

DEPARTMENT OF GEOGRAPHY AND GEOLOGY



Professor Simon F Mitchell, B.Sc. *Hull*, Ph.D. *Liverpool*
Head of Department

WORK OF THE DEPARTMENT

Professor Simon F. Mitchell continued as head of the Department for the 2014–2015 academic year as well as continuing as Acting Head of the Earthquake Unit. Dr Arpita Mandal took over the coordination of Graduate Students in the Department, Dr David Miller coordinated examinations, and Prof David Barker and Dr Thomas Stemmann coordinated the Geography and Geology programmes respectively.

Staffing continued to be a serious issue affecting the Department; and fiscal conditions in the University were a major setback in the hiring of new staff. At the end of the 2014–2015 academic year Prof David Barker retired after a long and distinguished career at the UWI. He has been honoured with an emeritus professorship at the UWI. Mr Robert Kinlock and Miss Taneisha Edwards were employed to teach in Geography and

Geology respectively, and Dr Donovan Blissett and Miss Rose-Ann Smith taught courses in the Department on part-time contracts. Dr Leo Douglas completed his stint in Jamaica and has now taken up a position in Colombia. Dr Thera Edwards began a two year leave of absence to undertake project coordination in the Institute for Sustainable Development, and in her place, Miss Rose-Ann Smith was employed as a short-term replacement to run the Map Library. Mrs Nadine Sherlock left the Department at the end of the academic year to take up a position with Prof Dale Webber the new PVC for Graduate Studies. Ms Jullian Williams continued as a research assistant for the Head of Department.

The Department continued to offer its full curricula of courses in Geography and Geology during the 2014–2015 academic year despite the staffing restrictions. Some staff members had to undertake excessive teaching loads in order to accommodate this. Both the new major in Geosciences and the new minor in Human Geography were offered for the first time.

The Department ran two workshops during the year on training on Tsunami Modelling and Hazard Assessment in collaboration with the Environmental Hydraulics Institute IH Cantabria, AECID (Spanish Corporation Agency), the Caribbean Disaster and Emergency Management Agency (CDEMA), the UWI Earthquake Unit, and the Office of Disaster Preparedness and Emergency Management (ODPEM). The workshops were hosted by the Department of Geography and Geology and ran from the 15th–19th of September, 2014, and the 26th–30th January, 2015. Funding came from by AECID and Chilesana.

Members of the Department attended major conferences in the region. Three staff members (Dr Arpita Mandal, Dr David Miller and Dr Kevon Rhiney) and three graduate students from the Department attended the American Association of Geographers Annual Meeting in Chicago, 21st–25th April, 2015, where they presented a series of papers and posters. Three members of the Department (Prof Simon Mitchell, Dr Thomas Stemann and Dr Sherene James-Williamson) attended the 20th Caribbean Geological Conference in Trinidad in May, 2015. A total of five presentations and posters were presented. Prof Simon

Mitchell also attended the meeting of the Standing Committee to consider the venue for the 21st Caribbean Geological Conference to be held in 2018.

Dr Kevon Rhiney attended the Forum on the Future of the Caribbean held in Port-of-Spain, Trinidad, 5th–7th May 2015. The forum was organized by the United Nations Development Programme in collaboration with the Government of the Republic of Trinidad and Tobago. Dr Arpita Mandal attended a workshop from the 27th–31st July 2015 in Quito, Ecuador, organized by CDKN–ICLEI on Sub-national Climate Compatible Development.

Dr Arpita Mandal was a member of the committee for the 10th Faculty of Science and Technology (FST) Conference, UWI MONA, which was held in May, 2015. Four research students from the Department (Andre Reid, Natalie Robinson, Shaneica Lester and Ann Teresa Birthwright) gave oral presentations and two research students (Amal Sealy and Anuradha Maharaj) presented posters. An undergraduate student, Sarah Buckland, also presented an oral presentation and received a prize for the best presentation by an undergraduate student at the conference.

Anuradha Ann Maharaj received an M.Phil. degree in Geology for her thesis entitled “Analysing high intensity, rainfall-driven, river flooding in Port Maria, St. Mary, Jamaica” in July of 2015.

Shaneica Lester, an M.Phil student in Geography in the Department, presented at the 23rd Annual Caribbean Water and Waste Water Association Conference and Exhibition, “Water Waste and Energy in the Caribbean” in Nassau, Bahamas (6–10th October 2014), was a participant in the Water After Borders Summit entitled “Global Stakes and Local Politics” at the University of Illinois, Chicago (23rd–24th April 2015) and was a recipient of a Summer University Program (SUN) Scholarship to attend the Central European University for the course titled: “Bridging ICTs and Environment- Making Information Talk and Technologies Work for Water Security: Remote Sensing”, Budapest, Hungary (6th–10th July 2015).

Dr Sherene James-Williamson was the Guest Presenter for the Moruga

Museum, Trinidad, at their “Meriken-African Heritage Day” Opening Ceremony on the 22nd of May, 2015. She also attended the Commonwealth Association of Museums, Museums Association of the Caribbean, ICOM-ICTOP, Barbados Museums and Heritage Society sponsored Museums Education Workshop held in Barbados 17th–19th June, 2015.

Professor Simon Mitchell received the Vice Chancellor’s Award for Excellence in the areas of Research and Public Service for his work on geology in the Caribbean Region. He also received the Chubb Award for Excellence from the Geological Society of Jamaica at a ceremony held in January of 2015. Dr Kevon Rhiney received the 2014/2015 Principal Award’s for Research Project with the Greatest Business/Economic/Development Impact, in the Faculty of Science and Technology.

The UWI Geology Museum (UWIGM) hosted approximately 800 visitors, largely comprising students and teachers during Research Days and GIS Day. Various rural and local area schools were also accommodated as part of the Jamaican primary, secondary and tertiary curriculum. The UWIGM hosted Miss Emma Locatelli a researcher from the Department of Geology and Geophysics, Yale University, who is working with Dr Thomas Stemmann. Her collaboration has gained the museum additional specimens which she will continue to work on over a period of time and a cabinet to house these new items. The UWIGM in collaboration with the UWI Museum hosted the Museums Association of the Caribbean annual conference and AGM at the Mona Visitors’ Lodge 16th-20th November 2014. This conference saw persons from North America, Europe and the wider Caribbean in attendance. The UWIGM hosted a volunteer for 30 hours this summer from the Kingsway High School as part of the school’s outreach programme.

PAPERS PRESENTED

- **David Barker**, T. Malcolm and D. Campbell. “Understanding the social dimensions of marine protected areas (MPAS) in Jamaica: an assessment of fishers’ perceptions and attitudes towards special fishery

conservation areas (SFCAS) across the island.” Annual Conference SEDAAAG, November, 2014. Athens, Georgia.

- **Sherene James-Williamson** and Simon F. Mitchell. “Deposition Architecture of a fluvio-deltaic to reef crest succession, Port Morant Formation, Jamaica.” Oral Presentation. Abstract published in “Abstracts and Programmes 20th Caribbean Geological Conference, June 17–22, 2015”, p. 58.
- **Sherene James-Williamson** and Simon F. Mitchell. “Source of the Seville Stones?” Oral Presentation. Abstract published in “Abstracts and Programmes 13th Archaeological Society of Jamaica Symposium, April 8–9, 2015”, p. 10.
- **Sherene James-Williamson**. “Assessment and conservation of an outdoor exhibit: the Geography Geology Obelisk.” Oral Presentation. In: Sherene James-Williamson and Suzanne Francis-Brown (Eds.), “Innovation, Research & Education – the future of Caribbean Museums. Museums Association of the Caribbean Annual Conference and AGM Kingston, Jamaica November 16–20, 2014, Abstracts and Programmes.”
- **Sherene James-Williamson**, Rupert D. Green and Andre D. Reid. “Spatial and Image analysis at the intersection of Geology and Archaeology.” Oral Presentation. “LICJ Symposium, November 13, 2014”, The University of the West Indies, Mona.
- **Aripta Mandal**, Simon F. Mitchell and K.A. Mitchell. “The Standard for Tsunami Inundation Modelling.” Oral Presentation. CDEMA - ODPEM CHILESPANA AECID workshop, Regional Seismic and Tsunami Risk Workshop, 3rd March 2015, ODPEM Headquarters, Jamaica.
- **Arpita Mandal**, R. Richards, A. Nandi and M. Codling. “Flood Hazards in Jamaica: The impact of hurricanes, tropical storms, and the development of a Parish Based Disaster Risk Information Platform (DRIP)”. Oral Presentation. Annual Conference of the Jamaica Institute of Engineers, 22nd September, 2014, Pegasus, Kingston, Jamaica.

- **Arpita Mandal** and A. Maharaj. “The importance of hydroinformatics in hazard assessment: the use of HEC-HMS & HEC-GEOHMS to analyze flooding in Port Maria, St. Mary, Jamaica”. Oral Presentation. 23rd Annual Caribbean Water and Wastewater Association Conference, October 6–10, 2014, Bahamas.
- **Arpita Mandal**, M.Taylor, T. Stephenson, J. Campbell and A. Brown. “Scenarios of discharge for the Hope River Watershed in response to variable tropical cyclone characteristics.” Oral Presentation. CARIWIG stakeholder workshop held in Barbados, 10th–12th February 2015.
- **Arpita Mandal**, T. Stephenson, M. Taylor, A. Brown and J. Campbell. “Simple model for advection of storms and hurricanes (Smash) and watershed modelling.” Oral presentation. IV Congreso sobre Cambio Climático, 6th–10th July 2015, Havana, Cuba.
- **Arpita Mandal**, Arpita Nandi, Matthew Wilson and David Smith. “Flood Hazard mapping in Jamaica using Principal Component and Logistic Regression.” Oral Presentation. Annual Meeting of the Association of American Geographers, Chicago, 21st–25th April 2015.
- **David Miller** and T. Rodriguez. “A 1300 year drought history of the Yallahs region, St. Thomas, Jamaica.” Oral Presentation. Annual Meeting of the Association of American Geographers, Chicago, 21st–25th April 2015.
- **Simon F. Mitchell**. “Jamaica and Earthquake Risk.” Oral Presentation. Warden Conference, 12th September 2014, U.S. Embassy, 142 Old Hope Road, Kingston, Jamaica.
- **Simon F. Mitchell**. “James Gay Sawkins in Cuba 1835-1847 from Habana to St Jago-de-Cuba.” Oral Presentation. Invited talk, Jamaican Historical Society, Annual General Meeting, 5th March 2015, Social Welfare Centre, The University of the West Indies, Mona, Kingston 7, Jamaica.
- **Simon F. Mitchell**. “Rise and Fall of the American Rudists.” Oral

Presentation. Invited Talk. Florida International University, 10th April 2015.

- **Simon F. Mitchell**, Alan Hastie and Richard N. Abbott. “Late Cretaceous to early Paleogene geological evolution of Jamaica.” Oral Presentation. 20th Caribbean Geological Conference, Hyatt Regency Hotel, Port-of-Spain, Trinidad, 17–22nd May 2015.
- Kevin Tankoo and **Simon F. Mitchell**. “Geotectonic Evolution and Stratigraphy of the North Coast Belt Jamaica: New Insights on the Structure and Petrophysical Characteristics of Eocene-Miocene Successions.” Oral Presentation. 20th Caribbean Geological Conference, Hyatt Regency Hotel, Port-of-Spain, Trinidad, 17–22nd May 2015.
- **Simon F. Mitchell**, Richard Coutou, Adam Khan and Dana Tankoo. “Rudist Bivalves from the Lower Cretaceous of Trinidad.” Poster Presentation. Poster. 20th Caribbean Geological Conference, Hyatt Regency Hotel, Port-of-Spain, Trinidad, 17–22nd May 2015.
- **Kevon Rhiney**, Taylor, M., Mandal, A., Stephenson, T., Campbell, J., Tomlinson, J. and L. Waller. 2015. “Towards Developing a Climate Change Strategy and Action Plan for Jamaica’s Agriculture Sector: Overview and Insights.” Oral Presentation. Climate-Smart Agriculture Symposium, Knutsford Court Hotel, Kingston, 16th July 2015.
- **Kevon Rhiney**. “Climate Impacts and Resilience in Caribbean Agriculture.” Oral Presentation. IV Congreso sobre Cambio Climático, Havana, Cuba, 6th–10th July, 2015.
- **Harvey, E.** and Kevon Rhiney. 2015. “Agritourism Potential in the Caribbean: Lessons for the Pacific.” Oral Presentation. Inaugural Pacific Week of Agriculture and Agribusiness Forum, Nadi, Fiji, 2nd July 2015.
- **Kevon Rhiney**, T. Lopez-Marrero and T. Walker. 2015. “Building Climate Resilient Urban Communities in the Caribbean: Insights from Jamaica.” Oral Presentation. paper presented at the Annual Meeting of the Association of American Geographers, Chicago, April 21, 15pp.

- **Kevon Rhiney.** “Climate Impacts and Resilience in the Caribbean: Report on Work Package 3.” Oral Presentation. UWI/CARIBSAVE/CDKN Stakeholder Consultation Workshop, Mona Visitors Lodge, Kingston, Jamaica, 22nd January 2015.
- **Kevon Rhiney.** “Vulnerability and Resilience Among Caribbean Farmers to Climatic Variability and Change: Case Study of Cocoa Farmers.” Oral Presentation. Commonwealth Geographical Bureau (CGB) Workshop, Jamaica, 14th–15th April, 2015, Knutsford Court Hotel, Kingston.
- **J. Tomlinson and Kevon Rhiney.** 2015. “Experiential Learning, Resilience Building and Climate Change: A case study of rural smallholder farmers in Northern Clarendon, Jamaica.” Oral Presentation. Commonwealth Geographical Bureau (CGB) Workshop, April 14th–15th 2015, Knutsford Court Hotel, Kingston, Jamaica.
- **Thomas Stemann.** “Age and paleoecology of the earliest Cenozoic Caribbean coral reef communities.” Oral Presentation. 20th Caribbean Geological Conference, Hyatt Regency Hotel, Port-of-Spain, Trinidad, 17th–22nd May 2015.

PUBLICATIONS

Books and Journals

- **Sherene James-Williamson and Simon F. Mitchell** (Editors). *Caribbean Journal of Earth Science* Volume 47, 19 pp., Geological Society of Jamaica, Kingston, Jamaica.

Refereed Book Chapters and Journal Articles

- **David Barker and R. Smith.** “Land and Livelihoods among the Black Carib communities of North East St Vincent: Case studies of agro-processing.” *Caribbean Geography*, 18 (2014), pp. 64–83.
- **Thera Edwards.** “Towards an historiography of the Hill Gardens at Cinchona, Jamaica.” *Caribbean Geography*, 19 (2014), pp. 69–88.

- C. Burgess, M. Taylor, T. Stephenson and **Arpita Mandal**. “Frequency analysis, infilling and trends for extreme precipitation for Jamaica (1895 to 2100).” *Journal of Hydrology: Regional Studies*, vol. 3 (March 2015), pp. 424–443, Elsevier.
- C. Burgess, M. Taylor, T. Stephenson, **Arpita Mandal** and L. Powell. “A Macroscale Flood Risk Model for Jamaica with impact of climate variability.” *Natural Hazards*, vol. 77 (2015), pp. 89–100. (DOI 10.1007/s11069-015-1712-z), Springer.
- **Simon F. Mitchell**. “A reassessment of the validity and affinities of *Belemnites sulcatus* Miller 1826, *Belemnopsis* Edwards in Gray 1849 and *Belemnopsis* Bayle 1878.” *Carnets de Géologie* [Notebooks on Geology], vol. 15 (2015), pp. 31–39.
- **Simon F. Mitchell** and R. Ramsook. “Discussion of Jamaican Cenozoic ichnology: review and prospectus: (v. 50, pp. 364–382)” *Geological Journal*, vol. 50 (July/August 2015), pp. 539–542.
- **Simon F. Mitchell** and **Sherene A. James-Williamson**. “An Enormous Fossil Shell – the inspiration that led to the description of Jamaica’s fossil rudist bivalves.” *Jamaica Journal* vol. 15 (2015), 62–64.
- **Simon F. Mitchell**. “Comment on “Urchins on the edge: an echinoid fauna with a mixed environmental signal from the Eocene of Jamaica” by C. van den Ende and S. K. Donovan [Swiss J. Palaeontol. DOI 10.1007/s13358-015-0072-3].” *Swiss Journal of Palaeontology*, Vol. 134 (2015), pp. 143–144.
- **Simon F. Mitchell**. “Geology of the parish of St Catherine (1:50,000 scale).” Geological Map (2015). Department of Geography and Geology, The University of the West Indies, Mona, Kingston, Jamaica.
- **Kevon Rhiney**. “Geographies of Caribbean Vulnerability in a Changing Climate: Issues and Trends.” *Geography Compass* (2015), pp. 1–18. doi: 10.1111/gec3.12199.

Non-referred Papers

- **Sherene A. James Williamson.** “Geological Assessment of the Jeffery Town-Wallenford Watershed Area.” Prepared for ACDI/VOCA (2015).
- **Kevin Rhiney,** Anestoria Shalkowski, Dale Webber, Mona Webber, Llewelyn Meggs, Rachel Allen, April Baptiste and **Robert Kinlocke.** “A socio-economic survey and carrying capacity study of the Pedro Cays: Northeast Cay and Middle Cay, Jamaica.” Final Report (2015). Fisheries Division, Ministry of Agriculture & Fisheries, Government of Jamaica, 179 pp.
- **Kevin Rhiney.** “The Potential for Agrotourism Development in the Caribbean.” Prepared for the Technical Centre for Cooperation on Agriculture (CTA and the Inter-American Institute for Cooperation on Agriculture (IICA)), 2015, 128 pp.
- **Kevin Rhiney.** “The State of Climate Smart Agriculture in the Caribbean: Final Country Report – Jamaica.” Prepared for the Inter-American Institute for Cooperation on Agriculture (IICA), 2014, 35 pp.

PUBLIC SERVICE

David Barker

- External Examiner in Geography for the Joint Board of Teacher Education (JBTE).
- Editor, *Caribbean Geography*.
- Convenor, *CAPE Geography*.
- Editorial Committee, *CaribXplorer Magazine*.
- Editorial Board, *Caribbean Quarterly*
- Council member, Jamaican Geographical Society

Sherene James-Williamson

- Editor, *Caribbean Journal of Earth Science*
- Editor, *Museums Association of the Caribbean*
- Vice President – Museums Association of the Caribbean
- Deputy Chair – Heritage Clubs of Jamaica
- Board Member – Empowered Caribbean Community (EmPCC)
- First Vice President, UWI Alumni Association, Jamaica Chapter
- UWI Representative – Land Information Council of Jamaica (LICJ)
- Committee Member – National Restoration Committee
- Committee Member – Jamaica National Heritage Trust Declaration Committee
- External examiner – College of Agriculture, Science and Education
- External Examiner – Joint Board of Teacher Education
- Mentor – UWI Mentorship Programme

Arpita Mandal

- Member of Global Water Partnership Caribbean
- Council Member, Geological Society of Jamaica

Simon F. Mitchell

- Scientific Committee, International Congress on Rudist Bivalves.
- Scientific Committee, Caribbean Geological Conference.
- Editor, *Caribbean Journal of Earth Science*.
- Editor, *UWI Contributions to Geology*.
- Language Editor, *Carnets de Geology*.
- Member, National Committee on Coastal Zone Management (NCOCZM).
- President, Geological Society of Jamaica.
- Chairman, Jamaican Stratigraphic Committee.

Kevon Rhiney

- External Examiner, College of Agriculture, Science and Education
- External Examiner, Joint Board of Teacher Education
- Editorial Board, Caribbean Geography Journal
- Council Member, Jamaican Geographical Society
- Member of the Steering Committee for the Climate Change Action Training (CCAT) Programme (USAID-funded Ja REEACH Project).
- Steering Committee Member, Global Water Partnership – Caribbean (GWP-C)
- Vision 2030 Jamaica – National Development Plan Thematic Working Group, Environment and Natural Resources Management/Sustainable Urban & Rural Development.
- Member, Inter-American Development Bank (IADB) Civil Society Consulting Group (ConSoc) Jamaica – The Environment, Energy and Infrastructure Thematic Group
- National Fisheries Policy Steering Committee: Climate Change and Disaster Risk Management sub-committee

STUDENTS

Undergraduate Students: Geography

Year I	142
Year II	50
Year III	29

Undergraduate Students: Geology

Year I	95
Year II	37
Year III	33

Postgraduate Students

MPhil Geography	6
MPhil Geology	2
PhD Geography	3
PhD Geology	2