



Grace Sirju Charran
Caribbean

“ Being a scientist does not conflict with feminine values; you can be a mother, a housewife and glamorous! ”

Interview Neela Badrie*



Grace Sirju Charran

Grace Sirju Charran is senior lecturer in Plant Biochemistry, Former Head, Department of Life Sciences, Former Head, Institute for Gender and Development Studies, University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies

Main Research Interests

The initial doctoral research of Dr. Grace Sirju-Charran was on “*Enzyme Genesis in Fresh and Aged Sweet Potato Tuber Tissue*”. This research provided the basis for further examination of the role of light in tuberisation of roots and stems of sweet potato and cassava. She was instrumental in the re-introduction of *pachyrhizus* sp. (jicama or yam bean). Her research also included gender and the natural environment and perspectives and contributions of women scientists in the Caribbean. Other current interests are on the influence of light on the expression of genes involved in the storage organ formation in cassava and sweet potato using RT-PCR microarrays and a comparison of secondary and nutritional metabolites of root and stem tubers in sweet potato and cassava.

Accomplishments and Achievements she is most proud of

Dr. Sirju-Charran has spent thirty-seven years at the University of the West Indies (UWI), St. Augustine campus, Trinidad and Tobago. She has coordinated the Women and Development Studies Group at the St. Augustine Campus during the period 1988-1992 and held several seminars on *Women in Science* and *Gender Issues in Agriculture* which culminated in the institutionalization of Women and Development Studies as an academic discipline at the University of



Grace Sirju Charran with members of the UNESCO National Commission on 17 August 2011

the West Indies in 1995. One of her major achievements in this area was the introduction of 4-credit courses on 'Gender and Science' and 'Gender Issues in Agriculture'. She was instrumental in the development of new courses in Bioethics, Molecular Biology, Plant Biotechnology and Comparative Biochemistry and has successfully supervised 2 PhD, 5 M.Phil, several MSc. theses and hundreds of undergraduate students' research projects

Honors and Awards

In 2012, Dr. Sirju-Charran was awarded the Vice-Chancellor's Award for Excellence in Teaching and in 2010 the UWI/Guardian Life Premium Award for Excellence in teaching. She

received a gold medal for her contribution to plant science awarded by the National Institute of Higher Education, Research, Science and Technology. Her biography was included in a publication on *'Caribbean Women in Science and their Careers'*. Other recognitions include the Centre for Gender and Development 10th Anniversary Award, Naparima Girls' High School Alumnae Award, the Association of Commonwealth University Shell Fellowship in biotechnology, Senior Fulbright Award, the UWI/Cable and Wireless Fellowship in Distance Education; UWI/IDB Fellowship and UWI/ISS staff Development Fellowship. She was awarded a gold medal for placing first in the General Certificate of Examination (GCE) ordinary level examination at Naparima Girls'

High School and a National House Scholarship to pursue GCE advance levels at Naparima College. She won a National scholarship to pursue the BSc. in Natural Sciences at the University of the West Indies (UWI) in St Augustine and as an undergraduate student was awarded the Year 1 Faculty of Natural Sciences Prize, and the Faculty's nominee for the BWIA Student of the Year Award. She graduated with the BSc. General double first class honours in chemistry and botany and was awarded the Esso research scholarship to pursue Graduate Studies.

Why did she decide to enter a science career?

Grace believes that 'almost everyone born on this planet has a natural curiosity about Nature; however this does not automatically translate into becoming a scientist.' She was placed in the science stream at high school based on good academic performance but was inspired by a young female chemistry teacher, Ms. Dewar. The overriding pursuit of her desire for knowledge was to improve the well-being of society. Her choice of research topics had implications for improving agricultural productivity and for a greater understanding of gender studies. The research aspect of her university career took a plunge when it was felt as if the main reason for research was to publish papers necessary for promotion. She believes that emphasis must be given to the teaching of principles and concepts

rather than facts and to satisfy intellectual and emotional needs rather than training to get a degree as a passport for a job with a higher salary. Her publication portfolio consists of over 100 scientific papers which includes 3 book chapters, 14 articles in refereed international journals, 33 published conference proceedings, and 53 conference presentations and contributions to several, technical reports and video presentations.

Why is it important for women to be in science?

It would be unthinkable to have a discipline devoid of the influence and perspective of the female population. Science must address problems of those issues relevant to both sexes in an equitable way and this is more likely to happen when both sexes participate on an equal basis. Women in science can change the culture of science from an individualistic enterprise to one that is more cooperative and humane. They also function as role models and may provide a different kind of mentorship to female students. Women should be able to follow a career path of their choice without having to carry the baggage of being seen as deviant or a-stereotypical. The same must hold for males who would like to follow careers seen as stereotypically feminine. Equal participation in science by women is not just a 'gender' issue, but an economic one resulting in benefits to the whole society.



Grace Sirju-Charran's research focused on the "Origin of Enzymes in Fresh Tuber and Yam Tissue."
This research provided the bases for a more extensive examination of the role of light in the tuberization of potato and yucca roots and stalks.



Who or what is your inspiration for doing science?

Although in the 1960s, science was often seen a subject to be pursued by males, her father instilled in her that she had the capacity to do whatever she desired. There were no gender barriers in education in her family. Her mother was extremely liberal and supported her children in whatever they chose to pursue. Grace grew up in a rural village setting which allowed her the opportunity to 'see' nature at work. In high school it was the norm and expectation that the better performing students would follow the science subjects. However, her preference was to pursue French at the tertiary level. She opted to pursue botany and chemistry as a national scholarship was available to pursue science. The powerful theories of evolution, genetics and gravity based on Darwin's observation of different

species and Mendel's simple experiments crossing pea plants; Newton's observation of a falling apple and Fleming's discovery of penicillin have been truly inspirational. She was reminded of such serendipity in science when during her PhD research, an error in orienting the sweet potato tuber during planting led to the observation that sweet potato stems can form tubers. This could easily have been dismissed as an anomaly not worthy of further investigation.

What were the main barriers you experienced and how have you overcome them

Grace faced major challenges in science when she joined the faculty to become the only

female faculty in the Department of Botany, while still a PhD candidate and having as her colleagues, professors who taught her as an undergraduate student. Breaking the student/professor barrier and gaining the recognition of being equal at a time when “gender studies’ were unheard of, proved to be most difficult. This was exacerbated when she had to take maternity leave on three occasions. When she joined the Women and Development Studies Group in the late 1980s, she was able to understand and deal with being a lone junior female faculty in the department, which was slowly getting more female faculty. However she could not help noticing that opinions and suggestions voiced at meetings by females were given scant regard, and although those same ideas became accepted in the end, the female was not given the recognition she deserved. Females are required to speak confidently and sometimes aggressively in order to be ‘heard’ “Achieving a balance between motherhood and career was only possible with the assistance of a supportive spouse and mother who looked after the children while she travelled to attend the many conferences.

Do you have a family?

Grace was married to the late Dr. Dale B. Charran (MBBS MRCOG; FRCOG; FACOG) for 34 years and is the proud mother of three wonderful children: Krista (Electrical and Computer Engineer); Amanda (Musculoskeletal

Radiology Fellow (MBBS, MRCP, FRCR) and Timothy (Counseling Psychologist). She is the grandmother of Luke and Caitlin with whom she spends a lot of time since her recent retirement.

What do you like to do in your leisure time?

Grace enjoys reading novels and biographies and travelling to different countries in order to get a better appreciation of world history and culture. She also likes interacting with pre-schoolers and youths with the hope of imparting some life lessons. She relaxes by going to theatre plays and recitals and the movies.

What is your advice to other women scientists?

Her advice is not be deterred by ‘gender’ issues but rather confront and deal with them, not at a personal level, but in a professional and academic manner and to build a network for support. Follow your instincts (heart?)-pursue activities which at first seem to have no relevance to your professional career. They bring rewards in ways you never envisaged. Be aware that there may be periods when progress is slow- having a cohort of enthusiastic graduate students is a great support. Becoming a scientist does not translate into denying your feminine values- you can still have the choice to be a mother, home maker and be glamorous!

Public Service

Dr Sirju-Charran has served as a member in the Board of Governors of the National Institute of Higher Education, the Board of Management of the National Stadium, and Trinidad and Tobago National Commission for UNESCO since 2007 and was Chair of the Science sub-sector Committee. She is a founding member and is the current treasurer of the Bioethics Society of the English Speaking Caribbean. She continues to serve as assistant chief examiner for CSEC Biology and chairs the panel for the revision of the CSEC Biology syllabus. She holds membership in the History of Science Society, Philosophy of Science Association, Women's

Caucus and Organization of Women Scientists in the Developing World (formerly TWOWS). ■

*Dr. Neela Badrie was born in Trinidad and Tobago, West Indies, She is representing the Caribbean Academy of Sciences. She is a senior lecturer/researcher in microbiology, food safety and quality assurance and tropical food processing. She is the author/co-author of 71 refereed journal papers, 8 chapters in books, 29 articles/publications and has 87 presentations (including several on women in science and technology) She is responsible for the development of recent M.Phil /Ph.D programmes in Food Safety and Quality.