

Rawatee Maharaj-Sharma

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Current Post:

- **Lecturer** (Science (Physics) Education– School of Education, Faculty of Humanities & Education, The University of the West Indies, St. Augustine).
- **Programme Coordinator** (Bachelor of Education Programmes – School of Education, Faculty of Humanities & Education, The University of the West Indies, St. Augustine)

Personal Objective:

To effect change in the education sector by:

- Employing cutting edge teaching and learning pedagogies
- Pursuing a pertinent, solution-oriented research agenda
- Participating in the institutional development of the University
- Making informed and thought provoking contributions on educational issues in the society

Qualifications:

Degree	University	Dates
Ph.D. (Physics, Earth & Space Science)	York University, Canada	1997 – 2002
Postgraduate Diploma in Universal Teaching And Learning (UTAL)	York University, Canada	1999 – 2000
M.Sc. (Physics & Astronomy)	York University, Canada	1995 – 1997
B.Sc. (Chemistry & Physics) – First Class Honors	University of the West Indies, Trinidad.	1989 – 1992
Diploma in Business English (Distance Education)	University of Massachusetts, England	1987-1988

Professional Experience:

Post	Where Held	Dates
Lecturer (Science Education)	The University of the West Indies, St. Augustine, Trinidad	2000 – Present
Coordinator (B. Ed. Programme)	The University of the West Indies, St. Augustine, Trinidad	2008 – Present
Course Director (Introductory Physics/Astronomy)	York University, Canada	1998 – 2000
Tutor (Introductory Astronomy)	York University, Canada	1995 – 1998
Tutor/ Laboratory Demonstrator (Introductory Physics)	The University of the West Indies, St. Augustine, Trinidad	1992 – 1995

Current Duties:

1. Teaching Responsibilities

- i. Postgraduate Diploma in Education (**Pre-Service**)
 - Team Teaching (Science Education Courses)
 - Individual Tutoring (Education Courses)
- ii. Postgraduate Diploma in Education (**In-Service**)
 - Individual Teaching (Science Education Courses)
 - Team Teaching (Research Module & Curriculum Integration Modules)
 - Individual Tutoring (Education Foundational Courses)
- iii. Bachelor of Education
 - Individual Teaching (Science Education Courses at levels I, II and III)
- iv. Masters in Education
 - Individual Teaching (Science Courses)

2. Course/Programme Coordinator & Committee Membership

- Programme Coordinator – Bachelor of Education (**Specialist**) Programme (2008 – 2013)

- Programme Coordinator – Bachelor of Education Primary General Programme (2010 – present)
 - Responsibilities include organizing and managing issues related to:
 - i. Programme orientation
 - ii. Academic Advising
 - iii. Timetable coordination across levels
 - iv. Liaising with part-time lecturers/tutors
 - v. Student matters (late submission of assignments, extensions, courses)
 - vi. Liaising with cross-campus lecturers/tutors.

- Member of the Academic Advising Committee, Faculty of Humanities and Education (2013 – present)
 - Responsibilities include:
 - i. Initiate and review Faculty policies relating to academic advising
 - ii. Comment on University policies that will impact on the quality and/or academic integrity of academic advising
 - iii. Disseminate information about Campus and Faculty academic advising to members of the Faculty

- Chair, Sub-Committee for Restructuring of Curriculum Process on the In-Service Postgraduate Diploma in Education Programme
- Chair, B.Ed. Pre-Service Committee, School of Education (2010 – Present)

- Electives Module - Coordinator [Postgraduate Diploma in Education Programme (2004 – 2011)]
 - Responsibilities included:
 - i. Identifying and liaising with suitable lecturers/tutors
 - ii. Grouping students into elective options based on choice
 - iii. Managing room allocations for teaching sessions
 - iv. Arranging equipment and resources for the sessions
 - v. Managing remuneration process for tutors

- Member of the Research Module Committee [Postgraduate Diploma in Education (2007 – Present)]
- Former member of the University's 60th Anniversary Celebrations Committee

3. Research Supervisor

- Supervision of Action-Research Classroom-Based Curriculum Studies (Postgraduate Diploma in Education) – 10 students per year
- Supervision of Teaching Practice (Postgraduate Diploma in Education) – 10 students per year
- Supervision of Theses (Masters in Education) – 3 students per year
- Supervision of Theses (Masters in Health Promotion) – 6 students per year
- Supervision of M. Phil Theses – 2 students (currently)
- Supervision of PhD. Thesis – 1 student (currently)

List of Publications:

(a) Monographs

- Herbert, S., Rampersad, J., Akinmade, C & Maharaj-Sharma, R. (2003). Lower secondary science teaching and learning: A glimpse into the science classroom. Monograph Series (8), School of Education, University of the West Indies, St. Augustine.

(b) Articles Published in Refereed Journals and Book Chapters

- Maharaj-Sharma, R. (2014). Teaching Integrated Science through the use of interactive worksheets. *Caribbean Curriculum*, 21 (In Press)
- Maharaj-Sharma, R. (2013). What do students want in their science teachers and their science lessons? *Caribbean Curriculum*, 20, 101-113.
- Maharaj-Sharma, R. (2012). Do teachers make science learning fun and relevant? In G. Rampaul & G.E. Skeete (Eds.), *The child and the Caribbean imagination* (pp. 212-224). Mona, Jamaica: UWI Press.

- Maharaj-Sharma, R. (2012). What are upper primary school students' perceptions of science? The Trinidad and Tobago context. *Caribbean Curriculum*, 19, 1-18
- Maharaj-Sharma, R. (2012). An examination of the types and usefulness of analogies generated by upper primary school students – A case study. *Journal of the Science Teachers Association of Nigeria (JSTAN)*, 46(2), 1-9.
- Maharaj-Sharma, R.(2011). A case study of five science teachers' understandings of classroom research and their willingness to become active classroom researchers. *Asian Social Science*, 7(9), 158-167, doi:10.5539/ass.v7n9p158.
- Maharaj-Sharma, R. (2011). What are students' ideas about the concept of an electric current? A primary school perspective. *Caribbean Curriculum*, 18, 69-85.
- Maharaj-Sharma, R. (2011). A comparative study of the impact of students' feelings regarding the use of nuclear energy. *Science Education International*, 22(1), 18-30.
- Maharaj-Sharma, R. (2010). Young peoples' views on the importance of conserving the environment. *Caribbean Curriculum*, 17, 1-15.
- Maharaj-Sharma, R. (2009). Lower secondary science students' misconceptions of ozone depletion and global warming. *Caribbean Curriculum*, 16(2), 57-71.
- Maharaj-Sharma, R. (2008). Using role-play to develop science concepts. *Caribbean Curriculum*, 15, 25-43.
- Maharaj-Sharma, R. (2007). Students' attitudes to science in urban and rural schools. *Caribbean Curriculum*, 14, 39-47.
- Maharaj-Sharma, R. & Shepherd, G.G. (2004). Long-term solar variability of the daytime atomic oxygen (O¹S) emission rate in the middle and lower thermosphere. *Journal of Geophysical Research*, 109, doi: 10.1029/2003JA010183

(c) Other Papers & Reports

- Maharaj-Sharma, R (2010). Special Education Needs Assessment (SENA) Project. *Pilot Project Report prepared for British Petroleum of Trinidad and Tobago (BPTT) and The Ministry of Education, Trinidad and Tobago* (18 pages).
- Maharaj-Sharma, R. (2009). A classroom learning option. Cited in *Association for Supervision and Curriculum Development Smart Brief*, December 2009. [Originally Published in *Trinidad Express*, December 2009].
- Maharaj-Sharma, R. (2004). Gravity and tides: Myth or fact? *STAN Newsletter*, (A Publication of The University of the West Indies, St. Augustine) April-June 2004, p. 20.
- Maharaj-Sharma, R. (2004). Chatty class – What to do? *Corinth Academy Newsletter*, 2(3), 12-13.

(d) Articles under Review

- Maharaj-Sharma, R. & Sharma, A. (2014). An exploration of the reasons why physics is not the preferred science subject of upper secondary school students in Trinidad and Tobago. *Caribbean Teaching Scholar* (Under Review).

Papers Presented at Conferences and Seminars:

1. November 2012 (*Paper presented at the National Parents' Teachers' Association's Annual Convention*), Couva, Trinidad. Paper title: Balancing work, family and 'me' time.
2. December 2011 (*Paper presented at the UWI Teaching and Learning Research Day*), UWI, St. Augustine, Trinidad. Paper title: An examination of the types and usefulness of analogies generated by upper primary school students – A case study.
3. December 2009 (*Poster presented at the 13th Annual Celebrating University Teaching Week: Setting the Research Agenda in Teaching and Learning*), UWI, St. Augustine, Trinidad.

Poster Title: Young peoples' views on the importance of conserving the environment.

4. May 2009 (*Paper presented at the Cultural Studies Conference – “First they must be Children: The Child and the Caribbean Imagi/Nation”*), UWI, St. Augustine, Trinidad. Paper title: Children learn best when the learning experience is fun and relevant.
5. April 2007 (*Paper presented at the Biennial Cross Campus Conference in Education – “Re-conceptualizing the Agenda for Education in the Caribbean”*), St. Augustine, Trinidad. Paper title: Using role-play to develop science concepts.
6. July 2005 (*Paper presented at the 10th Scientific Assembly of the International Association of Geomagnetism and Aeronomy*), Toulouse, France, [IAGA2005-A-01241], (co-authored – Shepherd, G.G., Zhang, S.P., Link, R., Roble, R.G., Solheim, B. H. & Maharaj-Sharma, R.). Paper title: Solar Energy Deposition in the Thermosphere, Mesosphere and Ionosphere.
7. May 2003 (*Seminar Presentation at the CSSHE Annual Meeting, Halifax, Nova Scotia*). Paper title: An analysis of science teachers' willingness to become active classroom researchers and the challenges they face in this quest.
8. April 2003 (*Poster Presentation: University of the West Indies, St. Augustine Research Day*), Poster title: Teacher as Researcher.
9. October 2002 (*Poster Presentation: 34th COSPAR Scientific Assembly*), Huston, Texas. Poster title: Thermospheric O(¹S) dayglow response to solar energy input.

Recent Conferences and Seminars Attended:

1. June 2013 (International Conference on Science and Technology for Economic Diversification, INSCITED, held in Port-of-Spain, Trinidad [June 5th – 7th 2013]).
2. April 2013 (National Conference of the National Science Teachers Association, NSTA, held in San Antonio, Texas [April 12th -14th 2013]).

List of Current Research Activities:

1. *A case study of what experiences contribute to the ideas of energy held by primary school students in Trinidad and Tobago.*

Teaching and learning about energy for primary school students in Trinidad and Tobago emphasize mainly forms and sources of energy and to a lesser extent simple energy transformations. The absence of a rigid structure in the way students' prior knowledge is solicited makes it difficult for even the class teacher to say with any degree of certainty what experiences may have led to the pre-existing ideas of energy held by students. The purpose of this work will be to explore and hence gauge what ideas about energy are held by a group of primary school students in Trinidad and Tobago and to reveal what experiences may have contributed to the ideas they hold. Observations seem to suggest that; even after exposure to formal science instruction on the topic; students' ideas about energy and their constructed understandings of the different types of energy are not scientifically sound. This concern is what motivated the current work. The aim is to determine the extent to which students' understandings of energy are flawed and to reveal what experiences may have contributed to their understandings being flawed.

Research Grants:

1. Campus Research and Publications Fund. CRP.3.NOVI3.4 – Teaching integrated science through the use of interactive worksheets – A case study. (TT\$10,000.00). (Jan. 2014 – Dec. 2014).
2. Campus Research and Publication Fund. CRP.3.NOVI2.23 – An exploration of the reasons why physics is not the preferred science subject of upper secondary school students in Trinidad and Tobago. (TT\$8000.00). [Jan. 2013 – Dec. 2013]. **Paper currently under Review.**
3. Campus Research and Publication Fund. CRP.3.NOVI0.25(2) – What are upper primary school students' perceptions of science? – The Trinidad and Tobago context. (TT\$6,000.00). [Jan. 2012 – Dec. 2012]. **Paper Published.**
4. Campus Research and Publications Fund. CRP.3.NOVI09.25 – What are Young Children's Ideas about the Concept of an Electric Current? (TT\$5,500.00). [Jan. 2010 – Mar. 2011]. **Paper Published.**
5. BPTT Research Grant to facilitate a project entitled “Special Educational Needs Assessment (SENA) Project”. (TT\$21,900.00). [Jan. 2009 – Sept. 2010]. **Reports delivered (18 pages)**

6. Campus Research and Publication Fund.3.FEB07.19 – Lower Secondary Science Students’ Misconceptions of Ozone Depletion and Global Warming, (TT\$6000.00). [Jan. 2008 – Jan. 2010]. **Paper published.**
7. Government of Trinidad and Tobago Research Development Fund FHE.2-OCT.2006: Using Role-play to Develop Science Concepts in Primary Science, (TT\$5000.00). [Oct. 2006 – Dec. 2008]. **Paper published.**

Awards

1. April 2013 – International Visitor Leadership Program (IVLP) Award [*Grant awarded by the Government of the United States of America for participation in STEM Education Programs*]
2. April 2012 – IDU’s Most Outstanding Research Paper Award [*Paper presented at the UWI Teaching and Learning Research Day*], UWI, St. Augustine, Trinidad. Paper title: An examination of the types and usefulness of analogies generated by upper primary school students – A case study

Outreach Activities:

1. Several Articles (*Education Perspectives*) – Trinidad Express Newspaper [Over 30 articles].
2. Several Series of *One-day workshops* entitled “Laboratory apparatus and techniques – Familiarity and manipulation” at Primary Schools across Trinidad.
3. Feature/Keynote Speaker (*Graduation ceremonies* at several primary and secondary schools).

Volunteer Services:

1. Executive Member (Woodland Hindu Temple; 2007 – Present).
2. Former President (Parent Teachers Association; Freeport Hindu School; 2002 - 2005).
3. Member (Astronomy Club, York University, Canada; 1995 – Present).
4. Former Member (Organizing Committee, CARISCIENCE; 2005 – 2007).

Public/Professional Affiliations:

1. Member of the Editorial Board, *Caribbean Teaching Scholar* IDU, UWI, St. Augustine, 2010 – present.
2. Director, *National Institute of Higher Education for Research in Science and Technology (NIHERST)*, 2010 – present.
3. Assistant Chief Examiner, *Caribbean Examination Council (CXC)*, 2011 – present.

Interests:

1. Religious and cultural events, celebrations and activities.
2. Art, Music and Dance.

References:

1. **Professor Gordon G. Shepherd** (York University, Ontario, Canada)
2. **Professor June George** (The University of the West Indies, St. Augustine, Trinidad & Tobago)
3. **Professor Deo Poonwassie** (University of Manitoba, Canada).
4. **Mr. Ramdath Balkissoon** (Retired Vice Principal, San Fernando Central Secondary School)
5. **Dr. Jeanette Morris** (The University of Trinidad and Tobago, O'Meara Campus).
6. **Mr. Ishwar Dean** (George Brown College, Ontario, Canada).
7. **Mr. Alloy Lequay** (Author, Politician, and Former Sports Administrator)