The beauty of spring is all around us. After an unusually long and snowy winter (a winter that made me wonder why I had left Winnipeg), spring is upon us and we are reminded of the wonders of nature and the wealth we possess in our landscape, our green spaces and our gardens. It also reminds us of the importance of horticultural sciences to our health and well being, not only in the foods we eat but also in the peace of mind that beauty in the landscape brings us. Nature abhors a vacuum and it seems that our species is hard wired to appreciate this fact. We seem to respond best to an aesthetic that includes a variety of colours and textures and this truth is scale invariant. Horticultural science and the horticulture industry understand this and as such they are agents for biodiversity bringing opportunities for new crops, new varieties and new landscapes that are good for our environment, good for our health and good for our peace of mind. Our department plays a special role in horticulture in Canada through our dedicated faculty and staff, the Guelph Turfgrass Institute, research programs at Simcoe, Vineland, Ridgetown and Kettleby, our collaboration in developing the Vineland Research and Innovation Centre, The Trial Gardens in Guelph, Milton and Vineland, our involvement in the Canadian Greenhouse conference and Canada Blooms every year, our collaborations with the Master Gardeners of Ontario and the University of Guelph student Horticulture Club, our renewal of postharvest research capacity at the Guelph campus, and our new collaboration with the Arboretum in setting up the Guelph Centre for Urban Organic farming. Like nature, our strength in horticulture is based on our diversity of capacity and efforts, and like nature we must work to maintain that diversity in order to remain strong. After a long winter, spring reminds us of how much we value horticulture and it also reminds us of why it is so important to maintain strong horticultural teaching and research capacity here at Guelph.
Welcome to

Scott Cressman, MSc, Clarence Swanton

Congratulations to

David Johnston-Monje recipient of the Taffy Davison and Robb Travel Scholarships
Emily Green-Tracewicz recipient of the Robb Travel Scholarship

Graduate Coordinator’s Message

If one follows the web link www.uoguelph.ca to Graduate Studies and into Plant Agriculture one will find the NEW description of our graduate program that now reflects the THREE broad fields of study that were approved following the review of the department’s graduate programs last year. The THREE broad fields of Plant Sciences that officially describe the new graduate program in the Department of Plant Agriculture are: 1) Plant Genetics and Breeding, 2) Plant Physiology and Biochemistry and 3) Crop Production Systems. The requirements for admission and degree for the MSc and the PhD programs have been altered to better reflect the many discussions that the students and the faculty shared during the last 24 months. Course offerings have been grouped to reflect the three fields of study in the Plant Sciences that the department now specializes in.

Just as the new calendar description of Plant Agriculture became official and posted on-line several notable changes to the structure of the Graduate Committee occurred. May 2008 witnessed the retirement from the committee of Drs. Judy Strommer and Danny Rinker. Both will be missed. Judy was a valued member of my subcommittee that met regularly to assess graduate award applications. Danny along with Larry Erickson was extremely helpful in taking on the task of modifying Plant 6400, the core seminar course, for both the MSc and PhD students. Also there recently was a turnover of the two graduate student representatives on the committee.

We are much indebted to Liz Brauer, the former MSc representative and Eric Page the former PhD representative, of the Graduate Student Liaison committee (GSLC). They worked extremely hard to help foster a family spirit among graduate students and faculty that we must all build on in the coming years. With the Department physically split on campus between the Bovey Complex and the Crop Science building, and with graduate students far away at the satellite campuses in Ridgetown, Simcoe and Vineland physical distance remains a real problem for all of us to work hard to bridge. I was pleased to chair a recent meeting of the new Graduate Committee and then share a pot luck supper with Siobhan Moore, the new MSc and Andrew Burt the new PhD representative on the GSLC. Liz and Eric clearly passed the baton on smoothly to their successors.

Siobhan and Andrew are welcome additions to the new graduate committee that consists of a number of old faces Drs Duane Falk (the Associate Graduate Coordinator), Barry Shelp, Liz Lee, Thys Tollenaar, Lewis Lukens and Mrs. Jean Wolting (Ex officio member and Graduate Secretary). Also on the new committee, replacing Judy Strommer and Danny Rinker are two very valued colleagues, Drs Istvan Rajcan and Barry Micallef. Both colleagues have very active research programs and have proven already their dedication to growing, not merely sustaining, the graduate program in the Plant Sciences. To both of you a warm welcome.

Finally, on behalf of all of us on the Graduate Committee, a very warm welcome to all new graduate students who have just joined our department.

Bernie Grodzinski,
Graduate Coordinator
Dr. Amar Mohanty and Dr. Manju Misra joined the Department of Plant Agriculture (and School of Engineering) in January 2008. It is our pleasure to provide the following profiles of Dr. Mohanty and Dr. Misra, in their own words. I hope the following pages give you a little more insight into Dr. Mohanty and Dr. Misra, who are both located in the Crop Science Building (Manju also works out of Thornborough). If you haven’t already had a chance to meet, I’m sure Amar and Manju would be happy to have you drop

Amar Mohanty, Professor and Ontario Premier’s Research Chair in Biomaterials and Transportation at the University of Guelph, a former Michigan State University professor is an international leader in the field of biomaterials. His research interest comprises bioeconomy related to biobased materials, biofuels and biorefinery. He has more than 250 publications to his credit, including 138 peer-reviewed journal papers, 4 book chapters, 3 text books, 2 edited books, 2 magazine articles, 7 US Patents awarded. He is an accomplished researcher and was the holder of the prestigious Alexander von Humboldt Fellowship at the Technical University of Berlin, Germany and received the Andrew Chase Forest Products Division Award in 2006 from the Forest Products Division of the American Institute of Chemical Engineers. He is one of the Directors of the Forest Product Division, American Institute of Chemical Engineers. He was the lead editor of a book "Natural Fibers, Biopolymers and Biocomposites" published by Taylor & Francis CRC Press in 2005. Dr. Mohanty serves as Editorial Board Member in the Journal of Polymers and Environment, Recent Patents on Material Science and Journal of Nanoscience and Nanotechnology. He is the "Editor-in-Chief" of the Journal of Biobased Materials and Bioenergy.

Manju Misra is an Associate Professor in the School of Engineering and the Department of Plant Agriculture at the University of Guelph, Ontario, Canada and joined this new position starting January 2008. Prior to her current position, Dr Misra served as an Associate Professor in the Department of Chemical Engineering and Material Science, Michigan State University USA. Her research is primarily focused on novel biobased composites/nanocomposite materials for the sustainable bio-economy; and application of nanotechnology in smart sensors for pathogen and gas detection. She has been a chair or co-chair in several professional organizations. She is a reviewer of several journals in the area of synthesis and application of new biobased materials. Dr. Misra has more than 200 publications including 120 peer reviewed journal publications, 6 US patent and 15 patents pending. She was an editor of the CRC Press volume, "Natural Fibers, Biopolymers and Biocomposites," Taylor & Francis Group, Boca Raton, FL (2005). Dr. Misra is one of the Associate Editors of the journal "Advanced Science Letters" and also is a member in the editorial board of: "Journal of Biobased Materials and Bioenergy."
Meet the Dynamic Duo:
Manju Misra and Amar Mohanty

In January 2008, Guelph, Canada became the third country for us to dwell in after we left India since 1997. The first few months were busy with move, meeting new colleagues, setting up the office and the lab, writing grant applications, meeting with industry and government representatives. Though we had a very short period to explore Guelph and Canada, we are beginning to feel like home already.

We both grew up in the city of Cuttack, the former capital and one of the oldest cities of the state of Orissa in India. Cuttack city has over 1000 years of rich history and is surrounded by lush fields, being situated at the deltas of two rivers. We both come from large families, by Canadian norm. Manju grew up in the family of eight children (three sisters and five brothers) and I am from a family of seven brothers.

My early education did attract me towards understanding of science but my chemistry teacher in the intermediate science class, who had a very distinguished personality credentials had the most influence on my career which was further strengthened during my undergraduate studies. This ultimately drove me to excel in post graduate studies achieving Gold medal for ranking first in the examination in the University. Later with my exposure and vicinity to richness of nature and agriculture, I found attracted to the potential of research for proper utilization of natural materials.

Manju and I met for the first time during the registration for the Masters Program. I still recall the time, it was love at the first site. I do not think it was true from her side! I joked with her later: “when there is a will there is a way!”. However, it took nearly ten years before we could get married successfully convincing ourselves and community for overriding the traditional and cultural practices. We both entered Masters of Science program with major in Polymer Chemistry, became friends but also competitors for the top student prize (I won the gold medal and Manju was ranked a close second). After completion of the Masters program, we briefly separated geographically when I went to another University and Manju took a faculty position under Utkal University. Then fortunately Manju and I started our PhD research program under Utkal University, with a great personality Professor B. C. Singh who graduated from the University of British Colombia, Canada.

I worked on functionalization of jute fiber, a widely available agricultural natural fiber in India. Manju worked with the natural silk fiber. During my PhD work, I was fortunate to coauthor a book entitled “Fundamentals of Polymer Science” with my PhD supervisor. Thanks to the confidence of my supervisor with me. This was one of the most popular text books for the graduate students entering into the polymer program in the state of Orissa.

It was only after both of us obtained our PhD degrees and tenure positions, in 1988, Manju’s father agreed to let her marry me. Oh! What a fabulous achievement for me! It was like a happy home to my 10 years patience and waiting. Our family ties were always important to us and we keep close ties with our families regardless of our changing our residence across countries and continents.
I spiralled through three Educational Institutes under Berhampur University and Utkal University in India, in the role of Lecturer and then Senior Lecturer during 1987-1997. During my independent research and teaching career in India, I conducted research in the area of natural fiber functionalization, natural fiber composites and polymer synthesis. Manju and I started a joint research group in Ravenshaw University in the year 1993, where we were both Senior Lecturers. Our research concentrated on the functionalizations of varied natural fibers, natural fiber composites and polymer synthesis.

I was very passionate about teaching besides my love towards research. During my faculty position in India I authored a book concentrated on spectroscopy for graduate honors students and coauthored a book on general chemistry. In 1997, I faced a tough decision; I received the biggest research grant so far received by my university from the Department of Science and Technology, Government of India to pursue research in the area of natural fiber composites and at the same time, I received the very competitive and prestigious Alexander von Humboldt (AvH) Fellowship from Germany. Manju encouraged me to take up the challenge of the offered position at the Institute of Nonmetallic Materials, Technical University of Berlin (TU-Berlin), Germany. In India, Manju enthusiastically took the lead in successfully establishing the biocomposites project that I initiated. Then we got united in Germany when Manju received a Visiting Scientist Fellowship at the Fritz-Haber Max-Planck Institute and worked with Professor Franck Willig in the area of solar cell synthesis.

I was so fortunate to work with a renowned polymer physicist, Professor George Hinrichsen at the TU-Berlin. Dr. Hinrichsen had many distinguished records like, Senior Scientist and Deputy Head of Department at BAYER AG; Professor of Polymer Science at University of Dortmund; Professor of Polymer Physics, Director of the Institute of Nonmetallic Material, Dean of the Department of Process Engineering, Environmental Engineering and Materials Science at the Technical University of Berlin. During my stay in Germany I worked researching in the area of whole green composites from natural fiber and biopolymers. Manju also got an opportunity to work with Professor Hinrichsen. Working with a number of other scientists from different countries was a gratifying experience for both of us.
When I made the decision to visit Germany, the plan was to return in two years to the home University in India and continue our research. In between, I joined the Iowa State University in USA for about 9 months working in the area of polymer synthesis. However, our planned return was postponed when I received the offer to join Michigan State University. Then, I accepted the Visiting Associate Professor position at the Department of Chemical Engineering & Materials Science, Composite Materials & Structures Center, at the Michigan State University. Both Manju and I had a unique opportunity to work with a world class and renowned Professor Lawrence T. Drzal, University Distinguished Professor and Director, Composite Materials and Structures, Michigan State University. Our research at Composite Materials and Structures Center was a turning point to our career. We are proud to have a great mentor like Professor Drzal, who inspired and shaped our career growth in an unprecedented manner.

I considered it a growth experience before returning to India. I was offered a Associate Professor position, School of Packaging, Michigan State University (MSU) and we preferred to continue at MSU. Manju also joined Michigan State University, pursuing research activities in the area of novel sustainable materials and became a Visiting Associate Professor in the Composite Materials and Structures Center, Department of Chemical Engineering and Material Science. The main focus of my research is bioeconomy related to biomaterials and biorefinery. Manju and I work very closely in the area of bioeconomy.

Research and development has no international boundary. In order to take-up new challenge and our great passion to expand bioeconomy research for societal and environmental benefits, Manju and I took a decision to make the latest move from MSU to the U of G. I must confess frankly; it is Manju who was instrumental in shaping my decision to a reality and finally we are here, and have started loving this place.

It is a great pleasure and honour on my part in taking-up the Ontario Premier’s Research Chair in Biomaterials and Transportation position here at the University of Guelph. I am so thankful for the confidence that is bestowed on me and I look forward working in close collaboration with my colleagues and contributing to the growing bioeconomy of Ontario.

We are evolving towards a sustainable biobased economy. The shift of economy to biobase has become inevitable, not only in Canada, but also in the global front. Agriculture is the engine for the bioeconomy. I am fortunate to be a faculty member in the Department of Plant Agriculture and the School of Engineering. This provides a great opportunity to work in an environment that is enriched in many innovations encompassing plant breeding, genomics and engineering that are the cornerstones of the expanding bioeconomy. It is the most appropriate time for biobased economy to be explored in the context of the raising price of crude oil, greenhouse gas emissions, increasing environmental threats and global warming. The bio-resources e.g. plant agriculture, forestry, biomass and even biowastes are what we look to use as the raw materials for the next generation of bioproducts that include biochemicals, biomaterials and biofuels as the foundation of the growing bioeconomy.
I am privileged to be a part of the Ontario BioCar Initiative. This is a partnership and co-ordinated research thrust among University of Guelph, University of Toronto, University of Waterloo, University of Windsor, automotive industries and the Ontario Ministry of Research and Innovation. This initiative aims to use and accelerate the use of biomass in automotive parts.

One of my favourite relaxing activities is cooking. I strongly feel a need to relax through my cooking habit. I cook almost every day in the evening, after returning back from my work. Of course, Manju helps, but I take the chef role. As I am told, I could call myself an expert cook where a specific dish is inspired by the occasion. My colleagues and friends in the US have asked me for the recipe many times, but I could not provide specific recipes. I learned cooking from my mother in India and I enjoy preparing meals from scratch, experimenting with texture and spices, and in turn develop a variety of tasty dishes. Surprisingly, my unplanned cooking turns out tastier. Manju jokes, “you are quite innovative in cooking!” When she buys cooking books from the market, I joke “believe in your home cook”

For more information on Amar and Manju’s work and the Ontario BioCar Initiative please see: http://www.bioproductsatguelph.ca/projects/biocar.html

Recent Invited Presentations, Conference and Workshop Presentations by Professor Amar Mohanty


Amar Mohanty, Invited by Ministry of Research & Innovation and thus participated in the workshop entitled, “Ontario’s Strategic Opportunities in the Clean Technology and Bio-economy Sectors”, Ottawa, May 9, 2008. The main purpose of the workshop was to discuss on the strategic directions of the Ontario government’s planned investment of $1.15 billion Next Generation Jobs Funds (NGJF) under the strategic opportunities program (SOP).

Amar Mohanty, “Coproducts from Biofuel Industries and Biorefinery”, Canada-Chile Workshop on S&T, IDRC, Ottawa, May 4-6, 2008.


Amar Mohanty, “Design and Engineering of Biomaterials from Polyhydroxyalkanoate Bioplastic: Opportunities and Challenges in Flexible Films to Structural Green Composites”, Invited Presentation at the Faculty of Forestry, University of Toronto, Toronto, April 7, 2008.


May 8, 2008, Guelph
The Ontario BioCar Initiative held its first Annual Research Meeting and inaugural Advisory Panel Meeting at Guelph University, with welcoming address by Dr. Amar Mohanty, Premier’s Research Chair in Biomaterials & Transportation, University of Guelph. This was followed with research poster presentations as well as an industry presentation by Dr. Hamdy Khalil, Global Director of Research and Development, and Product Development, Woodbridge Group and outreach activities by Dr. Valerie Davidson, NSERC/HP Canada Chair for Women in Science and Engineering, University of Guelph. There were over 60 registered participants at the event.

Centre for Bioproducts Discovery and Development

Phase I of the Centre for Bioproducts Discovery and Development is nearing completion. Construction started on the building, which is located as an addition to the back of the Crop Science Building last fall. Once Phase I is complete, Dr. Amar Mohanty will be setting up his lab space in the building. Check out some pictures of the building as it took shape—even through our
Over the last several months Dr. Manish Raizada has taken on several new graduate students. With what is now a truly international group of students, Manish and Research Associate Steve Chatfield take great care in ensuring that these students get the very best training possible. I hope you enjoy getting to know the people and the research being undertaken in the Raizada lab a little better through the following pages.

Introduction to the Raizada Lab and our obsession with fertilizer

My lab has recently grown to include 6 graduate students, one research associate, two undergraduate assistants, and soon, a visiting PhD student from Ghana. I feel very fortunate to advise this talented group of people that are not only very hard working and dedicated but are also genuinely nice; they help one another and want to make the world a better place.

The focus of our lab is to study and/or develop inexpensive biotechnologies that reduce nitrogen fertilizer inputs/costs for both corn production in Ontario as well as in developing nations. Corn (also known as maize) is one of the world’s three most important crops, consumed either directly (e.g. corn tortillas in Mexico) or indirectly (e.g. animal feed in Canada).
Why do plants need nitrogen? Like humans and all other life forms, plants are primarily composed of carbon. Carbon is largely inert (...like most teenagers before 2pm). Life exists, however, because of the ability of organisms to organize small molecules into larger structures (DNA, cell membranes, proteins, etc), which requires these molecules to react with one another (by forming and breaking chemical bonds) (...please don’t fall asleep yet: this gets more interesting soon...). Nitrogen helps to facilitate this building process of life: when incorporated into carbon-based chains (such as DNA, amino acids), nitrogen helps to make these structures chemically reactive (polar), allowing for example two strands of DNA to bond with one another (to create a double helix) or amino acids to bond with one another to form chains (protein). Therefore, nitrogen is essential for all carbon-based life on Earth including crops.

Why is nitrogen limiting for crop production worldwide? At first, this seems odd, given that nitrogen is in fact abundant, consisting of 80% of Earth’s atmosphere (as N2 gas). Unfortunately, only certain forms of nitrogen are usable by plants (e.g. nitrate, ammonium). In fact, even though all of life on Earth requires nitrogen, only a few species of bacteria have evolved a mechanism to break down atmospheric nitrogen gas to usable forms; these have an enzyme called nitrogenase that evolved in Earth’s early low-oxygen atmosphere, and the reaction requires a low oxygen environment which most organisms cannot tolerate. Fortunately, there is a Nobel-price winning artificial process (called Haber-Bosch, patented in 1910), in which very high heat (from the burning of oil) is used to convert nitrogen gas to a form usable by plants and this is the basis of the synthetic fertilizer we purchase to make our gardens (and our crops) happy.

For all of the reasons noted above, we need to come up with solutions to the nitrogen problem. I began my graduate research career working on one of the bacterial species that can convert N2 gas to a useful form of nitrogen (Rhizobia). However, I soon switched into the field of genomics, but continued to worry about nitrogen. In 2003-2004, I took a leave of absence from my position at Guelph and spent a year in a chemical engineering department to gain some additional skills in bacterial engineering which have since allowed my lab to evolve from a basic research lab to one focused on the applied problems of nitrogen. My lab is now taking five different approaches to help tackle the nitrogen problem in agriculture:

1. Increase the nitrogen supply by experimenting with inexpensive microbes and underutilized nitrogen-fixing crops. As I noted earlier, some bacteria have the ability to convert atmospheric nitrogen gas to fertilizers. PhD student David Johnston Monje is working in Southern Mexico where corn was domesticated: in collaboration with CIMMYT, he is studying whether as corn this in turn is partially responsible for the dramatic increase in grain commodity prices that is causing food riots around the world. The rise in fertilizer prices is also eating away at grower profits in Ontario and globally. In poor countries, such as in Africa, fertilizers were already so expensive to many farmers that they could only purchase them in small quantities (e.g. 500g), often sold in sandwich-sized bags carried on the heads of women. As fertilizer costs continue to rise exponentially, these poor peoples will face a crisis. In fact, some poor nations in the Sub-Tropics (e.g. Sudan) are facing a triple whammy: rising fertilizer costs, reduced rainfall (in part due to Climate Change), along with rising grain commodity prices, making it difficult to compensate for domestic shortfalls in grain production. Besides food security and grower income stability, the use of synthetic fertilizers also contributes to global warming, in part because the burning of fossil fuels for the Haber-Bosch reaction causes the release of greenhouse gases.
was domesticated and moved to new locations if important ecological associations were lost, including microbes that might convert atmospheric nitrogen to fertilizer. He has already identified microbes that live inside ancient corn that can grow without any nitrogen in the media (though they are likely fixing nitrogen in very low amounts). In collaboration with AAFC, David is also studying the mechanism by which a particular species of bacteria improves corn growth under nutrient-limited field conditions in Ontario, a microbe that is currently being tested by a Canadian soil inoculant company.

In collaboration with Prof. Dave Hume, soon-to-arrive Visiting PhD student Joseph Bercchie (KNUST, Ghana) will be studying Bambara Groundnut, a very nutritious, drought-tolerant legume that associates with bacteria (Rhizobia) which in turn can fix atmospheric nitrogen gas. Bambara is indigenous to Sub-Saharan Africa, and though some traditional knowledge remains, it has become underutilized following European colonization. Bambara can be used an inter-crop or rotation crop with corn, reducing the fertilizer requirements for corn, while supplying a highly nutritious food for local peoples facing water shortages. Along these lines, in 2006, a former undergrad in my lab, Jonathan Polonsky, and I launched a website to educate growers about underutilized nitrogen-fixing legumes and other crops, located at http://www.AlternativeCropsCanada.org.

2. **Utilize existing nitrogen resources more efficiently.** When fertilizer is applied in large doses onto crops (an unnatural phenomenon), a percentage of it is lost in the form of groundwater leaching and volatilization (as potent greenhouse gases). MSc student Amelie Gaudin (with help from summer student Bridget Holmes) is studying the effect of increased expression of nitrogen uptake transporters in corn roots as well as other genes reported to improve nitrogen use efficiency and/or change root growth and architecture, with the goal of better using existing soil nitrogen (limiting or excess levels). She is also asking whether ancient corn varieties are more or less responsive to nitrogen in terms of their root growth and architecture compared to domesticated corn. MSc student Christophe Liseron-Monfils is focusing his studies on the root hair, an under-studied cell type (in cereals) that comprises 70% of the root surface area and is the primary location for fertilizer absorption. Specifically, Christophe is trying to identify gene promoters that will allow us to switch genes on/off involved in fertilizer absorption (or signaling) specifically in the root hair. Finally, PhD student David Johnston Monje (also see above) is testing whether the “ancient” bacteria he is studying also stimulate root growth or phosphate solubilization, hence better utilizing soil nutrients.

I am collaborating with Prof. Peter van Straaten (Land Resource Science) and Prof. Khosrow Farahbakhsh (School of Engineering) to develop new projects focused on recycling nitrogen from human sewage (wastewater treatment facilities) and other industrial processes (yes, a little gross but environmentally beneficial). As of 2008, more of the world’s people live in cities than rural areas, and in poor nations, human sewage is a major problem: if we can convert this sewage to fertilizer cost-effectively, we can provide benefits to cities and rural/urban agriculture, and close the ecological nitrogen cycle. If funded, we hope to jointly-supervise grad students for this project in future years (…not to worry, respirators and scented oil will be included!).

3. **Decrease the nitrogen demand.** This is a tough problem and we are taking the 10-20 year view here: our long-term goal is to re-use the root system in tropical maize (which comprises >30% of the total plant mass) for the next growing season, a form of perennialism. This should improve both the water and nitrogen-use efficiencies. Ancient corn was in fact a perennial plant. In 2009, I will begin a long-term (>15-20 generation) selection field experiment with corn tropical germplasm in which I will decapitate corn shoots and select for shoot regeneration from either axillary (tiller), rhizome or adventitious stem cells (….OK, the real reason is to get out of my office and work on my tan….).

For the past 6 years, however, my lab has been studying the mechanism of shoot regeneration. For this research, we have focused our efforts on Arabidopsis, a Mustard plant related to canola, that is the “fruitfly” of plant genetics research.
Since stem cell regeneration is an ancient process found in the ancestors of Land Plants (such as mosses), we are optimistic that the genes and physiology we are discovering in Arabidopsis serve as good models for corn and other cereals. Research Associate Dr. Steven Chatfield has discovered that Arabidopsis seedlings will regenerate new (adventitious) shoots within a few days following decapitation, without the addition of hormones, and he has observed that some of the critical genes switch on within 24-48 hours after injury, an exciting finding. The Arabidopsis research community now has a system to study this remarkable process. Steve has also discovered that the new shoot is the result of a conversion of fate of a pre-emergent lateral root meristem. Since light is critical for a cell “thinking” it is a root stem cell or a shoot stem cell, MSc student Blair Nameth is trying to understand the effects of light quantity and quality on shoot regeneration and stem cell conversion. NSERC Summer student Adrienne Davidson is helping us to verify the results of microarray gene expression analysis associated with segregating QTLs that we have previously found to promote shoot regeneration. In parallel, I am working on genomics technologies to make cloning of our regeneration genes more cost-effective and predictable.

4. Develop new technologies to measure nitrogen inexpensively. Real-time measurements of soil or plant nitrogen levels are critical to understanding whether fertilizer needs to be added or whether it is being added in excess quantities, which can be environmentally damaging and costly. On farms in Ontario, and in research labs in many developing nations, measuring soil nitrogen levels (e.g. nitrate) accurately requires expensive equipment or cannot be performed on-site. For example, in Ghana, the cost of measuring nitrate in a single soil sample is $20 USD, far beyond the reach of most researchers. MSc student Michael Tessaro is engineering biosensor bacteria that change colour in response to changing nitrogen and amino acid (glutamine) concentrations. Working later with engineers, our long-term goal is to develop a $1 USD (soil extract) nitrate and (plant extract) glutamine test.

5. Improve global online communication networks between agricultural experts working on nitrogen across disciplines, developed and developing nations, and the public and private sectors. As I noted above, the nitrogen problem is global in nature and will particularly affect farmers in poor nations. Unfortunately, it is often difficult to find research collaborators in developing nations, because they do not have websites, communicate in a different language and/or do not publish in the same journals. Private sector researchers in wealthy nations are also often difficult to locate online, even though they offer a wealth of practical expertise. Academics also poorly communicate across broad disciplines, even though we all appreciate the value of inter-disciplinary research in solving real world problems. In order to break down all of these barriers, in 2006, my lab launched the CropLink Global Initiative (http://www.CropLink.org), a meeting place for the world’s agricultural experts including those involved in nitrogen, corn and nitrogen-fixing crops. CropLink now contains the profiles of 16,500 agricultural experts from >100 countries and 86 sub-disciplines. CropLink has a number of features including offering free websites for researchers in poor nations and rapid searching of open-access journals and databases. CropLink was developed by former undergrad research assistant, Rohit Makhijani, along with former undergraduates Carly Wight, Arani Kajenthira, Devon Radford and Etienne Papineau. We hope to continue to build CropLink as funding permits.

Finally, my lab likes to explore side-projects with humanitarian objectives. As we are exploring beneficial microbes that live inside plants, PhD student Sameh Mahmoud was attracted to the Lab because of his interest in studying a plant-inhabiting fungus (fungal endophyte) that produces an important anti-cancer drug, Taxol. Taxol is currently isolated from the bark of yew trees, but it is extremely expensive as the tree produces it in low amounts. Fully funded by a prestigious scholarship from the Government of Egypt, Sameh came to the Lab already trained in both biochemistry and pharmacology, and he is using his new skills in molecular biology and microscopy to understand
the interactions between the fungus and its host and undertake metabolic engineering. Sameh’s long-term goal is to make this important anti-cancer drug more cost effective for the world and generally to exploit beneficial plant-associated microbes for inexpensive drug production.

In the pages that follow, I hope you’ll enjoy “meeting” my lab, and I hope you’ll have the opportunity to chat with us in person! We’re always looking for collaborators and suggestions. We’re located in the Crop Science Bldg, Room 310, and the lab website (soon to be updated) is at: 
http://www.plant.uoguelph.ca/research/homepages/raizada/index.html

Steven Chatfield—Research Associate

I was born in the U.K. in a rural area called the Shotley Peninsula on the South East Coast. The region was declared “An area of outstanding natural beauty” by the Government (who rated muddy estuaries highly). We lived in a terraced house on a dirt track, and thanks to some ambiguous land ownership issues and 80 years of encroachment opportunities each residence had a garden 12ft wide and 600+ft long. I was eventually let loose on the last derelict 30ft, and learnt a lot about plant care and cultivated a healthy respect for stinging nettles.

In 1989 I began an undergraduate degree in Biological Sciences at Lancaster University on the North West coast, a region blessed with many historic buildings, fine ales and almost continuous precipitation. In 1995 I graduated, three years later than intended, with 1st class honors and two sons, Matthew and Connor (future gold-medallists in the sack race and 3-legged race at the last Department picnic).

The next step was a PhD supervised by Ottoline Leyser at the University of York, studying plant development and the roles of phytohormones and nitrate in the control of shoot branching. Three happy years of research and learning in a wonderfully conducive environment, followed by the traditional panicky months of writing-up in an attic and living on a diet of baked potatoes after the (3 year) stipend ran out.

My first post-doc (2000) was in the laboratory of Thomas Berleth at UofT, where my education in plant development and genetics continued. I pursued a genomics project and was responsible for generating and characterizing GFP reporter expression in a collection of 3000+ enhancer-trap lines in Arabidopsis. By late 2002, I had become very familiar with the workings of a confocal microscope.

Moving on, in December 2002, I started my second post-doc for Manish Raizada, on the plant regeneration project. I have enjoyed my time in the Department of Plant Agriculture immensely and Manish has fostered an outstandingly positive and creative environment within the lab. Consequently the regeneration project has proven both productive and innovative. To date we have identified numerous new candidate genes for enhancing shoot organogenesis in tissue culture and developed two new regeneration systems that initiate extremely rapid adventitious shoot production. We have since used these systems to elucidate the underlying mechanism, and identified target genes involved in the process. It is hoped that these new techniques and genetic targets will prove of value to future applied research in both laboratory tissue culture and in controlling adventitious shooting for forestry and agriculture.
Hello everyone!

I was born and raised in France, in a beautiful little village near Chablis, in Burgundy. Almost all my family is involved in agriculture, from wine and crop production, irrigation manufacturing to fertilizer and seeds businesses. I had the choice to do something else....but somehow my brother and I are (surprisingly) involved in agriculture.

I started my studies focusing on soil science and plant production. I was trained to be a technician in crop production but my interest moved towards biotechnologies and plant genetics. I was also motivated to travel and develop an international career. I had the opportunity to do so by enrolling as international student in a European bachelor degree in the Netherlands with majors in plant biotechnology and molecular biology. This very positive experience led me to do my major report at the International Potato Centre (CIP) in Lima, Peru. It was so great that I stayed three years working there after my graduation. I was involved in a research program on the impact of drought stress on yield, physiological parameters and gene expression in Andean potato clones. My position at CIP was a wonderful experience however I wanted to grow professionally and obtain a master degree...and...here I am! I started last fall with Manish and I am currently working on improving corn Nitrogen Use Efficiency by manipulating the root system. I am also looking at the role of nutrient availability in regulating the root architecture. I hope to pursue a PhD and focus my research work on plant biotechnology for developing countries and physiology of abiotic stresses.

In my spare time I like to read thrillers and learn languages. I also enjoy sharing time a nice bottle of wine with my friends. I like to plant flowers and vegetables all around the living room and build crazy growth systems! You’ll find me in the crop science building and in the greenhouses, almost everyday!

Sameh comes to us from Egypt where he received his B.Sc. in Pharmacy in 1998/99 and his M.Sc. in Pharmacy in 2004. Before coming to Canada Sameh held the position of Assistant Lecturer in Pharmacognosy and medicinal plants biotechnology at Zagazig University in Egypt. When Sameh arrived in Canada he worked as a teaching assistant in Forestry at the University of New Brunswick in Fredericton before coming to Guelph to pursue a Ph.D. under Dr. Raizada’s guidance. Sameh is also skilled in molecular biology and metabolic engineering and undertook tissue culture and biotechnology training at the Atomic Energy Center during the period 2001-2004. Sameh’s current research entails biochemical, molecular and microscopic approaches to better characterize taxol-producing endophytic fungi and the fungal taxol biosynthetic pathway, with the long-term goal of increasing taxol production. Other research interests include primary and secondary metabolites of plants and microbes; biotechnology and metabolic engineering of secondary metabolites to be used in medicine for various human health applications; elicitation study of secondary metabolites under the effect of different elicitors using large scale culture systems and botanical and plant-environmental association studies. Sameh is married and the father of 2 children, in his leisure time he enjoys football, reading, music and ornamental plant cultivation.
**Blair Nameth**

I grew up in Toronto with my parents and two younger sisters. For as far back as I can remember, I have always loved spending time outside in the extensive city park systems and gardens near my home. I am pleased to have had the experience of two school breaks of working and learning at busy garden centres where I survived the high energy chaos of shopping gardeners, beginners and the more experienced, anxious to ‘dig in’ each spring. I completed my undergraduate degree in biology at McMaster University and it was there that I discovered my interest in plant sciences. After taking several plant-based courses and completing my senior thesis research project in a plant biology lab, I decided to pursue this area of interest further. I enthusiastically joined Dr. Manish Raizada’s Lab as an M.Sc student in September 2007. My project focuses on ‘the effect of light on Arabidopsis shoot and root regeneration’. I have learned so much about agriculture this past year and look forward to year two in the department.

In my spare time I enjoy yoga, reading, swimming and spending time with family and friends. I’m looking forward to spending my summer here in Guelph and exploring all it has to offer - the market, arboretum, paths along the Speed River, etc.

Biodiversity, biotechnology, and sustainable development. These things are the academic themes which fuel my interest in biology and its application to the conservation and betterment of our natural life on this planet.

I am a Colombian born Canadian entering in a doctorate in the department of Plant Agriculture at the University of Guelph. If I get it, I’m excited to say I will be Dr. David Johnston the Second; my father did two degrees here at the University of Guelph. The research I am doing involves discovering microbes living inside diverse types of corn plants, attempting to understand their contribution to the plant’s survival and in parallel to discover some genes involved in these processes. My hope is that these microbes and genes will be developed as soil and seed inoculants for corn agriculture, possibly even novel transgenes for GMO plants.

I am a typical grad student, working late hours, but I have sometimes had a life outside the lab and have some skills/stories to show for it. I am a native Spanish speaker, have previously worked with CGIAR centers in Italy and Peru, lived in Jamaica, Vancouver, and Lebanon. I love SCUBA, capoeira, karaoke, soccer, squash, guitar hero, and just about anything you can imagine. At the University of Guelph I have been an active part of the Graduate Student Association as a general director, the graduate student representative on the Plant Ag speaker series committee, represented Guelph on the Flounders Underwater hockey team, was co-organizer of the 2007 International Development Symposium, and more recently I’m excited to have started the University of Guelph’s first student team to enter into the International Genetically Modified Machines (iGEM) competition held annually at MIT in Boston. This initiative is pulling students from diverse departments across the university, promoting education, volunteerism, leadership, and communication. For this new initiative, I was awarded the 2008 Gordon Nixon leadership award by the University of Guelph under the project title, “Bringing Agriculture and Sustainability to Synthetic Biology”. This project aims to genetically modify symbiotic microbes on plants and animals to improve vitamin A production and help reduce nutritional problems in human and animal nutrition.

The University of Guelph motto is, “Changing lives, improving life.” Without being pretentious, I hope and believe my time here will show my work and my spirit succeeding at this philosophy. If you’ve read this far and want to communicate science, international development, biotechnology, iGEM, or something non-academically fun, please email me and let’s talk!
I grew up on a small hobby farm in the small town of Caledonia. Right from the start I was always interested in nature. That interest continued to grow through high school where I was most interested in biochemistry and genetics. I started my undergrad at the University of Guelph in biological chemistry (you would think it would have a lot of biology in it, right?) but quickly learned that I didn’t care all that much for chemistry. So, at the end of my second year I switched to molecular biology and genetics and found the content to be a good fit with my interests. My interests in molecular biology have remained fairly broad, everything from plants to animals, bacteria and viruses, fortunately there is a great deal of overlap in these areas and focusing on one group doesn’t limit you from working on the others. It was during my third year as an undergrad that I took Dr. Manish Raizada’s fourth year course Plant Molecular Genetics (MGB*4300, there really should be more courses like that one), by that time I had already developed an interest in plants, namely orchids, carnivorous plants, and basic horticulture, but like I fear many molecular biologists I didn’t find research in plants to be all that interesting. That course turned my opinion of plants and plant research around.

During Dr. Raizada’s course I inquired about doing my 4th year research project with him and I was fortunate enough to be accepted and work on a project that was completely novel to me. I started my master’s in Dr. Raizada’s Lab in September’07, along with several other new grad students, and have continued to work on the same subject matter I did for my research project. Now to back peddle a little, my current research isn’t on plants directly; I am working to develop biosensors, which use biological sensors to detect a chemical, condition, or stimulant of interest, to aid farmers and researchers in measuring various factors relevant to plant growth and metabolism.

I keeping with my varied research interests, my hobbies and personal interests are also quite varied and include fitness and nutrition, orchid culture/collection (I’ll need a greenhouse soon just to house my ever growing collection), SCUBA diving, rock climbing, hiking, kayaking, gardening, and reading.

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I was born in a French Caribbean island called Guadeloupe or Karukera (Butterfly Island in Arawak language). I spent the first 10 years of my life between town during the week and country land or tropical forest during the week-end. My grandmother, who was a farmer, and my grandfather, who was a forest warden, helped me increase my awareness of the plant world at an early age.

At the age of 10, my family moved to the Southwest of mainland France in the Pyrenees mountains. I grew up in a village of 150 inhabitants surrounded by corn field and cattle pasture.

This has necessarily played a role in my wish to study plants. I got really interested in Science thanks to two exceptional high school teachers, one teaching Physics-Chemistry and the other one teaching Natural Sciences. They knew how to share their passion with their students. Consequently I did a Bachelor degree in Cell biology, Physiology and Genetics at the University of Toulouse 3 (Paul Sabatier) in France. I then completed a first Masters’ degree (in co-op) in Plant Physiology and Genetics with a major in Plant Biotechnology. A part of my Masters’, I worked at Biogemma’s Bioinformatic and Genomic laboratory in Evry (south of Paris) for 1 year.

With my fiancée, we decided to move to Canada because we both had always dreamed of living abroad; also, I had a strong desire to complete my education in an English speaking environment prior to returning to the corporate world. After various experiences, I have started an exciting project in Dr Manish Raizada’s laboratory in September 2007 as part of a Masters’ degree. I am using functional genomics and bioinformatics to discover potential gene promoter that can be used to engineer tissue specific trangenes in response to nitrogen and also trangenes to boost the early development of corn. In the long run, this research can lead to the discovery of marker genes for the improvement of the early vegetative development of corn.

As my life project, I would to like to use genomic tools to help the development of agriculture and crop in developing countries and carry on discovering the world.
Jim Hoare—Information Technology Technician

Providing computer and other IT support for people mainly in Crop Science building, Jim is one of 2.5 IT Techs within Plant Ag. He is described as someone who “comes to the rescue” of others with computer woes and is willing to help students; staff and faculty, both during work hours and, at times, during the early hours of the morning.

Jim has been at UoG for 34 years and has seen computers change a lot over those years. For the last 11 years supervised High School Co-op students while assisting him with IT jobs. For his efforts in IT support, Jim was awarded the 1998 Sigma Xi staff award for Support in Research; and more recently the UoG President’s Award for Exemplary Staff Service 2007 and the United Steelworkers local 4120 Susanne Sprowl Community Service Award also awarded in September 2007.

Jim’s community involvement off campus keeps him busy. In recent years he has worked with Guelph local community theatre groups as a set builder “master carpentry”. Jim is involved with the Guelph Hiking Trail Club and maintains a section of the Radial Line Trail. With regard to environmental efforts and community service, Jim is the founder of the Clairfields Neighbourhood Group, which brings people together to be stewards of their local environment and community, concentrating primarily on Earth Day cleanups of the walking trails throughout the Clairfields Subdivision and tree planting sessions.

Siobhan Moore—M.Sc. Representative—New GSLC Committee Co-Chair

I grew up in Lively, Ontario which is now part of the City of Greater Sudbury. I went to the local schools; Jessie Hamilton Public School and then Lively District Secondary School. Since both my parents were teachers (now retired) my parents would take my brother and me on family trips on some of the summer holidays and March breaks. Maybe that’s where I developed my desire for travelling. I think it was, at least in part, for travelling that I joined the band in elementary school and also in high school. The band went on excellent trips for competitions every spring but a personal favorite was in 2001 to New York. I was chosen to attend a week long session at Ontario Educational Leadership Camp (OELC) for music and for that reason was band president the following year (not something I always like to admit... but it might be slightly relevant to my qualifications for the GSLC). I also was an elected member of the students’ council (Environmental Coordinator) for 2 years, and on a number of other teams/clubs in the school (cross country running, gymnastics, track and field, drama) and outside of school I took piano lessons, and dance, mostly ballet for 12 years, many of which were competitive. I think I kept pretty busy.

I came to Guelph in 2003 to do my undergrad degree in Biological Sciences and especially enjoyed genetics. Admittedly, I didn’t really take many plant based courses, but I did get some agricultural experience working as a ranch hand on a cattle ranch in B.C. for a summer. I was mostly in charge of setting up and moving irrigation lines, but also did any job that needed doing from haying to herding cattle to gardening.

I started my MSc with Dr. Lukens in September of 2007 after working for part of the summer with the lab. My project involves investigating DNA methylation as a possible mechanism of heterosis using the model plant species Arabidopsis thaliana.

I look forward to being your GSLC MSc rep for the year! Please feel free to contact me about any questions, concerns, or ideas you may have for us!
The Niagara Regional Science and Engineering Fair was held in March at Brock University. During the competition, 3 students who were mentored by Jay Subramanian won a total of 8 awards. The students, from 3 different schools in St. Catherines, completed their science projects at the Vineland facility under the tutelage of Jay along with the tree fruit team including Jay’s postdocs, Ashraf El-Kereamy and Islam El-Sharkawy, and technician Glen Alm.

Supritha Nilam, a grade 10 student at Sir Winston Churchill Secondary School in St. Catharines won first place in the intermediate division and was selected to attend the Canada Wide Science and Engineering Fair in Ottawa in May. Supritha went on to win 3 bronze medals at the Canada wide competition and received a $1000 Entrance Scholarship to the University of Western Ontario, and 2 $300 prizes sponsored by EnviroExpo and Pfizer Canada. Supritha’s project was entitled “Do Anti-Oxidants Boost a Plant’s Dynamics”.

Bindu Kovvuru, a grade 12 student in the Senior Division attends Sir Winston Churchill High School. Bindu’s project was entitled “Don’t Judge a Plant by its Cover”.

Varsha Jayasankar, a grade 6 student in the Juvenile Division from Power Glen Public School (and Jay’s daughter!). Varsha’s project was entitled “Effect of Automobile Emission in Plants”.

Congratulations to all of these students, Jay, Ashraf, Islam and Glen should be very proud of the mentorship these students received, and also congratulations to Jay as a proud father no doubt!
U of G Campus Police encouraging departments to adopt STOP Program

Special message from S/Cst Jim Armstrong of Security Services, University of Guelph

Security Tracking of Office Property (STOP) is an anti-theft system to help reduce theft by eliminating the reason for most theft: resale value. Professional thieves usually are not interested in the laptop or notebook itself, only its resale value on the open market.

Every piece of equipment protected with a STOP security plate is automatically registered with STOP and the Campus Police. Registering your STOP security plate number and pertinent equipment information is critical for equipment recovery. Security plate numbers and item information are stored in a registry system that is accessible online 24/7.

So far the plates have been installed for U of G Executive offices, the Registrar’s office, CCS and Student Health Services. Most have taken advantage of getting the plates for **$15.00 apiece** instead of the regular price of **$20.00 for orders of 10 or more.** (See note below for how PA will be doing the “bulk orders”)

The STOP plates are ideal for laptops and projectors, especially when they are being used off campus by staff and faculty, but ANY piece of lab equipment (i.e. digital scales) could be included.

Those seeking more information about the STOP program are encouraged to visit the website at [http://www.stoptheft.com](http://www.stoptheft.com). Registration forms can be picked up at our office or downloaded from our website, [http://www.police.uoguelph.ca/stop.html](http://www.police.uoguelph.ca/stop.html).

**Bulk Order for Plant Ag.**

Those interested in being part of this bulk order need to contact Jim Hoare, Plant Ag. IT Tech. with the following information:

Name:

Location (Crop, Bovey, Vineland, Simcoe):

Equipment description (i.e. notebook, video projector, digital weighing scale,):

Method of payment ($15 each, GL coding preferred, but cash for personal machines accepted):

Once we have the list of people and equipment involved, the specific times will be announced when S/Cst Jim Armstrong of Security Services will be visiting Crop Science and Bovey to install the plates. We will need to make special arrangements for those not at the Guelph campus, but it is hoped the equipment could be brought to Guelph for those dates.
New Summer Hours

The main library is now closing at 10 pm during the week and the OVC library at 6 pm. Research help desks at both are closed on Saturday and Sunday. To check the daily service hours go to: http://www.lib.uoguelph.ca/about/service_hours/

RefWorks Update

The RefShare add-on feature mentioned in the previous newsletter is now available and operational. In addition to sharing references within the U of G community, RefShare allows users to share folders with people who do not have RefWorks accounts. RefShare includes an attachment feature that allows account holders to associate a file with a RW record. Be aware that there is an institutional file size limit of 6GB.

There are also several ways to share references without using RefShare. You can create a read-only password which allows you to share your database with others on a limited basis; they can search, view and print references in your account, but not add, edit or delete, or create/change folders. You can share your log-in name and password with any other registered users in your organization. By sharing your login information, you grant others full access (add, edit, delete, etc.) to your account. Should you want to have others edit your data, but keep a clean copy of your database, create a separate RefWorks account. RefWorks does not limit the number of accounts you can set up, allowing you to create multiple accounts that you can share with different audiences allowing others full rights. You can move records between accounts using the Export option.

Other new RW features include Write-N-Cite III for Windows with Offline Capabilities. This optional plugin provides the ability to write and format a paper completely offline! Simply download your RefWorks database from within Write-N-Cite (in Tools section) while online, then feel free to disconnect from the internet. Full Write-N-Cite functionality is available – inserting temporary citation placeholders, viewing reference information, using the citation editor – and formatting your paper in the output style you choose, all without accessing the internet. For details on working offline, see the online help section - Writing Your Paper Offline and the Advanced Features Tutorial on Working Offline.

Write-N-Cite v2.5 for Mac is also available now.

For details on using any of these new features check the RefWorks tutorial section.

Summer RefWorks training: There are no library classes scheduled for June or July but RefWorks is offering Webinars (online training) to subscribers on a regular basis. Check the schedule and sign up here: http://www.refworks.com/content/webinars/default.asp

Campus Author Recognition

Books published in 2007 or 2008 are being accepted now for the library Campus Author program. Any member of the Guelph community, including authors themselves, may submit the name of a publication. The deadline for submissions is September 1, 2008. For further information and to register a book online use this link. http://author.lib.uoguelph.ca/submitBook.cfm

Web Sights

Wiki - A collaborative collection of interlinked web pages, all of which can be visited and edited by anyone at any time.

The Wikimedia Foundation is a non-profit organization that hosts a range of other multilingual and free-content projects beyond the well known Wikipedia. There are 8 additional wiki’s under their umbrella in various stages of development including: Wikinews, Wikisource, Wiktionary (dictionary and thesaurus), Wikiquote (collection of quotations, Wikispecies (directory of species), Wikibooks (open-content textbooks collection), Wikimedia Commons (a database of 2,862,656 freely usable media files), and Wikiversity (learning resources and projects for all levels). Explore Wikiversity here and scroll to the bottom of the page to select the others. http://en.wikiversity.org/wiki/Wikiversity:Main_Page  Edit the summer away.
Congratulations to Clarence Swanton, who has been appointed President of the Canadian Weed Science Society!

Congratulations to Katerina & Sean Jordon on the birth of their daughter. Isabella Theodora arrived in the early morning hours of May 1 weighing in at a robust 9 lbs, 6 oz. Mom, Dad and big brother Vincent are also all doing well!

Dr. Rene Van Acker’s research on dandelions was showcased on the University of Guelph website in May. Rene’s research results from his work in Manitoba with 2 graduate students Kristen Hacault and Nathan Froese over a 5 year period have been published in Weed Science and Weed Technology. See http://www.uoguelph.ca/- click on Campus News for archived articles. Rene has recently been on CBC Radio, and interviewed in the Globe & Mail and the Guelph Mercury regarding this research.

Rene has also become quite the media star in Guelph as he and his family have undertaken the task of being the “Garbage Family” (his words, not mine) of Guelph. The VanAcker family is working with the City of Guelph in a project to determine how much recyclable material is generated from an average family. Rene’s participation has been written up in the Guelph Mercury and there will be an article in the last At Guelph of the season.

A Taste of Guelph

The Ontario Legislature was recently treated to a luncheon based on foods provided by/grown by the University of Guelph. Plant Agriculture faculty and staff were responsible for quite a bit of the menu, including among other things Yukon gold potatoes from the Guelph program, cabbage from the Simcoe station, corn, barley, turnips and celery roots from the Guelph and Muck Station programs. Also on the menu were pears from Vineland and apples from Simcoe.

Our newest faculty member, Dr. Gale Bozzo, is featured in At Guelph, June 4 issue. The article focuses on Gale’s work on ripening and overripening of fruits and vegetables.

Dr. Lewis Lukens’ lab was featured in an article written by Elizabeth Pennisi entitled “Getting to the Root of Drought Responses”, the April 11, 2008 edition of Science. Lewis’ work with graduate student Tina Wambach was prominently featured in the article. The full story can be found at http://www.sciencemag.org/cgi/content/full/320/5873/173?sa_campaign=Email/sntw/aa-April.

Dr. Ann Clark was a guest on the CBC program “The Current” hosted by Anna Maria Tremonti on April 28, discussing GM crops.

Congratulations to Clarence Swanton, who has been appointed President of the Canadian Weed Science Society!
Dr. Lewis Lukens is a member of the organizing committee for the 6th Annual Canadian Plant Genomics Workshop to be held in Toronto June 23rd-26th. Tina Wambach is among the scheduled speakers at the conference. For more information please see: http://cpgw2008.cagef.utoronto.ca/index.html


Canada’s Outdoor Farm Show - September 9 to 11 2008, Canada’s Outdoor Park, Woodstock, Ontario. For more information go to: http://www.outdoorfarmshow.com/enter.html

International Plowing Match 2008 - Teeswater September 16 to 20, 2008. For more information go to: http://www.plowingmatch.org/

Dr. Ann Clark is playing a major role in creating the new Guelph Centre for Urban Organic Farming, which will be officially launched in the fall. The Centre will involve a number of University departments as well as organizations involved with organic food production. We will have a more indepth story on the Centre in the next issue, but for now please check out At Guelph, June 4/08 issue for more information.

The Plant Ag. Social Club has some upcoming events you should be aware of:

Ice Cream Social (location TBA), June 26th; 2:00

Department BBQ, July 31 at the GTI, tickets will go on sale shortly

French Fry Social: Sometime in the Fall
- Free homemade french fries and a wonderful opportunity to socialize! Date and place TBD.

Departmental Christmas Party: December 12th at Victoria Park West Golf Club
- A wonderful evening of eating, drinking, dancing and all the free water you could want. Save the date for this fun party!

2nd Departmental Retreat

The Department will hold it’s 2nd retreat in February 2009. Details will be forthcoming but for now please mark the dates of Feb. 17 and 18/09 on your calendars. We hope to get even better attendance than the 2007 retreat, which was well received by those in attendance. If you have any suggestions of things you would particularly like to see included in next years retreat please send them one of the committee members: Manish Raizada, Eric Lyons, Tom Smith, Andrew Burt, Ildiko Szucs, Cathy Bakker, Siobhan Moore or Beth Livingstone.
Coming in the September edition:
Update on Guelph Center for Urban Organic Farming
Plant Ag’s contribution to the Outdoor Farm Show
More graduate student profiles
GSLC Co-Chair Profile
More staff profiles

Dr. R. Van Acker, Chair
Dr. B. Grodzinski - Graduate Coordinator

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