

# BLIZZARD WATCH

NDSU

Department of Plant Sciences  
Years of 2009 and 2010 in Review



## Greetings from the Department Chair



Dr. Richard Horsley,  
Department Chair

My deepest apologies go out to those of you who have been looking for the latest edition of the *Blizzard Watch* the last two years. Based on the notes and e-mails I have received over the last 10 months, I know many of you look forward to keeping up with the Department of Plant Sciences through the *Blizzard Watch*. Thus, this year's edition is expanded to cover two years of news.

Unlike many states across the country, North Dakota has been fortunate not to suffer difficult economic times the last three years. Agricultural prices have been up for most crops grown in the state and western North Dakota is prospering from significantly increased oil drilling/pumping activity. These good economic times have allowed the state's legislature to provide increased support to the North Dakota Agricultural Experiment Station (NDAES) by providing funds for construction of a \$32 million greenhouse and addition of three faculty positions (pulse breeding/genetics, winter wheat breeding/genetics, and canola breeding/genetics). In filling the pulse (Kevin McPhee) and winter wheat (Gideon Francois Marais) positions, we were fortunate to hire individuals with many years of experience in their respective crops. Drs. McPhee and Marais were hired at the associate professor level. Additionally, the replacement for Dr. Dwain Meyer in the forages project (Marisol Berti) had many years of prior experience and was hired at the associate professor level. Our ability to hire highly qualified individuals is fostered by living in a state where agriculture is recognized for its importance and a strong state economy.

In the upcoming year we are looking forward to filling the canola breeding/genetics position and acquiring space in the new greenhouse as construction is completed. We are also looking to fill the position of Department Head. My position as Chair was for a 12-18 month term, which ends in December of this year. We are currently soliciting applications and nominations for the permanent Department Head position; the initial screening of applicants is planned to begin in July.

Finally, like much of the country, we are struggling here with our weather. As I write this we are in the first week of June and it is too wet to plant. We received over an inch of rain in many parts of eastern North Dakota and I doubt if we will be able to get in the field this week. On my barley breeding project we are struggling to come up with alternate locations for at least one location of preliminary yield trials and all of our early generation materials. Our hope is to use the irrigated site at the Williston Research Extension Center south of Ray, ND. However, this location has its challenges because it is located seven hours west of Fargo and it is extremely difficult to find hotel rooms in western North Dakota because they are full with workers from the oil fields.

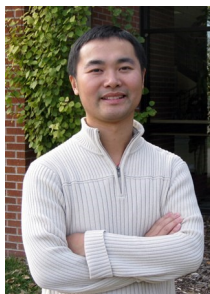
## New AES-Research Greenhouse Complex



Occupancy in the first phase of the new AES-Research Greenhouse Complex began in August 2010. This phase included one range of glasshouses with 14 rooms and 400 feet of headhouse space. Funding for phase two was approved by the 2009 North Dakota Legislature. Occupancy of the phase two construction, which includes three additional glasshouse ranges and 200 feet of headhouse space, is expected to be complete in summer

2011. Future plans for phase three include Biosafety Level 3 security. This security level would allow us to work with pathogens such as the new UG99 race of wheat stem rust.

## Meet Our New Faculty Members



flavor stability of beer.

**Dr. Yin Li** was appointed Research Assistant Professor in Barley and Malt Quality in April 2009. Dr. Li earned his BS in biotechnology and his PhD in Fermentation Engineering at Southern Yangtze University, P. R. China. He joined NDSU in 2006 as a Postdoctoral Research Associate with Dr. Paul Schwarz. His research focuses on the mechanism of cereal enzymes and improving the

managed Dr. Kianian's \$3.1 million NSF grant. Dr. Ghavami's research interests include improving the wheat response to biotic and abiotic stresses; map based cloning of genes for important agronomic traits; and investigating the genetic interaction of nucleus and mitochondria to achieve a better compatibility toward enhancing biomass, fertility and responses to environmental stresses.

**Dr. Marisol Berti** joined the department in July 2009 as Associate Professor in Forage and Biomass Crop Production (80% research, 20% teaching). Dr. Berti received her BS in Agronomy from the Universidad Católica de Chile, Santiago, Chile, and her MS and PhD in Plant Sciences from NDSU. Prior to joining the Plant Sciences faculty, Dr. Berti worked as Associate Professor, and eventually Professor, in Plant Sciences at Universidad de Concepción, Chillán, Chile. Dr. Berti's research program has three main objectives: to improve existing forage production practices and evaluate new perennial and annual forages in North Dakota; to introduce and evaluate biomass crops as a new bioenergy component of existing cropping systems in North Dakota; and to evaluate the impact of annual/perennial forages in intercropping, as cover crops, and living mulches on crop productivity and soil quality in North Dakota. In addition to her research activities, Dr. Berti teaches Principles of Forage Production, Sugarbeet Production, and Professional Development II.



**Dr. M. Javed Iqbal** is the newest member of the Wheat Germplasm Enhancement group. He was hired in May 2010 as Research Assistant Professor. Dr. Iqbal came to NDSU from Virginia, where he was a Scientist and Research Assistant Professor at the Institute for Sustainable and Renewable Resources, a state funded research center affiliated with Virginia Tech. He also held an Adjunct Professor position in the Departments of Horticulture and Forestry at Virginia Tech for four years. Dr. Iqbal has an undergraduate degree in Biological Sciences and a Masters in Botany from Pakistan before earning a PhD in Agronomy from the University of Illinois. His research experience includes postdoctoral training at Texas A & M University in College Station and Southern Illinois University at Carbondale. He managed a genomics core facility at Southern Illinois University and worked on genetics and genomics of soybean resistance to sudden death syndrome. At NDSU, Dr. Iqbal manages a group, including collaborators from three other institutions in the U.S., that focuses on radiation hybrid mapping of wheat genome, a NSF funded project. In addition, Dr. Iqbal conducts research on better understanding the genome interactions in alloplasmic wheat for enhanced agronomic performance.



**Dr. Farhad Ghavami** was appointed as Research Assistant Professor in Wheat Genetics/Nuclear-cytoplasmic Interactions in May 2010. Originally from Tehran, Iran, Dr. Ghavami earned his BSc in Agronomy and Plant Breeding from University of Tehran, his MSc in Plant Breeding from Isfahan University of Technology, Iran, and his PhD in Plant Molecular Genetics from University of Tehran. He worked one year as a research associate for National Institute for Genetic Engineering and Biotechnology (NIGEB) in Iran, during which time he also taught graduate courses in bioinformatics, plant molecular genetics and genetic engineering. From Iran, he moved to Simon Fraser University in Canada as a post-doctoral researcher. He joined NDSU in 2006 as a Postdoctoral Research Fellow with Dr. Shahryar Kianian and



**Dr. G. Francois Marais** joined the department in November 2010, as Associate Professor in Hard Red Winter Wheat Breeding/Genetics with a 90% research, 10% teaching appointment. He grew up in South Africa and moved to Canada in 2009. He received MSc and PhD degrees in Genetics/Plant Breeding at the University of Stellenbosch, South Africa, and a PhD degree in Cereal Technology at NDSU. He worked in the Department of Genetics at Stellenbosch University from 1986 to 2008 and chaired the department for nine years. During 2009 through 2010 he worked as a visiting scientist at the Cereal Research Centre in Winnipeg, Canada. At NDSU, Dr. Marais is responsible for developing appropriate Hard Red Winter Wheat breeding material and implementing a breeding program. He will also teach a course in genetics and plant breeding.



**Dr. Mukhlesur Rahman** was appointed as Research Assistant Professor in Canola Breeding and Genetics in November 2010. Dr. Rahman earned his BSc Agriculture in Plant Breeding and Genetics at Bangladesh Agricultural University, his MSc in Plant Breeding and Biotechnology at Tokyo University of Agriculture and Technology, and his PhD in Plant Breeding and Genomics at University of Manitoba. He joined NDSU in 2008 as a Visiting Scientist with Dr. Phil McClean. The Canola Breeding Program is engaged in development of open-pollinating and hybrid canola cultivars adapted to North-Central region environments; creating and developing new germplasms with high oil, high seed yield, disease resistance, and stress tolerance; conducting experimental trials for developing and evaluating superior canola germplasms; and development of molecular markers for marker assisted selection in breeding. In addition to his work in canola breeding, he also teaches the Plant Sciences Intermediate Genetics course.

## Faculty Promotions

Congratulations to faculty members who were promoted. In July 2009, **Dr. Shahryar Kianian** (HRS Durum Wheat Germplasm Enhancement) and **Dr. Joel Ransom** (Extension Agronomist) were promoted to full Professor. **Dr. David Dai** (Woody Plant Physiology and Biotechnology) was promoted to Associate Professor. In July 2010, **Dr. Burton Johnson** (Sunflower, Minor and New Crop Production) and **Dr. Frank Manthey** (Durum and Pasta Quality) were promoted to full Professor.



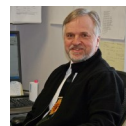
Shahryar Kianian



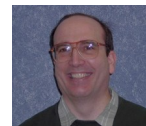
Joel Ransom



David Dai



Burton Johnson



Frank Manthey



## Receptions Honor Retirees



**Dr. Dale Herman**, Professor of Woody Plants and Ornamentals, retired from the department in July 2010, after 39 years of service to NDSU. Dr. Herman joined NDSU as an Associate Professor in 1971 and became a full Professor in 1979. During his time at NDSU, he released 45 new woody plant cultivars and another six are anticipated for introduction in 2011. He has authored or co-authored eight refereed journal articles, two books, and more than 40 articles for trade magazines and other publications. In addition,

Dr. Herman established NDSU's Research Arboretum near Absaraka. It was announced during his retirement reception that the arboretum is to be named the Dale E. Herman Research Arboretum in his honor.



Dale and Ruth Herman



**Dr. Dwain Meyer**, Professor of Forage Production and Physiology, retired in January 2011, after 40 years of service to NDSU. Dr. Meyer joined NDSU in 1970 and earned his full professorship in 1982 (60% forage production research, 30% teaching, 10% Extension). This three-way split in responsibilities is rare at NDSU; the extension appointment was added because of Dr. Meyer's breadth of knowledge in forages. He served as coordinator for the General Agriculture Program for nine years and as Interim Department Chair from August 2008, through June 2010. Dr. Meyer served his profession well,

serving as a Technical Editor for Crop Science for many years. Because of his editing skills, he also served the department well by editing most poster presentations given by students and faculty.

Congratulations and thank you, Dr. Herman and Dr. Meyer, for your years of dedication and service in the Department of Plant Sciences at NDSU. We wish you the best for a happy and fulfilling retirement.



Dwain and Gladys Meyer



# Plant Sciences Faculty Earn Recognition



**Dr. Duane Berglund**, Professor Emeritus, was awarded the **Gold Award** on June 25, 2009, by the National Sunflower Association. The award is presented to individuals who have contributed extraordinarily to the overall sunflower industry either through their occupation or through the National Sunflower Association.

**Dr. Mohamed Mergoum** was named the **Richard C. Frohberg Spring Wheat Breeding/Genetics Endowed Professor** on May 16, 2009. The endowment honors retired NDSU Wheat Breeder Richard C. Frohberg. Dr. Mergoum is the first recipient of the endowed professorship.

**Dr. Deying Li**, Sports and Urban Turfgrass Management, received the **Earl and Dorothy Foster Excellence in Teaching Award** at the annual Agriculture and University Extension Faculty/Staff Awards Program on December 15, 2009.

**Dr. Dale Herman**, Woody Plants and Ornamentals, received the **Eugene R. Dahl Excellence in Research Award** at the annual Agriculture and University Extension Faculty/Staff Awards Program on December 15, 2009. In 2010, he received a **Certificate of Appreciation** from Alpha Tau Omega Fraternity, "In Recognition of Dedication to Success of NDSU Students." Dr. Herman also received the **VIP Award** from North Dakota Future Farmers of America (FFA) at their state convention in June 2010.

**Dr. Marcelo Carena**, Corn Breeding and Genetics, served as co-founder and NDSU representative at the United Nations in 2009 for a \$1.2 million grant received by the Gates Foundation for the Global Plant Breeding Initiative for Capacity Building. This led to his involvement as an expert reviewer for a USDA national plant breeding capacity plan in 2010.

Dr. Carena is a co-author of the 2010 book *Quantitative Genetics in Maize Breeding, 3rd Ed.* Co-authors of the book are A. R. Hallauer and J. B. Miranda Filho. Many plant breeding students around the

world have used the earlier edition of this text written by Hallauer and Miranda.

**Dr. Elias Elias**, J. F. Carter Durum Wheat Breeding and Genetics Endowed Professor, received the **Waldron Award for Excellence in Research** at the annual Celebration of Faculty Excellence on May 6, 2010. The Waldron Award honors the late Fred Waldron, NDSU graduate and an instructor of geology, and recognizes a faculty member for outstanding contributions to research having a positive impact on the mission of NDSU.

**Dr. Rich Zollinger**, Extension Weed Science, was presented with the **Award for Outstanding Service** by the American Society of Testing and Materials (ASTM) - E35 Committee on Pesticides and Adjuvants at their meeting in October 2010. Dr. Zollinger was chair of the society in 2008 and co-chair in 2009. He also served as editor for the Journal of ASTM International in 2008 and co-editor in 2009.

**Dr. Harlene Hatterman-Valenti**, High Value Crop Production, was the recipient of the **Larson/Yaggie Excellence in Research Award**, presented at the annual Agriculture and University Extension Faculty/Staff Awards Program on December 14, 2010.

**Dr. Phil McClean** is the project director for the USDA-NIFA **Bean Coordinated Agricultural Project (BeanCAP)**. The BeanCAP is a \$4 million multi-state, interdisciplinary effort with collaboration from 12 institutions, including the NDSU Dry Bean Breeding and Genetics program led by **Dr. Juan Osorno**. The BeanCAP focuses on the genetic identification and characterization of 25 nutritional traits of interest in both dry and snap beans, and the generation of market-class-specific SNP markers using an association mapping approach. More information can be found at <http://www.beancap.org/>.



## Plant Introductions

Three superior winter hardy USDA zone 3 woody landscape plants were named and introduced by Dr. Dale Herman and research specialist Larry Chaput.



**Green Drift™  
Savin Juniper**  
*Juniperus sabina*

'Greenscape' is an outstanding, sun-loving ground cover, with excellent vigor and density, reaching a height of 1½ - 2 feet. Its foliage is attractive mellow green, soft, and primarily scale-like. It does not discolor in winter like several juniper species.



**Northern Herald™  
Eastern Redbud**  
*Cercis canadensis*  
'Pink Trim' was collaboratively released

by NDSU and Greg Morgenson, Lincoln-Oakes Nurseries manager, Bismarck, ND. This clonal introduction has potential to extend the hardiness range of this pink-flowering small landscape tree further north.



**Northern Advance™  
American Planetree**  
(syn. Sycamore)  
*Platanus occidentalis*

'Bismarck' was selected as the hardiest of various trees evaluated and propagated from the Northern Plains. The original tree is a large specimen growing in Bismarck, ND. This cultivar may extend the success range of this species a minimum of 100-200 miles further north.

# Variety Releases



## Small Grains

North Dakota Agricultural Experiment Station (NDAES) released **Barlow** and **Mott** Hard Red Spring Wheat and **Rockford** Oat in 2009. **ND90ICL Plus** Hard Red Spring Wheat and **Tioga** Durum Wheat were released in 2010. Other notable releases in 2010 include **Decade** Hard Red Winter Wheat and **Select** Hard Red Spring Wheat.

**Barlow Hard Red Spring Wheat** was developed by the Hard Red Spring Wheat Breeding Program under the direction of Mohamed Mergoum. General characteristics include a high yield potential, particularly in western regions with good protection against scab; very good protein with overall milling and baking quality superior to 'Reeder'; very high water absorption and test weight; and very comprehensive leaf disease package including excellent protection against leaf and stem rust.

**Mott Hard Red Spring Wheat** was developed by the Hard Red Spring Wheat Breeding Program (Mergoum). General characteristics include the ability to adapt to the western region where sawfly is prevalent; resistant to the wheat stem sawfly; resistant to Stagonospora leaf blotch; susceptible to many leaf diseases and scab; and good milling and baking characteristics, with good protein content, higher loaf volume, and strong mix characteristics.

**Rockford Oat** was developed by the Oat Breeding Program under the direction of Michael McMullen. General characteristics include exceptional yield potential; excellent test weight; very good lodging resistance; good resistance to crown rust; and good protection against stem rust.

**ND90ICL Plus Hard Red Spring Wheat** was developed by the Hard Red Spring Wheat Breeding Program (Mergoum). General characteristics include resistance to Clearfield herbicide; semidwarf with medium-early maturity; good milling and baking characteristics with high protein levels; and resistant to medium-resistant to leaf rust, medium-susceptible to medium-resistant to stem rust and other leaf diseases, susceptible to scab.

**Tioga Durum Wheat** was developed by the Durum Breeding Program under the direction of Elias M. Elias. General characteristics include very good yield potential; good test weight; excellent quality; very good protein content; good level of Fusarium Head Blight (FHB) resistance; and moderate resistance to leaf diseases.

**Decade Hard Red Winter Wheat** is a joint release by the NDAES and the Montana Agricultural Experiment Station. It is the result of a cooperative effort between the winter wheat cultivar development research conducted by the NDSU Williston Research Extension Center (Neil Riveland) and the Montana State University winter wheat breeding program (Phil Bruckner).

**Select Hard Red Spring Wheat** was developed and released by the South Dakota Agricultural Experiment Station and distributed for the first time in both North Dakota and South Dakota during spring 2010.

## Corn

During 2009-2010 the NDSU Corn Breeding Program, under the direction of Marcelo Carena, released **seven inbred lines** to industry. In addition, three new populations were tested and successfully developed for potential commercial use in 2011-2012, one from the NDSU EarlyGEM program and two new versions: NDSS (Stiff Stalk early version) and NDL (non-Stiff Stalk early version).

## Potato

NDAES released **Dakota Trailblazer** potato cultivar in 2009. It was developed by the Potato Breeding Program under the direction of Asunta (Susie) Thompson. Advantages of Dakota Trailblazer include resistance to Verticillium wilt, sugar ends and cold sweetening. It has moderate resistance to pink rot caused by *Phytophthora erythroseptica* Pethyb. and demonstrates field resistance to late blight. It is the first cultivar released from the NDSU potato breeding program that is suitable for production of french fries.

## Soybean

NDAES released **Ashtabula** Conventional Soybean in 2009 and **NDI005T** Soybean in 2010.

**Ashtabula Conventional Soybean** was developed by the Soybean Breeding Program under the direction of Ted Helms. General characteristics include high yield; 0.4 maturity group; yellow hila; good tolerance to iron-deficiency chlorosis; and resistance to *Phytophthora* root rot.

**NDI005T Soybean** was developed by the Soybean Breeding Program (Helms) and is under exclusive release to a private company. This variety is a high-protein soybean developed for the tofu or soymilk specialty market.

# Welcome New Staff

## Postdoctoral Researchers & Visiting Scientists

Postdoctoral Research Fellows to join the department in 2009 include **Rob Sabba**, who works in Potato Germplasm Evaluation with Susie Thompson; **Ajay Kumar** and **Monika Michalak** both work in Wheat Germplasm Enhancement with Shahryar Kianian; and **Shalu Jain** works in Pulse Crop Breeding with Kevin McPhee.

Postdoctoral Research Fellows to join the department in 2010 include **Xuelin Fu**, who works in Sunflower Research with C. C. Jan; and **Jawahar Jyoti**, who works in Barley Breeding and Genetics with Richard Horsley.

In October 2010, visiting scientist **Yanghong Yang** arrived to work with David Dai. In November 2010, visiting scientists **Tatiana Belova** and **Monika Kladvova** arrived to work with Shahryar Kianian, and **Pushparajah Thavarajah** arrived to work with Kevin McPhee.

## Research & Support Staff

In 2009 **Kreg Kercher** transferred to the Flax Program with Jim Hammond; **Dan Liane** transferred to Hard Red Spring Wheat with Mohamed Mergoum and **Adam Walz** also joined that program; **DeLane Olsen** works in Wheat Quality with Senay Simsek; and **Heath Crawford** works with Mukhlesur Rahman in Canola.

In 2010 **Sarah Gegner** began working in Dry Beans with Juan Osorno; **Travis Sanderson** works in Hard Red Winter Wheat with Francois Marais; and **Sally Mann** works in Durum Wheat Breeding with Elias Elias.

## Office Staff

The office in Loftsgard Hall has several new faces, all hired in 2010. In January **Cherie Fischer** joined the department in the position of Accountant. **Tami Stegman** was hired in June as Administrative Secretary working with the graduate and Master Gardener programs. In August **Kamie Beeson** was hired as Information Processing Specialist. **Angela Scott** joined the department in September and is the current Grants Coordinator.



Rob Sabba



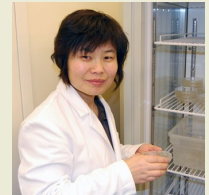
Ajay Kumar



Monika Michalak



Shalu Jain



Xuelin Fu



Jawahar Jyoti



Yanghong Yang



Dan Liane



Adam Walz



DeLane Olsen



Heath Crawford



Sarah Gegner



Travis Sanderson



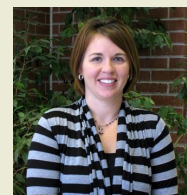
Sally Mann



Tami Stegman



Kamie Beeson



Angela Scott



# Employee Recognition



Three Plant Sciences employees were honored as new members of the Quarter Century Club at a recognition dinner on May 4, 2010.



Phil McClean



Robert Nudell



Ron Smith

## Years of Service

### 10 Years

Kreg Kercher  
Kelly McMonagle  
Jerry Ries

### 15 Years

Pete Gregoire  
Larry Martin

### 20 Years

John Barr  
Barb Laschkewitsch  
Stan Stancyk

### 30 Years

Jody VanderWal

# Summer Interns



### 2009

#### Haiti

Raphael Colbert (Osorno)

#### Puerto Rico

Fernando Julia-Vazquez (McPhee)  
Adriana Rodriguez-Garcia (Thompson)  
Jesus Espinosa-Irizarry (Horsley)  
Omara Oritiz-Vazquez (Plant Pathology)  
Jessica Torres-Velez (Plant Pathology)

#### United States

Ishani De (McPhee)  
Sarah Ohlen (Hatterman-Valenti)  
Jared Peterson (Dai)



### 2010

#### Chile

Alejandro Solis-Fuentes (Johnson/Berti)  
Wilson Gonzalez-Saavedra (Berti/Thompson)  
Maria Josefina Mas-Abalo (Hatterman-Valenti)

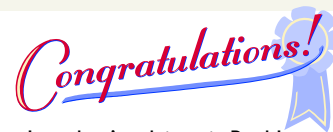
#### Puerto Rico

Nelson Caban Martinez (Mergoum)  
Jose Rivera-Dompenciel (Horsley)  
Irene Roman-Martinez (Thompson)

#### United States

Amanda Schoch (Kandel)  
Sandra Tuinstra (Cai)

## Graduate Students Earn Recognition



PhD candidate **Junyun Yang** won first place in the 2009 ASA-CSSA-SSSA International Annual Meeting Division C1 Graduate Student Poster Competition for her poster entitled “Breeding and Genetics of Field Dry Down and Test Weight in Short-season Elite Maize Hybrids.” Her advisor is Marcelo Carena.

PhD candidate **Jim Loken** was awarded first place with his paper entitled “Postemergence Herbicides with Adjuvants for Early Season Weed Control in Onion” in the Mixed Papers & Forestry/Industrial/Turf section of the Graduate Student Paper Contest at the 2010 North Central Weed Science Society (NCWSS) meeting in Lexington, KY. Jim’s advisor is Harlene Hatterman-Valenti.

Three Plant Sciences graduate students won awards for their poster or paper at the 2010 Western Society of Weed Science (WSWS) meeting in Hawaii. MS student **Roberto Luciano** was awarded first place with his poster entitled “Downy Brome Response to Soil Applied Herbicides” in the Weeds of Agronomic Crops section of the Graduate Student Poster Contest. Roberto’s advisor is Kirk Howatt. Natural Resources Management MS student **Jonathan Mikkelson** was awarded second place for his paper entitled “Crop Susceptibility to Aminopyralid Soil Residue” in the Weeds of Agronomic/Horticultural Crops section of the

Graduate Student Paper Contest. Jonathan’s advisor is Rod Lym. Natural Resources Management MS student **Cassie Setter** was awarded third place with her poster entitled “Grass Weed Control in Native Species Used for Biofuel Production” in the Weeds of Agronomic Crops section of the Graduate Student Poster Contest. Cassie’s advisor is Rod Lym.

The 2010 Graduate Student Symposium was hosted in Fargo. Seven NDSU Plant Sciences graduate students won awards for their presentations. In the Agronomy and Production category, **Jim Loken** won first place for his presentation, “Multiple Applications of Reduced-rate Herbicides for Weed Control in Onion.” In the Plant Breeding and Genetics category, **Ali Soltani** won first place for his presentation, “Ecotypic Expression of DREB2A in Rapeseed (*Brassica napus*) Increased Salt Tolerance;” **Filippo Bassi** took second place for his presentation, “QTL Analysis in Wheat Radiation Mutants;” and **Dalitso Yabwalo** took third place for his presentation, “Chromosome Characterization for Fusarium Head Blight Resistance in the Spring Wheat Cultivar ‘Frontana.’” **Andrzej Noyszewski** was honored with the **Young Researcher of the Year Award**. His presentation was entitled “Mitochondrial Sequence Diversity Among *Triticum* Species.”



### 2009 Graduates

Monika Michalak, PhD

Adisu Negeri, PhD

Kiran Oberoi Seth, PhD

Wesam AbuHammad, MS

Paul Bolin, MS

Fernando Eckert, MS

Sarah Gegner, MS

Peter Gilbertson, MS

Lindsey Hanson, MS

Michael Ostlie, MS

Yuanjie Su, MS

Scott Weinlaeder, MS

Yu Zhang, MS



### 2010 Graduates

Xinrong Dong, PhD

Sujan Mamidi, PhD

Kornelija Matkovic, PhD

Ryan Hunt, MS

Alberto Cesar Jimenez Diaz, MS

Jonathan Mikkelson, MS

Yichun Wang, MS

Todd Weinmann, MS

Dalitso Yabwalo, MS

## Scholarships

Congratulations to the 2010-11 scholarship recipients and a wholehearted “thank you” to the scholarship sponsors! Scholarship awards for the 2010-11 school year were presented to 45 undergraduate and 21 graduate students. Total dollars awarded were \$40,510 (\$24,685 to undergraduates and \$15,825 to graduates). The scholarships were sponsored by 45 individuals or organizations. We always welcome and appreciate any new scholarship sponsors. Please contact our office if you would like more information.

## Student Organization News

The **Agronomy Club** placed second and received a \$500 prize in a YouTube Video Contest sponsored by the U.S. Durum Growers Association to celebrate and promote National Pasta Month in October 2009. The club’s video was called “Behind the Noodle: The Making of Pasta” and can be viewed online.

<http://www.youtube.com/watch?v=EDqNAqQw68g>.





## Farewells

We said good-bye to several departing staff members during 2009 and 2010. **Dr. Shane Friesen**, Associate Professor of Perennial Weed Control, resigned in May 2009, as did **Julie Coudron**, Research Specialist with Bill Berzonsky, and **Jeremiah Halley**, Research Specialist with Mohamed Mergoum. **Nicole Hagness**, Information Processing Specialist, transferred to NDSU Distance and Continuing Education, and **MaryBeth Odegaard**, Extension Pesticides office staff, resigned from her position. Office personnel **Char Perrin** and **Melissa Welter** resigned and **Nancy Nessa** transferred to the NDSU Department of Pharmacy Practice. **Greg Lammers**, Research Specialist with Marcelo Carena, and **Munevver Dogramaci**, Postdoctoral Research Fellow with Mike Christoffers, also resigned.



## News from Dr. Carter

Another year has gone by and we still reside at Bethany Homes, Towers II in Fargo, ND. We are a year older and our health is slightly deteriorated. Both of us depend on "walkers." Jack was 91 last October 2010 and Imogene is close behind. Imogene had a hip replacement about four months ago and is gradually improving. During the week in the hospital and three weeks that Imogene spent in a recovery unit here at Bethany called "Cares," Jeff and Joel came and stayed with Jack alternate weeks.



We have "personal helpers" for short times during the day. All our children visited us in Fargo for summer vacation and/or Christmas. Jeff and Joel live in Minneapolis and are able to visit a little more frequently.

We still have our lake cottage and each of the children have spent some time there this past year. More recently the cottage has needed major repair due to damp soil in the crawl space. Jeff is supervising the repairs by a contractor, including new shingles. We have not been out to the lake ourselves for three years due to our reduced mobility.

Best wishes,

Jack and Imogene

## Look Who the Stork Delivered

Savannah Lynn Girard Underdahl was born on June 13, 2009, to **Jesse Underdahl and Kathy Girard**. She weighed eight pounds and was 20 inches long.



**Jim and Beth Loken** welcomed their first child, a boy, on May 17, 2010. Mauer Earl weighed seven pounds, seven ounces and was 21½ inches long.

Daniel Cai was born to **Dr. Xiwen Cai and Xun Fen Chen** on June 5, 2010. Daniel weighed seven pounds, eight ounces and was 20½ inches long. He joins two sisters, Sarah and Julia.

Cameron Nicholas David was born to **Dr. Nick and Tara David** on June 8, 2010. Cameron weighed six pounds, 11 ounces, and was 18 inches long. He joins big brothers Kenny, Nathan, Caleb, and Joshua, and big sister Bethany.

**Larry and Linda Martin** became grandparents for the 6th time when granddaughter Brooke was born on June 20, 2009, to their son Matt and daughter-in-law Erika in Brooklyn Park, MN. She has one big sister.

**Ron and Betsy Smith** welcomed granddaughter Aurora, born November 3, 2009, to their daughter Amanda and son-in-law Matt Heintz. She has one big brother.

**Burton and Paula Johnson** welcomed grandson Magnus, born March 2, 2010, to their son Jason and daughter-in-law Marta.

**Karmen and Lisa Johnson** welcomed two grandchildren into their family in 2010. Grandson Anders was born to their daughter Erica and son-in-law Aaron Lien on January 3, 2010. Anders has one big sister. Granddaughter Olivia was born to daughter Andrea and son-in-law Tyler Einartson on July 30, 2010.

Congratulations to these families! We sincerely apologize if anyone's new arrival was missed in this issue.

# Fun Facts

## Looking Back

- ◆ The department has existed in various forms for 121 years.
- ◆ Department of Agriculture was established in 1890, covering all phases of agricultural production.
- ◆ Dept. of Agriculture subdivided in 1905, forming three departments: Agronomy, Animal Husbandry and Applied Agriculture. Agronomy was located in Francis Hall, which no longer exists.
- ◆ Agronomy moved to Morrill Hall in 1923.
- ◆ Agronomy moved to Walster Hall in 1961.
- ◆ Renamed Crop and Weed Sciences, effective July 1, 1988.
- ◆ Crop and Weed Sciences moved into newly constructed Loftsgard Hall in 1991.
- ◆ Merged with Horticulture and Forestry in 1994.
- ◆ Renamed Plant Sciences, effective November 4, 1994.
- ◆ In 2008 Pesticides was moved under the Extension Director.
- ◆ In 2009 Forestry moved to the School of Natural Resources.

## It all adds up to a great department!

### Undergraduate Students

- Crop and Weed Sciences majors - 120
- Horticulture majors - 33
- Sports and Urban Turfgrass Management majors - 27

### Graduate Students

- MS - 41
- PhD - 37

### Faculty & Staff

- Faculty - 43
- Post Docs - 11
- Visiting Scientists - 4

## Department Chairs Through the Years



\* Photo courtesy of NDSU Institute for Regional Studies and University Archives

- Research & Support Staff - 59
- Office Staff - 9
- Part-time/temporary staff - 80

### Adjunct Faculty

- Adjuncts - 22
- Univ. of MN-Crookston -1
- Univ. of Puerto Rico-Mayaguez -6
- FAO, Rome, Italy -1
- ICARDIA, Aleppo, Syria -1
- West Regional Research Center -1



**Total = 496**



Loftsgard Hall, circa 1990's

Loftsgard Hall, spring 2011



Horticulture Gardens (photo by Nicole Hagness)

## **Plant Sciences Faculty**

Richard D. Horsley	Dept. Chair and Professor (6-rowed and 2-rowed barley breeding, genetics)
Marisol Berti	Assoc. Professor (forage and biomass crop production)
Xiwen Cai	Assoc. Professor (wheat genetics and cytology/genetics teaching)
Marcelo Carena	Assoc. Professor (corn breeding and genetics)
Michael Christoffers	Assoc. Professor (weed science/genetics teaching)
David Dai	Assoc. Professor (woody plant physiology/biotechnology)
Edward L. Deckard	Professor (crop physiology)
Elias M. Elias	Professor (durum wheat breeding)
Farhad Ghavami	Research Asst. Professor (wheat genetics nuclear-cytoplasmic interactions)
Greta Gramig	Asst. Professor (weed science)
James J. Hammond	Professor (flax and crambe breeding, biometrics, computer programming)
Harlene Hatterman-Valenti	Assoc. Professor (high value crop production)
Theodore C. Helms	Professor (soybean breeding, genetics)
Kirk Howatt	Assoc. Professor (weed science-annual weeds)
M. Javed Iqbal	Research Asst. Professor (wheat genetics radiation hybrid mapping)
Burton Johnson	Professor (sunflower, minor, and new crop production)
Thomas Kalb, II	Extension Horticulture Specialist (western ND)
Hans Kandel	Assoc. Professor (extension agronomist broadleaf crops)
Penny Kianian	Asst. Professor of Practice (genetics)
Shahryar Kianian	Professor (HRS, durum wheat germplasm enhancement)
Chiwon Lee	Professor (ornamentals, turf/biotechnology teaching)
Deying Li	Assoc. Professor (sports and urban turf management)
Yin Li	Research Asst. Professor (barley and malt quality)
Rodney G. Lym	Assoc. Chair and Professor (perennial weed control)
Frank Manthey	Professor (durum and pasta quality)
G. Francois Marais	Assoc. Professor (HRWW breeding/genetics)
Phillip E. McClean	Professor (dry bean genetics, biotechnology)
Michael S. McMullen	Professor (oat breeding and genetics)
Kevin McPhee	Assoc. Professor (pulse crop breeding)
Mohamed Mergoum	Professor (HRSW breeding, genetics)
Juan Osorno	Asst. Professor (dry edible bean breeding)
Mukhlesur Rahman	Research Asst. Professor (canola breeding)
Joel Ransom	Professor (Extension agronomist, small grains)
Paul Schwarz	Professor (malting barley quality)
Senay Simsek	Asst. Professor (HRS wheat end quality)
Ron Smith	Professor (Extension horticulture/turfgrass)
Jeff Stachler	Asst. Professor (weed control in sugarbeet)
Asunta (Susie) Thompson	Assoc. Professor (potato breeding)
Todd West	Assoc. Professor (woody plant improvement)
M. Dale Williams	Seedstocks Director (seedstocks)
Qi (Chee) Zhang	Asst. Professor (turfgrass stress physiology)
Rich Zollinger	Professor (Extension weed control)
Alan Zuk	Asst. Professor (sports and urban turfgrass management)







## Professors Emeriti



Duane Berglund  
 A.A. Boe  
 Jack F. Carter  
 H.Z. Cross  
 Alan G. Dexter  
 Murray E. Duysen  
 J.D. Franckowiak  
 R.C. Frohberg

N. Holland  
 H.R. Lund  
 S.S. Maan  
 Calvin G. Messersmith  
 J.D. Nalewaja  
 D.C. Nelson  
 L.A. Spilde  
 D.A. Whited

## Adjunct Faculty (\*USDA)

James V. Anderson\* (plant biochemistry)  
 Larry G. Campbell\* (sugarbeet genetics)  
 Patrick M. Carr (sustainable agriculture)  
 Shiaoman Chao\* (genomics)  
 Wun Shaw Chao\* (perennial weeds)  
 Lynn S. Dahleen\* (barley genetics, biotechnology)  
 Doug Doehlert\* (oat germplasm enhancement)  
 Justin Faris\* (cereal crops)  
 Mike E. Foley\* (weed biology)  
 Karen L. Fugate\* (sugarbeet physiology)  
 David P. Horvath\* (perennial weed physiology)

Khwaja Hossain (wheat germplasm enhancement)  
 Brent Hulke\* (sunflower breeding and genetics)  
 Chao C. Jan\* (sunflower cytogenetics)  
 Prem P. Jauhar\* (wheat cytogenetics)  
 Brian Jenks (weed science)  
 Ed C. Lulai\* (potato physiology)  
 Lili Qi\* (wheat cytogenetics)  
 Gerald J. Seiler\* (sunflower and sugarbeet germplasm)  
 J.R. Sowokinos\* (potato physiology)  
 Jeffrey C. Suttle\* (potato physiology)  
 Steven Xu\* (HRSW development)

### University of Minnesota-Crookston

Jochum Wiersma (small grains)

### University of Puerto Rico-Mayaguez

James Beaver (common bean, corn)  
 Bryan Brunner (tropical fruits and ornamentals)  
 Raul Macchiavelli (statistics)  
 Carlos Ortiz (root crops)  
 Tim Porch (common bean)  
 Linda Wessel-Beaver (tropical pumpkin, veg. breeding)

### FAO, Rome, Italy

Elcio P. Guimaraes (cereal plant breeding)

### ICARDIA, Aleppo, Syria

Flavio Capettini (barley breeding)

### Western Regional Research Ctr., Albany, CA

Yong Qiang Gu\* (wheat germplasm enhancement)

## Postdoctoral Research Fellows and Visiting Scientists

### Postdocs

Xuelin Fu (Jan, sunflower cytogenetics)  
 Shalu Jain (McPhee, pulse crops)  
 Jawahar Jyoti (Horsley, barley breeding)  
 Ajay Kumar (Kianian, wheat germplasm enhancement)  
 Zhao Liu (Jan, sunflower cytogenetics)  
 Sujan Mamidi (McClean, oat breeding)  
 Monika Michalak (Kianian, wheat germ. enhancement)  
 Anantharama Rishi (Kianian, wheat genetics)

Robert Sabba (Thompson, potato germ. evaluation)  
 Zahirul Talukder (Hulke, (sunflower breeding/genetics)  
 Fang Wei (Jan, sunflower cytogenetics)

### Visiting Scientists

Ali Kahraman (McPhee, pulse crops)  
 Abdullah Karasu (McPhee, pulse crops)  
 Pushparajah Thavarajah (McPhee, pulse crops)  
 Yonghong Yang (Dai, woody plants)

## **Research and Support Staff**

Matthew Abdallah (HRSW breeding)  
Hiroshi Ando (durum and pasta quality)  
Collin Auwarter (high value crop production)  
John Barr (barley quality)  
Bob Baumann (oat breeding)  
Larry Chaput (woody plants)  
Kathy Christianson (perennial weeds)  
Mark Ciernia (weed control)  
Heath Crawford (canola breeding)  
Reena Dash (durum and pasta quality)  
Janet Davidson-Harrington (weed science)  
Brenda Deckard (Plant Sci. Student Services Director)  
Chad Deplazes (Extension crop production)  
Jason Faller (barley breeding)  
Bryce Farnsworth (potato breeding)  
Sarah Gegner (dry beans)  
James Gillespie (barley quality)  
Pete Gregoire (crop physiology)  
Dave Hanson (soybean breeding)  
Justin Hegstad (wheat germplasm enhancement)  
Karen Hertsgaard (Institute of Barley & Malt Science)  
Brent Hinsz (wheat quality)  
Martin Hochhalter (barley breeding)  
Christina Johnson (science animation)  
Angela Kazmierczak (weed control)  
Kreg Kercher (flax breeding)  
Barb Laschkewitsch (vegetables and perennials)  
Rian Lee (dry beans)  
Dan Liane (dry beans)  
Lenny Luecke (sugarbeet weed control)

Vicki Magnusson (woody plants)  
Sally Mann (durum wheat breeding)  
Sandra Mark (weed science)  
Larry Martin (soybean breeding)  
Rachel McArthur (wheat genetics and cytology)  
Kelly McMonagle (wheat quality)  
Richard Nilles (potato breeding)  
Bob Nudell (forages)  
DeLane Olsen (wheat quality)  
Rachel Olson (wheat quality)  
Allen Peckrul (wheat germplasm enhancement)  
Shauna Pederson (weed molecular biology)  
Paula Petersen (new crops)  
Jerry Ries (weed control)  
Ron Roach (weed control)  
Gonzalo Rojas-Cifuentes (Seedstocks Asst. Director)  
Kevin Rue (turfgrass)  
Travis Sanderson (HRWW breeding)  
Stan Stancyk (durum breeding)  
Deven Styczynski (pulse crops)  
Jesse Underdahl (HRSW breeding)  
Sarah Underdahl (durum wheat breeding)  
Mary Valenzuela (wheat quality)  
Jody VanderWal (dry bean breeding)  
Adam Walz (HRSW breeding)  
Duane Wanner (corn breeding)  
Joyana Wardrip (seedstocks)  
Kristin Whitney (wheat quality)  
Theja Wijetunga (crop physiology)



Kamie Beeson, Information Processing Specialist  
Eileen Buringrud, Administrative Assistant  
Cherie Fischer, Accountant  
Michelle Grant, Senior Accounting Specialist



## **Office Staff**

Louise Heinz, Administrative Secretary  
Lisa Johnson, Administrative Secretary  
Laura Lutkemeier, Accounting Specialist  
Angela Scott, Grants Coordinator  
Tami Stegman, Administrative Secretary

## Graduate Students

		<u>Advisor</u>			<u>Advisor</u>
Meliza Abeyratne	MS	Simsek	Roberto Luciano	MS	Howatt
Wesam AbuHammad	PhD	Elias	Nathaniel Lungren	MS	Ransom
Luz Alcazar-Rios	MS	Elias	Guojia Ma	PhD	Cai
Robynn Anfinrud	MS	Berti	Justin Mack	MS	Zollinger
Naa Korkoi Ardayfio	MS	Hatterman-Valenti	Te-ning Ma	MS	Cai
Md. Abdullah Al Bari	PhD	Carena	Samira Mafi Maghaddam	PhD	McCleen
Filippo Bassi	PhD	S. Kianian	Sujan Mamidi	PhD	McCleen
Jack Brodshaug	MS	Kandel	Eder Mantovani	MS	Mergoum
Ryan Burciaga	MS	S. Kianian	Mona Mazaheri	PhD	S. Kianian
Erin Burns	MS	Gramig/Prischmann-Voldseth	Grant Mehring	MS	Hatterman-Valenti
Juan Calle-Bellido	PhD	Thompson	Sonali Mehta	MS	Christoffers
David Carruth	MS	Zollinger	B-Mihiri Mendis	MS	Simsek
Adam Chyle	MS	Deckard	Andre Luis R. Miranda	MS	McPhee
Raphael Colbert	PhD	Osorno	Harini Modali	PhD	Fawley
Katie Conklin	MS	Lym	Itai Mutukwa	PhD	Lee
Ana Maria Correa-Morales	PhD	Horsley	Andrzej Noyszewski	PhD	S. Kianian
Sintayehu Daba	PhD	Horsley	Jared Peterson	MS	Hatterman-Valenti/Dai
Marina Dobrydina	MS	Manthey	Seyed M. Pirseyedi	PhD	S. Kianian
Naiyuan Dong	PhD	Carena	Irene Ramon	MS	Thompson
Ronald Dorcinvil	PhD	McMullen	Adriana Rodriguez-Garcia	MS	Thompson
Morgan Echeverry-Solarte	PhD	Mergoum	Kuhu Sahu	MS	Johnson
Ahmed Eiftaih EIDoliefy	PhD	Mergoum	Dulan Samarappuli	MS	Berti
Danielle Fiebelkorn	MS	McPhee	Gurleen Sandhu	PhD	Manthey
Jason Fisher	MS	Stachler	Harkanwal Sandhu	PhD	Manthey
Yang Gao	MS	D. Li	Jaidev Sehrawat	MS	Schwarz
Gerado Gracia Gonzalez	PhD	Simsek	Cassandra Setter	MS	Lym
Alicia Hall	MS	Howatt	Santosh Sharma	MS	Carena
Jameson Hall	MS	Ransom	Ali Soltani	PhD	S. Kianian
Danqiong Huang	PhD	Dai	Nilwala Somaratna	PhD	Faris
Mohamed Ibrahim	PhD	Cai	John Stenger	MS	Hatterman-Valenti
Albert Jimenez-Diaz	PhD	Schwarz	Qun Sun	PhD	Xu
Renata Jung	PhD	Horsley	Behzod Tashtemirov	MS	McPhee
Brandon Knutson	PhD	McCleen	Evan Twedt	MS	Ransom
Collin Lamkey	MS	Helms	Hongxia Wang	PhD	Dai
Tonette Laude	PhD	Carena	Sheng Wang	MS	Zhang
Magan Lewis	PhD	Horsley	Jungun Yang	PhD	Carena
Angela Linares	PhD	Osorno/Mergoum	Megan Zadach	MS	McMullen
James Loken	PhD	Hatterman-Valenti	Qijun Zhang	PhD	Xu
Haiyan Lu	MS	Simsek	Xianwen Zhu	PhD	Cai





## Blizzard Watch to Go Paperless

In an effort to save printing and postage costs of mailing the *Blizzard Watch*, we are progressing toward paperless publishing as much as possible. The 2009-2010 *Blizzard Watch* is accessible in full color on our website: <http://www.ag.ndsu.nodak.edu/plantsci/newsletter/> where you will also find the archive of past issues. Those of you for whom we have an e-mail address will be sent this link. Those for whom we do not have an e-mail address will receive the newsletter by postal mail.

As we work toward this goal, **we need your help**. Please update your contact information for us and include your e-mail address. Use the form below or download the form from our website. When the next issue of the *Blizzard Watch* is published online, you will be notified by e-mail. We would like to hear from Graduate Alumni as well as former employees of the department. If you know of someone who should be or would like to receive the *Blizzard Watch*, please forward this information to them. We appreciate your help as we strive to be good stewards of our department's and our world's resources!

**Blizzard Watch is online! Go to <http://www.ag.ndsu.nodak.edu/plantsci/newsletter/>**

## Let's Keep in Touch!

We would like to hear what you are up to now and update your contact info so we can keep in touch. Please take a moment to fill out and mail or fax this form to our office, or go to our website to download the form. We look forward to hearing from you!

First Name \_\_\_\_\_ Last Name \_\_\_\_\_

Current Position/Title \_\_\_\_\_

Company/Organization \_\_\_\_\_

Department \_\_\_\_\_

Preferred mailing address  
(check one)  Home  Work \_\_\_\_\_

City/Locality \_\_\_\_\_ State/Province \_\_\_\_\_

Postal Code \_\_\_\_\_ Country \_\_\_\_\_

Email \_\_\_\_\_

(optional)

Home Phone \_\_\_\_\_ Work Phone \_\_\_\_\_

Cell Phone \_\_\_\_\_ Fax \_\_\_\_\_

Comments:

**Please mail or fax this form to:**

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