

DEPARTMENT OF GEOGRAPHY AND GEOLOGY

**Professor David Barker, BSc *Wales*, PhD *Bristol*, Dip Urb & Reg
Studies *Birm* – Head of Department**

WORK OF THE DEPARTMENT

The summer of 2011 marked the retirement of Rafi Ahmad, who served the university with great distinction during his 30 years on Mona campus. For several years the department has been depleted of senior experienced lecturing staff, and again it was necessary to make some one-year full-time appointments to ensure that the department could deliver its undergraduate teaching commitments in Geography and Geology. Robert



Kinlocke was re-appointed as a Lecturer in Geography while Donovan Campbell was appointed as a new Lecturer in Geography, both one-year appointments. Donovan Blissett was appointed as Lecturer in Geology, as a replacement for Tom Stemann, who was on sabbatical leave. Anestoria Shalkowski was appointed as a Teaching Assistant in Geology. There was a slight increase in the total number of undergraduate registrations for courses compared to 2010-2011, with an increase in geology registrations and a slight decrease in geography registrations.

As part of the faculty's far-reaching curriculum reform programme, the Department began its transition to a new 3-credit system, which is to be introduced in stages over three years. Eight new Level I courses were introduced, four in Geography and four in Geology. All our first year courses have been redesigned, with new lecture material, practical classes revised and new assessment methods introduced. A suite of new Level II courses in Geography and Geology were designed and approved by

AQAC, to be introduced in September 2012. A goal is to enable UWI students to pursue a wider range of courses across subject areas, especially cross-faculty combinations, and design their own degree portfolios to better match career objectives. Notwithstanding the ongoing curriculum reform programme, the department continued to mount sufficient courses to allow students to complete their Majors in Geography and Geology, despite the shortage of experienced lecturers, and the strictures of an operational budget which has not been increased for four consecutive years.

One of the most significant events of the department's year was held in May 2012, when the Geology section celebrated 50 years of teaching Geology at the Mona campus. About 100 persons attended, some coming from the USA, Canada and the UK, as well as from several Caribbean islands. These included past students and former members of staff going back to the earliest years. The first Head of Department, **Professor Kevin Burke**, was on hand to help unveil a large boulder near the Senior Common Room to commemorate the occasion. A morning was given over to a number of former students and staff sharing their reminiscences. An afternoon session involved a panel discussion on the future plans for making Geology at UWI even more significant. The panel members included the Principal of the Mona Campus as well as alumni who had been very successful in both the private and the public sectors throughout the Caribbean. Significant input also came from Professor Kevin Furlong, Professor of Geosciences and member of the Geodynamics Research Group at The Pennsylvania State University, who had been specially invited, and who committed himself and his university to developing further relations with the Department at Mona. A full-day field trip to the north coast brought back many memories for the participants. At the banquet which was the highlight of the three-day affair, announcements were made of a number of undergraduate and postgraduate scholarships in Geology for which commitments had been secured from several sponsors. Awards were also given out to several former students and staff members who had made significant contributions to the Department. Lecturers and postgraduate students participated in the hardworking organizing committee, headed by alumnus Parris A. Lyew-Ayee (Sr.), and the Department gratefully acknowledges their contribution to planning

and successfully securing the funding for this event. A booklet entitled *Celebrating 50 Years of Teaching Geology at the UWI* was produced in time for the occasion.

The research output of the department continues to maintain the high levels of the past. In total, there was 17 peer-reviewed publications and 32 papers presented at international, regional and local conferences and workshops; 9 of the latter being papers presented by postgraduate students. Staff edited 3 issues of regional peer-reviewed journals. **Professor Simon Mitchell** received the prestigious Gleaner Honours Award for Science and Technology for 2011, in recognition for his services to geology during his career at UWI. **Kevon Rhiney** received the Principal's Award for Research Project with the Greatest Business/Economic/Development Impact in the Faculty of Social Sciences, for contribution to the National Strategy for Mainstreaming Youth Development in Jamaica Research Project on UWI Research Day.

Geography staff and postgraduates were again well represented at the Annual Meeting of the Association of American Geographers held in Manhattan, New York, in February 2012. Members of the department presented 7 papers, 4 of which were presented by postgraduate students. David Barker, Robert Kinlocke and Chanelle Fingal organized panel sessions at the meeting. Geography postgraduates also featured prominently in the Faculty of Pure & Applied Sciences Conference, and the SALISES 50/50 Conference. Kevon Rhiney was a member of the organizing committee of the SALISES 50/50 Conference.

A feature of staff activities this year was participation in overseas workshops. Kevon Rhiney and David Barker attended an inaugural workshop in Martinique at the Université des Antilles et de la Guyane, intended to develop scholarly networks across the Caribbean region. Arpita Mandal attended a workshop on Hazard Risk Calculation, as part of the Caribbean Disaster Risk Atlas Project, April 2-4, at St Augustine campus, UWI and another in Stockholm on Integrated Water Resource Management. Arpita Mandal, Kevon Rhiney and Donovan Campbell all participated in the CARIBSAVE "Full Proposal Writeshop" held in Barbados, June 25.

Members of staff and postgraduate students continue to be actively engaged in both the Jamaican Geographical Society (JGS) and the Geological Society of Jamaica (GSJ), especially on their respective organizing committees. These societies continue their roles as important facilitators for departmental outreach through their various activities on and off campus. The GSJ was actively involved in all aspects of the Geology 50 event, while the JGS hosted a panel discussion on ‘The Jamaican Real Estate Market: Trends, Challenges and Future Prospects’, on April 9, which attracted a large audience and included presentations from prominent local speakers from the real estate sector and from Robert Kinlocke.

Visiting Research Professor Ercan Ozan (Technical University of Istanbul) spent three months during the summer looking at a group of foraminifers (microfossils) from Jamaica in collaboration with Professor Mitchell. He has studied this group extensively in Europe, Africa and Asia, and his work is now being extended to the Americas, with Jamaica as the first port of call. Over 700 thin sections were prepared and extensive new data was generated from this study, which will generate a series of papers in the next 2 to 3 years.

Shakira Khan successfully completed her PhD in Geology and **Donovan Campbell** and **Seema Kadir** successfully completed their PhDs in Geography. **Jason Fisher** and **Ennika James** successfully completed MPhils in Geology.

The Geology Museum continued its programme of educational outreach, notably with respect to visits from school groups. The second phase of the Geology Museum renovations was completed in May, in time for the 50th anniversary celebrations in Geology. Funding came from discretionary grants from the EFJ (J\$200,000) and from ICWI (J\$36,000). Two Research Associates worked in collaboration with the Geology Museum. Pietra Brown worked on tool kits and public education material related to climate change for museum displays. Patricia Green, a specialist in geoconservation, participated in the UNESCO World Heritage Centre’s Japan Funds-in-Trust project on ‘Capacity Building to Support the Conservation of World Heritage Sites and Enhance Sustainable Development of Local Communities in Small Island Developing States’ in

Jamaica, June 2012, and as a Technical Advisor for the International Council on Monuments and Sites (ICOMOS) to the Governments of St. Vincent and the Grenadines and Grenada for a UNESCO pilot project “The Grenadine Island Group, Grenada, Saint Vincent and the Grenadines”, June 2012.

The Department continued to administer the Earthquake Unit, the Unit for Disaster Studies, and the Marine Geology Unit, and to house the archival materials of the Unit for Disaster Studies.

INCOME GENERATION

Kevon Rhiney (Project Coordinator) **Donovan Campbell** and **David Barker** (Collaborators) secured funding of US\$97,851.59 for a project entitled ‘Promoting Market Competitiveness and Adaptation to Climate Change among Smallholder Farmers in Jamaica’ from USAID Development Program. This project seeks to provide a response pathway to climate change mainstreaming and adaptation for the Jamaican agricultural sector under the USAID MAJIC programme through science-based research. The research will help the USAID to define its intervention programme for the Jamaican agriculture sector over the next five years. The project involves three components: an integrated vulnerability assessment of farming communities and livelihood assets, a survey of indigenous knowledge and attitudes about coping with climate change, and crop suitability modelling.

Sherene James-Williamson received a UWI New Initiative Grant for 2012 to the value of J\$1.5m for “Using geological provenance techniques as a tool for determining provenance of building material and material culture for historical sites and monuments for purposes of disaster preparedness and management and geoconservation”.

PAPERS PRESENTED

- **D. Barker.** ‘Geography in Jamaica’ in ‘Snapshots of World Geography’, Annual Conference of Association of American Geographers, New York, February 24-28, 2012.

- Palmer, S.E. and **Burn, M.J.** (2011) 'A Late-Holocene record of marine washover events from a coastal lagoon in Jamaica', West Indies. British Sedimentological Research Group – Annual General Meeting, London, UK. December 18-21, 2011.
- Kennedy, L., **Burn, M.J.**, Bain, A., Metcalfe, S., Faucher, A., LeBlanc, A., Berland, A., Perdikaris, S. and Staton, C. (2011) 'Multidisciplinary perspectives on long-term environmental history in Antigua and Barbuda, Northeastern Caribbean', Developing International Geoarchaeology Conference 2011, Knoxville, Tn, USA, September 20-24, 2011.
- **Thera Edwards.** and Susan Otuokon 'Wheel and come again! Preparation of a revised nomination dossier for the Blue and John Crow National Park, Jamaica', 10th Symposium of the Archaeological Society of Jamaica, April 11-12, 2012.
- **R. Kinlocke.** 'Fear, Social Capital and Fortified Enclaves in the Kingston Metropolitan Area'. Annual Conference of Association of American Geographers, New York, February 24-28, 2012
- **S. James-Williamson,** Patricia Green & Roderick Ebanks 'What can mortar and construction practices reveal about the history of Ackendown?', 10th Symposium of the Archaeological Society of Jamaica, April 11-12, 2012.
- **S. James-Williamson** and Margaret Aratram. 'Areas of Special Scientific Interest: a proposal for classification and design', 10th Symposium of the Archaeological Society of Jamaica, April 11-12, 2012.
- **A. Mandal & A. Maharaj.** 'Climate Change And Flooding In Jamaica With Special Reference To Riverine Flooding Of Port Maria, Jamaica', Asia Oceania Geosciences Conference in Taiwan, August 2011.
- **A. Mandall.** 'Water Resources and Challenges for the Kingston Metropolitan Area, Jamaica', Asia Oceania Geosciences Conference, Taiwan, August 2011.

- **A. Mandall.** Results of the study on Flood Modelling and Mapping of the Hope River Watershed, Workshop on the Caribbean Disaster Risk Atlas Project, Ocho Rios, June 28, 2012.
- **S. Mitchell.** ‘Oil exploration in Jamaica: the State of Play’ Faculty of Pure & Applied Sciences, 9th Conference, Mona campus, April 13-15, 2012.
- P. Northover & **K. Rhiney** ‘Vision 50/50: Tackling Constraints and Promoting Pathways to Rural Resilience’, UWI SALISES VISION 50/50 Conference Kingston, May 9-11, 2012.
- **Rhiney, K.** & T. Chambers ‘Improving Market Access among Smallholder Farmers through the Adoption of Alternative Business Models: Oxfam’s Experience in the Caribbean’, UWI SALISES VISION 50/50 Conference, Kingston, May 9-11, 2012.
- **K. Rhiney** ‘Climate Change Adaptation: Implications for Food Security’, Climate Change and Agriculture Symposium, organized by the Ministry of Agriculture and Fisheries in collaboration with the USAID, Eltham Training Centre, Ocho Rios, Jamaica, March 2, 2012.
- **K. Rhiney** ‘Promoting Climate-smart Agriculture in the Caribbean using Crop-prediction Models: Examples from Jamaica’, Colgate University, Hamilton New York, March 8, 2012.
- **K. Rhiney** ‘Enhancing Market Access for Smallholder Farmers using Alternative Business Models: Case Study of the Jamaica Market Access Initiative (JAMAI)’ Annual Conference of Association of American Geographers, New York, February 24-28, 2012
- **K. Rhiney & D. Barker** ‘Arriving at an Appropriate Theoretical Framework to Assessing Small Farmers’ Vulnerability to Global Economic and Environmental Change: Examples from Jamaica’, First International Workshop on the making of the Caribbean

Region, Université des Antilles et de la Guyane, Fort de France, Martinique, April 23-25, 2012.

- **K. Rhiney** & A. Farrell ‘Climate Proof Crops for the Caribbean: Assessing Spatial and Cost Implications of Climate Change on Cocoa and Tomato Production in Trinidad & Tobago and Jamaica’, CARIBSAVE Partnership Caribbean Climate and Development Research Call Proposal Development Workshop, Accra Beach Hotel, Barbados, June 26, 2012.
- **K. Rhiney** ‘Climate Change Adaptation: Implications for Food Security’. Climate Change and Agriculture Symposium, organized by Ministry of Agriculture and Fisheries in collaboration with the USAID, Eltham Training Centre, Ocho Rios, Jamaica, March 12, 2012.
- **T.A. Stemann** ‘Caribbean reef recovery in the early Cenozoic – mixed azooxanthellate and zooxanthellate faunas in the middle Eocene of Jamaica’, 11th Fossil Cnidaria and Porifera Symposium in Liege, Belgium, September 19-29, 2011.
- **T.A. Stemann** ‘Extinct and Extant Reef Corals on Neogene/Quaternary Reefs of Jamaica’, “Colloquium - A New Chapter for Marine Time-series Research in Tropical America”, Smithsonian Tropical Research Institute, Bocas del Toro, Panama, September 23-29, 2011.
- **Marine Geology Unit**, ‘Beach erosion and sea-level rise at Negril’, Mines and Geology Division: Public Presentation at Negril Hills Golf Club, March 8, 2012.
- **Marine Geology Unit**, ‘Impacts of climate change on our coastline; we need to be Proactive not Reactive’, Ministry of Water, Land, Environment and Climate Change (MWLECC) Climate Change Workshop held at the Wyndham Kingston Hotel, July 26-27, 2012.

CONFERENCE: Organizing committees

K. Rhiney was a member of the organizing committee UWI SALISES VISION 50/50 Conference: ‘Globalization, Climate Change and Rural Resilience: The Challenge of Sustainable Development in the Caribbean and Beyond’, Kingston, May 9-11, 2012.

D. Barker & T. Lopez-Marrero (Rutgers University) organized a panel session entitled ‘Caribbean vulnerabilities and global change: from coping strategies to resilience building’, Annual Conference of Association of American Geographers, New York, February 24-28, 2012.

R. Kinlocke & **C. Fingal** organized a panel session entitled ‘Social Capital, Space and Society: A Multifocal Perspective’, Annual Conference of Association of American Geographers, New York, February 24-28, 2012.

PUBLICATIONS – Edited volumes

- * *Caribbean Geography* 16 (1 & 2) Special Double Issue ‘Foundations and Directions: Celebrating Geography at The University of the West Indies, Mona Campus’, Guest Editor **David J. Miller**
- * *Caribbean Journal of Earth Science Volumes 42 & 43*, Editor: **Simon Mitchell**

peer reviewed

- * **Barker, D.** (2011) ‘Geographies of Opportunity, Geographies of Constraint’, in Stephan Palmié and Francisco A. Scarano (eds) *The Caribbean: A History of the Region and its Peoples*, The University of Chicago Press, Chapter 1, pp25-38.
- * **Barker, D.** (2011) ‘The Foundations and Directions of Geography at Mona: the first thirty years, 16(1), *Caribbean Geography*, 16 (1 & 2), 17-33.
- * **Clarke, J. & D. Barker** (2012) ‘Sugar, Land and Female Livelihood in transition in St Kitts’, *Dialogue and UniversalismE*:

- * B. Whitney, F. Mayle, S. Punyasena, K. Fitzpatrick, **M. Burn**, R. Guillen, E. Chavez, D. Mann, R. Pennington, & S. Metcalfe 'A 45 kyr palaeoclimate record from the lowland interior of tropical South America'. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 2011, 307(1-4), pp177-192. Elsevier, Amsterdam.
- * **R.J. Kinlocke** (2011) 'Fortifications and Expressions of Fear: Gated Communities in the Kingston Metropolitan Area, Jamaica', *Caribbean Geography*, 16 (1 & 2), 58-75.
- * **D.J. Miller** (2011) 'Editorial: Geography and Geology and the 60th Anniversary of The University of the West Indies', *Caribbean Geography*, 16 (1 & 2), 1-16.
- * A.R. Hastie, **S. F. Mitchell**, A.C. Kerr, M.J. Minifie & I.L. Millard (2011) Geochemistry of rare high-Nb basalt lavas: Are they derived from a mantle wedge metasomatised by slab melts? *Geochimica et Cosmochimica Acta* 2011, (doi:10.1016/j.gca.2011.06.018).
- * **S.F. Mitchell**, Ramsook, R., Coutou, R. and Fisher, J. (2011) Lithostratigraphy and age of the St. Ann's Great River Inlier, northern Jamaica. *Caribbean Journal of Earth Science*, Volume 42, 1-16. © Geological Society of Jamaica
- * **S.F. Mitchell**, Martínez-Colón, M., Ramsook, R. and Santos, H. (2011) 'A primitive tube-bearing antillocaprinid rudist bivalve, *Parasarcolites sobli* sp. nov., from Jamaica and Puerto Rico, West Indies', *Cretaceous Research*. doi:10.1016/j.cretres.2011.10.013.
- * Carter, J.G., Altaba, C.R., Anderson, L.C., Araujo, R., Biakov, A.S., Bogan, A.E., Campbell, D.C., Campbell, M., Jin-hua, C., Cope, J.C.W., Delvene, G., Dijkstra, H.H., Zong-jie, F., Gavrilova, V.A., Goncharova, I., Guzhov, A.V., Harries, P.J., Hartman, J.H., Hautmann, M., Hoeh, W.R., Hylleberg, J., Bao-yu, J., Johnston, P., Kirkendale, L., Kleemann, K., Koppka, J., Koříž, J., Machado, D., Malchus, N., Márquez-Aliaga, A., Masse, J.-P., Middelfart, P.U., **Mitchell, S.**, Nevesskaja, L.A.,

- Özer, S., Pojeta, J. Jr., Polubotko, I.V., Pons, J.M., Popov, S., Sánchez, T., Sartori, A.F., Scott, R.W., Sey, I.I., Jin-geng, S., Signorelli, J.H., Silantiev, V.V., Skelton, P.W., Steuber, T., Waterhouse, J.B., Wingard, G.L. and Yancey, T. (2011) 'A Synoptical Classification of the Bivalvia (Mollusca)', *Paleontological Contributions*, number 4, 48 pp. University of Kansas.
- * R. Cruse, R. & **K. Rhiney** (2011) 'Reggae identité et paysage urbain dans un bidonville de Kingston-ouest', *L'Espace Politique*. <http://espacepolitique.revues.org/index1997.html>
- * R. Jaffe, **K. Rhiney** & C. Francis (2012) 'Throw word: Graffiti, Space and Power in Kingston Jamaica', *Caribbean Quarterly* 58(1), 1-20.
- * **K. Rhiney** (2012) 'The Negril Tourism Industry: growth, challenges and future prospects', *Caribbean Journal of Earth Sciences*, 43(1), 25-34
- * **E. Robinson, S. Khan, R. Coutou** & M. Johnson (2012) 'Shoreline changes and sea-level rise at Long Bay, Negril, Western Jamaica', *Caribbean Journal of Earth Sciences*, 43, 35-49.
- * **E. Robinson**, & M.D. Hendry (2012) 'Coastal change and evolution at Negril, Jamaica: a brief ecological perspective', *Caribbean Journal of Earth Sciences*, 43, 3-9.
- * **Stemann, T.** & A. Budd (2012) 'Triphylocoenia Orbigny', 1849, p.7. In: Cairns, S. D., Baron-Szabo, R., Budd, A.F., Lathuilière, B., Roniewicz, E., Stolarski, J., and Johnson, K.G. (eds.), *Corallosphere*, world wide web site at <http://corallosphere.org/taxon/1542>.

Non-refereed articles and technical reports

- * **D. Barker & D. Campbell** (2011) 'Farmers and weather: making sense of climate change', *CaribXplorer*, 1(4), pp 20-23.

- * **D. Barker** (2011) 'Trinidad, Cuba: a photo tour of the Old Town', *CaribXplorer*, 1(4), pp 38-42.
- * M. Taylor, Kirton, C., **Rhiney, K.**, Rankine, D., & R. Sutherland (2012) 'Climate Change, Agriculture and Food Security Study of the Caribbean', Project co-ordinated by the Climate Studies Group Mona (CSGM) for the UN Food and Agriculture Organization (FAO), 38 pp.
- * **K. Rhiney** (2012) 'Country Report on Status of Agriculture and Fisheries in Jamaica in Preparation for the Rio+20 United Nations Conference on Sustainable Development (UNCSD)', Report prepared for the Ministry of Water, Land, Environment and Climate Change and the United Nations Development Programme (UNDP), 31pp.
- * L.Waller, P. Anglin, **K. Rhiney**, G. Daley, S. Hill, S. Johnson. & A. Walcott (2012) 'Electronic Youth Programmatic Inventory and Gap Analysis,' Report prepared on behalf of the Centre for Leadership and Governance, UWI Mona for the National Centre for Youth and Development (NCYD), Ministry of Youth and Culture (GoJ), 93 pp.
- * S. Gatchair & **K. Rhiney** (2011) 'Jamaica National Youth Mainstreaming Strategy and Manual Documents'. Reports prepared on behalf of the Centre for Leadership and Governance, UWI Mona for the National Centre for Youth and Development (NCYD), Ministry of Youth, Sports and Culture (GoJ), 58 and 35 pp.
- * **A. Lyew-Ayee** (2012) (Ed) 'Celebrating 50 Years of Teaching Geology at the UWI'.

PUBLIC SERVICE

David Barker

- Editor, *Caribbean Geography*.
- Convenor, CAPE Geography.

- Editorial Committee *CaribXplorer Magazine*.
- Caribbean Representative on SEDAAAG (south–eastern regional sub-division of the Association of American Geographers) Executive Steering Committee.
- Editorial Board *Caribbean Quarterly*
- Council member, *Jamaican Geographical Society*
- Member of Scientific Committee advising CEREGMIA, Université des Antilles et de la Guyane in Martinique.
- Interim Board of Directors of Countrystyle Community Tourism Network/Villages as Businesses (CCTN/VAB)

Mike Burn

- Expert judge, Institute of Jamaica’s Earth Day Essay competitions.

Robert Kinlocke

- Vice President, Jamaican Geographical Society

Sherene James-Williamson

- Member, Steering Committee, NEEC/PANOS Caribbean Climate Change Project.
- Vice President, Geological Society of Jamaica
- Member, National Restoration Committee
- Executive Member, The UWI Alumni Association, Jamaica Chapter
- Chairperson, National Environmental Education Committee (NEEC)
- Board Member, Heritage Clubs of Jamaica
- Member, Nature Preservation Foundation – Research and Education Committee

Arpita Mandal

- Technical sub-committee, Water Resources Authority

Simon Mitchell

- Permanent member, Standing Committee for the Caribbean Geological Conference.
- Member, Scientific Committee, International Rudist Congress.

- Chairman, Commission on Jamaican Lithostratigraphy.
- Council member, Geological Society of Jamaica.
- Editor, *Caribbean Journal of Earth Science*.

Kevon Rhiney

- President, Jamaican Geographical Society.
- Technical advisor, Steering Committee for the National Food and Nutrition Security Policy.
- Research Fellow, Centre for Leadership and Governance
- Co-editor, Caribbean Online Atlas
<http://atlas-caraibe.meabilis.fr/>
- Member of Selection Committee for the Prime Minister National Youth Awards 2011
- Associate member, Center for Study and Research Management, Modeling and Applied Informatics (CEREGMIA), Universite des Antilles et de la Guyane in Martinique.
- LICJ Biennial Awards Selection Committee, Ministry of Water, Land, Environment and Climate Change, National Spatial Data Management

Edward Robinson

- Member, Jamaican National Council on Ocean and Coastal Zone Management.
- Fellow, Third World Academy of Science.
- Member, Coastal Education and Research Foundation
- Member of the Board, International Centre for Environmental and Nuclear Science
- Member, Geological Society of Jamaica
- Member, Jamaica Institute of Environmental Professionals
- Member of the Board, Centre for Marine Sciences
- Member, Graduate Faculty, Florida International University, U.S.A.

Tom Stemann

- Council Member, Geological Society of Jamaica

CATEGORIES OF STUDENTS

Undergraduate Students: Geography

Year I:	88
Year II:	39
Year III:	35

Undergraduate Students: Geology

Year I:	100
Year II:	41
Year III:	32

Postgraduates:

MPhil Geography:	5
MPhil Geology:	7
PhD Geography:	8
PhD Geology:	1