Message from the Chair

One of my favorite movies is Monty Python’s “The Life of Brian” and in that film I especially like the closing song “Always look on the bright side of life.” Although the Python troupe presents the song in a farcical way, for me the message rings true and is perhaps particularly relevant in the context of the fiscal woes the University is facing. It is true that the University has a structural deficit and that we will see a continued policy of not replacing positions that become vacant through retirement or redundancy. But the power and reputation of the University means that there are always opportunities and these opportunities can be captured by those who go looking for them. And this is especially true for our department. Although we are not able to fill positions automatically with base funding our department has a long history of industry and community connection, and as a result we have a tremendous capacity for external fundraising. Over the coming years the Department of Plant Agriculture will be involved in fundraising efforts in a wide range of areas including Landscape Horticulture, Turfgrass Research, Biomaterials, Organic and Sustainable Agriculture and Plant Breeding. These fundraising efforts will focus primarily on human capacity with funds for new chairs and new education programs. I am confident we will be successful in these efforts, not because of my involvement but because these efforts will involve many people in the department and I am confident in their capability. So things aren’t that bad, especially when you’re looking on the bright side of life.

On another note, I wanted to thank Gale Bozzo, Barry Shelp, Gopi Paliyath, Gordon Hoover and Ron Dutton who were all involved in various ways to bring to completion our postharvest research facility in the Bovey building. I also extend a special thank you to the Office of Research, the Ontario Fruit and Vegetable Producers Association and the Agricultural Adaptation Council of Ontario for funding for this facility. Dr. Rob Gordon officially opened the facility on Nov 21 at an event attended by many industry representatives and we also had special guest lectures from Dr. Amit Dhingra, Assistant Professor in Molecular Biology at Washington State University. Dr. Dhingra is collaborating with Barry and Gale linking postharvest storage to fruit genomics. This facility is the only one of its kind at any University in Canada and it along with the appointment of Dr. Gale Bozzo, marks the rejuvenation of postharvest science at the University of Guelph.

In closing I would like to thank you all for caring about the department and for making our department the leader in applied plant sciences in Canada. Have a wonderful and joyful holiday.
Welcome New Grads

January 2009 will see the arrival of the following new students:

- Mathew Hooyer—M.Sc. (L. Lee)
- Nathan Smith—Ph.D. (L. Lee)
- Mina Kaviani—Ph.D. (D. Hunter)
- Olivier Stoffyn—M.Sc. (D. Wolyn)
- Eugenia Rossi—M.Sc. (I. Rajcan)
- Jonathan Brinkman, MSc, (D. Hooker)
- Robert Miller—M.Sc. (P. Sikkema/D. Robinson)

We hope you find your time in Plant Agriculture to be very rewarding and that you have some fun while you’re here too—Welcome!!

Graduate Student Awards

The 7th Canadian Pulse Research Workshop (CPRW) was held in Winnipeg from November 5—7 and brought together pulse crop researchers from across Canada to present and discuss their latest results on Nutrition and Health, Plant Breeding Initiatives, Novel Uses of Pulse Crops, and Pulse Agronomy. At the CPRW workshop, 2 of our graduate students were awarded first place in poster & oral presentation.

Greg Perry, Ph.D. student with Peter Pauls, won the student competition for best oral presentation which was entitled “CBB Resistance in Phaseolus vulgaris: Towards the Identification of a Resistance Gene”, co-authors were Y. Reinprecht, J. Chan and K.P. Pauls.

Gerard Pynenburg, M.Sc. student with P. Sikkema, won the student competition for the best poster presentation at the same conference. Gerard’s poster was entitled “Agronomic and Economic Assessment of Intensive Pest management in Dry Edible Bean. Part 1. Anthracnose Experiment” and was co-authored by G. Boland, C. Gillard, D. Robinson, P. Sikkema and R. Vyn.

Kalpana Kc, M.Sc. student with Mary Ruth McDonald, was awarded first prize in the student poster competition at the Southwestern Ontario Regional Association of the Canadian Phytopathological Society held in London on November 22, 2008. Kalpana’s poster was entitled Impact of Temperature and Efficacy of Fungicide on Clubroot of Asian Vegetables’, co-authored by Mary Ruth McDonald, Bruce D. Gossen and Sean M. Westerveld.

Monica Parker, Ph.D. student with Mary Ruth McDonald, was awarded first prize for the best student presentation at the Ontario Pest Management Conference held in November. Monica’s presentation was entitled “Detecting ascospores of Sclerotinia sclerotiorum in carrot crops in Ontario: Prelude to regional level forecasting of sclerotinia rot of carrot”. The presentation was co-authored by Mary Ruth McDonald and Greg Boland.
I was born in a town called Daireaux, Buenos Aires Province, Argentina where most of my family lives but I grew up in Necochea, a nice city on the Atlantic coast of Buenos Aires. I am the third of three brothers who live and work in Argentina as do my parents. During high school I definitely got interested in biological sciences and processes that rule the life but it was not until a year after I finished high school that a good friend of mine and colleague Santiago G. Indavere recommended me to enrol at the Universidad Nacional de Mar del Plata (UNMdP) that I decided to take a degree in Agricultural Sciences.

In the third year of school I had the opportunity to work as a summer student in the Plant Physiology Department UNMdP and to see the complex and numerous levels of organization that operate at plant and crop level. I decided that Crop Physiology was what I wanted to get involved in. In 2005 I became Dr. Laura Echarte’s student focused in intercropping systems. After graduated I was working as Agronomist gaining some experience in extensive crop production when I applied to MSc Program in the Department of Plant Agriculture at The University of Guelph. In April of 2008 I got accepted and I am currently working on my MSc degree with Dr. Tollenaar on an exciting project focused on differential responses of maize hybrids to abiotic stress and high plant density. I look forward to continue research in summer crops and someday become professor. In my spare time I enjoy listening to good music, playing or watching soccer, and eventually practice guitar. I would like to thank to DPA Chair and Dr. Tollenaar for giving me this opportunity to be a member of his research group and to be part of The University of Guelph community. I would like also to thank Dr. Laura Echarte for her support.

Recent Defences

**Skye Campbell**, Sept 22, 2008 MSc (Peter Pauls, advisor). Studies of the role of Baby Boom (BBM) in embryogenesis in Arabidopsis thaliana and Brassica napus

**Shawn Clark**, Oct. 2, 2008, PhD (Barry Shelp, advisor). Biochemical and expressive analysis of Gamma-Amiobutyrate transaminase from Arabidopsis and tomato

**Cynthia Rougoor**, Nov. 20, 2008, MSc (Adam Dale, advisor). Mechanisms of resistance to Lygus lineolaris (Palisot de Beauvois) tarnished plant bug in Fragaria x ananassa genotypes
Where to begin... I was born in Walkerton Ontario and raised on a dairy farm just outside the small town of Mildmay Ontario. Growing up, I gained an intimate knowledge of agricultural practices and played a lot of hockey. I worked on the farm until I was 17 and moved to Ottawa in pursuit of a degree in Biology at Carleton University. I was really athletically involved with the school and participated on a varsity team every year of my undergraduate degree.

I have always enjoyed the various disciplines of biology and I took a wide range of courses while at school. In my final year I completed an honours project accessing the effect global warming has had on the relationship between arctic nematodes (lung worms) and their northern ungulate hosts (caribou, reindeer and muskoxen).

After 4 years of classes, assignments and exams, I was ready to leave the academic world and chose to work for a year in attempts find a career path. I had a number of different jobs that year, but it wasn’t until I was hired as a regulatory assistant in the Monsanto Regulatory Office that I really found something that combined my love of science and agriculture.

I made the hard decision to leave Ottawa and move to Guelph in order to take a Research Assistantship with Gary Ablett. I've really enjoyed working with Gary and his soybean breeding program at Ridgetown. He's incredibly knowledgeable and really easy to work with.

The school seems to be a really student oriented and offers an almost overwhelming number of interesting guest lectures, social events and job opportunities. I’ve found the people to be unusually friendly and incredibly helpful while my classes are really interesting. They do require a lot of attention, but I find them very practical and well instructed. Though I have only just completed my first semester as a graduate student, I am still really glad to be in here at the University of Guelph.
Our students have won a number of recent scholarships—congratulations to all!

**University International Graduate Scholarships**: Maria Emilia Orozco-Gaeta; Sherif M Sherif; Amelie Gaudin de Rodriguez; Ling Tian; Jingyun Liu

**Bullock Scholarship in Food Grain Research**: Kristen McNaughton

**Dr. G.W. Friars Award**: Mayumi Acosta Bastidas

**Dr. O.M. McConkey Scholarship**: Gregory Downs

**Gerald R. Stephenson Scholarship**: David Johnston Monje

**H.L. Hutt Memorial Scholarship**: Olivier Stoffyn

**Hoskins Scholarships**: Sarathi Weraduwage; Chanli Hu

**Jack Atkin Graduate Scholarship in Horticultural**: Monica Parker

**John Bandeen Memorial Scholarship**: Meghan Moran

**Kasha Scientific Research Travel Grants**: Ling Tian

**Major General LaFleche Memorial Scholarship**: Amy McNaughton

**Manton Memorial Scholarship**: Ildiko Szucs

**Marian Brennan & Hedley Harrison Mem Scholarship**: C. Joe Martin

**Mary Edmunds Williams Scholarships**: Lin Li; Kristen McNaughton

**Monsanto Plant Science Research Scholarship**: Siobhan Moore

**Mrs. Fred Ball Scholarships**: Emily Green-Tracewicz; Lin Li; Blair Nameth; Sameh Mahmoud; Erik Landry

**Pride Seeds Scholarship**: Raja Khanal

**SJ Smith Memorial Scholarship**: Amelie Gaudin de Rodriguez

**Soden Memorial Scholarships in Agriculture**: Jingyun Liu; Heather Engbers

**Soybean Research Scholarship**: Joel Hemingway

**Sue Chase and John Steckle Fellowship in Agriculture**: Jeffrey Simpson

**Ted McGrail Memorial Scholarship**: Joel Hemingway

**Vineland Centennial Horticultural Scholarship**: Sherif Sherif

**Arthur Richmond Memorial**: Emily Green-Tracewicz

**Robb Travel**: Emily Green-Tracewicz

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**International Genetically Engineered Machines Competition (iGEM)**

The International Genetically Engineered Machines Competition (iGEM) was held the weekend of November 8 at MIT in Boston and for the first time the University of Guelph had a team of students entered in the competition and came away with a bronze medal! **David Johnston-Monje**, a graduate student in Plant Agriculture with Dr. Manish Raizada led a team consisting of himself, a computer science graduate student (Ed Ma) and 5 undergraduates from MCB: Brendan Hussey, Lisa Ledger, Tin Vo, Jennifer Vo and Mufaddal Girnary. The Guelph team entered two topics: 1) a bacterial endophyte programmed to silence a corn architecture regulating gene; and 2) intestinal bacteria which could produce beta-carotene which might be help in combating vitamin A malnutrition in certain populations.

The competition was comprised of 84 teams from 21 countries with the original competition being held in 2004. Congratulations to David and his team members on their bronze medal and we salute them for all the hard work that they put into their entry in this year’s competition. David is hopeful the Department will enter next year, if you have any ideas or would like to participate please contact David or Manish.

The mushroom research program and its facilities are unique in Canada. The University of Guelph is the only university in Canada doing mushroom research or with its own research facility. The Mushroom Research Facility is like a pilot plant. The compost is prepared in-bulk and the mushrooms are grown in trays. Each of the six production rooms holds 36 0.25m² x 24cm trays. The trays are equally divided between two tiers with three levels of six trays each per tier.

Our current program is focusing on understanding wheat cultivars used for the cultivation of the commercial white and oyster mushrooms. A recent initiative is the identification, characterization and evaluation of nutriceuticals in mushrooms. Also, we evaluate alternative materials for mushroom cultivation or chemicals and biological products for insect or disease management.

Past program activities have included management of fungal diseases caused by *Trichoderma* and *Verticillium*, and bacterial diseases caused by *Pseudomonas*, composting odours and spent mushroom substrate utilization, specialty mushroom production, management of post-harvest mushroom quality with ozone, spent mushroom substrate for use in container nursery stock, degradation of pesticides in mushroom compost, ammonia suppressants used in poultry manure and compost preparation, use of biological insecticides and traditional pesticides for insect management and evaluation of alternative compost materials.

I taught high school sciences for five years in Christian schools in Pennsylvania and Delaware. While teaching I obtained my Masters degree in biology. My PhD thesis at the Pennsylvania State University concentrated on mushroom integrated pest management and insect problems on mushrooms. (Pennsylvania produces over 50% of the USA’s mushrooms just as Ontario does for Canada.) My discipline of entomology prepared me for my current career in the cultivation and pest and disease management of edible mushrooms. My family immigrated to Canada in 1984 where I worked initially for the Ontario Ministry of Agriculture, and, after some governmental downloading and downsizing for the University of Guelph.

I have been married for nearly 36 years. We have two adopted children, a son and a daughter. My wife is a certified Spanish interpreter and translator, self-employed as a free-lance interpreter and translator for various social service agencies, law enforcement agencies or the courts. As well, Joan has recently started a non-profit charitable and nationally incorporated organization called Alcohol Babies Anonymous, an organization to educate the public, especially women of child bearing age, to not drink any alcohol during pregnancy, to decrease the number of children (and their families) affected by Fetal Alcohol Syndrome Disorder (FASD) and to support families rearing children with FASD.

My wife and I enjoy traveling, especially in Spanish speaking countries. Our life goal is to travel in all the Spanish speaking countries. (We only have a couple more to go.) Over the years we have traveled together as volunteers to help struggling mushroom farmers or assist churches in construction or evangelism. My wife and I want to help people, so we do find ourselves assisting others either here or in other countries. The Spanish speaking people groups are very important in our lives. To kick-start my communication in Spanish, I took a 6 month self-funded sabbatical leave during 2001 in Guatemala and Mexico, being tutored daily in Spanish. I am certainly not fluent but I am comfortable talking and I can ‘defend’ myself in the language. In the past decade we have increasingly become more involved in our Spanish church and with the Mexican seasonal workers in St Catharines.
Jay hails from south India. He did his Bachelors and Masters degrees in Horticulture from the Tamilnadu Agricultural University, Coimbatore. After working as Assistant Professor of Horticulture in his alma mater for five years he came to University of Florida for his PhD as a Rotary Foundation Freedom from Hunger scholar. He did his PhD in mango tissue culture at the Tropical Research and Education Center, Homestead – a research station of UF-IFAS located in the southern tip of Florida. He started his research, when hurricane Andrew devastated Homestead and surrounding regions in 1992, and completed his PhD when hurricane Erin passed through the same region, in 1995, though without any damage. Later he spent almost six years in the Mid Florida Research and Education Center, also of UF-IFAS as a post doctoral fellow and Assistant-In working in biotechnology of grapevine. In the eventful year of 2001, he moved further north to yet another off campus location of University of Guelph at Vineland, as tree fruit breeder, in what he calls as a job destined for him. Several interesting events preceded his joining the University of Guelph. He had attempted to come here as a graduate student in late 80s and later for post-doctoral positions, for both he was unsuccessful [translation- not even considered]. When he applied for his current position, he was called for a personal interview in June 2001. However, after even booking the flight, he found that he will not be able to return back into US as he was waiting for his immigration [His attempts and events in his immigration in both US and Canada is quite a soap opera in itself and is still continuing]. However the position was not filled during that time and as the interview process continued in fall, he attended the interview in Nov, 2001. As the then chair, Dr. Swanton was frantically trying to reach him in Florida, the lab where he was working was burglarised and everyone was asked to stay away from the office as the police were investigating. Thus, the message of his selection just remained in the answering machine for two full days and after another long wait he joined his current position in August 26, 2002. Thus the journey started in South India to South Florida to Central Florida to Southern Ontario –comprising of breeding tropical, subtropical and temperate crops!!

After an eventful start in the current position, where almost everyone left Vineland, after he joined, Jay has developed a conventional tree fruit breeding program which is complemented by a molecular biology lab, which he developed literally from ground zero. He works on developing new varieties of peach, plums and cherries using the rich germplasm he inherited from the past breeders – there were separate breeders for peach and another one for plums and cherries earlier at the then HRIO, Vineland. The main aim of the breeding program is to develop cold tolerant, disease resistant cultivars that produce ‘outside the existing cropping window’. His program also incorporates developing varieties with enhanced health promoting compounds such as antioxidants. His lab program focuses on understanding the molecular mechanisms of disease resistance during fruit ripening and the role of plant growth regulators in this process. His research group has discovered and cloned over 25 genes and transcription factors involved in fruit ripening and disease resistance from Prunus species and currently studies are going on to characterize some of them. He has active collaborations in several countries including US, France, Spain and India. Research in his tree fruit breeding program is supported by Ontario Tender Fruit Marketing Board, CFI, OIT, OMAFRA and ERA.

His field program was earlier supported by Bill Lay, who ‘took the retirement’ sometime ago and is now supported part time by Glen Alm and Brian Piott. Currently he has a post-doctoral fellow, Dr. Islam El-Sharkawy and two Ph.D. students –Ali Taheri (co-adviser with John Cline) and Sherif Sherif (co-adviser with Gopi Paliyath). In the past two post doctoral fellows, Dr. Rumen Conev and Dr. Ashraf El-kereamy worked in his program and he also co-advised (with Gopi) a MS student, who graduated in 2007. Rumen is now a faculty in Virginia Tech and Ashraf is working in CBS, Guelph.

Through the breeding program five tree fruit varieties were released in 2006, during the Vineland
Centennial Celebrations and several more are in the pipeline. Jay has authored or co-authored over 35 research publications and book chapters, several PBRs and has three US patents in grape tissue culture and cell biology from his earlier work. He is an Associate editor for the journal 'In Vitro-Cellular and Developmental Biology-Plant' and is routine reviewer for Plant Cell Reports, HortScience and Plant Cell Tissue Organ Culture among others. He frequently ‘steps-in’ to teach various courses such as Plant Tissue Culture, Plant Propagation and routinely offers guest lecture and lab for the Fruit Production course.

Jay is a member of the awards committee and has successfully nominated (along with other members of the committee) faculty from our department to win several OAC awards. He has also mentored middle and high school students in the region who have won several awards for their science fair project at the regional level and one of them had won two bronze medals and entry scholarships to universities in last year’s Canada-wide Science Fair (reported in earlier issues).

Jay is married to Sivagama Sundhari (Siva) and they have two daughters – Varsha (12) and Dheiksha (4). His hobbies include sports (he was a University Cricketer in his college days), philately and (naturally) gardening.

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**Erika Ankersit**  
**Administrative Assistant**

I am the Administrative Assistant at the University of Guelph, Department of Plant Agriculture, Vineland Station, working half days.

I live in Vineland with my husband of 31 years. We have two grown children. Our oldest son is married and has two children. He works in Mississauga and his wife is a stay-at-home Mom. Our youngest son graduated from McMaster University this year with a degree in Engineering and Business and is currently working in Bolton as a Project Coordinator for a Construction Firm.

My favourite pastime is spoiling my two granddaughters, Reese, 27 months and Drew, 6 months. They’re our beautiful angels from Heaven. Needless to say, Mom’s quite busy these days and appreciates my babysitting (spoiling) services. Reese loves having sleepovers at Oma and Opa’s house. Her favourite word right now is “why”.

My hobbies are gardening and creating stained glass projects for my house. One of my goals is to go on more vacations now that we’re “Empty Nesters”.

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Glen was born, raised and educated in Toronto. He received his BSc
in Botany, then completed a MSc in plant pathology working on the
biological control of peach canker, while attending the University of
Toronto. Due to a lack of employment opportunities Glen
started on a PhD in the area of plant host response to the
peach canker pathogen. Shortly after, Glen accepted
employment as a technician in the mushroom program with
OMAF in Vineland. Vineland recently celebrated its 100th
anniversary and Glen has worked in the mushroom program
there for 23 years plus an additional five summers doing field
work during his graduate studies.

For the past four years Glen has also been responsible for IT
support in Vineland which has been a challenge and a great
learning experience. In addition, Glen has been given the responsibility for technical support
in the tender fruit program (peaches/ European plums). For the last three seasons Glen has
tasted and evaluated each of 4000+ peach seedlings as well as numerous European (blue)
plums. This results in a division of labour of 60% mushrooms, 30% peaches and plums and
10% IT.

Responsibilities in the mushroom program include all aspects of mushroom growing
including composting. Glen identifies all grower mushroom disease samples (4000+), the old
fashioned way (morphologically), including *Trichoderma aggressivum* which has caused
millions of dollars in losses to the industry.

One of the more unique mushroom projects involved growing the
mushrooms for the Foodland Ontario mushroom commercial filmed using
time-lapse photography by a professional photographer (see photo).

In Glen’s spare time he grows orchids, but the
orchid addiction has been cured and a collection
once numbering in the thousands has been
reduced to just a handful. The highest honour growing orchids
was in receiving the 2003 Butterworth Prize from the American
Orchid Society for the best specimen exhibited in North America
(photograph by Michael MacConaill).

Glen has been happily married to wife Heather for 25 years and
they have two sons, Peter (3rd year environmental engineering at Guelph) and Mark (grade
12). Spare time is spent watching Mark at rowing competitions and gardening.
Cuban wine – an adventure in tropical viticulture

Judy Strommer and Helen Fisher

Cuban wine may sound as unlikely as Ontario papayas, but a research team headed by Judy Strommer went to help growers and researchers on the Caribbean island develop a nascent viticultural industry, in hopes that one day, there may be a truly Cuban vintage.

Grape-growing and winemaking are unusual ventures for Cuba, but its government is keen to develop an industry to supply the huge and growing tourism market. The present focus is on viticulture, since there is already an infrastructure in place for importing Spanish wine and bottling on site in Cuba. In addition, vineyards might be an alternative crop for sugar cane farmers hit by the collapse of the former Soviet block markets and falling sugar commodity prices.

One species of grape is indigenous to Cuba, V. caribae or V. tiliifolia, depending on your favourite taxonomist! This species could be useful perhaps as rootstock to protect traditional V. vinifera wine cultivars from root insects and diseases. It may also be useful in a very long term breeding programme to impart constant flowering traits of tropical species or resistance to tropical foliar and/or fruit diseases. However, at this stage, even an inventory of insects and diseases potentially problematic to commercial viticulture using traditional European varieties is not available. Although Spanish wine varieties have already been imported, recommendations were made to minimize importation except for virus indexed material because of the unknown reaction of virus infected plants under tropical conditions and the risk of foreign virus introduction to indigenous species. It was important to emphasise the isolation value of being an island in this respect.

Perhaps the most important conclusion to the exercise was that pursuing wine grape production was not as feasible as pursuing table grape production. Although the glamour and caché of producing local wine is not there, the resistance to unknown wine varieties and/or areas of production is very real in the wine consuming public, even among less discerning tourists in all-inclusive resort!! The provenance of table grapes is not a high priority, nor is their taste and texture, as long as they are pleasant and hopefully seedless. Table grapes are already being grown in Cuba on a local farm, market garden level, and the local farmers have figured out how to manipulate vinifera and hybrid varieties to fit the tropical bi-modal rainfall seasons and maintain quality. The tourist hotels use literally tonnes of fresh fruit a day and this could add to the mix of pineapples, papayas, bananas, coconuts, guavas, bake-apples, star fruit, and of course citrus.

Variety selection, conventional breeding for tropical adaptation, and tropical production systems are already available in India, Taiwan, Venezuela and Brazil. These technologies are being adapted to the Cuban environment and could be developed into long term marker assisted breeding programmes, once an inventory is made of the traits desirable and the markers associated with them – still a long way away.

In 2005, Judy received $22,000 from the NSERC for an investigative tour of Cuba to begin assessing indigenous and feral grape germplasm and to develop ties with Cuban researchers. This was a Guelph/Brock collaborative project. Guelph (J. Strommer and H. Fisher, PAg; G. Boland, EVB; A. Nassuth, CMB; T Gillespie, LRS) and Brock (V. De Luca, Biology) faculty met with researchers at the IIFT (Instituto de Investigaciones en Fruticultura Tropical) in Havana and reviewed prospective growing sites for soil, climate and other conditions (November 2005 and May 2006).
This new collaboration with the IIFT in Havana resulted in three scientific exchanges - one Cuban plant scientist and two technical staff - and visits to Plant Agriculture and Environmental Biology here in Guelph and the viticulture field station in Vineland. Yenia Perez, fruit research technician, visited in the fall of 2006 to study grape vine identification and taxonomy, traditional grapevine breeding and commercial field production techniques. In December 2006, Maylen Machado, fungal diagnostics technician, spent three weeks in EVB, Greg Boland’s lab, using molecular diagnostic tools to identify strains of Phytophthora spp., a particularly difficult group of fungi that are a serious agricultural pest in Cuba. Orlando Coto, chief research scientist in charge of alternative crop investigations, visited in January 2007, to discuss further research collaborations at Guelph and Vineland. An additional visit to Cuba was arranged in August 2007 for Judy and Terry Gillespie, professor emeritus in Land Resource Science, to work with the Cuban group to develop plans for creating software using climatic and geological information to identify optimal sites for viticulture on the island.

Guelph researchers in the project learned a lot about Cuban germplasm diversity, about Cuban viticulture and small scale fruit farming. The Cubans are quite advanced in their common use of biological methods for plant protection, developed in response to their inability to access pesticides developed mainly in the United States. They already have the tools to deal quickly and effectively with agricultural pests, and so this inventory of pest issues that could affect Vitis should be one of the first steps in introducing a new commercial crop.

Hurdles to the project included wrestling with Cuban bureaucracy – it took six months and a pile of paperwork for Judy to send money to a collaborator – and trying to formulate help for Cuban researchers whose lab conditions were often primitive. The Cuban scientists were all well educated in Europe or South America, and very keen on their work. Their technology was good but old and they desperately need international collaborations in order to access new technology and create a good transfer of information, particularly in respected scientific journals.

The Cubans were wonderful hosts and treated us extremely well. We saw parts of Cuba not common to tourists - secluded beaches and Soviet era hotels with intermittent (!) supplies of cold water; warm, smoked pork roast with the ubiquitous rice and black beans, served at an outdoor farm staff luncheon; pristine, tropical hardwood forests, high in the central hills and viewed from the uncomfortable back of very sure-footed mules; chirpy friendly frogs and gekkos (and a few nasty spiders) that dropped from the ceilings in our rooms during the night; wonderful, sweet, aromatic Cuban coffee served at an impromptu picnic on a farm porch where boxes, pails and the porch steps served as chairs - but above all, we experienced the fellowship and camaraderie of old, but new friends.
We celebrated in 2006 the 100-year history of the Horticultural Experiment Station at Vineland. It was the benevolent spirit of the Mr. Moses F. Rittenhouse – Vineland’s lumber entrepreneur, businessman and benefactor- that provided the original 90-acre tract of land in 1906 for the establishment of the Horticultural Experiment Station. In 1916, Dr. E.F. Palmer was appointed Director, a post that he would hold for the next 40 years. During Dr. Palmer’s tenure, he oversaw the construction of the power plant, expansion of the Station to include Victoria Farm and the grape sub-station on Cherry Avenue, greenhouse construction and expansion, the construction of the Horticultural Products Laboratory and a new Administration Building, the construction of the Federal Entomological Laboratory and the Station become a separate Branch of the Ontario Department of Agriculture under the Agricultural Research Institute of Ontario. In the 1960s the Station’s name was changed to the Horticultural Research Institute of Ontario (HRIO), land for Simcoe Research Station was purchased and the substation constructed, a new Federal building was constructed on the Vineland campus, and the Muck Research Station came under the management of the Institute. In the 1970s and early 1980s, Canada’s first publicly funded mushroom research unit was constructed and the Horticultural Products Laboratory and greenhouses were expanded. In 1997 the Ontario Ministry of Agriculture, Food and Rural Affairs transferred the operation of HRIO to the University of Guelph. In 2002 the Station’s greenhouse, storage and outdoor ornamentals research programs and staff were relocated to the University of Guelph campus. Presently, the research programs at Vineland include: viticulture, tree fruit breeding and management, and mushroom production.

This campus has a very rich heritage of contributing to the horticultural sustainability of the Niagara region, Ontario, Canada and the world. Over its 100 year history it has released over 180 new varieties of fruits, flowers and vegetables, especially for the benefit of Ontario horticulture. The scientists loved the Ontario horticultural industry, especially that of the Niagara Region, and provided extensive research and grower assistance in the cultivation of old and new varieties of fruit, greenhouse vegetable and floriculture crops, as well as mushrooms.

Tree Fruit Breeding, Genetics and Biotechnology program is the responsible of Jay Subramanian. His program includes producing new varieties of stone fruits that complement existing varieties and extend the harvest seasons, development of varieties richer in health promoting compounds such as antioxidants and identifying disease resistant genes and mechanisms that control fruit ripening at the sub-cellular level.

The Tree Fruit Physiology and Management program is under the leadership of John Cline. The primary objectives of the pomology program are to investigate factors that determine yield and fruit quality of tree fruit crops, as well as environmental issues surrounding tree fruit production. Experiments include investigating the use of new, dwarfing peach and cherry rootstocks, irrigation scheduling, plant bio-regulators, and new methods to thin peaches. The program is interested in understanding the physiological basis for rain-induced cracking of sweet cherries, as well as studying the benefits of mulches in the orchard coupled with the fate of nitrates in the ground water.

Grape Production Efficiency and Nutritional Guidelines for Ontario program is directed by Helen Fisher. Her program includes breeding for disease resistance but especially for cold resistance for wine and table grapes, investigating inheritance and elicitors for anthocyanin and flavor
component production in seedling lines, developing compost, soil amendment and nutritional recommendations for high quality vineyards, investigating trellising and other aspects of vineyard geometry for labrusca, hybrid and vinifera varieties, maintaining clean vineyards for propagation and germplasm collections for industry access and developing cold acclimation curves for standard varieties for wind machines.

Pear Breeding and Cultivar Development program is managed by David Hunter, Adjunct Professor in our department. The objectives of the pear breeding program are to develop, through the integration of traditional breeding techniques and biotechnology, pear germplasm with increased resistance to fire blight, to introduce new pear cultivars and selections for commercial production that extend the harvest season for fresh and processing markets and to evaluate pollination requirements of recent cultivar introductions.

The Mushrooms Insect, Disease and Crop Management program is managed by Danny Rinker. The program is focusing on understanding the influence of wheat straw cultivars on commercial and specialty mushroom production, management of various Trichoderma diseases and Verticillium disease and isolation of nutriceutical compounds from commercially cultivated mushrooms.

(The majority of the text has been extracted from a brochure distributed to public on the Open House at Vineland on Saturday, August 26, 2006)

Seed of the Year

OAC Kent

OAC Kent, a soybean variety developed by Istvan Rajcan and Wade Montminy has been named Seed of the Year for 2008. This award was presented at the Royal Agricultural Winter Fair in November. During the last 5 years OAC Kent has had more than 8,000 tones of seed sales and has been proven consistent in yield and agronomics over the last 7 years. The Seed of the Year competition, which was devised by U. of G and SeCan along with support from AAGC and OMAFRA is designed to allow public breeders to highlight their accomplishments in development of new field crops, forage, fruit, vegetable or herbs. The development of OAC Kent was supported by the Ontario Ministry of Agriculture, Food and Rural Affairs.

Congratulations to Istvan, Wade and the rest of the soybean crew on this well deserved award.

OAC Rex, a white bean variety which was developed by Peter Pauls, Tom Smith and former Plant. Ag. Professor Tom Michaels was one of the 3 top finalists as well, bringing more accolades to the Department, our congratulations to Peter and Tom as well.
The Guelph Centre for Urban Organic Farming (GCUOF) opened on a 1 ha site at the Arboretum on 4 September 2008 - the first day of term.

The GCUOF is designed to benefit several target groups. Initial beneficiaries will be students of all ages on campus, who will have the opportunity to learn life skills in both year-around organic production practices and water and energy conservation. Consumers of the produce from the GCUOF, whether offered by student chefs under the tutelage of Chef Simon Day or at the Child Care and Learning Centre (CCLC) or at the Bullring Café or elsewhere, will also directly benefit from the GCUOF. Children at the CCLC have their own section from which to learn about where their food comes from. Once we have got the logistics worked out for teaching our own students and serving our on-campus buyers, then the same learning opportunities will be provided to the broader community, likely in concert with the City of Guelph.

Opportunities to learn will range from informal volunteering, to labs in existing courses taught at the site, to short courses and workshops, as well as a proposed year-long certificate in urban organic market gardening. Paid apprenticeships are envisioned to allow students to work on site through the summer, mastering the whole process from winter production and starting transplants in a state-of-the-art four season greenhouse, to marketing produce, and maintaining accounts. The food produced from the permaculture and arable plots at the GCUOF will not be for sale off-campus or to individuals, as we do not want to compete unfairly with real farmers. Our real 'produce' is not so much food as the farmers who will produce the food in the future.

The intent is to learn how to become more food self-sufficient, to depend less on purchased - often imported - foodstuffs, and to improve both food safety and food security. We intend to reduce not just food travel miles, but all of the resource costs that accompany industrialized, globalized food movement, including processing, packaging, and transportation. The agri-food system reportedly consumes 19% of our national global energy budget, of which just 7 of the 19% is spent up to the farm gate. An equal amount - 7% - is expended just in processing and packaging, with the final 5% from the retail shelf onwards. Individuals can reduce both energy costs and GHG emissions by growing food in their own yard or community garden, and by purchasing from local urban organic growers. Local buying will also affect the disbursement of money, specifically, retaining more of it here by sending less of it to all the intervening steps between growing in California or B.C. and buying in Guelph. Supporting known local farmers, processors, bakers, and chefs - people you know - in preference to wholly unknown operators in a distant land also enhances the sense of community and inter-dependence.

On a broader scale, learning to produce food and manage your land with less water and energy will benefit society - and the environment - as a whole. Particularly in Guelph, where water scarcity is an almost annual reality, people who master gardening with less City water will help to safeguard our precious water supply. Even in a small way, such people will be an example to their neighbors and their children in preparing for a more resource-limited future and lifestyle.

Is it plausible to expect busy people to take up, or return to, gardening to displace some of their food...
purchases? People change their habits, lifestyle, and practices in response to drivers, such as the trade off between time spent driving in to Toronto to work and the time left for backyard gardening. Or between spending money on prepared convenience food vs. allocating the time to cook it yourself. It is really a matter of personal priorities and values. Whether urban farming will become more popular will depend on the priority that people put food that is locally produced and processed by people that they personally know and trust. People who are comfortable with the status quo will not feel any reason to change. People who are not comfortable with ‘things the way they are’ are motivated to search out alternatives.

One factor which is driving a shift to more local and even backyard production is food safety concerns, fueled by *E. coli* outbreaks here on campus, as well as the recent recalls of *Listeria*-contaminated meat and *Salmonella*-contaminated tomatoes and/or peppers. Lax safety standards in major international trading partners raise understandable concerns.

The fundamental problem is bigness. The largest meat recall in history was in the US this past February - 143 million pounds of meat. Through mergers and consolidation, a very large fraction of Canadian meat comes from a very few physical facilities: Maple Leaf Foods and Schneiders (which is wholly owned by Smithfield Foods, largest pork producer and processor in the world) account for most of the pork. Beef comes predominantly through just three very large plants - of which the two largest are in Alberta - Cargill Foods of High River and Lakeside Packers of Brooks (controlled by Tyson Foods, the largest meat processor in the world) - and one is in Guelph, Ontario - Better Beef (owned by Cargill). Whether it is meat or spinach or any other foodstuff, processing millions of meals worth of product a day through any facility increases vulnerability to food safety problems. One mistake impacts millions. The more often this happens, the more people question the safety of their food and look to more local sources.

A related factor is the frailty of globalized movement of food. Globalization is premised on cheap energy to move food great distances while still remaining economically competitive with local producers. The rising price of energy will - arguably - constrict the economic travel distance of perishable foodstuffs in particular, but of food in general, shifting the cost ratio of imported v. locally produced food. In other words, whereas it was and is hard for local producers to compete with cheap produce coming from California or Mexico, shortened economic travel distances of food will advantage local producers. Globalized food systems will increasingly be seen as an aberration, refocusing attention on local and in-season eating.

We, like many academic institutions, are starting to realize that we need to change our ways. We are making a start. But making change happen requires personal acknowledgment of the many ways that the agri-food system impacts us and the environment. Michael Pollan’s latest book *In Defense of Food*, and the DVD *King Corn* offer a frank analysis of the cascading impacts of how we farm and what we eat. Change can happen. Change is happening. The key question is whether is happening fast enough to make a difference.

The GCUOF reflects the combined efforts of the 18 member planning committee, drawn from 6 academic departments over two colleges as well as the Arboretum and CCLC, together with NGO support from the Ecological Farmers Association of Ontario, the Canadian Organic Growers, and FarmStart. For more information, contact E. Ann Clark (eaclark@uoguelph.ca).
The Bioproducts Discovery and Development Centre was officially opened on October 3, 2008. Dignitaries including University of Guelph President, Dr. Alastair Summerlee, Dean of OAC, Dr. Rob Gordon, Mayor of Guelph, Karen Fairbridge, Minister of Agriculture, Food and Rural Affairs, The Honourable Leona Dombrowsky and others were on hand to officially open the new facility which will be led by Dr. Amar Mohanty, Premier’s Research Chair in Biomaterials and Transportation. The Centre’s focus will be producing greener bioproducts to replace non-renewable materials in various areas of manufacturing as well, including the automotive industry. These plant-based biomaterials will be eco-friendly and produced by crops that are readily renewable. The Centre will accommodate plant biologists, in collaboration with physical and engineering scientists. Research in the use of agricultural entities such as wheat, corn, soy as well as switchgrass and straw will revolutionize the manufacturing of not only produce consumer goods, but will also focus on turning crops into renewable biofuels. Funding for the Centre has been provided, in part, by OMAFRA as well as the Ontario Ministry of Research and Innovation, along alumni and private sector donors among others.
Antivirus 2009 – This new rogue, on the surface looks like a genuine antivirus program, but has become increasingly prevalent over the last few months. The process is usually initiated when you click a link for what you believe is valid security software or its vendor’s site.

If you’ve been “blessed” with getting Antivirus 2009, you’re probably seeing fake warning alerts, increased pop-ups and the hijacking of your home page of Internet Explorer. Removal of Antivirus 2009 starts by trying to use the Add/Remove Programs utility in the Control Panel, and then restart your PC in Safe mode. Launch antispyware application, such as Spybot, and allow it to scan system files and folders to remove any suspect applications/files/registry entries. Now boot up your PC as normal.

A specialized malware removal tool is SmitFraudFix and is “freeware” software.

Apple Trojan Returns

Yes, Macs can get a virus.

A nasty Trojan that first hit Mac users just over a year ago has returned according to a Mac-only security company Intego. The latest variant of RSPlug, known as RSPlug.E, has been discovered by the company on porn websites masquerading as a missing ActiveX plug-in needed to play a video. Ref: http://www.intego.com/news/ismo8o8.asp

USB sticks spreading viruses

One of the ways by which a virus can infect your PC is through USB sticks. A new family of worm type viruses is spreading by copying itself onto removable drives such as USB memory sticks. The technique exploited is the ‘autorun’ feature of XP/Vista machines (as device/media inserted computer will check for the existence of ‘autorun’ file and, if present, execute it automatically) and hence called ‘autorun virus’.

Defenses are in place to protect users against email-aware viruses and malware. So these attackers are looking for other less well defended routes, including USB keys, to infect innocent users.

So, how does it get infected? A common place that a lot of people probably do not think about is digital photo kiosks. These places, like Wal-Mart, then sit back and laugh as literally thousands upon thousands of people walk in and insert their memory cards.


Making sure your machine has antivirus software and it has the latest virus definitions is the best defense for this and other attacks.
**Library News**

Judy Wanner

**Grad students** -- Tune up your database search skills next semester with formal or informal how-to workshops. The library will be offering a series of three workshops through the GSLI (Grad Student Learning Initiative) under the title **Better Library Research = Better Thesis**. The three modules are Databases for the Sciences, Using RefWorks in the Sciences and Using Write-N-Cite for your Thesis in the Sciences. The first one is especially useful, focusing on effective searching concepts and getting the most out of searching the literature of science. The course sign-up will be through the regular U of G event registration page [http://www.uoguelph.ca/studentaffairs/reg/](http://www.uoguelph.ca/studentaffairs/reg/) If anyone prefers an individual session or wants a session for a class please contact me [jwanner@uoguelph.ca](mailto:jwanner@uoguelph.ca) and I will be happy to arrange it.

GIS workshops will also be available in the new year. This term 8 different sessions were scheduled, ranging from a basic overview of ArcGIS (good for people who are new to ArcGIS, or are migrating from ArcView) to Geostatistical Analysis. A complete list of workshops is posted here: [http://www.lib.uoguelph.ca/resources/data_resource_centre/help&_learning_resources/in_class_workshops.cfm](http://www.lib.uoguelph.ca/resources/data_resource_centre/help&_learning_resources/in_class_workshops.cfm) Individual help is also always available by contacting the Data Resource Centre at ext. 56417. The DRC is located behind the Research Help desk in the McLaughlin Library. Hours are 10:00 to 4:00 Monday to Friday.

Christmas Gift Idea – If you have been using the electronic books in the library collection you may be interested in a Kindle e-book reader. Produced and sold by the on-line book seller Amazon, the new 2.0 version is thinner and has a better screen than the original introduced in 2007. The neat thing about it is the ability to wirelessly get almost any book and many newspaper and other subscriptions in a matter of seconds. Content can be researched, bookmarked, and the text highlighted. The device includes a built-in dictionary, can remember the last page read, and pages can be saved as clippings in a downloadable text file. Approximately the size of a paperback book, the capacity is about 200 non-illustrated titles. Prices for popular e-books are very reasonable – many new books and best sellers for under $15 and classics and older titles for less than $5. Free samples of first chapters are offered. Think of no more heavy textbooks to carry around and your favorite titles always at hand. Like all new electronic toys not that cheap but certainly useful for the academic world. More information at [http://www.amazon.com/Kindle-Amazons-Wireless-Reading-Device/dp/B000FI73MA](http://www.amazon.com/Kindle-Amazons-Wireless-Reading-Device/dp/B000FI73MA)

If you have yet to try an electronic book here are a few new titles available from the library – just a quick search of the catalog away. (Depending on the publisher, access and appearance can vary) Happy Reading. Judy Wanner

Allelopathy in Sustainable Agriculture and Forestry

Biosaline Agriculture and High Salinity Tolerance

Crop Biosecurity

Molecular Biology in Plant Pathogenesis and Disease Management

Plant membrane and vacuolar transporters
Science and Agriculture in the News – These links are a great way to scan current science developments. EurekaAlert features breaking science news from the American Association for the Advancement of Science http://www.eurekalert.org/pubnews.php?view=titles  Covering the broad spectrum of science, this months headlines include the following plant related headlines:
- **Red alert! How disease disables tomato plant's 'intruder alarm'**
- **Rooted plants move mysteriously down greenways**
- **Managing carbon loss**
- **Broccoli compound targets key enzyme in late-stage cancer**
- **Plants display 'molecular amnesia'**

SciCentral – “Since 1997, the SciCentral editors have been aggregating breaking research news from the most reputable and reliable sources. Over 700 other websites point to SciCentral as a trusted source of information.” http://www.scicentral.com/
Users can choose from 5 science categories featuring daily science news. Recent news items include:
- **Benefits of replacing corn with perennial grasses (for biofuels)**
- **Great Empires Declined as Climate Changed**

USAgNet.com provides strictly ag news. Its mission is to serve the needs of the American agricultural industry with products, listings, daily news updates and other information on one site. http://www.usagnet.com/ News is generated daily by their editors and is usually unique to the site. Recent headlines:
- **China to Export 4 Million Tons of Corn in 2009**
- **Monsanto Completes Acquisitions of CanaVialis & Alellyx**
- **Increasing Calcium in Carrots and Other Vegetables**

**Learning Matters**

There are new frontiers being defined in Human Resources on the fifth floor of the UC these days. A new team in Learning and Development is preparing an ambitious set of programs and services for all University of Guelph employees.

Aiming to be your partner in engaging mind, spirit and imagination for a vibrant working community, our goal is to ignite possibility and facilitate your success at U of G.

Staff and faculty contributions are fundamental to the University of Guelph’s success. Continuous learning and development enhances our community’s capacity to grow and change in response to the challenges and opportunities we encounter.

In January 2009 we will launch a set of programs and services that incorporate a new way of thinking about learning. Our goal is to better integrate learning into the work day, making it convenient and ensuring its impact.

Look for new programs on personal leadership, learning, service excellence and a brand new stream of personal and career development opportunities.

We will offer customized services to departments and groups, as well as programming aimed at sharing knowledge and enhancing innovation through conversation cafés, communities of interest, dialogues, and more!

On our new website you will be able to learn about all of our offerings, access online resources, link to awesome external learning sites, and lots more! Look for the new website to launch in January 2009. For now, please visit us at www.uoguelph.ca/hr/training or stop by the fifth floor of the UC to say hello.
Adam Dale was an invited speaker at the COST 583 Workshop on “Berry Production in changing climate conditions and cultivation systems”, October 29-31/08 in Guisenheim, Germany. Adam’s talk was entitled “How climate change could influence breeding and modern production systems in berry crops”.


Chapters in books:


Papers:


Presentations:
Emily Green-Tracewicz, M.Sc. Student with Clarence Swanton, presented a poster entitled “Response to Light Quality as a Competitive Mechanism? Biomass Partitioning Associated with Shade Avoidance Characteristics in Glycine max L. Merr. (Soybean)”. Co-authors were E.A. Lee, L. Lukens, M. Tollenaar and C.J. Swanton. The poster was presented at the Ontario Pest Management Conference. Emily also presented a talk of the same title at the recent Canadian Weed Science Society conference in Banff which was held in November.

The 2nd Plant Agriculture Retreat will be held February 17 and 18, 2009 at the Sheraton Fallsview in Niagara Falls. The purpose of the retreat is to learn about the research going on across the Department, and to meet 100-120 of your colleagues, in order to forge collaborations and friendships. We are very spread out as a department, both in terms of discipline, and geographically. During the 2 day event there will be approximately 17 scientific presentations, a roundtable “get to know each other”, a wine & cheese and some great entertainment thought up by the graduate students. We’re hoping to focus on presentations by graduate students and staff at this retreat as well as a number of faculty presentations. If you haven’t already signed up but would still like to attend, please contact Beth (blivings@uoguelph.ca), before the 7th of January/09.

FarmSmart 2009 is being held at the University of Guelph, on Saturday, January 17, 2009 from 8:30—4:30. The conference will take place in Rozanski Hall. Entrance fee for faculty and staff is $50, students $30. The Theme of this year’s conference is “Seizing Opportunities” and there will be approximately 40 different topics discussed at various sessions. For more info see: www.uoguelph.ca/farmsmart

The Landscape Ontario Congress is having it’s 36th International Horticultural, Lawn, and Garden Trade Show and Conference, Jan. 6-8/09 at the Toronto Congress Centre. For more information please see: http://s31.a2zinc.net/clients/ezlandscape/congress09/Public/MainHall.aspx?ID=186

The 28th Guelph Organic Conference will be held at the University of Guelph January 22-25, 2009. Along with the workshops there will also be a Trade Show and Organic Food Expo. For information on conference registration or the trade show please see: http://www.guelphorganicconf.ca/index.html

The trade show and organic food expo, featuring 150

The Ontario Processing Vegetable Growers annual convention will take place January 27, 2009 in London.

The Canadian International Farm Show will be held on Feb. 3-5/09 at the International Centre in Toronto. Please check out:

http://www.masterpromotions.ca/canadian-farm-show.asp for more information.

The Ontario Berry Growers Association and the Ontario Fruit and Vegetable Growers Conventions are taking place in February at Brock University. For more information please see: http://www.ontarioberries.com/growers.htm
I would like to take this opportunity to wish everyone, whichever holiday you may be celebrating, a wonderful holiday season and a happy, safe and healthy 2009!!

Beth

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Dr. B. Grodzinski - Graduate Coordinator

**Program Counsellors:**  
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Dr. F. Tardif—Crops  
Dr. J.A. Sullivan—Hort  
Dr. E. Lyons—Turf  
Dr. D. Wolyn—Plant Biology & Plant Biotechnology