesis: playing catch-up with *Arabidopsis thaliana*. *Frontiers in Plant Science*. [3: 74](#).

Lee, Scott J., Warnick, T.A., Pattathil, S., Alvelo-Maurosa, J.G., Serapiglia, M.J., McCormick, H., Brown, V., Young, N.F., Schnell, D.J., Smart, L.B., Hahn, M.G., Pedersen, J.F., Leschine, S.B., Hazen, S.P. (2012) Biological conversion assay using *Clostridium phytofermentans* to estimate plant feedstock quality. *Biotechnology for Biofuels* [5: 5](#).



Scott

Meet the 2011-2012 Gilgut Fellow



Graham Burkart is a 5th year PhD student in the Bezanilla lab. His research focuses on the role of ROP, a small GTPase, and the proteins that regulate ROP activity during tip growth in the moss *Physcomitrella patens*. Tip growth is the predominant form of polarized cell expansion in both pollen tubes and root hairs of seed plants as well as protonemal filaments of moss and is therefore an essential process for plants to obtain nutrients and reproduce. Studies in numerous systems have demonstrated that the actin cytoskeleton is critical for tip growth. It has also been suggested that ROP modulates actin filament dynamics. Using

RNA interference (RNAi), Graham has shown that loss of all four ROP genes in moss results in a complete loss of tip growth and that a single ROP is sufficient for polarized growth. Loss of ROP function does not impact actin dynamics globally, but may impact actin filament organization. However RNAi of ROP does seem to affect the organization/behavior of formin, a protein that nucleates and elongates actin filaments, near the tip of the cell. While other eukaryotic formins such as those from yeast or mice have domains that interact directly with GTPases, plant formins lack these domains. This result suggests that there is indeed a link between the ROP GTPase and formin in plants, although it may involve one or more intermediaries.

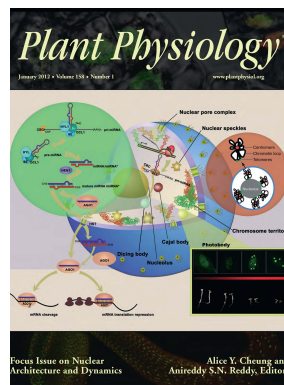
PB Faculty Publications and Talks



Alice Cheung (BMB) co-edited an issue of Plant Physiology (Jan. 2012) that focused on Nuclear Architecture and Dynamics.



Sam Hazen (Biology) gave a plenary talk at the DOE Genomic Science Annual Contractor-Grantee Meeting in North Bethesda, MD, and at Plant & Animal Genomes XX in San Diego, CA.



Li-Jun Ma (PSIS) spoke at the European Conference of Fungal Genetics in Marburg, Germany.

The PB Newsletter Committee wants to hear from you! For upcoming newsletters, please keep us updated (normanly@biochem.umass.edu) about new publications, grants and awards, and alums tell us what you are up to.