



Annex 3. Curriculum vitae of key personnel

Name: Michael ABBERTON

Current position and affiliation

Head, Genetic Resources Centre, IITA

Profile

Plant breeding, genetic resources, climate change

Employment

2016 to present: Head, Genetic Resources Centre, Deputy Director West Africa, Deputy Director Crop Breeding and Biotechnology, International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria,

2012 to present: Chair in Public Good Plant Breeding, Aberystwyth University, UK

2010- 2012: Head, Genome Diversity and Plant Breeding, Director of International Development, IBERS

2008-2010: Head, Crop Breeding and Genomics, Institute of Biological, Environmental and Rural Sciences (IBERS), Aberystwyth University, UK

2007-2008: Programme Leader, Plant Breeding and Genetics, Institute of Grassland and Environmental Research (IGER)

Education

PhD University of Manchester (1988) Title: Chromosome specific behaviour in an autopolyploid series
BSc Hons Degree in Botany 1st Class, and D.H. Valentine Prize, University of Manchester (1984)

Selected publications:

Istvan Nagy, Susanne Barth, Jeanne Mehenni-Ciz, Michael T Abberton & Dan Milbourne. 2013. A hybrid next-generation transcript sequencing-based approach to identify allelic and homeolog-specific single nucleotide polymorphisms in allotetraploid white clover. *BMC Genomics*, 14(1): 100.

Yates, S., Swain, M., Hegarty, M., Chernukin, I., Lowe, M., Allison, G., Ruttink, T., Abberton, M., Jenkins, G. & Skot, L. 2014. *De novo* assembly of red clover transcriptome based on RNA-Seq data provides insight into drought response, gene discovery and marker identification. *BMC Genomics*, 15(453): 1–33.

Shitta, N.S., Abberton, M., Adesoye, A.I., Adewale, D.B. & Oyatomi, O. 2015. Analysis of genetic diversity of African yam bean using SSR markers derived from cowpea. *Plant Genetic Resources – Characterization and Utilization*, 14(1): 50–56.

Abberton *et al.* 2015. Global agricultural intensification during climate change: a role for genomics. *Plant Biotechnology Journal*. 2015: 1–4.

Kole, C. and 39 others. 2015. Application of genomics-assisted breeding for generation of climate resilient crops: progress and prospects. *Frontiers in Plant Science*. 6: 563. 16p. [doi: 10.3389/fpls.2015.00563]

Other evidence of leadership, large-program management and delivery

Delivery of plant breeding programs, large multinational projects and large UK-funded projects, including public-private partnerships.

Role in the Genebank Platform

Genebank Manager. Implementation of activities under the Platform.



Genebanks Full Proposal: 2017-2022

Name: Ahmed AMRI

Current position and affiliation

Head of Genetic Resources Unit, and Deputy Director for Biodiversity and Integrated Gene Management Program at ICARDA

Profile:

Cereal breeding: 21 years of experience, with release of 26 cereal varieties. In situ/on-farm conservation of agrobiodiversity: 15 years. Conducted 5 projects in West Asia and North Africa. Conservation of genetic resources: participated in 12 collecting missions. 40 years of experience in aspects related to genetic resources conservation and use.

Employment

2008 to date: Head of Genetic Resources Unit at ICARDA.

2005–2008: Regional Coordinator of ICARDA for West Asia.

1999–2005: Regional Coordinator for GEF *in situ* conservation project in West Asia at ICARDA.

1980–1999: Cereal breeder, INRA-Morocco.

Education

PhD Genetics and breeding, Kansas State University, Manhattan, KS, USA

MSc Course work at University of Minnesota, USA, and degree from IAV-Hassan II in Morocco.

Selected publications

Amri, A., Hatchett, J.H., Cox, T.S., El Bouhssini, M. & Sears, R.G. 1990. Resistance to Hessian fly from North African Durum Wheat Germplasm. *Crop Science*, 30: 378–381.

Amri, A., Cox, T.S., Hatchett, J.H. & Gill, B.S. 1990. Complementary action of genes for Hessian fly resistance in the wheat cultivar "Seneca". *Journal of Heredity*, 83(2): 378–381.

Rawashdeh, I. & Amri, A. 2006. Genetic characterization of date palm varieties using RAPD markers. *Jordan Journal of Agricultural Sciences*, 2(3): 234–242.

Mohammadi, R. & Amri, A. 2012. Analysis of genotype×environment interaction in rain-fed durum wheat of Iran using GGE-biplot and non-parametric methods. *Canadian Journal of Plant Science*, 92: 757–770.

Mazid, A., Shideed, K. & Amri, A. 2014. Assessment of on-farm conservation of dryland agrobiodiversity and its impact on rural livelihoods in the Fertile Crescent. *Renewable Agriculture and Food Systems*, 29(4): 366–377.

Shehadeh, A., Amri, A. & Maxted, N. 2013. Ecogeographic survey and gap analysis of *Lathyrus* L. species. *Genetic Resources and Crop Evolution*, 60(7): 2101–2113.

Mohammadi, R. & Amri, A. 2013. Phenotypic diversity and relationships among a worldwide durum wheat (*Triticum turgidum* L. var. *durum*) germplasm collection under rainfed conditions of Iran. *Crop & Pasture Science*, 64: 87–99.

Other evidence of leadership, large-program management and delivery

National Coordinator of Cereal Research in Morocco (15 years; strong breeding programs with release of 60 varieties, including the first hessian fly resistant ones); Regional Coordinator West Asia Program at ICARDA (6 years. Management of GEF project in four countries); Head of Genetic Resources Unit and Deputy Director BIGM program at ICARDA (8 years; coordination of 9 projects).

Role in the Genebank Platform

Applying best practices for conservation of genetic resources; building linkages between Genebanks CRP/Platform and AFS CRPs; contribute to the building of the Global System for conservation and sustainable use of PGRFA; contribute to gap analysis, FIGS development, policy aspects.



Genebanks Full Proposal: 2017-2022

Name: Paula BRAMEL

Current position and affiliation

Scientific Advisor, Global Crop Diversity Trust, Bonn, Germany

Profile

Plant breeding, genetic resources, climate change, research management

Employment

2015 to date: Scientific Advisor, Global Crop Diversity Trust

2012-2015: Global Crop Diversity Trust, Deputy Executive Director

2006-2012: IITA, Deputy Director General, Research for Development

2004-2006: IITA, Director for East and Southern Africa, Research for Development

2002-2004: CRS, CARE, and others as consultant for biodiversity and seed systems

1996-2002: ICRISAT, Principal Scientist, Genetic Resources and Head of Genebank

1985-1996: Kansas State University, Assistant Professor

Education

Ph.D. Iowa State University, 1985, Plant Breeding and Cytogenetics

M.S. Iowa State University, 1980, Plant Breeding

B.S. Iowa State University, 1978, Agronomy

Selected publications:

Kamala, Venkateswaran, Hari C, Sharma, Dattu Monohar Rao, Kodeboyina S. Varaprasad, Paula J. Bramel, and Subhash Chandra. 2012. Interactions of spotted stem borer *Chilo partellus* with wild relatives of sorghum. *Plant Breeding* 131: 511-521

Ferguson, Morag E., Richard B. Jones, Paula J Bramel, Carlos Dominguez, Carla Torre do Vale, and Jie Han. 2011. Post-flooding disaster crop diversity recovery: A case study of cowpeas in Mozambique. *Disasters*

Rupakula Aruna, D. Manohar Rao, S. Sivaramakrishnan, L. Janardhan Reddy, Paula Bramel and Hari Upadhyaya. 2009. Efficiency of three DNA markers in revealing genetic variation among wild *Cajanus* species. *Plant Genetic Resources*, Volume 7, Issue 02, pp 113-121

Bhattacharjee, Ranjana, I. S. Khairwal, Paula J. Bramel and K. N. Reddy. 2007. Establishment of a pearl millet [*Pennisetum glaucum* (L.) R. Br.] core collection based on geographical distribution and quantitative traits. *Euphytica* 155:35-45.

Other evidence of leadership, large-program management and delivery

More than 30 years of experience as a researcher, which includes 11 years as a Tenured Associate Professor of Agronomy at Kansas State University as a sorghum breeder, and 12 years of experience in research management at ICRISAT and IITA. In additions, more than 10 years of experience at Executive Management, at IITA and Crop Trust She has extensive experience with managing large scale research for development projects in Southeast Asia and Africa at ICRISAT and IITA. Was Chair of the Genebank CRP management team and member of Crop Trust implementation team.

Role in the Genebank Platform

Member of technical and management team at the Crop Trust. Provide technical advice as needed, especially to the Use Module.



Genebanks Full Proposal: 2017-2022

Name: Janny van BEEM

Current position and affiliation

Genebank Quality Management Systems (QMS) specialist, Global Crop Diversity Trust

Profile:

Conservation standards of plant genetic resources under the Multilateral System of the ITPGRFA

Employment

2014 to date: Genebank QMS specialist, consultant for the Global Crop Diversity Trust

2010–2014: Head of Acquisition and Distribution Unit, International Potato Center (CIP)

1996-2003: Wheat breeder, Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT)

Education

Ph.D. 1995 Cornell University, Plant Breeding and Genetics Department

B.Sc. 1986 Colorado State University, Department of Biology

Selected publications

Vargas, F., A. Salas, G. Rossel, R. Gomez, I. Manrique and J. van Beem. 2012. Preservation of Biodiversity in CIP' Ochoa Herbarium at the International Potato Center. XIV Botanical Congress, Trujillo Peru, 9-12 October 2012.

van Beem, J., V. Mohler, R. Lukman, M. van Ginkel, M. William, J. Crossa and A.J. Worland. 2005. Analysis of Genetic Factors Influencing the Developmental Rate of Globally Important CIMMYT Wheat Cultivars. *Crop Science* 45:2113-2119.

van Beem, J., A.J. Worland, and M. van Ginkel. 2001. The influence of earliness per se genes on flowering time in CIMMYT wheats. In: the Kronstad Symposium, Ciudad Obregon 15-16 March 2001.

van Beem, J., M. van Ginkel, and S. Rajaram. 2000. Differences in development rate of CIMMYT wheats adapted to irrigated, rain-fed, and semi-arid environments. In: *Wheat in a Global Environment*. International Wheat Conference, 6; Budapest, Hungary; 5-9 Jun 2000. p. 281.

van Beem, J., T. Farquhar, H. Meyer, M.P. Reynolds., R. Singh, and M. van Ginkel. 1998. Influence of Rht dwarfing genes on stem morphology, biochemistry and biomechanics, and associated lodging effects in wheat. In: *Proceeding of the 9th International Wheat Genetics Symposium, Vol 2, Aug 2-7, Saskatoon, Saskatchewan, Canada*. p.366-368.

Other evidence of leadership, large-program management and delivery

Implementation at CIP of ISO-accredited quality standards (ISO 17025) in relevant genebank activities that guaranteed safe conservation, maintenance and distribution of plant genetic resources

Focal point at CIP in establishing networks with Peruvian policy makers (National Institute in Defense and Protection of Intellectual Property Rights (INDECOPI), INIA, SENASA, and the National Committee against Biopiracy)

Oversight and coordination of the deployment and data collection of the Global Wheat Yield Trial (GAWYT) in 92 countries with the aim to identify desirable genetic traits for specific eco-regional programs

Role in the Genebank Platform

Coordinate the development of individualized Quality and Risk Management Systems in nine Centre Genebanks and the QMS framework as a whole.



Genebanks Full Proposal: 2017-2022

Name: Denise COSTICH

Current position and affiliation

October 2012 to present. Head, Wellhausen-Anderson Maize Genetic Resources Collection. CIMMYT-Mexico.

Profile

Maize (and grasses) genetics and genomics; population biology; ecological genetics; plant evolution and systematics.

Employment

2011–2012: Plant Biologist USDA-ARS, Cornell University, USA.

2006–2011: Research Biologist and Lab Manager, USDA-ARS, Cornell University, USA.

2007–2011: Project Manager, USDA-DOE Plant Feedstock Genomics for Bioenergy, USDA-ARS, Cornell University, USA.

2004–2006: Research Associate Department of Plant Biology, Cornell University, USA.

Education

PhD in Biology, The University of Iowa, Iowa City, USA. 12/1989

BSc in Biology (Concentration in Ecology and Systematics), Cornell University, Ithaca, NY, USA.

Selected publications

Yongsheng Wu, Felix San Vicente, Kaijian Huang, Thanda Dhliwayo, Denise E. Costich, Kassa Semagn, Nair Sudha, Michael Olsen, Boddupalli M. Prasanna, Xuecai Zhang & Raman Babu. 2016. Molecular characterization of CIMMYT maize inbred lines with genotyping-by-sequencing SNPs. *Theoretical and Applied Genetics* Online 5 Feb 2016. DOI: 10.1007/s00122-016-2664-8

Paul L. Sanchez, Denise E. Costich, Bernd Friebe, Terry A. Coffelt, Matthew A. Jenks & Michael A. Gore. 2014. Genome size variation in guayule and mariola: Fundamental descriptors for polyploid plant taxa. *Industrial Crops and Products*, 54: 1–5.

Lu, F., A. Lipka, R. Elshire, J. Glaubitz, J.H. Cherney, M.D. Casler, E. Buckler & D.E. Costich. 2013. Switchgrass genomic diversity, ploidy and evolution: novel insights from a network-based SNP discovery protocol. *PLoS Genetics* 9(1): e1003215. doi:10.1371/journal.pgen.1003215.

Chia, J.-M., Costich, D., Buckler, E. and 36 others .2012. Maize HapMap2 identifies extant variation from a genome in flux. *Nature Genetics* 44: 803–807.

Costich, D.E., Friebe, B., Sheehan, M.J., Casler, M.D. & Buckler, E.S.. 2010. Genome-size variation in Switchgrass (*Panicum virgatum*): Flow cytometry and cytology reveal rampant aneuploidy. *The Plant Genome*, 3: 130–141.

Blakey, C.A., Costich, D.E., Sokolov, V. & Islam-Faridi, M.N. 2007. *Tripsacum* genetics: from observations along a river to molecular genomics. *Maydica*, 52: 81–99. [Walton Galinat Commemorative Issue].

Role in the Genebank Platform

Genebank manager. Manage activities on conservation and use.



Genebanks Full Proposal: 2017-2022

Name: Maritza CUERVO IBAÑEZ

Current position and affiliation

Coordinator and Virologist, Germplasm Health Laboratory, Genetic Resources Program, CIAT

Profile

Plant germplasm health, plant virology, molecular biology, safe movement of plant germplasm, control of plant pathogens, standardization and implementation of molecular diagnostic methods of pathogens. Adviser to the plant quarantine authority of Colombia ICA for the safe movement of bean, cassava, rice and tropical forage germplasm.

Employment

2006-2016 Coordinator and Virologist, Germplasm Health Laboratory, Genetic Resources Program CIAT, Cali, Colombia.

1989-2006 Research Assistant, Laboratory of Virology Program, CIAT, Cali, Colombia.

Education

MSc on Neotropical Plant Genetic Resources. Universidad Nacional de Colombia, Palmira, Colombia.

Biotechnology Specialist. Universidad Nacional de Colombia - Facultad de Ciencias Agropecuarias de Palmira, Colombia.

Selected publications

Di Feo, L., Zanini, A., Rodríguez Pardina, P., Cuervo, M., Carvajal-Yepes, M., Cuellar, W.J. 2015. First Report of Cassava common mosaic virus and Cassava frogskin-associated virus Infecting Cassava in Argentina. *Plant Disease* 99 (5): 733.

Carvajal-Yepes, M., Olaya, C., Lozano, I., Cuervo, M., Castaño, M., Cuéllar, W.J. 2014. Unraveling complex viral infections in cassava (*Manihot esculenta* Crantz) from Colombia. *Virus Research* 186: 76-86.

Calvert, L.A., Cuervo, M., Lozano, I., Villareal, N., Arroyave, J. 2008. Identification of three strains of a virus associated with cassava plants affected by frogskin disease. *Journal of Phytopathology* 156: 647- 653.

Role in the Genebank Platform

GHU leader. Ensure absence of diseases of quarantine importance for all accessions stored in the genebank and distributed to users. Implementation of controls during seed increase in the field and after harvest, and monitoring of the in vitro cassava collection. Collaboration with the Virology and Pathology Programs of CIAT to improve protocols to detect and clean germplasm for diseases of quarantine importance.



Genebanks Full Proposal: 2017-2022

Name: Daniel G. DEBOUCK

Current position and affiliation

Leader, Genetic Resources Program, International Center for Tropical Agriculture (CIAT), Cali, Colombia.

Profile

Genebank manager (78 Staff) for 3 major collections (over 68 000 accessions of Phaseolus beans, Manihot cassava and tropical forages). Plant conservation geneticist, and plant explorer. Awardee of the Frank N. Meyer Medal of plant genetic resources in 2010.

Employment

2009–2016: Leader, Genetic Resources Program, CIAT, Colombia.

1996–2009: Head, Genetic Resources Unit, CIAT, Colombia.

1992–1996: Senior Scientist, IPGRI-Americas, Colombia.

1990–1992: Research Officer, IBPGR, Italy.

Education

PhD, cum maxima suma laude, major in Plant Physiology and minor in Ethnobotany and Plant Ecology. Faculté des Sciences Agronomiques de l'Etat, Gembloux, Belgium.

Certificat en Phytotechnie Tropicale, cum maxima suma laude. Faculté des Sciences Agronomiques de l'Etat, Gembloux, Belgium.

Selected publications

Gujaria-Verma, N., Ramsay, L., Sharpe, A.G., Sanderson, L.-A., Debouck, D.G., Tar'an, B. & Bett, K.E. 2016. Gene-based SNP discovery in tepary bean (*Phaseolus acutifolius*) and common bean (*P. vulgaris*) for diversity analysis and comparative mapping. *BMC Genomics*, 17(239): 1–16.

Andueza-Noh, R.H., Serrano-Serrano, M.L., Chacón-Sánchez, M.I., Sánchez del Pino, I., Camacho-Pérez, L., Coello-Coello, J., Mijangos-Cortés, J., Debouck, D.G. & Martínez-Castillo, J. 2013. Multiple domestications of the Mesoamerican gene pool of Lima bean (*Phaseolus lunatus* L.): evidence from chloroplast DNA sequences. *Gen Res & Crop Evol*, 60(3): 1069–1086.

Porch, T.G., Beaver, J.S., Debouck, D.G., Jackson, S., Kelly, J.D. & Dempewolf, H. 2013. Use of wild relatives and closely related species to adapt common bean to climate change. *Agronomy*, 3: 433–461.

Chacón-Sánchez, M.I., Motta-Aldana, J.R., Serrano-Serrano, M.L. & Debouck, D.G. 2012. Domestication of Lima beans: a new look at an old problem. pp. 330–343, in: P. Gepts, T.R. Famula, R.L. Bettinger, S.B. Brush, A.B. Damania, P.E. McGuire and C.O. Qualset (eds.). *Biodiversity in Agriculture: domestication, evolution and sustainability*. CUP. UK

Salcedo-Castaño, J., Arroya-Villalobos, R., Castañeda-Alvarez, N., Toro-Chica, O. & Debouck, D.G. 2011. *Phaseolus hygrophilus* (Leguminosae, Papilionoideae), a new wild bean species from the wet forests of Costa Rica, with notes about section *Brevilegumeni*. *Journal of the Botanical Research Institute of Texas*, 5(1): 53–65.

Ramírez-Villegas, J., Khoury, C., Jarvis, A., Debouck, D.G. & Guarino, L. 2010. A gap analysis methodology for collecting crop genebanks: a case study with *Phaseolus* beans. *PLoS ONE Biology*, 5(10): 1–18.

Other evidence of leadership, large-program management and delivery

While as Head of GRU, co-PI for a US\$ 1.2 million project on Gene flow analysis for environmental safety, involving Colombia and Costa Rica, and two institutions in Germany (with support of BMZ, Germany).

Role in the Genebank Platform

Collaborator in conservation science and genetic diversity studies.



Genebanks Full Proposal: 2017-2022

Name: David ELLIS

Current position and affiliation

International Potato Center, Lima, Peru, Head of Genebank.
Leader, Program for Conserving Biodiversity for the Future

Profile

Over 30 years of genetic resources management in academia, industry and the private sector. Expertise in plant development, medicinal compounds in plants (taxol), plant molecular biology (modification of plant cell walls and control of plant reproduction), plant and insect ecology, cryobiology and conservation of plant genetic resources and diversity.

Employment

2012 to present: Head of Genebank & Leader, CIP
2004–2012: Plant Physiologist/Curator, NCGRP, USDA-ARS, Fort Collins, CO, USA.
2002–2004: Director of Operations, CellFor Inc., Victoria, B.C., Canada.
2000–2002: Founding Scientist and Director of Molecular Biology, CellFor Inc., Vancouver, B.C., Canada.

Education

PhD in Botany, University of Montana, Missoula, Montana, USA.
BA in Botany with Honors, University of Montana, Missoula, Montana, USA.

Selected publications

- Cruz, J.L., Alves, A.A., LeCain, D.R., Ellis, D.D. & Morgan, J.A. 2016. Interactive effects between nitrogen fertilization and elevated CO₂ on growth and gas exchange of papaya seedlings. *Scientia Horticulturae*, 202: 32–40.
- Panta, A., Panis, B., Ynouye, C., Swennen, R., Roca, W., Tay, D. & Ellis, D. 2015. Improved cryopreservation method for the long-term conservation of the world potato germplasm collection. *Plant Cell Tissue and Organ Culture*, 120(1): 117–125.
- Vollmer, R., Panta, A., Tay, D., Roca, W. & Ellis, D. 2014. Effect of sucrose pre-culture and PVS2 exposure on the cryopreservation of sweet potato shoot tips [*Ipomoea batatas* (L.) Lam.] using the PVS2 droplet vitrification. *Acta Horticulturae*, 1039: 265–271.
- Jenderek, M.M., Ambruzs, B., Tanner, J., Holman, G., Ledbetter, C., Postman, J., Ellis, D. & Leslie, C. 2014. Extending the dormant bud cryopreservation method to new tree species. *ISHS Acta Horticulturae*, No. 1039: II International Symposium on Plant Cryopreservation. [DOI: 10.17660/ActaHortic.2014.1039.16]
- Perez, W., Nahui, M., Ellis, D. & Forbes, G.A. 2014. Wide phenotypic diversity for resistance to *Phytophthora infestans* found in potato landraces from Peru. *Plant Disease*, 98(11): 1530–1533.
- Alves, A.A.C., Manthey, L., Isabelle, T., Ellis, D. & Jenderek, M.M. 2014. Diversity in oil content and fatty acid profile in seeds of wild cassava germplasm. *Industrial Crops and Products*, 60: 310–315.
- Hay, F.R., de Guzman, F., Ellis, D., Makahiya, H., Borromeo, T. & Sackville Hamilton, N.R. 2013. Viability of *Oryza sativa* (L.) seeds stored under genebank conditions for up to 30 years. *Genetic Resources and Crop Evolution*, 60: 275–296.

Other evidence of leadership, large-program management and delivery

Member of Scientific Advisory Board for SeedSavers and ANDES
2009–2011, Chair, Plant Germplasm Organizing Committee, National Plant Germplasm System.

Role in the Genebank Platform

Member of the current Management Team; member of the Executive Committee for the Article 15 Genebank Managers. Genebank manager at CIP responsible for budget and deliverables from the platform.



Genebanks Full Proposal: 2017-2022

Name: Patria G. GONZALES

Current position and affiliation

Manager, Seed Health Unit, IRRI

Profile

Managed the Seed Health Unit for more than 20 years. Extensive knowledge of seed pathology- Identification of seed-borne microorganisms associated with rice, testing procedures/detection methods for seed-borne fungi, nematodes, and bacteria, isolation techniques, photomicroscopy, knowledge in quarantine protocols and regulations.

Employment

2007 to present Seed Health Unit, IRRI, Philippines

1992-2007 Associate Scientist, IRRI, Philippines

1981-1985 Research Associate, Seed Unit, U.P. College of Forestry, Philippines

1979 –1981 Research Associate, Field Crops Disease Laboratory, U.P. Los Baños, College, Philippines

Education

MSc Plant pathology & soil science, University of the Philippines at Los Baños (UPLB), Philippines

BSc Agriculture UPLB, Philippines

Selected publications

- Mew, T. W. and P.G. Gonzales. 2002. A Handbook of Rice Seed-borne Fungi. Los Baños (Philippines): International Rice Research Institute, and Enfield, N.H. (USA): Science Publishers, Inc. 83 p.
- Gonzales, P.G. and C.C. Huelma. 2014. Seed health improvement for crop and pest management. In D.O. Manzanilla, J.D. Janiya, and D.E. Johnson (eds). Establishing community-based seed systems: A training manual. Los Baños (Philippines): International Rice Research Institute
- Merca, S.D. P.G. Gonzales, C.C. Huelma, J.O. Guervarra and T.W. Mew. 2001. Fungi associated with rice seeds. In T.W. Mew and B. Cottyn (Eds) Seed health and seed associated micro-organisms for rice disease management. Limited proceedings No. 6, Los Baños (Philippines): IRRI. Pp. 25-31.
- Merca, S.D., P.G. Gonzales C.C. Huelma, J.O. Guevarra and T.W.Mew. 1997. Seed-borne fungi associated with reduced planting value of farmer grown rice seeds 1993-1994 from Cavite, Quezon, and Laguna provinces. Paper presented during the 26th Anniversary and Annual Scientific Meeting of Pest Management Council of the Philippines, Inc., 2-5 May 1996, Benguet State P.G. Gonzales and T.W. Mew. Microhabitat of Seed-borne Fungal Pathogens

Other evidence of leadership, large-program management and delivery

Member of Scientific Advisory Board for SeedSavers and ANDES

2009–2011, Chair, Plant Germplasm Organizing Committee, National Plant Germplasm System.

Role in the Genebank Platform

GHU leader. Conduct seed health testing as part of the processing of seeds for genebank storage. Contributed to GPG2 Project on Safe Movement of Germplasm.



Genebanks Full Proposal: 2017-2022

Name: Luigi GUARINO

Current position and affiliation

Director of Science & Programs, Global Crop Diversity Trust

Profile

Plant genetic resources conservation

Employment

2016: Director of Science & Programs, Global Crop Diversity Trust, Germany

2007–2015: Senior Scientist, Global Crop Diversity Trust, Italy

2002–2007: Plant Genetic Resources Adviser, Fiji

1987–2002: Scientist, Bioversity International, Cyprus, Kenya & Colombia

Education

BA Applied Biology, University of Cambridge, UK

Selected publications

- Guarino, L., Ramanatha Rao, V. & Reid, R. (eds). 1995. Collecting Plant Genetic Diversity. Technical Guidelines. CAB International, Wellesbourne.
- Burke, M.B. Lobell D.B. & Guarino L. 2009. Shifts in African crop climates by 2050, and the implications for crop improvement and genetic resources conservation. *Global Environmental Change*, 19(3): 317-325.
- Dawson, I.K. Hedley, P.E. Guarino L. & Jaenicke H. 2009. Does biotechnology have a role in the promotion of underutilised crops? *Food Policy*, 34(4): 319–328.
- Jaenicke, H. Dawson, I.K. Guarino L. & Hermann, M. 2009. Impacts of underutilized plant species promotion on biodiversity. *ISHS Acta Horticulturae*, no. 806. International Symposium on Underutilized Plants for Food Security, Nutrition, Income and Sustainable Development. 621–628. DOI: 10.17660/ActaHortic.2009.806.77
- Guarino, L. & Lobel, D.B. I. 2011. A walk on the wild side. *Nature Climate Change*, 1: 374–375.
- Westengen, O.T., Jeppson, S. & Guarino, L. 2013. Global *ex situ* crop diversity conservation and the Svalbard Global Seed Vault: assessing the current status. *PLOS one*, 8(5).
- Khoury, C.K., Bjorkman, A.D., Dempewolf, H., Ramirez-Villegas, J., Guarino, L., Jarvis, A., Rieseberg, L.H. & Struik, P.C. 2014. Increasing homogeneity in global food supplies and the implications for food security. *Proceedings of the National Academy of Sciences of the United States of America*, 111(11): 4001–4006.
- Castañeda-Álvarez, N., Khoury, C., Achicanoy, H., Bernau, V., Dempewolf, H., Eastwood, R., Guarino, L., Harker, R., Jarvis, A., Maxted, N., Müller, J., Ramirez-Villegas, J., Sosa, C., Struik, P., Vincent, H. & Toll, J. 2016. Global conservation priorities for crop wild relatives. *Nature Plants*, 16022.

Other evidence of leadership, large-program management and delivery:

Pacific Agricultural Plant Genetic Resources Network (PAPGREN). Organized from scratch and ran for 4 years a regional PGRFA network covering two dozen countries and territories.

Securing the Biological Basis of Agriculture and Promoting New and Fuller Use of Crop Genetic Resources. On management team of global project implemented by Crop Trust, funded by Bill and Melinda Gates Foundation.

Adapting Agriculture to Climate Change: Collecting, Protecting and Preparing Crop Wild Relatives. Developed and helped implement global project supported by Government of Norway.

Role in the Genebank Platform

Member of Management Team.



Genebanks Full Proposal: 2017-2022

Name: Michael HALEWOOD

Current position and affiliation

Leader, Genetic Resources Policies, Institutions and Monitoring group, Bioversity International.

Profile

Designing, overseeing and conducting policy-relevant research and capacity building projects concerning the management and conservation of agricultural biological diversity from local to global levels. Main research areas: factors affecting availability and use of crop diversity on-farm, and in globally developed systems of conservation and sustainable use; access and benefit sharing.

Employment

2001 to present: Leader, Genetic Resources Policies, Institutions and Monitoring Group, Bioversity International, Italy

1997–2001: Coordinator, Crucible Group, International Development Research Centre, Canada

Education

Doctor of Jurisprudence, Osgoode Hall Law School, York University

Bachelor of Law, University of Toronto

Bachelor of Arts and Science (Political Science), University of Toronto

Selected publications

Galuzzi, G., Halewood, M., Lopez, I. & Vernooy, R. (2016). Twenty five years of international exchanges of plant genetic resources facilitated by the CGIAR genebanks: a case study on international interdependence. *Biodiversity and Conservation* 25(8), 1421-1446, DOI: 10.1007/s10531-016-1109-7.

Halewood, M. (ed.) 2016. *Farmers' Crop Varieties and Farmers' Rights: Challenges in Taxonomy, Agriculture and Law*. Routledge, Oxon.

Bedmar Villanueva, A., Halewood, M. & López Noriega, I. 2015. Agricultural Biodiversity in climate change adaptation planning: an analysis of the National Adaptation Programs of Action. CCAFS Working Paper no. 95.

Halewood, M. 2014. International efforts to pool and conserve crop genetic resources in times of radical legal change. In: M. Cimoli, G. Dosi, K.E. Maskus, R.L., R.L. Okediji, J.L. Reichman, and J.E. Stiglitz (eds). *Intellectual Property Rights: Legal and Economic Challenges for Development*. Oxford University Press, Oxford, UK.

Halewood, M., Lopez Noriega I. & Louafi, S. (eds.). 2013. *Crop Genetic Resources as a Global Commons: Challenges in international governance and law*, Routledge, Oxon.

Halewood, M. 2013. What kind of goods are plant genetic resources for food and agriculture? Towards the identification and development of a new global commons. *International Journal of the Commons*. 7(2): 278–312.

Halewood, M., Andrieux, E., Crisson, L., Gapusi, J.R., Wasswa Mulumba, J., Koffi, E.K., Yangzome Dorji, T., Bhatta, M.R. & Balma, D. 2013. Implementing 'Mutually Supportive' Access and Benefit Sharing Mechanisms under the Plant Treaty, Convention on Biological Diversity, and Nagoya Protocol. *Law, Environment and Development Journal* 9/1

Other evidence of leadership, large-program management and delivery

Managed Genetic Resources Policy Initiative I, 2005–2009 (US\$ 5 million). Managed Genetic Resources Policy Initiative II, 2011–2015 (US\$ 5 million); Coordinated international 50-member 'think tank' called the Crucible Group, focusing on genetic resources and intellectual property-related issues.

Role in the Genebank Platform

Coordinator of the Policy Module, coordinating on behalf of the Platform Management Team.



Genebanks Full Proposal: 2017-2022

Name: Ruairaidh SACKVILLE HAMILTON

Current position and affiliation

Principal Scientist, Evolutionary Biology, and Head, T.T. Chang Genetic Resources Center, International Rice Research Institute (IRRI).

Profile

Over 40 years of experience in the conservation and use of crop genetic resources, including best practices and workflow management systems for genebank management; database design and data management; statistics, genetics and genomics; crop wild relatives; pre-breeding; plant breeding; plant ecology; GM biosafety; and international policy on access and benefit-sharing.

Employment

2002 to present: Head, T.T. Chang Genetic Resources Center, IRRI, Los Baños, Laguna, Philippines.

1991–2002: Head, Biodiversity Group and Genetic Resources Unit, IGER, Aberystwyth, UK

1986–1991: Senior Research Fellow, University of Wales at Bangor, Bangor, UK

1984–1986: Senior Research Fellow, CIAT, Cali, Colombia

Education

PhD Plant Genetic Resources, University of Cambridge, UK

MA Applied Biology, University of Cambridge, UK.

Selected publications

- Zhao, X., Daygon, V.D., McNally, K.L., Sackville Hamilton, N.R., Xie, F., Reinke, R.F. & Fitzgerald, M.A. 2016. Identification of stable QTLs causing chalk in rice grains in nine environments. *Theoretical and Applied Genetics*, 129: 141–153.
- Leung, H., Raghavan, C., Zhou, B., Oliva, R., Choi, I.R., Lacorte, V., Jubay, M.L., Cruz, C.V., Gregorio, G., Singh, R.K. & Sackville Hamilton, N.R. 2015. Allele mining and enhanced genetic recombination for rice breeding. *Rice*, 8: 1–11.
- Alexandrov, N., Tai, S., Wang, W., Mansueto, L., Palis, K., Fuentes, R.R., Ulat, V.J., Chebotarov, D., Zhang, G., Li, Z. & Sackville Hamilton, N.R. 2015. SNP-Seek database of SNPs derived from 3000 rice genomes. *Nucleic Acids Research*, 43: D1023–D1027.
- Banaticla-Hilario, M.C.N., McNally, K.L., van den Berg, R.G., & Sackville Hamilton, N.R. 2013. Crossability patterns within and among *Oryza* series *sativae* species from Asia and Australia. *Genetic Resources and Crop Evolution*, 60: 1899–1914.
- Halewood, M., et al. 2013. Changing rates of acquisition of plant genetic resources by international gene banks. pp. 99–132, in: M. Halewood, I.L. Noriega and S. Nouafi (eds). *Crop Genetic Resources as a Global Commons*. Publ. for Bioversity International by Routledge, Oxon, UK.
- McCouch, S.R., McNally, K.L., Wang, W., & Sackville Hamilton, N.R. 2012. Genomics of gene banks: A case study in rice. *American Journal of Botany*, 99: 407–423.

Other evidence of leadership, large-program management and delivery

Currently managing a budget of US\$ 5.98 million under Genebanks CRP and GRiSP and associated special projects. Past successes include the GPG1 and GPG2 genebank upgrading projects, establishing a new conservation research program at IRRI, and the 3000 rice genomes project. Expert on loan to help develop ITPGRFA's "Global Information System". Member of steering, advisory or executive committees of Svalbard Global Seed Vault, Divseek and Genesys.

Role in the Genebank Platform

Head of IRRI genebank; member of executive committee of A15G and the Management Team. Also contributing to the coordination of the Policy Module.



Genebanks Full Proposal: 2017-2022

Name: Jean HANSON

Current position and affiliation

Leader, Forage Diversity, ILRI

Profile

Genetic resources specialist with 40 years of experience in seed conservation and genebank management, mostly in developing countries. Current research interests include management of forage genetic resources, seed longevity in genebanks, morphological and nutritional characterization, seed production, forage adoption, and knowledge sharing.

Employment

2014 to date: Leader, Forage Diversity, International Livestock Research Institute, Ethiopia

1986–2010: Leader, Forage Diversity/genebank manager, ILRI, Ethiopia

1978–1983: Technical co-operation officer in DFID, National Biological Institute, Indonesia

1976–1978: Post-doctoral fellow, Maize Programme, CIMMYT, Mexico

Education

PhD seed storage, University of Birmingham, UK.

MSc Conservation and Utilization of Plant Genetic Resources, University of Birmingham, UK.

Selected publications

- Maass, B.L., Jamnadass, R.H., Hanson, J. & Pengelly, B.C. 2005. Determining sources of diversity in cultivated and wild *Lablab purpureus* related to provenance of germplasm by using amplified fragment length polymorphism. *Genetic Resources and Crop Evolution*, 52: 683–695.
- Pengelly, B.C., Cook, B.G., Partridge, I.J., Eagles, D.A., Peters, M., Hanson, J., Brown, S.D., Donnelly, J.L., Mullen, B.F., Schultze-Kraft, R., Franco, A. & O'Brien, R. 2005. Selection of Forages for the Tropics (SoFT) – a database and selection tool for identifying forages adapted to local conditions in the tropics and subtropics. In: F.P. O'Mara, R.J. Wilkins, L. t'Mannetje, D.K. Lovett, P.A.M. Rogers and T.M. Boland (eds). XX International Grassland Congress. Academic Publishers, Wageningen, The Netherlands.
- Ponsens, J., Hanson, J., Schellberg, J. & Moeseler, B.M. 2010. Characterization of phenotypic diversity, yield and response to drought stress in a collection of Rhodes grass (*Chloris gayana* Kunth) accessions. *Field Crops Research*, 118: 57–72.
- Reid, R.S., Serneels, S., Nyabenge, M. & Hanson, J. 2005. The changing face of pastoral systems in grass dominated ecosystems of Eastern Africa. pp. 19–76, in: J.M. Suttie, S.G. Reynolds and C. Batello (eds.). *Grasslands of the World*. FAO Plant Protection and Production Series, No. 34. FAO, Rome.
- Rao, N.K., Hanson, J., Dulloo, M.E., Ghosh, K., Nowel, D. & Larinde, M. 2006. Manual of seed handling in genebanks. Handbooks for Genebanks, No. 8. Bioversity International, Rome, Italy.
- Van de Wouw, M., Hanson, J. & Luethi, S. 1999. Morphological and agronomic characterization of a collection of Napier grass (*Pennisetum purpureum*) and *P. purpureum* × *P. glaucum*. *Tropical Grasslands*, 33(3): 150–158.
- Wanjala, B.W., Obonyo, M., Wchira, F.N., Muchugi, A., Mulaa, M., Harvey, J., Skilton, R.A., Proud, J. & Hanson, J. 2013. Genetic diversity in Napier grass (*Pennisetum purpureum*) cultivars: Implications for breeding and conservation. *AoB PLANTS*, 5: Article plt022. doi:10.1093/aobpla/plt022.

Other evidence of leadership, large-program management and delivery

Managing a project of US\$ 1.5 to 2 million in recent years, and has developed funding proposals for up to US\$ 10 million on use of forage diversity.

Role in the Genebank Platform

Genebank platform. Implementation of Conservation and Use Module activities in ILRI.



Genebanks Full Proposal: 2017-2022

Name: Fiona HAY

Current position and affiliation

Senior Scientist I, Genetic Resources Expert, T.T. Chang Genetic Resources Center, IRRI HQ.

Profile

More than 20 years research on seed collection, germination/dormancy, storage behaviour and longevity in relation to genebank management and use of collections. Chief Editor, *Seed Science and Technology*.

Employment

2012 to date: Senior Scientist I, Genetic Resources Expert, T.T. Chang Genetic Resources Center, IRRI

2009–2012: Scientist II, Genetic Resources Expert, T.T. Chang Genetic Resources Center, IRRI

1997–2009: Seed Physiologist, Millennium Seed Bank Partnership, Royal Botanic Gardens Kew, UK

Education

PhD The development of seed longevity in wild plant species. King's College, University of London, UK

MSc Applied statistics and operational research. Birkbeck College, University of London, UK.

Selected publications

Hansen, M.A.E., Hay, F.R. & Carstensen, J.M. 2015. A virtual seed file: the use of multispectral image analysis in the management of genebank seed accessions. *Plant Genetic Resources*.

<http://dx.doi.org/10.1017/S1479262115000362>

Whitehouse, K.J., Hay, F.R. & Ellis, R.H. 2015. Increases in the longevity of desiccation-phase developing rice seeds: response to high temperature drying depends on harvest moisture content. *Annals of Botany*, 116: 247–259.

Hay, F.R., de Guzman, F. & Sackville Hamilton, N.R. 2015. Viability monitoring intervals for genebank samples of *Oryza sativa*. *Seed Science and Technology*, 43: 218–237.

Hay, F.R., Timple, S. & van Duijn, B. 2015. Can chlorophyll fluorescence be used to determine the optimal time to harvest rice seeds for long-term genebank storage? *Seed Science Research*, 25: 321–334.

Hay, F.R., Mead, A. & Bloomberg, M. 2014. Modelling seed germination in response to continuous variables: use and limitations of probit analysis and alternative approaches. *Seed Science Research*, 24: 165–186.

Hay, F.R. & Probert, R.J. 2013. Advances in seed conservation of wild plant species: a review of recent research. *Conservation Physiology*, 1: Issue 110.1093/conphys/cot030

Other evidence of leadership, large-program management and delivery

PI for two collecting projects (East Africa and Bangladesh)

IRRI Recommendation Action Plan (Genebank CRP project)

Seed Longevity Initiative of CGIAR Genebanks (Genebank CRP project).

Role in the Genebank Platform

Deputy Head, T.T. Chang Genetic Resources Center at IRRI, Head of conservation research and leading research activities on seed longevity.



Genebanks Full Proposal: 2017-2022

Name: Jan KREUZE

Current position and affiliation

Head, Germplasm Health Unit, CIP

Profile

Plant virology, molecular diagnostics and genetic engineering

Employment

2011 to present Global Science leader Virology, Bacteriology and Diagnostics. CIP, Peru.

2006-2011 Molecular virologist CIP. CIP, Peru.

2003-2006 Associate Expert in Molecular Virology. CIP, Peru.

2002-2003 Research scientist. Swedish University of Agricultural Sciences, Sweden.

Education

PhD Virology at the Swedish University of Agricultural Sciences (SLU)

Ir. (MSc) in plant breeding at Wageningen Agricultural University

Selected publications

Untiveros M, Olsper A, Artola K, Firth AE, Kreuze JF and Valkonen JPT (2016) A novel sweet potato potyvirus ORF is expressed via polymerase slippage and suppresses RNA silencing. *Molecular Plant Pathology* in press, DOI: 10.1111/mpp.12366

Kyndt T, Quispe D, Zhai H, Jarret RL, Ghislain M, Q-C Liu, Gheysen G, Kreuze JF (2015) The genome of cultivated sweetpotato contains *Agrobacterium* T-DNAs with expressed genes: an example of a naturally transgenic food crop *Proceedings of the National Academy of Sciences of the USA* 112, 18: 5844–5849, doi: 10.1073/pnas.1419685112

Gibson R, Kreuze J. (2015) Degeneration in sweetpotato due to viruses, virus cleaned planting material and reversion: a review. *Plant Pathology*, 64, 1–15 Doi: 10.1111/ppa.12273

Boonham, N., Kreuze, J., Winter, S., van der Vlugt, R., Bergervoet, J., Tomlinson, J., Mumford, R. (2014) Methods in virus diagnostics: From ELISA to next generation sequencing. *Virus research* 186: 20-31 DOI 10.1016/j.virusres.2013.12.007

Cuellar, W.J., Kreuze, J.F., Rajamäki, M.L., Cruzado, K.R., Untiveros, M., and Valkonen, J.P.T. (2009) Elimination of antiviral defense by viral RNase III. *Proceedings of the National Academy of Sciences* 106: 10354-10358 DOI 10.1073/pnas.0806042106

Kreuze, J.F., Pérez, A., Untiveros, M., Quispe, D., Fuentes, S., Barker, I., Simon, R. (2009) Complete viral genome sequence and discovery of novel viruses by deep sequencing of small RNAs: a generic method for diagnosis, discovery and sequencing of viruses. *Virology* 388: 1-7 DOI 10.1016/j.virol.2009.03.024

Role in the Genebank Platform

GHU leader. Routine diagnostics of all germplasm entering and leaving CIP-Lima, development of improved diagnostics methods and support of diagnostics to ensure germplasm health in regional distribution hubs.



Genebanks Full Proposal: 2017-2022

Name: Lava KUMAR

Current position and affiliation

Head, Germplasm Health Unit/Virologist; International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria

Profile

Virology; molecular biology; epidemiology; diagnostics; phytosanitation; germplasm health management; host plant resistance; IPM & IDM; germplasm indexing; production of disease-free planting material; international exchange of germplasm; knowledge and technology dissemination

Employment

2010 to present: Head, Germplasm Health Unit / Virologist, IITA, Nigeria

2007 to 2010: Virologist (West & Central Africa): IITA, Nigeria

2005 to 2007: Scientist – Virology: ICRISAT, India

2004 to 1999: Special Project Scientist (Virology): ICRISAT, India

Education

PhD Virology. Sri Venkateswara University, Tirupati, India

MSc Virology Sri Venkateswara University, Tirupati, India

Selected publications

Kumar, P.L., Selvarajan, R., Iskra-Caruana, M.-L., Chabannes, M. & Hanna, R. 2015. Biology, etiology and control of virus diseases of banana and plantain. *Advances in Virus Research*, 91: 229–269.

[<http://dx.doi.org/10.1016/bs.aivir.2014.10.006>]

Kamowa-Mbewe, W., Kumar, P.L., Changadeya, W., Ntawuruhunga, P. & Legg, J.P. 2015. Diversity, distribution and effects on cassava cultivars of cassava brown streak viruses in Malawi. *Journal of Phytopathology*, 163(6): 433–443. [doi: 10.1111/jph.12339]

Silva, G., Bömer, M., Nkere, C., Kumar, P.L. & Seal, S.E. 2015. Rapid and specific detection of Yam mosaic virus by reverse-transcription recombinase polymerase amplification. *Journal of Virological Methods*, 222: 138–144. [Doi: <http://dx.doi.org/10.1016/j.jviromet.2015.06.011>]

Patil, B.L. & Kumar, P.L. 2015. Pigeonpea sterility mosaic virus: a legume-infecting *Emaravirus* from South Asia. *Molecular Plant Pathology*, 16(8): 775–786. [Doi. No. 10.1111/mpp.12238]

Kumar, P.L., Hanna, R., Alabi, O.J., Soko, M.M., Oben, T.T., Vangu, G.H.P. & Naidu, R.A. 2011. *Banana bunchy top virus* in sub-Saharan Africa: investigations on virus distribution and diversity. *Virus Research*, 159: 171–182.

Gerald Otti, G., Bouvaine, S., Kimata, B., Mkamillo, G., Kumar, P.L., Tomlins, K., Maruthi, M.N. 2016. High throughput multiplex real time PCR assay method for the simultaneous quantification of DNA and RNA viruses infecting cassava plants. *Applied Microbiology* (forthcoming).

Other evidence of leadership, large-program management and delivery

Initiated BBTV Alliance in 2009, for BBTB control in Africa; Led disease component of GLCI, funded by BMGF, which led to the mapping of cassava brown streak in East Africa and also development of diagnostic capacity; Led, plant health component of seed yam of YIIFSWA project funded by BMGF; Advisory member and observer of the Inter-African Phytosanitary Council.

Role in the Genebank Platform

Liaison with CGIAR GHUs on needs assessment and priorities; link to AFS CRPs on RTB, MAIZE and DCLASS.



Genebanks Full Proposal: 2017-2022

Name: Safaa KUMARI

Current position and affiliation

Head of ICARDA Seed Health Lab/Plant Virologist, ICARDA, Terbol Station, Lebanon

Profile

Monitoring the seed health status and safe movement of germplasm and breeding lines during seed exchanges. Working on all possible approaches to reduce losses caused by viruses affecting cereal and legume crops in CWANA countries. Development of screening methodology to identify sources of virus resistance. Development of diagnostic kits for the detection of specific cereal and legume viruses. Conducting virus disease surveys in collaboration with NARS to quantify virus incidence.

Employment

2015 to present Head of ICARDA Seed Health Lab/Plant Virologist, ICARDA, Terbol, Lebanon

2012-2015 Plant Virologist, ICARDA, in Tunisia

2003-2012 Plant Virologist, ICARDA, in Aleppo, Syria

Education

PhD Luteoviruses in food legumes. Aleppo University, Syria.

MSc Seed-borne viruses of lentil. Tishreen University, Syria.

Selected publications

- Kraberger, S., S.G. Kumari, A.A. Hamed, B. Gronenborn, J.E. Thomas, M. Sharman, G.W. Harkins, B.M. Muhire, D.P. Martin and A. Varsani. 2015. Molecular diversity of Chickpea chlorotic dwarf virus in Sudan: High rates of intra-species recombination – a driving force in the emergence of new strains. *Infection, Genetics and Evolution*, 29: 203–215.
- Ghannam, A., S.G. Kumari, S. Muyldermans and A.Q. Abbady. 2015. Camelid nanobodies with high affinity for broad bean mottle virus: a possible promising tool to immunomodulate plant resistance against viruses. *Plant Molecular Biology*, 87: 355-369.
- Makkouk, K.M., S.G. Kumari, J.A.G. van Leur and R.A.C. Jones. 2014. Control of plant virus diseases in cool-season grain legume crops. *Advances in Virus Research*, 90: 207-253.
- Mumtaz, H., S.G. Kumari, S. Mansoor, D.P. Martin and R.W. Briddon. 2011. Analysis of the sequence of a dicot-infecting mastrevirus (family Geminiviridae) originating from Syria. *Virus Genus*, 42: 422-428.
- Kumari, S.G., I. Muharram, K. M. Makkouk, A. Al-Ansi, R. El-Pasha, W. A. Al-Motwkel, A. Haj Kassem. 2006. Identification of viral diseases affecting barley and bread wheat crops in Yemen. *Australasian Plant Pathology*, 35: 563-568.
- Kumari, S.G. and K.M. Makkouk. 2003. Differentiation among Bean leafroll virus susceptible and resistant lentil and faba bean genotypes on the basis of virus movement and multiplication. *Journal of Phytopathology*, 151: 19-25.
- Kumari, S.G., K.M. Makkouk, L. Katul and H.J. Vetten. 2001. Polyclonal antibodies to the bacterially expressed coat protein of Faba bean necrotic yellows virus. *Journal of Phytopathology*, 149:543-550.

Role in the Genebank Platform

Monitoring and clearance of germplasm shipments from quarantine risks (insect pests, pathogens and weeds) associated with the movement of germplasm.



Genebanks Full Proposal: 2017-2022

Name: Isabel LÓPEZ NORIEGA

Current position and affiliation

Policy specialist, Bioversity International

Profile

Policy research, analysis and advocacy in the area of plant genetic resources for food and agriculture; design and coordination of multi-country projects on the conservation and use of crop diversity, involving research and development partners at local, national and international levels; capacity building for the implementation of international conventions on genetic resources; representation in the CGIAR Centres (up to 2012) and Bioversity International in the governing bodies and negotiating working groups of the Convention on Biological Diversity, the Treaty on Plant Genetic Resources for Food and Agriculture, and the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore.

Employment

2006 to Present: Scientist and Policy specialist, Bioversity International

2000–2006: Junior researcher at the Unesco Chair for the Environment, Universidad Rey Juan Carlos, Madrid

Education

MA International Biodiversity Law, Universidad Rey Juan Carlos, Madrid, Spain

Law, five year degree, Universidad Complutense de Madrid, Spain

Selected publications

- López Noriega, I. 2016. Defensive protection of farmers' varieties. In: M. Halewood (ed.). *Farmers' Crop Varieties and Farmers' Rights: Challenges in Taxonomy and Law*. Routledge, London & New York.
- Jarvis, D.I., Hodgkin, T., Brown, A., Tuxill, J., López Noriega, I., Smale, M. & Sthapit, B. 2016. *Crop Genetic Diversity in the Field and on the Farm. Principles and Applications in Research Practices*. Yale University Press, New Haven & London.
- Maggioni, L., López Noriega, I., Lapeña García, I. & Engels, J. 2015. Collecting plant genetic resources in Europe: a survey of legal requirements and practical experiences. In: B. Coolsaet, F., Batur, A. Broggiato, J. Pitseys and Dedeurwaerdere (eds.). *Implementing the Nagoya Protocol: Comparing Access and Benefit-sharing Regimes in Europe*. Brill/Nijhof, Enschede, Netherlands.
- Halewood, M., López Noriega, I. & Louafi, S. (eds.). 2013. *Crop Genetic Resources as a Global Commons. Challenges in international law and governance*. Routledge, London & New York.
- López Noriega, I., Halewood, M., Galluzzi, G., Vernooij, R., Bertacchini, E., Gauchan, D. & Welch, E. 2013. How Policies Affect the Use of Plant Genetic Resources: The Experience of the CGIAR. *Resources*, 2(3): 231–269.

Other evidence of leadership, large-program management and delivery

2012–2016 Grant manager and coordinator of the project “Improving seed systems for smallholder farmers’ food security”, US\$ 2 million, funded by SDC and implemented in five countries.

2006–2016 Member of the Bioversity team in charge of the Genetic Resource Policy Initiative, ca. US\$ 10 million, funded by DGIS and implemented in 13 countries and two regions.

2006–2012 Policy-related assistance to CGIAR Centres under the System-wide Genetic Resource Programme.

Role in the Genebank Platform

Policy specialist.



Genebanks Full Proposal: 2017-2022

Name: Charlotte LUSTY

Current position and affiliation

Genebank Program Coordinator, Global Crop Diversity Trust

Profile

Project management, genetic resources conservation, animal-plant interactions, botany

Employment

2008 to present Senior Scientist, Global Crop Diversity Trust, Italy & Germany

2000–2007 Scientist, Bioversity International, France

1994–2000 Research Officer, UNEP-World Conservation Monitoring Center, UK

1991–1993 Field Researcher, Jane Goodall Institute, Tanzania

Education

BSc (Hons) Degree in Zoology (2.1) University of Edinburgh

Selected publications:

Lusty, C., Guarino, L., Toll, J. & Lainoff, B. 2014. Genebanks: past, present and optimistic future. *In*: N Van Alfen (ed.). *Encyclopedia of Agriculture and Food Systems*. Academic Press.

McCouch, S. *et al.* 2013. Agriculture feeding the future. *Nature*, 499: 23–24. doi:10.1038/499023a

Ngoh Newilah, G., Lusty, C., Van den Bergh, I., Akyeamong, E., Davey, M.W., & Tomekpe, K. 2008. Evaluating bananas and plantains grown in Cameroon as a potential source of carotenoids. *Food-Global Science Books*, 2 (2): , 135–138.

Davey, M.W., E. Stals, E., G. Ngoh Newilah, G., K. Tomekpe, K., C. Lusty, C., R. Markham, R., R. Swennen, R., & J. Keulemans, J. 2007. Sampling strategies and variability in fruit pulp micronutrient contents in West and Central African bananas and plantains (*Musa* species). *Journal of Agricultural and Food Chemistry*, 55(7): . 2633–2644.

Lusty, C. & J. Yuen, J. 2005. Documenting the '3M' Approach in Genetic Resources Policy Initiative. GRPI working paper.

Oldfield, S., Lusty, C. & MacKinven, A. 1998. *The world list of threatened trees*. World Conservation Press.

Other evidence of leadership, large-program management and deliver

Coordinates the current Genebank CRP. Coordinated and played a key role in the genebank costing study which led to the publication of Shands, H., Hawtin, G. & MacNeil, G. 2010. *The Cost to the CGIAR Centres of maintaining and distributing germplasm*.

Also managed or managed components of the following large projects: "Securing the Biological Basis of Agriculture and Promoting New and Fuller Use of Crop Genetic Resources" funded by Bill and Melinda Gates Foundation; HarvestPlus Challenge Programme initiative to address micronutrient-deficiencies with high-provitamin A plantain cultivars; Global Conservation Strategy for *Musa*; "Conservation and Sustainable Management of Trees", funded by the Government of the Netherlands.

Role in the Genebank Platform

Platform Coordinator



Genebanks Full Proposal: 2017-2022

Name: Sebastien MASSART

Current position and affiliation

Associated Professor, Laboratory of Plant Pathology, Gembloux Agro-Bio Tech, University of Liège. In collaboration with Bioversity International

Profile

Expertise in plant pathology, diagnostic protocol development and routine application (in public and private organizations), and virus sanitation of *Musa* germplasm.

Employment

2015 to present Associate Professor, Laboratory of Plant Pathology, GxABT, University of Liège, Belgium

2014 Post-doc scientist, Department of microbiology, University of Girona, Spain

2013-2014 Post-doc scientist, Laboratory of Plant Pathology, GxABT, University of Liège, Belgium

2010-2013 Business Development Manager, DNAVision S.A. (company of diagnostic service), Belgium

Education

PhD in Agronomical sciences and biological engineering, GxABT, University of Liège, Belgium

Agronomical engineer, GxABT, University of Liège, Belgium

Selected publications:

Massart, S., Olmos, A., Jijakli, H., & Candresse, T. (2014). Current impact and future directions of high throughput sequencing in plant virus diagnostics. *Virus Research*, 188, 90-96.

Massart, S., Olmos, A., Jijakli, H., & Candresse, T. (2014). Diagnosis of viral diseases and high throughput sequencing: Towards a paradigm shift? *Virologie*, 18(V), 247-250.

Massart, S., Nagy, C., & Jijakli, H. (2014). Development of the simultaneous detection of *Ralstonia solanacearum* race 3 and *Clavibacter michiganensis* subsp. *Sepedonicus* in potato tubers by a multiplex real-time PCR assay. *European Journal of Plant Pathology*, 138, 29-37.

De Clerck, C., Fujiwara, A., Joncour, P., Léonard, S., Félix, M.-L., Francis, F., Jijakli, H., Tsuchida, T., & Massart, S. (2015). A metagenomic approach from aphid's hemolymph sheds light on the potential roles of co-existing endosymbionts. *Microbiome*, 3(63).

Massart, S., Brostaux, Y., Barbarossa, L., Batlle, A., Cesar, V., Dutrecq, O., Fonseca, F., Guillem, R., Komorowska, B., Olmos, A., Steyer, S., Wetzels, T., Kummert, J., & Jijakli, H. (2009). Interlaboratory Evaluation Of Two Reverse-Transcriptase Polymerase Chain Reaction-Based Methods For Detection Of Four Fruit Tree Viruses. *Annals of Applied Biology*, 154(1), 133-141.

Role in the Genebank Platform

Virus indexing and sanitation of *Musa* germplasm on behalf of Bioversity International.



Genebanks Full Proposal: 2017-2022

Name: Monica MEZZALAMA

Current position and affiliation

Head Seed Health Laboratory and Plant Pathologist, CIMMYT, Mexico

Profile

Plant pathology, with an emphasis on biological control, chemical control, epidemiology of foliar and root diseases on cereals, seed borne pathogens, phytosanitary management of germplasm movement, and standardization of plant pathogen detection protocols. Responsibilities have included supervision of a seed health laboratory, seed multiplication sites and international seed distribution activities; preparation and implementation of protocols to avoid and detect the unintentional presence of transgenes in maize germplasm; and quality management systems, genetic resources conservation, animal-plant interactions, botany.

Employment

2000 to present Senior Scientist, Plant Pathologist and Head, Seed Health Laboratory, CIMMYT

2004-2008 Head of Seed Inspection and Distribution Unit, CIMMYT

1997-2000 Consultant Plant Pathologist, CIMMYT

1994-1996 Assistant Professor at Dipartimento di Valorizzazione e Protezione delle Risorse Agroforestali- Sezione di Patologia Vegetale, University of Turin, Italy

Education

PhD in Plant Pathology (Mycology) University of Bologna, Italy

Diploma di Laurea in Scienze Agrarie (108/110) (agronomy), University of Turin, Italy

Selected publications:

- Duveiller E. Mezzalama M., Legreve A. 2014. Wheat Grain Chain: Good Practices for Minimizing the Risk of Fusarium Head Blight and Mycotoxin Contamination in Nontraditional Warmer Wheat-Growing Areas. In: Mycotoxin Reduction in Grain Chains. J. F. Leslie and A F. Logrieco Ed. pp. 220-229. John Wiley & Sons, USA, UK.
- Martinez-Cisneros B A, Juarez-Lopez G, Valencia-Torres N, Duran-Peralta E., Mezzalama M. 2014. First report of bacterial stalk rot of maize caused by *Dickeya zeae* in Mexico. *Plant Disease*, 98, 9, 1267.
- M. Mezzalama, Crouch J. Ortiz r. 2009. Monitoring the threat of unintentional transgene flow into maize gene banks and breeding materials. *Electronic Journal of Biotechnology*, October 15, 2009 No. 4. <http://www.ejbiotechnology.info/content/archive.html>.
- Ortiz, R., et al. 2008. Wheat genetic resources enhancement by the International Maize and Wheat Improvement Center (CIMMYT). *Genetic Resources and Crop Evolution* 55(7):1095-1140.
- Ortiz R., Taba S., Chavez Tovar V., Mezzalama M., Xu Y., Yan J., Crouch J. 2010. Conserving and enhancing maize genetic resources as global public goods: a perspective from CIMMYT. *Crop Science*, 50:13-28.

Role in the Genebank Platform

GHU leader. Testing maize and wheat seed for the presence of pathogens of quarantine or economic importance is the first step for fostering a safe exchange of germplasm around the world. In addition maize germplasm that is stored in CIMMYT Wellhausen and Anderson Germplasm Collection must be conserved free from transgenes that may occur unintentionally. My active role is the coordination, supervision and implementation of the related laboratory activities.



Genebanks Full Proposal: 2017-2022

Name: Alice MUCHUGI

Current position and affiliations

January 2014 to date Genetic Resource Unit Manager, World Agroforestry Centre (ICRAF) Nairobi.

Profile

More than 15 years' experience in research on sustainable utilization and conservation of indigenous plant genetic resources. Research mainly on morphological, biochemical and genetic characterization of plant germplasm

Employment History

2007–2013: Consultant, Genetic Resource Unit Manager, World Agroforestry Centre (ICRAF) Nairobi.

2002 –2013: Senior Lecturer: Dept of Biochemistry and Biotechnology, Kenyatta University, Kenya.

2001 –2002: Lecturer: Nairobi Technical Training Institute, Kenya

Education

PhD in Population Genetics, Kenyatta University, Kenya

MSc in Biotechnology, Kenyatta University, Kenya

BSc in Agriculture, Egerton University, Kenya

Selected publications:

- Makueti, J.T., Otieno, G., Tchoundjeu, Z., Muchugi, A., Tsoheng, A., Asaah, E. & Kariba, R. 2015. Genetic diversity of *Dacryodes edulis* provenances used in controlled breeding trials, *Journal of Plant Breeding and Crop Science*, 7(12): 327–339. DOI: 10.5897/JPBCS2015.0511
- Gwali, S., Vaillant, A., Nakabonge, G., Lamoris Okullo, J.B., Eilu, G., Muchugi, A. & Bouvet, J.M. 2014. Genetic diversity in shea tree (*Vitellaria paradoxa* subspecies *nilotica*) ethno-varieties in Uganda assessed with microsatellite markers. *Forests, Trees and Livelihoods*, 24(3): 163-175.
- Macharia, M.W., Run, S., Muchugi, A. & Palapala, V. 2014. Genetic structure and diversity of East African taro (*Colocasia esculenta* L Schott) *African Journal of Biotechnology*, 13(29): 2950–2955.
- Russell, J.R., Hedley, P.E., Cardle, L., Dancy, S., Morris, J., Booth, A., Odee, D., Mwaura, L., Omondi, W., Angaine, P., Machua, J., Muchugi, A., Milne, I., Kindt, R., Jamnadass, R. & Dawson, I.K. 2014. tropiTree: An NGS-Based EST-SSR Resource for 24 Tropical Tree Species. *PLoS ONE*, 9(7): e102502.
- Wanjala, B.W., Obonyo, M., Wachira, F.N., Muchugi, A., Mulaa, M., Harvey, J., Skilton, R.A., Proud, J. & Hanson, J. 2013. Genetic diversity in Napier grass (*Pennisetum purpureum*) cultivars: implications for breeding and conservation. *AoB PLANTS*, 5: plt022; doi:10.1093/aobpla/plt022
- Muchugi, A., Muluvi, G.M., Kindt, R., Kadu, C.A.C., Simons, A.J. & Jamnadass, R.H. 2008. Genetic structuring of important medicinal species of genus *Warburgia* as revealed by AFLP analysis. *Trees Genetics and Genome*, 4: 787–795.
- Muchugi, A.M., Lengkeek, A.G., Agufa, C.A.C, Muluvi, G.M., Njagi, E.N.M. & Dawson, I.K. 2006. Genetic variation in the threatened medicinal tree *Prunus africana* in Kenya and Cameroon: implications for current management and evolutionary history. *South African Journal of Botany*, 72: 498–506.

Other evidence of leadership, large-program management and deliver

ICRAF Focal person CRP Genebanks (2012–2016), managing Genebank in Nairobi and field genebanks in six regions.

Project PI Lake Victoria Research (VicRes) Grant (2008–2011) implemented in Kenya, Uganda and Tanzania.

Role in the Genebank Platform

ICRAF Genebank Manager-Focal point person in the platform. Oversee activities in the Conservation and Use Modules.



Genebanks Full Proposal: 2017-2022

Name: Marie-Noëlle NDJIONDJOP

Current position and affiliation

Head of Genetic Resources, Africa Rice Center (AfricaRice), Cotonou, Benin

Profile

Scientist and manager in agricultural research for development, with progressive career as Post-Doctoral fellow, Associate Principal Scientist and Principal Scientist at international levels. Attained Doctorate Degree in Plant Biology with emphasis on biochemistry and molecular biology, and with strong background in research for development in rice genetic resources and biotechnology for rice improvement; research management and coordination; and leadership and team management. Received the 2005 Director General's Service award for an impressive contribution to resource mobilization and strengthening scientific capacity at The Africa Rice Center (AfricaRice). Received Dr. Robert J. Carsky Memorial Award in recognition of outstanding service and contribution to the Africa Rice Center (AfricaRice) for the period 2011–2012.

Employment

2013 to date: Head of Genetic Resources (AfricaRice)

2012 to 2013: Senior Molecular Biologist and GRiSP Theme 1 Leader for Africa (AfricaRice)

Education

PhD in Plant Biology, University of Montpellier

MSc in Nutrition in Developing Countries, University of Montpellier

MSc in Molecular and Cellular Biology, University of Montpellier

BSc in Biochemistry and Molecular Biology, University of Montpellier

Selected publications:

- Wang, M., Yu, Y., Haberer, G., Marri, P.R., Fan, C., Goicoechea, J.L., Ndjiondjop, M.N. & Wing, R.A. 2014. The genome sequence of African rice (*Oryza glaberrima*) and evidence for independent domestication. *Nature Genetics*, 46: 982–988.
- Ndjiondjop, M.N., Futakuchi, K., Cisse, F., Baimey, H., & Bocco, R. 2012. Field evaluation of rice genotypes from the two cultivated species (*Oryza sativa* L. and *Oryza glaberrima* Steud.) and their interspecifics for tolerance to drought. *Crop Science*, 52(2): 524–538. [DOI: 10.2135/cropsci2011.05.0]
- Bocco, R., et al. 2012. Agro-morphological characterization of a population of introgression lines derived from crosses between IR 64 (*Oryza sativa indica*) and TOG 5681 (*Oryza glaberrima*) for drought tolerance. *Plant Science* 183: 65–76.
- Ndjiondjop, M.N., Manneh, B., Cissoko, M., Drame, N.K., Glele Kakai, R., Bocco, R., Baimey, H. & Wopereis, M. 2010. Drought resistance in an interspecific backcross population of rice (*Oryza* spp.) derived from the cross WAB56-104 (*O. sativa*) × CG14 (*O. glaberrima*). *Plant Science*, 179: 364–373.
- Albar, L., Bangratz, M., Hébrard, E., Ndjiondjop, M.N., Jones, M.P. & Ghesquière, A. 2006. Mutations in the eIF(iso)4G translation initiation factor confer high resistance of rice to *Rice yellow mottle virus*. *Plant Journal*, 47: 417–426.

Other evidence of leadership, large-program management and delivery

I worked with several projects for more than US\$ 1.7 million funded by The Generation Challenge Programme. 3-year USAID-funded project to support the training of scientists and young students from NARS countries, and to invest in facilities with the view to establish molecular biology laboratories in the NARS countries.

Role in the Genebank Platform

Genebank manager. Implement activities of Conservation and Use Modules.



Genebanks Full Proposal: 2017-2022

Name: Matija OBREZA

Current position and affiliation

Information Systems Manager, Global Crop Diversity Trust

Profile

20 years of experience in design and development of software applications. He moved from the private sector to IITA in 2007, where he implemented a series of IT solutions, including barcoding the genebank collections. Matija joined the Crop Trust in 2013 to manage development of Genesys, the global database on PGRFA maintained in genebanks around the world. Since then Matija's role extended to include responsibility for internal IT systems of the Crop Trust as well as overseeing information needs of all projects implemented by the organization.

Employment

2014–2016: Information Systems Manager, Global Crop Diversity Trust

2013–2014: Genesys II Project Manager, Global Crop Diversity Trust

2011–2013: Software Developer, CELSTEC, Open Universiteit Nederland

2007–2011: Software Development Service Manager, International Institute of Tropical Agriculture.

Education

BSc in Computer and Information Science (level ISCED 5A) at University of Maribor, Slovenia.

Selected publications

N/A

Other evidence of leadership, large-program management and delivery

N/A

Role in the Genebank Platform

Software developer and manager of Genesys, Backstopping of information management activities in the genebanks



Genebanks Full Proposal: 2017-2022

Name: Thomas PAYNE

Current position and affiliation

Head, Wellhausen-Anderson Wheat Genetic Resources Collection;
Head, International Wheat Improvement Network. CIMMYT-Mexico;

Profile

Wheat breeder, pathologist

Employment

2005 to present: Head, Wellhausen-Anderson Wheat Genetic Resources Collection. CIMMYT-Mexico.

2000 to present: Head, International Wheat Improvement Network. CIMMYT-Mexico.

2003 –2005; 2009 – present: Secretary, CIMMYT Board of Trustees.

2001 –2003: Assistant/Interim Director, Wheat Program. CIMMYT-Mexico..

1997 –2000: Regional Wheat Breeder/Pathologist. CIMMYT-Ethiopia.

1994 –1997: Team Leader and Wheat Breeder. CIMMYT-Zimbabwe.

1991 –1994: Facultative and Winter Wheat Breeder. CIMMYT-Turkey and CIMMYT/ICARDA-Syria.

Education

PhD. Winter Wheat Breeding. University of Nebraska. Major: Agronomy – Plant Breeding.

MSc. Oats Breeding. University of Minnesota. Major: Plant Breeding.

Selected publications

- Prashant Vikram, Jorge Franco, Juan Burgueno-Ferrera, Huihui Li, and 18 others. 2016. Unlocking the genetic diversity of Creole wheats. 2016. *Nature Scientific Reports*, 6: Article number: 23092 [doi:10.1038/srep23092].
- Huihui Li, et al., 2015. A high density GBS map of bread wheat and its application for dissecting complex disease resistance traits. *BMC Genomics*, 16: 216 [DOI 10.1186/s12864-015-1424-5]
- Sehgal, D., Vikram, P., Sansaloni, C.P., Ortiz, C., Pierre, C.S., Payne, T., Ellis, M., Amri, A., Petroli, C.D., Wenzl, P. & Sukhwinder-Singh. 2015. Exploring and mobilizing the gene bank biodiversity for wheat improvement. *PLoS ONE*, 10(7): e0132112. [doi:10.1371/journal.pone.0132112]
- Vivi, N., Arief, I.H., DeLacy, J.C., Payne, T. Singh, R., Braun, H.-J., Tian, T., Basford, K.E. & Dieters, M.J. 2015. Evaluating testing strategies for plant breeding field trials: redesigning a CIMMYT International Wheat Nursery. *Crop Science*, 55: 164–177 [doi: 10.2135/cropsci2014.06.0415]
- Hazekamp, Th. Payne, T. S. & Sackville Hamilton, N.R. 2014. Assessing rice and wheat germplasm collections using similarity groups. *Genetic Resources and Crop Evolution*, 61: 841–851 [DOI 10.1007/s10722-014-0079-4]
- Mathews, K.L., Chapman, S.C., Trethowan, R., Pfeiffer, W., van Ginkel, M., Crossa, J., Payne, T., DeLacy, I., Fox, P.N. & Cooper, M. 2007. Global adaptation patterns of Australian and CIMMYT spring bread wheat. *Theoretical and Applied Genetics*, 115(6): 819–835 [DOI 10.1007/s00122-007-0611-4]
- Trethowan, R.M., van Ginkel, M., Ammar, K., Crossa, J., Payne, T.S., Cukadar, B., Rajaram, S. & Hernandez, E. 2003. Associations among twenty years of international bread wheat yield evaluation environments. *Crop Science*, 43: 1698–1711.
- Pretorius, Z.A., Singh, R.P., Wagoire, W.W. & Payne, T.S. 2000. Detection of virulence to wheat stem rust resistance gene Sr31 in *Puccinia graminis* f. sp. *tritici* in Uganda. *Plant Disease*, 84: 203.

Role in the Genebank Platform

Genebank manager, Member of Executive Committee of A15 Group and Management Team, Oversee “Frontrunner” position for GRIN-Global development and adoption. Activities in Conservation and Use Modules.



Genebanks Full Proposal: 2017-2022

Name: Nicolas ROUX

Current position and affiliation

Senior scientist, Genetic Resources Group Leader, Bioversity International, Montpellier, France.

Profile

Main interest in genetic resources and more specifically in the conservation and use of vegetatively propagated crops. 28 years experience in research on bananas and plantains (*Musa* spp.) from plant to tissue culture, cell culture, cytogenetics and DNA sequences.

Employment

2003 to present: Senior scientist, Genetic Resources Group Leader, Bioversity International, Montpellier, France.

2002–2003: Consultant, Musa Genome Resource Centre at the Institute of Experimental Botany (IEB), Olomouc, Czech Republic.

1993–2002: Research Scientist, FAO/IAEA Laboratories in Seibersdorf, Austria.

1990–1993: Laboratory director for Agricar c.a., Hacienda Carabobo, Caracas, Venezuela.

Education

PhD Plant Botany, Palacky University, Olomouc, Czech Republic.

MSc Biotechnology, Horticulture, Superior Industrial Institute of State, Gembloux, Belgium

Selected publications

Kagy, V., Wong, M., Van den Broucke, H., Jenny, C., Dubois, C., Ollivier, B., Cardi, C., Mournet, P., Tuia, V., Roux, N., Dolezel, J. & Perrier, X. 2016. Traditional banana diversity in Oceania: an endangered heritage. *PLoS ONE*, 11(3): e0151208 [doi:10.1371/journal.pone.0151208]

Čížková, J., Hřibová, E., Christelová, P., Van den Houwe, I., Häkkinen, M., Roux, N., Swennen, R. & Doezel, J. 2015. Molecular and cytogenetic characterization of wild *Musa* species. *PLoS ONE*, 10(8): e0134096. doi:10.1371/journal.pone.0134096

Cenci, A., Guignon, V., Roux, N. & Rouard, M. 2014. Genomic analysis of NAC transcription factors in banana (*Musa acuminata*) and definition of NAC orthologous groups for monocots and dicots. *Plant Molecular Biology*, 85(1-2): 63–80.

Hribova, E., Christelova, P., Roux, N. & Dolezel, J. 2013. A simple and robust approach for genotyping in Musaceae. *Acta Horticulturae*, no. 986: 241–246.

D'Hont, A., Denoeud, F., Aury, J.M., Baurens, F.C., Carreel, F., Garsmeur, O., Noel, B., Bocs, S., Droc, G., Rouard, M. & Roux, N. 2012. The banana (*Musa acuminata*) genome and the evolution of monocotyledonous plants. *Nature*, 488(7410): 213–217. <http://dx.doi.org/10.1038/nature11241>

Other evidence of leadership, large-program management and delivery

Leading the Musa Genetic Resources Group at Bioversity International, MusaNet Coordinator, GMGC Coordinator, Genetic Resources Theme Leader (Theme 1) of Roots, Tubers and Bananas (RTB) CRP during Phase 1.

Role in the Genebank Platform

Focal point for Bioversity International. Role in Conservation and Use Modules. Cryopreservation, genomics to genebanks, new methods for virus indexing and sanitation.



Genebanks Full Proposal: 2017-2022

Name: Rajan SHARMA

Current position and affiliation

Senior Scientist Cereals Pathology & Head Plant Quarantine Unit, ICRISAT, Hyderabad, India.

Profile

Research on diagnostic tools for identification of plant pathogens; seed health tests of accessions for conservation as well as for export; monitoring virulence spectrum of pathogens and identification of resistance sources; development of PCR-compatible markers and their use in genetic diversity assessment and molecular mapping of disease resistance genes; elucidating molecular basis of host-pathogen interaction; identification and characterization of toxigenic Fusaria; chief editor, Indian Journal of Plant Protection.

Employment

2011- present Senior Scientist, Cereals Pathology & Head PQU, ICRISAT, Patancheru, India.

2010-2011 Senior Scientist, Cereals Pathology, ICRISAT, Patancheru, India.

2006-2010 Scientist, Cereals Pathology, ICRISAT, Patancheru, India.

2005-2006 Project Scientist, HP Agriculture University, Palampur, India.

Education

PhD Plant Pathology, H.P. Agricultural University, Palampur, India.

MSc Plant Pathology, H.P. Agricultural University, Palampur, India.

Selected publications

- Anitha K, Humayun P, Kumar GS, Chakrabarty SK, Rameash K, Sharma R and Babu BS. 2016. Incidence of blast in exotic finger millet germplasm grown in post-entry quarantine isolation area. Conference on National Priorities in Plant Health Management February 4-5, 2016, Tirupati, pp 134-135.
- Kishore Babu B and Sharma R. 2015. TaqMan real-time PCR assay for the detection and quantification of *Sclerospora graminicola*, the causal agent of pearl millet downy mildew. *Eur J Plant Pathol* 142:149-158.
- Sharma R et al. 2015. New Sources of Resistance to Multiple Pathotypes of *Sclerospora graminicola* in the Pearl Millet Mini Core Germplasm Collection. *Crop Science* 55:1-10.
- Sharma R et al. 2014. Identification of blast resistance in a core collection of foxtail millet germplasm. *Plant Disease* 98:519-524.
- Sharma R et al. 2013. Pathogenic variation in the pearl millet blast pathogen, *Magnaporthe grisea* and identification of resistance to diverse pathotypes. *Plant Disease* 97:189-195.
- Sharma R et al. 2011. Identification and characterization of toxigenic *Fusaria* associated with sorghum grain mold complex in India. *Mycopathologia* 171:223-230.
- Sharma R et al. 2010. Resistance to grain mold and downy mildew in a mini-core collection of sorghum germplasm. *Plant Disease* 94:439-444.

Role in the Genebank Platform

GHU leader. The Plant Quarantine Unit (PQU) caters to the plant quarantine requirements of the ICRISAT scientific community with respect to the germplasm exchange of ICRISAT's mandate crops and the small millets through National Bureau of Plant Genetic Resources (NBPGR) of the Indian Council of Agricultural research (ICAR), New Delhi, India.



Genebanks Full Proposal: 2017-2022

Name: Hari Deo UPADHYAYA

Current position and affiliation

Head, Genebank, and Principal Scientist, ICRISAT, Patancheru, India

Profile

Experience: 18 years (1997 to present) as genetic resources specialist and 24 years as groundnut breeder at ICRISAT Patancheru, India.

Employment:

2009 to present: Principal Scientist and Head/Director (Genebank), ICRISAT, Patancheru, India

2010–2013: Assistant Director, Grain Legumes Research Program, ICRISAT, Patancheru, India

1991 to present: Senior Groundnut Breeder, ICRISAT, Patancheru, India

1987–1991: Oilseed Breeder, and Head of Oilseed Project, Univ. Agric. Sci., Dharwad, India

Education

PhD, Plant Breeding, GB Pant Univ. Agric. Technology, Pantnagar, India

MSc, Plant Breeding, GB Pant Univ. Agric. Technology, Pantnagar, India

Selected publications

Upadhyaya, H.D., Bajaj, D. Naroliya, L. Das, S. Vinod Kumar, C.L.L. Gowda, S. Sharma, A. Tyagi, and S.K. Parida. 2016. Genome-wide scans for delineation of candidate genes regulating seed-protein content in chickpea. *Frontiers in Plant Science*, 7: 302.

Upadhyaya, H.D., S.L. Dwivedi, S. Singh, K.L. Sahrawat, and S.K. Singh. 2016. Genetic variation and post-flowering drought effects on seed iron and zinc in ICRISAT sorghum mini core collection. *Crop Science*. 56, 374-384.

Lasky, J.R., Upadhyaya, H.D., Ramu, P., Deshpande, S., Hash, C.T., Bonnette, J., Juenger, T.E., Hyma, K., Acharya, C., Mitchell, S.E., Buckler, E.S., Brenton, Z., Kresovich, S. & Morris. G.P. 2015. Genome-environment associations in sorghum landraces predict adaptive traits. *Science Advances*

Kujur, A., Bajaj, D., Upadhyaya, H.D., Das, S., Ranjan, R., Shree, T., Saxena, M., Badoni, S., Kumar, V., Tripathy, S. Gowda, C.L.L. Sharma, S. Singh, S. Tyagi, A. & Parida S. 2015. A genome-wide SNP scan accelerates trait-regulatory genomic loci identification in chickpea. *Nature Scientific Reports*, 5: 11166

Westengen, O.T., Okongo, M.A. Onk, L.Berg, T. Upadhyaya, H.D. Birkeland, SKhalsa, .S.D.K. Kristoffer, H. K.H. Ring, N.C. Stenseth, and A.K. Brysting. 2014. Ethnolinguistic structuring of sorghum genetic diversity in Africa and the role of local seed systems. *PNAS* 111: 14100–14105.

Upadhyaya, H.D., Dronavalli, N., Dwivedi, S.L., Kashiwagi, J., Krishnamurthy, L., Pande, S., Sharma, H.C., Vadez, V., Singh, S., Varshney, R.K. & Gowda, C.L.L. 2013. Mini-core collection as a resource for identifying new sources of variation. *Crop Science*, 53: 2506–2517.

Other evidence of leadership, large-program management and delivery

As Assistant Research Program Director, Grain Legumes, provided critical support in managing global research program on Grain Legumes at ICRISAT: Implemented GPG projects and upgraded genebank facility at Patancheru and regional genebanks in Africa; BMZ/GTZ project promoting on-farm conservation and utilization Asia (India) and Africa (Kenya, Tanzania, Uganda).

Role in the Genebank Platform

Head of ICRISAT genebank, implement the activities at the main genebank at Patancheru, India and three regional genebanks in Africa and implement activities of Conservation and Use Modules, assist in management of the Genebank Platform.



Genebanks Full Proposal: 2017-2022

Name: Peter WENZL

Current position and affiliation

Incoming Genetic Resources Program Leader, CIAT, Colombia

Profile

Characterization of genetic resources to identify and mobilize novel variation that accelerates genetic gains in breeding programs.

Genotyping service provision; configuration of genotyping assays for a variety of purposes.

Information management at the interface between genebanks and breeding programs.

Employment

2015–2016: DivSeek Liaison, Global Crop Diversity Trust, Germany

2010–2014: Leader, Seeds of Discovery (SeeD) Project, CIMMYT, Mexico

2009–2010: Manager, Crop Informatics Team, CIMMYT, Mexico

2002–2009: Principal Scientist, Diversity Arrays Technology (DART) Pty. Ltd., Australia

Education

PhD, Plant Physiology & Genetics, University of Vienna, Austria

MSc, Biochemistry and Biophysics, University of Vienna, Austria

Selected publications

Sehgal, D., Vikram, P., Sansaloni, C.P., Ortiz, C., Pierre, C.S., Payne, T., Ellis, M., Amri, A., Petroli, C.D., Wenzl, P. & Singh, S. 2015. Exploring and mobilizing the gene bank biodiversity for wheat improvement. *PLoS ONE*, 10: e0132112

McCouch, S. *et al.* 2013. *Feeding the future. Nature*, 499: 23–24.

Bedo, J., Wenzl, P., Kowalczyk, A. & Kilian, A. 2008. Precision-mapping and statistical validation of quantitative trait loci by machine learning. *BMC Genetics*, 9: 35.

Wenzl, P., Raman, H., Wang, J., Zhou, M., Huttner, E. & Kilian, A. 2007. A DART platform for quantitative bulked segregant analysis. *BMC Genomics*, 8: 196.

Wenzl, P., Carling, J., Kudrna, D., Jaccoud, D., Huttner, E., Kleinhofs, A. & Kilian, A. 2004. Diversity arrays technology (DART) for whole-genome profiling of barley. *Proceedings of the National Academy of Sciences of the United States of America*, 101: 9915–9920.

Other evidence of leadership, large-program management and delivery

Led CIMMYT's SeeD project team of 15 IRS and ca. 70 staff overall; SeeD systematically identifies and mobilizes useful genetic variation in genebanks into maize and wheat breeding programs.

Substantially contributed to the start-up and success of a biotech company that provides high-throughput genotyping and informatics services to plant breeders and researchers.

Completed the Emerging Leaders Training Program, Thunderbird School of Global Management, Arizona State University, Phoenix, USA.

Role in the Genebank Platform

(a) contribute to devising strategies to incorporate genotyping for quality-control purposes in the Conservation Module;

(b) contribute to shaping the Use Module, particularly by forming interfaces to 'genomics-of-genebanks' projects;

(c) act as liaison to the Excellence in Breeding Platform



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