

## Awards Presented at Global Meeting

Dr. Julia Kornegay, chair of the Legume Innovation Lab Technical Management Advisory Committee (TMAC), presented the **Legume Innovation Lab Award for Meritorious Achievement** to the following researchers at the 2014 Global Grain Legume Researchers Meeting in Athens, Greece, May 2014.

- **Dr. Issa Drabo**, Institut de l'Environnement et de Recherches Agricoles
- **Dr., Jeffrey D. Ehlers**, University of California, Riverside
- **Dr. James D. Kelly**, Michigan State University

The award recognizes and honors "laudable contributions to research on grain legumes and the development of technologies and policies that benefit smallholder farmers in developing countries." The awards were presented during the Legume Innovation Lab Banquet, held on May 15 in the Radisson Blu Park Hotel in Athens, Greece.

### Issa Drabo

Issa Drabo, Ph.D., cowpea breeder, Institut de l'Environnement et de Recherches Agricoles (INERA), Koudougou, Burkina Faso, received the Legume Innovation Lab's Meritorious Achievement Award on May 15, 2014, at the 2014 Global Meeting, *Improving Agriculture and Nutrition through Grain Legumes*, in Athens, Greece. Presented by Ousmane Boukar, Ph.D., International Institute of Tropical Agriculture (IITA)—Kano Station, Nigeria, this award is the highest honor given to Legume Innovation Lab researchers.



Issa Drabo being presented with the Legume Innovation Lab's Meritorious Achievement Award at the Global Meeting in Athens, Greece, on May 15, 2014

After receiving his Ph.D. from McGill University in Canada in 1980, Drabo began breeding improved varieties of cowpea with INERA with support from OAU. For the past 11-plus years, Drabo has been breeding new varieties of cowpea with the Legume Innovation Lab and its predecessors, the Bean/Cowpea and Pulse CRSPs; during his tenure with these projects, he has helped develop more than 10 improved cowpea varieties, which have increased cowpea yields almost five-fold since 2003—from 240 kg/ha to about 1,200 kg/ha. Increased production particularly benefits poor farmers and women, who often lack access to the most productive land.

“Issa, more than anyone else in the country, has helped move cowpea from a subsistence crop to a real commercial opportunity (especially for women) in Burkina,” said Jeff Ehlers, program officer, Bill and Melinda Gates Foundation.

“The research station where Drabo works is the top producer of cowpea foundation seed for Burkina Faso,” noted Ousmane Boukar, a cowpea breeder at IITA–Kano Station, Nigeria.

Drabo’s work with the CRSPs and the Innovation Lab has focused on increasing the productivity of cowpea producers through improving varieties that possess resistance or tolerance to the major abiotic (drought tolerance and ability to thrive in low-fertility soil) and biotic (insects, nematodes, and pathogens) stresses impacting production. Employing traditional breeding approaches and, more recently, marker assisted selection to improve Striga resistance, Drabo’s breeding activities have been combined with ensuring adequate seed supply of these improved cowpea varieties to resource-poor farmers to ensure that the improved varieties are available to those who need them most.

Distribution of improved seed is vital to the health of bean-breeding programs, with only about five percent of the cowpea area in Africa planted to improved varieties. Effective models for production and dissemination of improved cowpea seed have evolved in Burkina Faso but still struggle with quantities of available breeder and foundation seed for planting. Drabo’s work to ensure that the improved varieties are bred in sufficient quantities for distribution is central to the success of his ongoing research successes.

Ehlers noted, “[Drabo] is an amazingly effective individual in getting breeding and testing [of improved bean seed varieties] done at a high scale . . . and then getting seed production organized with organizations as diverse as women’s groups and private seed companies.”

Dr. Issa Drabo, INERA, Burkina Faso, was awarded the Chevalier de l’Ordre des Palmes Academiques (Order of Academic Palms) for his outstanding research on cowpea in Burkina Faso by the Minister of Higher Education and Research on behalf of the Chief of State on October 5, 2008. The Ordre des Palmes académiques (Order of Academic Palms) is an order of Chivalry of France for distinguished academics and figures in the world of culture and education.

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## **Jeff Ehlers**

Dr. Jeffrey Ehlers, program officer with the Bill and Melinda Gates Foundation, received the Legume Innovation Lab’s *TMAC Award for Meritorious Achievement* on May 15, 2014, during the Legume Innovation Lab’s bi-annual meeting in Athens, Greece. The award was presented to Ehlers by Drs. Julia Kornegay, chair of TMAC, and Barry Pittendrigh, a Legume Innovation Lab PI at the University of Illinois, Urbana–Champaign.



Jeffrey Ehlers being presented with the Legume Innovation Lab's Meritorious Achievement Award by Barry Pittendrigh at the Global Meeting in Athens, Greece, on May 15, 2014

“The prestige of this award lies in its peer recognition by international grain legume scientists who serve on the Technical Management Advisory Committee (TMAC) to the Legume Innovation Lab,” said Irvin Widders, director of the Legume Innovation Lab.

Ehlers, a plant breeder and geneticist, focused his research career on the genetic improvement of cowpea, a native African grain legume grown and consumed in more than 45 countries in the world. Cowpeas are especially important as a nutrient-dense staple food of the rural poor in the Sudano–Sahel region of West Africa. Due to crop losses from insect pests, drought stress, and low soil fertility, however, cowpea yields on smallholder farms are commonly only 25 to 40 percent of their genetic potential.

“Cowpea is an important crop for household food and nutritional security in Eastern Africa,” Ehlers said. “Smallholder women farmers grow cowpea for its green leaves and fresh-shelled peas in addition to the dry grain for household food needs. In certain areas, cowpea leaves have an even greater economic value in the local markets than the dry grain.”

Ehlers has worked on cowpea breeding in the public sector for more than 25 years, initially with the International Institute of Tropical Agriculture (1985–1988) and then with the University of California, Riverside, beginning in 1992. As a Co-PI with Drs. Tony Hall and Phil Roberts, Ehlers was actively involved in Bean/Cowpea and Dry Grain Pulses Collaborative Research Support Projects (CRSPs) with ISRA–Senegal, INERA–Burkina Faso, IRAD–Cameroon, IIA–Angola, SARI–Ghana, and IAR–Nigeria for 20 years (1992 – 2012). He led the cowpea component of the GCP (Generation Challenge Programme) Tropical Legumes I project of the Consultative Group for International Agricultural Research (CGIAR) with partnerships in Mozambique, Senegal, Cameroon, and Burkina Faso from 2007–2012.

Ehlers's significant scientific achievements in cowpea genetics and breeding, in collaboration with West African and U.S. scientists, include:

- Release of early maturing cowpea varieties in Senegal and Burkina Faso to provide food during the hunger period (*Melakh*, *Yacine*, and *Pakau*);
- Release of large-seeded, black-eye, high yielding cowpea varieties *CB46* and *CB50* in California;
- Identification of drought and heat tolerance genes and the development of screening protocols in cowpea;
- A consensus genetic map of cowpea and synteny based on EST-derived SNPs; and
- Genetic markers for resistance genes to *Macrophomina phaseolina* and *Fusarium oxysporum* in cowpea.

The publication of a dense consensus genetic map for cowpea (*Proceedings of the National Academy of Sciences*, 106:18159–18164, 2009; and *The Plant Genome* 4:1–11, 2011) and the development of a 1536 SNP marker genotyping platform for cowpea provides clear evidence of Ehlers's scholarship and significant contributions to genetic improvement of cowpea worldwide.

Referred to as *green-fingered* and the *avant gardener* by the GCP of CGIAR, Ehlers “constantly honed the cutting edge of cowpea research as the genomics revolution dawned.”

“Genomics gives the breeder X-ray eyes into the breeding program, bringing new insights and precision previously unavailable,” said Ehlers.

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## **Jim Kelly**

James D. Kelly, Ph.D., distinguished professor in the Department of Plant, Soil and Microbial Sciences, College of Agriculture and Natural Resources, received the Legume Innovation Lab's Meritorious Achievement Award on May 15, 2014, at the Legume Innovation Lab's 2014 Global Meeting, *Improving Agriculture and Nutrition through Grain Legumes*, in Athens, Greece. Presented by the chair of the Legume Innovation Lab's Technical Management Advisory Committee, Dr. Julia Kornegay, this award is the highest honor given to Legume Innovation Lab researchers.



Jim Kelly being presented with the Legume Innovation Lab's Meritorious Achievement Award by Steve Beebe at the Global Meeting in Athens, Greece, on May 15, 2014

Kelly has been breeding new varieties of beans for more than 30 years. His work has emphasized the use of molecular markers to assist in selection for yield, plant architecture, processing quality, drought tolerance, and disease resistance. Kelly's work on breeding and introducing new varieties of climbing beans to Rwanda, which produced an eight-fold yield increase per acre, was supported by the Dry Grain Pulses Collaborative Research Support Program (Pulse CRSP), and was featured in MSU's 2013 President's Report. The Pulse CRSP evolved into the Legume Innovation Lab in 2013.

"Beans are an important part of the agriculture of [Rwanda], particularly for women and their families," Kelly says. "Productivity and quality need to be improved in the changing environment. This project addresses these needs by developing and testing new bean varieties that farmers want to grow and consume."

A current Legume Innovation Lab Principal Investigator, Kelly has conducted international research in partnership with scientists and international organizations in Ecuador, Guatemala, Mexico, Rwanda, Uganda, and Zambia for more than a decade. He has also led bean breeding projects under the Bean-Cowpea Collaborative Research Support Program (CRSP), 2003–2007, and the Dry Grain Pulses CRSP, 2007–2012. In 2010, he earned a \$4 million USDA grant to enhance the economic and nutritional value of the common bean through the development of breeder-friendly genomic research tools to assist in the selection of desirable agronomic traits.

Kelly's research reputation and achievements began at the outset of his career and continue to this day. He has published more than 130 refereed journal articles, mentored countless graduate students to degree completion, and has helped develop bean varieties that prosper in both the highlands of Ecuador and the hills of Rwanda. He served as the president of the Bean Improvement Cooperative (BIC) from 1998 – 2009, having received BIC's Meritorious Service Award in 1997. He is a fellow of the Crop Science Society of America and received an Honorary Membership Award from the Michigan Crop Improvement

Association in 2003. He received the Distinguished Faculty Award from Michigan State University in 2007.

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