

Shaping Careers and Molding Young Scientists to Influence the Earth

An interview with Ressa Chee Wah, a graduate of Clark Atlanta University and Howard University, by Brenda Chee Wah

Earth system science education was a life-changing experience.



Ressa Chee Wah, MSc. BS. graduated from Clark Atlanta University in 2002 cum laude with a degree in Chemistry and a minor in Earth System Science.

How did Earth System Science influence your life?

“The study of Earth System Science opened the door to a greater understanding and appreciation of the environmental problems, issues and challenges imposed on the Earth... Earth System Science has influenced my major graduate research efforts in how to extract fresh water and improve water quality for Earth and future space exploration.”, says Ressa Chee Wah.

Ressa joined the undergraduate class in the Department of Chemistry at Clark Atlanta University and, during her first year, was offered by the Earth System Science program an opportunity to work in their research program, ably led by Randal Mandock, Ph.D., an atmospheric chemist, and the late Mr. Steve Fisher, researcher. Ressa recalls that her first research experience was a research review of the various careers stemming from the study of the Earth and its systems. Her first active on-site experience was on the Savannah River project in southern Georgia, examining coastal conditions for supporting the possibility of small scale shrimping. This impacted her understanding of the meaning of scientific observation as she followed the Army Corp of Engineers actively observing, tracking weather conditions and coastal erosion patterns, and river sedimentation flows.



Ressa points out that her ESS research experiences were punctuated with opportunities to meet other students at both the undergraduate and graduate levels at various forums. She was able to present findings from her Savannah research as a poster at Howard University; while meeting other ESS science faculty involved in ESS-related studies. Ressa feels strongly that her research in Earth System Science provided the gateway for her to participate in summer internships at the

University of Oklahoma during her freshman year and the University of Colorado – SMART program and that it enhanced her ability to seek and successfully obtain other internship opportunities annually.



Her Earth System Science experiences added to her understanding of systems programming and afforded the opportunity to take newly structured advanced ESS courses, making her one of the invaluable students within the ESS research group. Not only did this effort earn her respect in the ESS program but it provided additional opportunities in the Chemistry department to continue ESS-related research, where she worked with Conrad Ingram, Ph.D. and Ronald Verrett, Ph.D., then Department Chair.

How did the study of Earth System Science prepare you for your career?

Ressa advocates the Earth System Science multi-disciplined approaches with hands-on research activities that allow students to examine within a research context not only the scientific content, but also policies, laws and the sociological impact of the topics at hand. She found that the strong ESSE experience in problem-solving fostered a teamwork relationship with fellow research students and participating faculty at Clark Atlanta University. The Earth System Science Program provided access into the science world, by first capturing students' interest in topics and areas in which had some cursory interest, and later letting them delve into the *whys, how comes and what ifs* of the problem. Earth System science established for her the fundamentals of scientific inquiry, used starting from her freshman year, while providing the field experiences which constitute the science. The Earth System approach demonstrated for the student immediately the interdependence of all the Earth systems; while providing a practical problem or inquiry which relates to events and issues as seen on television and on the World Wide Web.

Ms. Chee Wah through her various presentations and internships caught the eye of Howard University faculty, where she was offered a scholarship to pursue her Masters in chemical engineering with a focus on environmental issues. Here she continued her work and development of research projects and publications at another renowned Historically Black University (HBU).

Ressa did note that at times her research projects at Clark Atlanta University had to specifically focus on areas which were not always of keen interest to her but that this provided an insight into funding and science issues as required by specific agencies. Presently doing post-graduate studies in teaching of sciences, Ressa now teaches public high school in Washington, DC, a career she would have never selected if it were not for an appreciation of the role Earth system science played in her academic career. Now she is working to promote greater interest among her students to become aware that the ESS field exists and understand how the fundamentals of Earth system science can be used to establish the basis of scientific thinking.