

## DEPARTMENT OF GEOGRAPHY AND GEOLOGY



Dr Parris Lyew-Ayee, BSc *UWI*, DPhil *Oxon*  
Head of Department

### WORK OF THE DEPARTMENT

**D**r Parris Lyew-Ayee took up duties as the new Head of Department on August 1, 2012. Unfortunately, circumstances and the pressure of work at the Mona GeoInformatics Institute, where he remains the Director, led to his resigning the Headship at the end of the year under review.

Professor David Barker retired from the University, the last seven years as Head of Department, but remains as a lecturer in Geography under a post-retirement contract. Dr Thomas Stemmann, Lecturer in Geology, resumed duties after a year's sabbatical leave. Dr Kevon Rhiney, Lecturer in Geography, spent the period January to April 2013 on a post-doctoral Commonwealth Fellowship in the United Kingdom, tenable at Oxford University. On July 1, 2013 Dr Sherene James-Williamson, Geology

Museum Curator, began a seven-week stint as a visiting researcher at the American Museum of Natural History in New York City.

The Department continued to struggle with the shortage of academic staff, but managed to mount the full range of courses in the undergraduate programmes. Dr Donovan Blissett and Mr Robert Kinlocke each continued on another one-year appointment as Temporary Lecturer in Geology and Geography, respectively. Dr Anestoria Shalkowski took up the slack for another year as Teaching Assistant in Geology. By the end of the academic year the Department was reviewing a number of applications which had been submitted to fill advertised positions of lecturers in Geography and in Geology. The University also asked the Department to attempt to fill the endowed Chair in Water Resource Management, which has remained vacant for about ten years.

Professor Emeritus Edward Robinson relinquished his position as the head of the Marine Geology Unit in December 2012 to take up 'full-time retirement.' Until the status of this Unit is formally regularized, it is temporarily being managed by the Mona GeoInformatics Institute.

Dr Leo Douglas is a visiting academic in the Department for the period January 2013 through September 2014. He is simultaneously a Visiting Scientist at the American Museum of Natural History in New York City.

Joyelle Clarke and Junior Darsan completed their PhD degrees in Geography during the year. Natainia Lummen completed her MPhil in Geography and Richard Coutou his MPhil in Geology. Three new postgraduate students began working on their MPhil degrees in Geography during the year; there were no new postgraduate students in Geology.

The reform of the undergraduate curricula in both Geography and Geology, which had begun with the Level 1 courses in the 2011/2012 academic year and continued with the Level 2 courses the following year, was completed this year with the approval of all-new Level 3 courses to be introduced in the 2013/2014 academic year. All the courses have been carefully revised, and new ones have been added, to provide comprehensive Geography and Geology undergraduate programmes. Except for the 6-credit research theses which are compulsory at Level 3

in both the Geography and the Geology majors, all the undergraduate courses are now 3-credit courses. This has made it possible for Geography courses to be formally offered outside the Faculty of Science and Technology as part of other degree programmes. The Department has always offered a BA degree with a Geography Major, and Geography has always been available as part of a BEd degree, but with the new course offerings, Geography may now be taken as a Minor with a Humanities major for a BA degree, and as a Minor with a Social Science Major for a BSc Social Science degree. It is expected that this will increase student numbers in the Department.

The new publication *Natural Hazards Atlas of Jamaica* was officially launched in September 2012. Authored by Dr Parris Lyew-Ayee and former lecturer in Geology, Mr Rafi Ahmad, and published by the UWI Press, the book represents many years of work and is unique in presenting, for all of Jamaica and for each of the parishes, profiles of the physical and socio-economic characteristics, as well as of the natural hazards to which they are prone. Details of past hazard experiences are given, complete with very useful maps and graphic illustrations and many photographs, including archival records.

On October 12, 2012, Mr Layla 'Kip' Smith, President and CEO of Noranda Aluminum (USA), which operates the Noranda St Ann Bauxite Partners plant, visited the Department to preside over the burial of the time capsule to commemorate the 50th anniversary of the teaching of Geology on the Mona campus. The capsule was donated by his company and filled with memorabilia covering the fifty years. It was buried on the front lawn of the Department, beside the obelisk, and will be opened in the year 2062. Mr Smith also used the occasion of his visit to hand over his company's commitment to fund a postgraduate scholarship in Geology at UWI, Mona.

JAMALCO donated to the Department twenty safety vests and twenty safety helmets for use by staff and students on fieldwork.

The Department continued to administer the Earthquake Unit, whose Head, Dr Lyndon Brown, resigned from the position during the year.

## GRANTS RECEIVED

Professor Jonathan Holmes (University College London), Professor Sarah Metcalfe (Nottingham University) and **Dr Michael Burn** received a grant from the UK Natural Environment Research Council totalling US\$255,000 for the project “Climate Variability over the Circum-Caribbean Region during the Past 1200 Years from Oxygen-Isotope Analyses of Lake Sediments.” The duration of the project is January 2013 to July 2014.

**Dr Parris Lyew-Ayee** was awarded a research grant of US\$12,500 by the World Bank for a project (completed in June 2013) on “An Assessment of the Impact of Floods and Landslides on the Jamaican Transport Infrastructure.”

**Dr Arpita Mandal** received a grant of US\$78,000 for the CARIBSAVE-CDKN project “Climate Change and Inland Flooding in Jamaica: Risk and Adaptation Measures for Vulnerable Communities,” for the period January 2013 to July 2014. Dr Mandal is the principal investigator, with collaboration from the Department of Geography at UWI St Augustine, the Climate Change Studies Group at UWI Mona, and the Jamaica Conservation and Development Trust.

Taneisha Edwards (PhD Geology) and **Professor Simon Mitchell** received a grant of US\$1,700 from the Geological Society of America for her studies on stable isotopes.

**Dr Kevon Rhiney** was the principal investigator on a three-month project (beginning July 2013) entitled “Socio-Economic Census and Carrying Capacity Study of the Pedro Cays (Northeast and Middle Cays),” funded by a grant of J\$4,989,000 from the Ministry of Agriculture and Fisheries, Jamaica. The project collaborators were Anestoria Shalkowski, Dale Webber, Mona Webber, April Baptiste and Llewelyn Meggs.

Lloyd Waller (principal investigator), **Dr Kevon Rhiney** and Abdullahi Abdulkadri received a Caribbean Development Fund grant for a project entitled “Comparative Analysis between LDCs and MDCs within the Caribbean Single Market and Economy and Predictions of Agglomeration.”

## PAPERS PRESENTED

### David Barker

- (with K. Rhiney and D. Campbell) 'Impacts of climate change on coffee production in Jamaica: preliminary insights.' Annual Meeting of the Southeastern Division of the Association of American Geographers, Asheville, North Carolina, USA, November 18–20, 2012.

### Donovan Blissett

- (with S. Mitchell) 'Palaeoecology of reworked diagenetic concretions from the Cretaceous of Jamaica.' Geological Society of Trinidad and Tobago, 5th Geological Conference, September 3–5, 2012.

### Michael Burn

- (with B.S. Whitney, K. Fitzpatrick, S.E. Metcalfe, N.J. Loader, W. Surangi, W. Punyasena and F.E. Mayle) 'The Pleistocene-Holocene transition in continental South America: summary of multiproxy data from Laguna La Gaiba.' Calibrating Environmental Leads and Lags over the Last 50 kyr CELL-50K Workshop, Budapest, Hungary, November 12–15, 2012.

### Sherene James-Williamson

- (with P.E. Green) 'Geoconservation and geoarchitecture surrounding archaeology at the town of Sevilla in Jamaica.' Archaeological Society of Jamaica Symposium, April 11, 2013, UWI Mona.
- 'Criteria for the characterization of high-purity limestone in Jamaica.' 49th Forum on Industrial Minerals, Kingston, Jamaica, June 24–29, 2013.

### Parris Lyew-Ayee

- (with E. Ward and D. Ashley) 'The impact of violence post-Independence on Jamaican health services.' SALISES 50/50 Conference, University of the West Indies, Kingston, Jamaica, August 20–24, 2012.

- (with D. Thompson, T. Forrester, C. Taylor-Bryan, M. Boyne and L. Green) 'The socio-economic co-relates of severe childhood under-nutrition in Jamaica (2000–2013).' TMRI Research Seminar Series, University of the West Indies, Kingston, Jamaica, June 2013.

#### **Arpita Mandal**

- (with L. Barrett) 'Flooding in Jamaica, damage to infrastructure and water supply systems.' AEG Annual Meeting, Salt Lake City, Utah, USA, September 15–21, 2012.
- (with D. Smith) 'IWRM in university education – courses related to water resources and IWRM taught at UWI Mona.' Global Water Partnership Caribbean Workshop, Barbados, June 5–6, 2013.

#### **David Miller**

- (with A. Pearson, W. Mulder and T. Rodriguez) 'The impact of Hurricane Sandy on selected south coast beaches, Jamaica, West Indies.' Annual Meeting of the Association of American Geographers, Los Angeles, California, USA, April 9–13, 2013.

#### **Simon Mitchell**

- (with D. Blissett) 'Palaeoecology of reworked diagenetic concretions from the Cretaceous of Jamaica.' Geological Society of Trinidad and Tobago, 5th Geological Conference, September 3–5, 2012.
- (with K. Tankoo and L. Brown) 'The geology and structure of the Late Eocene to Late Miocene carbonates, north coast belt, Jamaica: implications for hydrocarbon exploration.' Geological Society of Trinidad and Tobago, 5th Geological Conference, September 3–5, 2012.
- 'Rise and fall of American rudist bivalves.' Geological Society of Trinidad and Tobago, 5th Geological Conference, September 3–5, 2012.
- (with T. Edwards) 'Rapidly cemented sandstones and conglomerates (beachrock) on the Jamaican coast.' Geological Society of Trinidad and Tobago, 5th Geological Conference, September 3–5, 2012.

- (with T.M. Puckett and J.P. Colin) 'New taxa of late Cretaceous (Maastrichtian) marine ostracodes from Jamaica and their paleobiogeographic relationships to the surrounding regions.' GSA Annual Conference, Charlottesville, USA, November 4, 2012.
- 'Hydrocarbon exploration, offshore Jamaica.' The Future of the Caribbean Sea, Faculty of Science and Technology, UWI Mona, December 6–7, 2012.
- 'Lucas Barrett and the Geological Survey of Jamaica 150 years after his death.' Geological Society of Jamaica meeting, December 19, 2012.
- 'Oil exploration potential in Jamaica.' V Cuban Earth Science Convention: Geoscience in the Service of Society and Development, Havana, Cuba, April 1–5, 2013.
- (with K. Tankoo and L. Brown) 'Sedimentology, stratigraphy and structural signatures of Eocene-Miocene carbonates, north coast, Jamaica: regional tectonic implications and hydrocarbon.' AAPG Annual Convention and Exhibition, Pittsburgh, Pennsylvania, USA, May 19–22, 2013.
- 'Jamaican limestone resources – a geological basis for exploration and assessment.' 49th Forum on Industrial Minerals, Kingston, Jamaica. June 24–29, 2013.
- (with T. Edwards) '(Preliminary) petrographic and geochemical investigations of dolomitic limestones in Jamaica.' 49th Forum on Industrial Minerals, Kingston, Jamaica, June 24–29, 2013.

### **Kevon Rhiney**

- (with C. Hines, H. Wong and D. Campbell). 'A spatio-epidemiological study into the causes and triggers for asthma patients in the Accident and Emergency Department, Kingston Public Hospital, Kingston.' Fifth Kingston Public Hospital Clinic and Scientific Conference, Kingston, October 28, 2012.
- (with L. Waller and A. Symmonds) 'Measuring Caribbean integration: towards developing a model that measures disparities and cohesion

among CARICOM member states.’ Fifth CARICOM Regional Statistical Research Seminar, St George’s, Grenada, October 29–November 2, 2012.

- (with D. Campbell and D. Barker) ‘Impacts of climate change on coffee production in Jamaica: preliminary insights.’ Annual Meeting of the Southeastern Division of the Association of American Geographers, Asheville, North Carolina, USA, November 18–20, 2012.
- ‘Climate change, agriculture and food insecurity in the Caribbean: insights from Jamaica.’ Globe Lecture Series, Amsterdam Institute for Social Science Research, University of Amsterdam, February 28, 2013.
- ‘Farming against the odds: global change and small-scale farmer vulnerability in the Caribbean.’ Kellogg Sustainability Seminar Series, Kellogg College, Oxford University, UK, March 8, 2013.
- (with C. Hines and D. Campbell). ‘Effects of socio-environmental triggers on asthma-related hospital admissions in Kingston, Jamaica.’ Annual Meeting of the Association of American Geographers, Los Angeles, California, USA, April 9–13, 2013.

#### **Thomas Stemann**

- ‘Transported coral associations in the Upper Bathyal Bowden Formation, Late Pliocene, Jamaica.’ Geological Society of America, November 2012, Charlotte, N.C., USA.
- ‘Early Cenozoic Caribbean coral communities from the Middle Eocene Chapelton Formation of Jamaica.’ Geological Society of America, March 2013, San Juan, Puerto Rico.



## **PUBLICATIONS**

### **Books and Journals**

#### **Sherene James-Williamson**

- (with S. Mitchell) Edited *Caribbean Journal of Earth Science*, Vol 45, 2012: The Ninth International Congress on Rudist Bivalves, Kingston, Jamaica, June 18–25, 2011.

#### **Parris Lyew-Ayee**

- (with Rafi Ahmad) *Natural Hazards Atlas of Jamaica*, UWI Press, 2012.

#### **Simon Mitchell**

- Edited *Caribbean Journal of Earth Science*, Vol. 44, 2012: Tributes to Dr Raymond Wright.
- (with S. James-Williamson) Edited *Caribbean Journal of Earth Science*, Vol 45, 2012: The Ninth International Congress on Rudist Bivalves, Kingston, Jamaica, June 18–25, 2011.

### **Refereed Book Chapters and Journal Articles**

#### **David Barker**

- ‘Caribbean agriculture in a period of global change: vulnerabilities and opportunities.’ *Caribbean Studies*, 40(2), 2013, pp. 41–61.

#### **Sherene James-Williamson**

- (with S. Mitchell). ‘Revised lithostratigraphy of the Coastal Group of southeastern St Thomas, Jamaica.’ *Caribbean Journal of Earth Science*, 44, 2012, pp 9–17.

#### **Arpita Mandal**

- (with A. Maharaj) ‘Flooding in Jamaica with assessment of riverine inundation of Port Maria, St Mary.’ *Bulletin de la Société Géologique de France*, 184, 2013, pp 165–170.

David Miller

- (with A. Pearson and J. Robertson) 'Stories of Hellshire Part 1: the early years.' *Jamaica Journal*, 34 (1–2), pp. 80–87.

Simon Mitchell

- (with S. James and R. Ramsook) 'Mollusk shells.' In P. Allsworth-Jones and K. Wesler (eds.), 2012. *The Taino Settlement at Guayguata: Excavations in St Mary Parish, Jamaica*, Hadrian Books (British Archaeology Reports), Oxford, 2012, pp. 82–107.
- (with S. James-Williamson). "Revised lithostratigraphy of the Coastal Group of southeastern St Thomas, Jamaica.' *Caribbean Journal of Earth Science*, 44, 2012, pp. 9–17.
- (with J. Fisher) 'Lithostratigraphy of the Grange Inlier, Westmoreland, Jamaica.' *Caribbean Journal of Earth Science*, 44, 2012, pp. 19–24.
- (with D.K. Hennhofer and S. Gotz) 'Palaeobiology of a Biradiolites mooretownensis rudist lithosome: seasonality, reproductive cyclicity and population dynamics.' *Lethaia*, 45, 2012, pp. 450–461.
- (with A.R. Hastie, P. Treloara, A.C. Kerr, I. Neill and D.N. Barfod) 'Geochemical components in a Cretaceous island arc: the Th/La-(Ce/Ce\*) Nd diagram and implications for subduction initiation in the inter-American region.' *Lithos*, 162-163, 2012, pp. 57–69.
- (with T.M. Puckett and J.-P. Colin) 'New species and genera of Ostracoda from the Maastrichtian (Late Cretaceous) of Jamaica.' *Micropalaeontology*, 58(5), 2012, pp. 397–455.
- 'Stratigraphy of the White Limestone of Jamaica.' *Bulletin de la Société Géologique de France*, 184, 1–2, 2013, pp. 111–118.
- 'A revision of selected Lower Cretaceous American caprinoid rudists: implications for phylogeny and biostratigraphy.' *Caribbean Journal of Earth Science*, 45, 2013, pp. 47–75.
- 'A new rudist bivalve *Curtocaprina clabaughkinsorum* gen. et sp. nov. from the Middle Albian of Texas and its bearing on the origin of

the Ichthyosarcolitidae Douville.’ *Caribbean Journal of Earth Science*, 45, 2013, 85–89.

- (with J.-P. Masse and M. Frenerci-Masse) ‘Revision of Praecaprina? Pennyi (Harris and Hodson) (Caribbean caprinoid rudist): its placement in Pantojaloria Alencaster: taxonomic, stratigraphic and evolutionary implications.’ *Caribbean Journal of Earth Science*, 45, 2013, 99–105.

#### **Kevon Rhiney**

- (with R. Cruse) “‘Trench Town Rock’: reggae music, landscape inscription and the making of place in Kingston.’ *Urban Studies Research*, 2012. <http://www.hindawi.com/journals/ustr/2012/585160/>.

#### **Thomas Stemann**

- ‘Baroniceris Barta Calmus and Chevalier, 1980, p 200.’ In S.D. Cains, R. Baron-Szabo, A.F. Budd, B. Lathuiliere, E. Roniewicz, J. Stolarski & K.G. Johnson (eds.), 2013, *Corallosphere*. <http://corallosphere.org/taxon/1845>

#### **Non-Refereed Papers**

##### **David Barker**

- ‘Farmers’ markets and food miles.’ *Carib Xplorer*, 3, 2012, pp 27–29.
- ‘Santiago de Cuba: a photo tour of the city.’ *Carib Xplorer*, 3, 2012, pp 42–47.

#### **Technical Reports**

##### **Kevon Rhiney**

- (with L. Waller and A. Abdulkadri) ‘Comparative Analysis between LDCs and MDCs within the Caribbean Single Market and Economy and Predictions of Agglomeration.’ Submitted to Caribbean Development Fund, Barbados, 2013. 87 pp.

**PUBLIC SERVICE**

**David Barker**

- Editor, *Caribbean Geography*.
- Convenor, CAPE Geography.
- Member, Editorial Committee, *Carib Xplorer*.
- Member, Editorial Board, *Caribbean Quarterly*.
- Council member, Jamaican Geographical Society.
- Caribbean representative, Executive Steering Committee, Southeastern Regional Subdivision of the Association of American Geographers .
- Member, Scientific Committee advising CEREGMIA Université des Antilles et de la Guyane, Martinique.

**Donovan Blissett**

- Vice-President, Geological Society of Jamaica.
- Member, Commission on Jamaican Lithostratigraphy.

**Sherene James-Williamson**

- President, Geological Society of Jamaica.

**Parris Lyew-Ayee**

- Chairman, Board of Directors, Water Resources Authority (member, Financial Committee; member, Technical Committee).
- Chairman, Advisory Committee, National Works Agency.
- Member, Crime Management Working Group, Ministry of Health and Jamaica Constabulary Force.
- Member, Hazard Risk Reduction and Climate Change Task Force, Planning Institute of Jamaica.
- Member, National Commission on Science and Technology.
- Member, Climate Change Advisory Board, Ministry of Water, Land, Environment and Climate Change.

- Member, Disaster Risk Reduction Committee, Office of the Prime Minister.
- Adjunct Faculty member, Disaster Risk Reduction Centre, UWI.
- Member, Private Sector Organization of Jamaica.
- Member, Board of Directors, Kencasa Property Development Co.
- Innovation Consultant, Innovation Advisory Council, GraceKennedy Ltd.
- Member, Board of Directors, GraceKennedy Ltd. (member, Audit Committee; member, Banking Committee; member, Corporate Governance Committee).
- Member, Board of Directors, Grace Foods and Services Ltd.

**Arpita Mandal**

- Member, Global Water Partnership.
- Council member, Geological Society of Jamaica.
- Member, Technical Committee, Water Resources Authority (up to June 2013).

**Simon Mitchell**

- Permanent member, Standing Committee for the Caribbean Geological Conferences.
- Member, Scientific Committee, International Rudist Congress.
- Chairman, Commission on Jamaican Lithostratigraphy.
- Council member, Geological Society of Jamaica.
- Editor, *Caribbean Journal of Earth Science*.
- Editor, *UWI Contributions to Geology*.
- Associate Editor, Carnets de Géologie, Département des Sciences de la Terre, UFR Sciences et Techniques, Université de Bretagne Occidentale, France.
- Member, Editorial Board, *The Scientific World Journal*.

**Kevon Rhiney**

- President, Jamaican Geographical Society.

## VISITORS

- Dr April Baptiste, Department of Environmental Studies, Colgate University, USA.
- Dr Neil Brown, The Pennsylvania State University, USA.
- Dr David Howard, Sustainable Urban Development Programme, Oxford University, UK.
- Professor Dave Lentz, Chair in Economic Geology, University of New Brunswick, Canada.
- Dr Christian Reni, International Development Studies, University of Amsterdam, The Netherlands.
- Mr Kemal Siddique, Singapore's non-resident Ambassador to CARICOM, and Dr Sharon Siddique.
- Mr Layla 'Kip' Smith, President and CEO of Noranda Aluminum (USA).
- Professor Bernard Thraves and Dr Johannes Koch and students from the University of Regina and Brandon University, Canada.
- Dr Hannes Warnecke, Institute for Political Science, Leipzig University, Germany.
- Dr Matthew Wilson, Department of Geography, UWI, St Augustine.

## CATEGORIES OF STUDENTS

### Undergraduate Students: Geography

Year I	110
Year II	35
Year III	30

**Undergraduate Students: Geology**

Year I	80
Year II	35
Year III	30

**Postgraduate Students**

MPhil Geography	4
MPhil Geology	1
PhD Geography	4
PhD Geology	2