

2010 Scholar Award Recipients Announced by IPNI

The 2010 winners of the Scholar Award sponsored by the International Plant Nutrition Institute (IPNI) have been selected. The awards of USD 2,000 (two thousand dollars) are available to graduate students in sciences relevant to plant nutrition and management of crop nutrients.

“We had a higher number of applicants for the Scholar Awards this year, and from a wider array of universities and fields of study,” said Dr. Terry L. Roberts, IPNI President. “And the qualifications of the students are impressive. The academic institutions these young people represent and their advisers and professors can be proud of their accomplishments. The selection committee adheres to rigorous guidelines in considering important aspects of each applicant’s academic achievements.”

In total, 16 (sixteen) graduate students were named to receive the IPNI Scholar Award in 2010, with the most widespread geographic distribution ever for the awards. They are listed below by region and university/institution.

Africa: Mary Njeri Kibuku, Moi University, Eldoret, Kenya

Australia/New Zealand: Richard Flavel, University of New England, Armidale, New South Wales
Shu-Kee Lam, University of Melbourne, Horsham, Victoria

China: Qiong Yi, Chinese Academy of Agricultural Sciences, Beijing, China

Eastern Europe and Central Asia: Saken Suleimenov, Novosibirsk State Agrarian University, Novosibirsk, Russia

Latin America: Felipe Carmona, Federal University of Rio Grande do Sul, Porto Alegre, Brazil
Isabeli Pereira Bruno, São Paulo State University, Piracicaba, Brazil

North America: Ignacio Ciampitti, Purdue University, West Lafayette, Indiana, USA
Dylan Wann, University of Georgia, Tifton, Georgia, USA

Ronald F. Gonzalez, University of Florida, Gainesville, Florida, USA

Jared Barnes, North Carolina State University, Raleigh, North Carolina, USA

South Asia: Hafeez ur Rehman, University of Agriculture, Faisalabad, Pakistan

Neenu S., Kerala Agricultural University, Thiruvananthapuram, Kerala, India

Tanumoy Bera, University of Agriculture and Technology, Indian Agricultural Research Institute, New Delhi

Southeast Asia: Ngai Paing Tan, Universiti Putra Malaysia

Suphasit Sitthaphanit, Khon Kaen University, Thailand

Funding for the Scholar Award program is provided through support of IPNI member companies, primary producers of nitrogen, phosphate, potash, and other fertilizers. Graduate students attending a degree-granting institution located in any country with an IPNI program region are eligible. Following is a brief summary for each of the winners.



Mary Njeri Kibuku

Ms. Mary Njeri Kibuku is working toward a Ph.D. degree at Moi University in Kenya. Her dissertation is titled “Contribution of *Desmodium* spp. to Soil Fertility Rehabilitation in ‘Push-Pull’ Intercropping”, which seeks to increase understanding of an integrated approach to balance N and P while reducing pest and disease infestation in maize production in western Kenya. The concept involves intercropping maize with stem borer moth-repellent plants such as *Desmodium* spp. (push), while an attractant host plant such as Napiergrass (pull) is planted around the intercrop. For the future, Ms. Kibuku hopes to continue research work, but also do teaching and perhaps even establish a facility with field demonstrations to allow more access to appropriate and beneficial technologies.



Richard Flavel

Mr. Richard Flavel started his Ph.D. program in 2010 at The University of New England in Armidale, New South Wales, Australia. His dissertation title is “Root Vigor of Cereal Genotypes in Response to Phosphorus Nutrition and Water Availability.” The project brings together leading groups in Australia working on root architecture and new technologies to measure their functions for water and nutrient uptake in soils. The principles learned could be applied to better crop breeding and management for continued food security. For the future, Mr. Flavel intends to be involved with research that has practical implications for real world agricultural production systems, and also hopes to continue some teaching responsibility.



Shu-Kee Lam

Mr. Shu-Kee Lam is pursuing a Ph.D. degree at The University of Melbourne at Horsham, Victoria, Australia. His dissertation title is “Effect of Elevated Carbon Dioxide on Soil Nitrogen Dynamics in Rain-Fed Cropping Systems in Australia and China.” A native of Hong Kong, he earned his Masters in 2005 and Bachelors degree in 2002 at The Chinese University of Hong Kong. Mr. Lam’s research is investigating the effects of elevated atmospheric carbon dioxide on soil processes in a dryland grain production system at the free-air carbon dioxide enrichment (FACE) facility at Horsham. In 2009, he also carried out another series of experiments in Beijing, China, pertinent to crop response to climate change. For the future, his goal is to develop international expertise in plant adaptation and production in the context of climate change.

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Abbreviations and notes: N = nitrogen; P = phosphorus; K = potassium.



Qiong Yi

Ms. Qiong Yi is working toward her Masters degree at the Chinese Academy of Agricultural Sciences in Beijing. Her thesis is titled “Synchronizing Regulatory Mechanisms of Nitrogen Supply and Demand in Rice-Wheat Rotation System in Jiangnan Plain.” A native of Hunan, Ms. Yi graduated from Hunan Agricultural University in 2004. Objectives of her studies include defining suitable N rates for the rice-wheat system and determining the critical growth stages to guide in-season N recommendations. For the future, she intends for her career achievements to contribute toward sustainable agricultural development and environmental protection.



Saken Suleimenov

Mr. Saken Suleimenov has recently completed his Ph.D. at Novosibirsk State Agrarian University in Russia and is now at S. Seifullin Kazakh Agro Technical University in Kazakhstan. The focus of his research has been on mobilization of soil N in western Siberia and northern Kazakhstan. He graduated S. Seifullin Kazakh Agro Technical University in 2004. Mr. Suleimenov has received numerous awards and has been active in many cultural and sports activities as well as academic endeavors. For the future, he plans to continue research related to plant nutrition and soil N in northern Kazakhstan, including no-till and minimum tillage systems. Better understanding of tillage effects and mobilization of nutrients in soils of the dry-steppe zone of Kazakhstan could optimize fertilizer use and water resource saving technologies.



Felipe Carmona

Mr. Felipe Carmona is pursuing his Ph.D. degree in Soil Science at the Federal University of Rio Grande do Sul (UFRGS) in Porto Alegre, Brazil. He is doing part of his doctorate program at the International Rice Research Institute (IRRI) in the Philippines. His research focus is on K fertilization management of salt-affected soils. Mapping of soil salinity and K content in the coastal plains of Rio Grande do Sul will allow rice farmers to identify soil with high exchangeable sodium percentage (ESP) and to better plan the management of K fertilizer. For the future, Mr. Carmona hopes his studies might enable systems for determining different fertilizer recommendations depending on rice variety, providing better utilization of fertilizers and reduced environmental impact.



Isabeli Pereira Bruno

Ms. Isabeli Pereira Bruno is completing requirements for her Ph.D. in Crop Science at Luiz de Queiroz College of Agriculture, University of São Paulo, in Piracicaba, Brazil. Her dissertation is titled “Efficiency and Evolution of the N Absorbed from Fertilizer by Fertigated Coffee Plants in the Brazilian Cerrado.” As coffee cultivation has shifted to non-traditional areas of the country, management practices need to be re-evaluated. Many questions are being raised about the nutrient efficiency and environmental effects of split applications of N fertilizers through irrigation systems. This research will provide more scientific information in determining the best timing and rate guidelines for N application to the coffee crop. For the future, Ms. Bruno plans to continue work related to plant mineral nutrition and soil fertility.



Ignacio Ciampitti

Mr. Ignacio Ciampitti started his Ph.D. degree program at Purdue University in July 2009, with a major in Cropping Systems/Maize Nutrition and Physiology. The main focus of his research is the study of N use efficiency (NUE) under different hybrids, plant densities, and N rates in high-yielding maize (corn) production systems. A native of Argentina, Mr. Ciampitti received his Masters and Agronomic Engineer degrees at the University of Buenos Aires. He has an impressive resume of academic achievements, awards, publications, teaching, and work experience. In the future, he hopes to be in a faculty position at a leading university or work in a scientific role with an international research institution.



Dylan Wann

Mr. Dylan Wann is working toward his Masters degree at the University of Georgia in Tifton. His thesis title is “Cover Crop Decomposition and Nutrient Cycling in Conventional- and Strip-Tillage Peanut and Cotton”, examining the potential of crimson clover, rye, and wheat cover crops. Cover crops are widely utilized on the highly-erodible soils of the southeastern U.S. and questions have been raised regarding their potential for catching and cycling plant nutrients back to subsequent crops. Mr. Wann’s research will help growers improve overall nutrient management in their cropping systems and better utilize fertilizer inputs. He is also dedicated to building a knowledge base and experience that can be shared to benefit subsistence farmers. For the future, he hopes to earn a Ph.D. degree, work in agricultural development abroad, and eventually teach at the collegiate level.



Ronald F. Gonzalez

Mr. Ronald F. Gonzalez is pursuing his Ph.D. degree at the University of Florida, Gainesville. His research is focused on requirements and environmental impact of P fertilization for the warm-season turfgrasses St. Augustine and zoysia. He is seeking to determine the critical P concentration below which maximum growth will not be attained. A native of Costa Rica, Mr. Gonzalez earned his Masters degree in Soil Science at the University of Wisconsin-Madison in 1998 and graduated from EARTH University in 1990. His work now is looking at how turfgrass species differ in their mechanisms of acquiring P, rates of uptake from solution, and how these differences interact related to P leaching and fertilization management. For the future, Mr. Gonzalez hopes to be involved in research and teaching, and he envisions a tropical research center to encourage students at many levels.



Jared Barnes

Mr. Jared Barnes has completed the requirements for his Masters degree at North Carolina State University in Raleigh, with a major in Floriculture/Plant Nutrition. His thesis title is “Characterization of Nutrient Disorders in Floriculture Species”, and his research looked at nutrient disorders of 12 species important to floriculture. A native of Tennessee, Mr. Barnes graduated from University of Tennessee at Martin in 2004 and has been active in a wide range of programs and activities. His research results will provide growers with the means to identify potential nutrient disorders. Used with information he collected on critical tissue concentration values, growers can better manage plant nutrition. For the future, he plans to earn a Ph.D. degree and continue research and education programs.



Hafeez ur Rehman

Mr. Hafeez ur Rehman is completing requirements for his Ph.D. program in Agronomy at University of Agriculture, Faisalabad, Pakistan. His dissertation title is “Nitrogen and Zinc Dynamics under Different Rice Production Systems.” Mr. Rehman’s research project involved splitting of N and zinc (Zn) at different stages and forms under varying water regimes and their availability, uptake, and partitioning in aerobic and transplanted basmati rice. He hopes to continue research on plant nutrition, particularly characterization of processes for enhanced Zn uptake and its further loading into rice grains to feed the malnourished people of the world. His work can also help farmers boost rice yields by improved water and nutrient management.



Neenu S.

Ms. Neenu S. is pursuing her Ph.D. degree in Soil Science and Agricultural Chemistry at Kerala Agricultural University in India. Her dissertation title is “Site-Specific Nutrient Management for Bitter Gourd (*Momordica charantia* L.)” Intensive cultivation in Kerala, in addition to the tropical monsoon climate and undulating topography, have led to severe soil nutrient depletion. Field-specific, integrated crop management strategies are needed for optimum profitability. For the future, Ms. Neenu S. hopes to do research in the field of soil fertility to improve crop production, reduce poverty, and reduce potential harm to the environment resulting from unscientific use of fertilizers.



Tanumoy Bera

Mr. Tanumoy Bera is working toward his Doctorate degree in Soil Science at the Indian Agricultural Research Institute. His dissertation title is “Preparation, Characterization, and Evaluation of Biochar for Enhancing Nutrient Use Efficiency by Rice and Maize.” His research focuses on how to enhance nutrient use efficiency by applying biochar (a pyrolysis product of biomass). The study includes characterizing biochar from various plant-based residues produced by pyrolysis at different temperatures, optimizing rates of application, and assessing impact of biochar on soil properties after crop harvest. For the future, Mr. Bera hopes to continue research to solve practical problems faced by farmers.



Ngai Paing Tan

Mr. Ngai Paing Tan is working towards a Masters degree in the Department of Land Management at Universiti Putra Malaysia. His research program is titled “Evaluating Phosphorus Uptake of Oil Palm Genotypes and the High Affinity Phosphate Transporters Involved”. His study, involving P³² radioisotope, has shown large differences in phosphate uptake among oil palm genotypes. A range of 12 to 46% of the available P applied to soil was taken up by various genotypes in a 9-month period. One benefit is that plants with better P uptake will have improved overall performance, optimizing yield and growth while minimizing the loss of applied P, especially in the highly weathered, acidic and impoverished soils in the tropics. For the future, Mr. Tan hopes to become a university research scientist and teacher, with emphasis on matching crop varieties to soils.



Suphasit Sitthaphanit

Mr. Suphasit Sitthaphanit is completing requirements for his Doctoral degree in Agronomy at Khon Kaen University in Thailand. His dissertation title is “Fertilizer Management for Maize in High-Leaching Sandy Soil”, and his research focus is on improving nutrient use efficiency on these soils under high rainfall conditions. Mr. Sitthaphanit notes that three or four split applications of NPK fertilizer and delaying basal applications until 7 to 15 days after emergence have proven to be effective. He states that his research offers an example of learning more about fertilizer best management practices and the concept of applying the right fertilizer source, at the right rate, the right time, and in the right place.

The IPNI Scholar Award recipients are selected by regional committees of IPNI scientific staff. The awards are presented directly to the students at their universities and no specific duties are required of them. Graduate students in the disciplines of soil and plant sciences including agronomy, horticulture, ecology, soil fertility, soil chemistry, crop physiology, and other areas related to plant nutrition are encouraged to apply. More information is available from IPNI staff, from individual universities, or from the IPNI website: www.ipni.net/awards. 