

## EXPERT'S PROFILE

**Name of Grantee:** Gilbert C. Sigua, PhD  
**Area of Expertise:** Soil Science and Management  
**Inclusive Date of Contract as BSP Awardee:** Short Term  
January 28-February 28, 2015  
**Host Institution:** Central Luzon State University (CLSU)  
**E-mail Address:** [gcsigua1014@yahoo.com](mailto:gcsigua1014@yahoo.com)



### EDUCATIONAL BACKGROUND

Louisiana State University, Baton Rouge, LA. ***Doctor of Philosophy***, Major: Soil Environmental Chemistry/Management; Minor: Geology/Geography. 1990.

University of Arkansas, Fayetteville, AR. ***Master of Science***, Major: Soil Chemistry/Biochemistry/Management. 1983.

Central Luzon State University, Philippines. ***Bachelor of Science***, Major: Soil Science (Chemistry/Fertility). 1978.

### PROFESSIONAL EXPERIENCES

#### A. TEACHING:

***Adjunct Faculty Member***, Energy & Environmental Systems Department, North Carolina A&T University, Greensboro, NC. 2013 to present.

***Adjunct Professor***, Institute of Climate and Environmental Management, Central Luzon State University. 2012 to present.

***Courtesy Assistant Professor/Graduate Faculty***, Department of Soil and Water Science, University of Florida. Gainesville, FL. 2002 to present.

***Graduate Research/Teaching Assistant***, Louisiana State University, Baton Rouge, LA. 1986-1990.

***Assistant Professor***, Department of Soil Science, Central Luzon State University (CLSU), Philippines. 1985-1987.

***Instructor***, Department of Soil Science, CLSU, Philippines. 1978-1985.

#### B. RESEARCH and MANAGEMENT:

***Research Soil Scientist***, United States Department of Agriculture, Agricultural Research Service, Florence, SC. 2012 to present. (Current Research Project: Improving Water and Nutrient Use Efficiency for Agricultural Crops; Improving Soil and Crop Productivity Using Designer Biochars.

***Lead Scientist/Research Soil Scientist***, United States Department of Agriculture, Agricultural Research Service, Subtropical Research Station, Brooksville, FL CRIS Project "Optimizing Forage-Based Cow-Calf Operations to Improve Sustainability of Beef Cattle Agriculture and Water Quality Protection and Management". 2002 - 2012.

***Environmental Scientist and Project Manager***, Environmental Sciences Division, Department of Water Resources, St. Johns River Water Management District. Palatka, FL. 1994-2002.

**Soil/Environmental Scientist**, United States Dept. Agriculture (USDA) –Agriculture Research Station, Environmental Chemistry Laboratory, BARC-West, Beltsville, MD 20705. 1992-1994. Research Project: Surface Water/Groundwater Quality, Contamination and Fate and Transport of Agrochemicals/Pesticides in Soils/Water Systems.

**Post-Doctoral Research Associate**, Louisiana State Univ., Baton Rouge, LA. 1990-1992. Research Project: Best Management Practices for Surface Water Quality Improvement in Mermentau River Basin-Louisiana.

**Project Coordinator**, CLSU Rice Seed Production Project, CLSU, Philippines. 1985-1986. Supervised/managed day-to-day activity of the CLSU Seed production project.

**Graduate Research Assistant**, University of Arkansas, Fayetteville, AR. 1981-1983.

**TO BE ACCOMPLISHED AS A BSP AWARDEE (Deliverables):**

1. Lecture Materials on water quality and sampling and other topics.
2. Results of phytoremediation study with or without EDTA in cleaning up contaminated soils. Data will include: height data of mustard; aboveground biomass; below ground biomass; concentrations and uptake of Pb in mustard; % reduction of heavy metals in soil; and % plant survival.
3. Results of the soil enzyme and soil microbial respiration/activities from soils following phytoremediation of Pb with or without EDTA and elemental sulfur.
4. Soil biological activity ( $\mu\text{g C/g soil/day}$ ) following phytoremediation.
5. Peer-reviewed paper or a peer-reviewed short communication paper to be published in international journal.
6. Based on the outcome of the study, develop a long-term study that will involve multi-year and multi-crops phytoremediation studies with other synthetic inorganic/organic supplements other than EDTA.