

Samuel T. Partey

CGIAR Research Program on Climate Change, Agriculture and Food Security, West Africa

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

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PRESENT POSITION:

- Science Officer, CGIAR Research Program on Climate Change, Agriculture and Food Security, West Africa, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Bamako, Mali

PERSONAL INFORMATION

- Date of Birth: 16th February, 1984
- Marital Status: Married
- Nationality: Ghanaian
- Language proficiency: English (Advance), French (Basic working knowledge)

PROFESSIONAL EXPERTISE/RESEARCH INTERESTS

- Natural Resources Management
- Sustainable Agriculture and Food Security
- Soil Fertility and Nutrient Management in Agroecosystems
- Climate Change and Environmental Issues
- Sustainable Development and Rural Livelihoods

EDUCATION AND QUALIFICATIONS

- 2009 – 2013 PhD (Environmental Biology) The University of Manchester, United Kingdom
- 2007 – 2010 PhD (Agroforestry) Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
- 2002 – 2006 BSc (Natural Resources Management), 1st Class honours, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana

OTHER TRAININGS

- February 2014, Certificate in Proposal Writing, Scriptoria, United Kingdom
- October 2012: Certificate in Decision support systems for agrotechnology (soil and crop modeling tools: DSSAT, GSSAT, PSSAT), International Fertilizer Development Center (IFDC), Alabama, USA
- September 2010, Certificate of participation in Sustainable Development and Climate Change training course, Sustainable Consumption Institute, The University of Manchester, UK

CAREER SUMMARY AND WORK EXPERIENCE

- July 2014 – July 2015: Senior Researcher, Africa BiomassWeb Bamboo Agroforestry Project, International Network for Bamboo and Rattan, Kumasi, Ghana
- Sept. 2013 – July 2015: Lecturer, Department of Agroforestry, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana – teaching course work in soil science, agricultural development, agroforestry at both undergraduate and graduate levels; thesis supervision at both undergraduate and graduate levels
- January 2013 – November 2013, Data analyst, N₂ – Africa Ghana Project, KNUST, Kumasi

- Jan. 2012 – Dec. 2012: GRiSS Visiting Scholar, Africa Rice Centre, Cotonou, Benin – designing and conducting field experiments in agronomy and crop physiology
- Sept. 2009 – June, 2010: Graduate Teaching Assistant, Faculty of Life Sciences, The University of Manchester, UK – teaching laboratory practicals in molecular genetics, biochemistry and microbiology.
- Feb. 2008 – Aug. 2008: Visiting scholar, School of Environmental Sciences, University of Guelph, Ontario, Canada – assisted in data collection and analysis on nitrous oxide and methane emissions from tree-based intercropping systems in Western Ontario, Canada
- Oct. 2007 - Dec. 2007: Agricultural Development Officer, Global Poverty Eradication Centre, Kumasi, Ghana (an International NGO) (Part-Time Employment)- agricultural project monitoring and evaluation; research extension and rural development.
- September 2006 – August 2007: Research Assistant (National Service), Department of Agroforestry, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

TEACHING EXPERIENCE

- Sept. 2013 – present: Lecturer, Department of Agroforestry, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
 - Undergraduate courses taught from September 2013 – present
 - AGF 251 Introduction to Agroforestry (2 credits)
 - AGF 253 Introduction to Agriculture (2 credits)
 - AGF 352 Advance Agroforestry (2 credits)
 - AGF 355 Agroforestry Systems (3 credits)
 - AGF 453 Plant Physiology in Agroforestry Systems (2 credits)
 - Graduate course taught from September 2013 – present
 - AF 602 Introduction to Principles of Forestry (2 credits)
- Sept. 2009 – June, 2010: Graduate Teaching Assistant, Faculty of Life Sciences, The University of Manchester, UK – teaching laboratory practicals in molecular genetics, biochemistry and microbiology.
- Undergraduate theses supervised: 9
- Graduate students: 2 MSc students and 2 PhD students (one at the University of Bonn, Germany)
- Internal examiner for 4 MSc/MPhil theses Viva since September 2013
- Academic tutor to over 50 undergraduate students in the Faculty of Renewable Natural Resources, KNUST
- Committee member of 3 PhD students

MOST RECENT PUBLICATIONS

- **Book Chapter**
 - **2012**
 - **Partey, ST., Preziosi, RF., and Robson, GD., (2012)** Effects of organic residue chemistry on soil biogeochemistry: implications for organic matter management in agroecosystems In: Adewuyi, B., Chukwu, K (editors), Soil fertility: Characteristics, Processes and Management, Nova Publishers, NY, USA. pp 1 – 28.
- **Articles published in peer-reviewed journals:**
 - **2015**
 - Partey, ST., Saito, K., Preziosi, RF., and Robson, GD. (2015). Biochar use in a legume-rice rotation system: effects on soil fertility and crop performance. Archives of Agronomy and Soil Science, In press.

- **2014**
 - **Partey, ST.**, Preziosi, RF., and Robson, GD. (2014). Short-Term Interactive Effects of Biochar, Green Manure, and Inorganic Fertilizer on Soil Properties and Agronomic Characteristics of Maize. *Agricultural Research* 3: 128-136.
 - **Partey, ST.**, Preziosi RF and Robson, GD (2014) Improving maize residue use in soil fertility restoration by mixing with residues of low C-to-N ratio: effects on C and N mineralization and soil microbial biomass. *Journal of Soil Science and Plant Nutrition* 14: 518-531.
- **2013**
 - **Partey, ST.**, Preziosi RF and Robson, GD (2013) Maize residue interaction with high quality organic materials: effects on decomposition and nutrient release dynamics. *Agricultural Research* 2: 58 - 67
 - **Partey, ST** and Thevathasan, NV (2013) Agronomic potentials of rarely-used agroforestry species for smallholder agriculture in Sub-Saharan Africa: an exploratory study. *Communications in Soil Science and Plant Analysis* 44: 1733-1748
- **2011**
 - **Partey, ST.**, Quashie-Sam, SJ., Thevathasan, NV and Gordon, AM (2011) Decomposition and nutrient release patterns of the leaf biomass of the wild sunflower (*Tithonia diversifolia*): a comparative study with four leguminous agroforestry species. *Agroforestry systems* 81: 123 – 134.
 - **Partey, ST.** (2011) Effect of pruning frequency and pruning height on the biomass production of *Tithonia diversifolia*. *Agroforestry Systems* 83: 181 – 187.
- **PhD theses**
 - 2013, University of Manchester, UK
 - Effects of green manure and biochar amendments on soil biogeochemistry and crop performance
 - 2010, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana
 - The agronomic potentials of the Mexican sunflower (*Tithonia diversifolia*) for agroforestry in Ghana

INTERNATIONAL RESEARCH COLLABORATIONS

- 2007: University of Guelph, Canada for the implementation of a 3 million dollar CIDA-funded project on Agroforestry Practices for Improved Rural Livelihoods in the transition zone of Ghana
- 2012: Africa Rice Centre, Benin for the implementation of a Global Rice Science funded project on the effects of legume green manuring and biochar amendments on green water management and soil fertility improvement in Southern Benin.
- 2013: University of Bonn, Germany for the implementation of a 7.2 million Euro project (funded by the German government) on Bamboo Agroforestry for Food Security and Renewable Energy Production in Ghana
- Since 2014: Imperial College, London for the implementation of a Royal Society funded project on the environmental importance of forest islands in the Guinea Savannah zone of Ghana.

PROFESSIONAL/COMMUNITY SERVICES

1. Member of the Advisory board, *International Journal of Agriculture*
2. Reviewer, *Organic Agriculture*
3. Reviewer, *Agroforestry Systems*
4. Reviewer, *Environmental Management*
5. Reviewer, *International Research in Agricultural Sciences*
6. Reviewer, *International Journal of Biodiversity and Conservation*
7. Volunteer tutor in agroforestry, PEOI: Professional Educational Organization International, an online education program.
8. Contributor to the writing of a Project Management Plan for the Sustainable Consumption Institute, University of Manchester, UK
9. Contributor to the development of undergraduate course in agroforestry at the School of Environmental Studies, University of Guelph, Ontario, Canada

- Contributor to the development of default estimates and models for predicting carbon sequestration in agroforestry systems in Latin America, Africa and Asia: UN contract won by Dr. Naresh Thevathasan, School of Environmental Studies, University of Guelph, Ontario, Canada

PROFESSIONAL MEMBERSHIP

- British Ecological Society, UK
- British Soil Science Society, UK
- Institute of Professional Soil Scientists, UK
- Sustainable Consumption Institute, UK
- Society for Conservation Biology, Washington D.C, USA
- Network for Emerging Leaders in Sustainability, USA
- Ontario Sustainable Energy Association, Canada
- International Management Academy, UK

INDEPENDENT SCIENTIFIC PROPOSAL WRITING AND FUNDING RECEIVED

- Partey, S. T. (2013) Agronomic potential of *Albizia zygia* and *Baphia nitida* for soil fertility improvement in Ghana.\$11, 300 received from the International Foundation for Science
- Partey, S. T. (2011) Effects of biochar and legume green manuring on green water conservation and soil fertility improvement in Benin, West Africa..... \$48, 000 received from Africa Rice Centre, Of the CGIAR, Benin
- Partey, S. T. (2008) Field Evaluation of the potential of the Mexican Sunflower for Agroforestry in Ghana..... \$12, 000 received from the University of Guelph, Canada through a CIDA-funded project in Ghana

OTHER SCHOLARSHIPS/AWARDS RECEIVED

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| 1. Dorothy Hodgkin's Postgraduate Award, The University of Manchester | - | £108, 000 |
| 2. Feb. 2008 Tropenbos International-Ghana, Small Grant Award | - | US\$ 3000 |
| 3. Nov. 2007 Government of Canada Scholarship | - | CAD\$10, 000 |
| 4. Aug. 2007 KNUST Scholarship | - | US\$ 6, 300 |
| 5. Feb. 2002 Best Graduating High School Students' Award | - | US\$ 200 |

COMPUTING SKILLS

- Internet Computing,
- Microsoft Office programs (word, Excel, PowerPoint),
- Statistical packages (R, SPSS and GENSTAT)

LABORATORY SKILLS

- Plant chemistry analysis (N, P, K, Ca, Mg, lignin, polyphenols, Ash);
- Soil chemistry and physics (total N, ammonium, nitrate, P, K, Ca, Mg, total C, organic C, cation exchange capacity, bulk density, soil moisture, soil texture, pH);
- Molecular biology techniques (DNA extraction, polymerase chain reaction, gel electrophoresis; pyrosequencing, denaturing gradient gel electrophoresis); biochemical analysis (enzyme studies: urease, L-glutaminase, glucosidase, glucosaminidase, phosphomonoesterase, N assimilatory and dissimilatory enzymes; soil microbial biomass; protein analysis).

EXTRA-CURRICULAR ACTIVITIES

- Bible teacher, Berea Bible Training Institute, Ghana