

## DEPARTMENT OF GEOGRAPHY AND GEOLOGY

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### WORK OF THE DEPARTMENT

The Department of Geography and Geology continued to mount a full programme of undergraduate teaching and postgraduate supervision in spite of the challenges imposed by budget and physical resources (space and equipment) and uncertainties created by academic staff resignations, vacancies that remained unfilled, and imminent staff retirements in Geology. **Professor Trevor Jackson** retired at the end of the academic year. **Dr David Dodman** resigned and departed Jamaica at the beginning of the second semester, and **Dr Susan Mains** was on maternity leave during that semester. **Mr Kevon Rhiney** was appointed as Temporary Assistant Lecturer in Geography from January to the end of the academic year to help us through this difficult period.



Student numbers in Geology continued to increase dramatically. Student enrolment in first year was 40 per cent higher than in 2006/07, while enrolment in second year was 30 per cent larger. These increased numbers created serious difficulties for staff in practical classes, and an acute shortage of microscopes needed to be urgently addressed. First year and final year numbers in Geography were comparable to those of the previous year, but second year numbers were slightly down as the impact of the abnormally small entry from the Faculty of Humanities and Education in 2006/07 worked its way through the system.

The Department participated in the University's 60<sup>th</sup> anniversary celebrations by organizing and hosting a highly successful international conference between July 7 and 11 on the theme "Foundations and Directions: Celebrating Geography at the University of the West

Indies.” The organizing committee was chaired by **Dr David Miller**, and 39 papers were presented at the meeting, 24 of which were presented by current or past members of the Department, including postgraduate students. Conference registrations numbered 93, including persons from Jamaica, the wider Caribbean and North America.

The Department co-hosted an international symposium on “Urban Cultures of the Caribbean” from September 27 to 29 in collaboration with the Department of Sociology, Psychology and Social Work and the Institute of Caribbean Studies.

Other meetings organized were a one-day workshop on the impact of Hurricane Dean, convened by the **Marine Geology Unit**, and a conference on landslide mitigation, organized by the **Unit for Disaster Studies** in conjunction with the Norwegian Geotechnical Institute and the Mona GeoInformatics Institute.

**Dr Susan Mains**, Lecturer in Geography, and **Dr Parris Lyew-Ayee**, Director of the Mona GeoInformatics Institute and attached to the Department, were selected by the Vice-Chancellor as part of the “60 under 60” group of sixty outstanding members of academic staff under sixty years of age across the three campuses of the University.

**Mr Kevon Rhiney** was awarded a Prime Minister’s National Youth Award for Excellence in the category of Academics. **Professor David Barker** and Dr Clinton Beckford received the Principal’s award for best publication in the Faculty of Pure and Applied Sciences at the annual Research Day on the Mona campus. The **Marine Geology Unit** won the Faculty of Pure and Applied Sciences Prize for the greatest amount of funding for a project (the Beach Erosion and Coastal Hazards: Ensuring Safety (BEACHES)) project.

A major thrust of the Department’s curriculum reform agenda was to increase the number of undergraduate field classes mounted in both Geography and Geology. We have reached the stage where most undergraduate courses include a field class that is integral to learning outcomes and assessment methods. This is intended to resonate with the UWI Strategic Plan Vision whereby undergraduate programmes are applied and relevant to the region. The increased field work effort, however, has put further strains on the Department’s limited human, physical and financial resources. Additional progress on curriculum reform in Geography included the delivery of a new course (GG32F Biogeography of Tropical Environments), while several older courses were retired from the books.

**Dr David Dodman** and **Professor David Barker** delivered courses at the St Augustine campus, on Geography of the Caribbean and Agricultural Geography, respectively, to assist in their degree programme. As part of a reciprocal arrangement with St Augustine, Dr Paul Shaw contributed a series of lectures at Mona on the Climate Change course.

The contribution of the postgraduate students to the academic life of the Department continues to be noteworthy. Postgraduate student numbers are at an all-time high, and throughput is satisfactory. As an indication of their value and contribution, no fewer than 19 of the conference papers listed below involve postgraduates, of which nine were sole authored by them. The Department's weekly brown-bag research seminars continue to be highly successful, attracting large audiences, and in the second semester postgraduates took on the responsibility of organizing the programme.

The Department continued to administer the Earthquake Unit, the Unit for Disaster Studies, the Environmental Management Unit, and the Marine Geology Unit.

## **PAPERS PRESENTED**

### **R. Ahmad**

- "Landslides in Jamaica." National Disaster Management Conference 2008: Furthering the Risk Reduction Agenda – Landslides and Earthquakes, Montego Bay, Jamaica, March 2008.

### **D. Dodman**

- "Developers in the public interest? The role of urban development corporations in the Anglophone Caribbean." SEDAAG Annual Conference, Charleston, South Carolina, USA, November 2007.

### **S. Mains**

- "Masculinity, colonialism and Caribbean urban landscapes." Special Session on Urban Masculinities/Men in the City, Symposium on Caribbean Urban Cultures, UWI, Mona, September 2007.

- “Mobility and migration: Jamaicans in ‘foreign’.” Forum on Caribbean Impact, Global Reach, UWI 60th Anniversary Research Day, January 2008.
- “Caribbean spaces of diaspora and development: returning to Jamaica.” Eighth Conference, Faculty of Pure and Applied Sciences, UWI Mona, February 2008
- “Island crossings: representing and returning to Jamaica.” International Crossroads in Cultural Studies Conference, Kingston, Jamaica, July 2008.

#### **A. Mandal**

- **A. Mandal** & D. Sengupta. “Radionuclide and trace element contamination from coal combustion from Kolaghat Thermal Power Plant, India.” Annual Meeting of the Geological Society of America, Denver, Colorado, USA, October 2007.

#### **D. Miller**

- **D. Miller** & A. Pearson. “The impact of Hurricanes Dean and Felix on Manatee Bay, St Catherine.” Conference on The Impact of Hurricanes on Jamaica’s Coastline: Hurricane Dean Impact Assessment, Marine Geology Unit, The University of the West Indies, Mona, November 2007.

#### **S. Mitchell**

- Caribbean geology from a natural hazards perspective: causes, susceptibilities and histories.” Geoscience for Development Week 2007, Kingston, Jamaica, November 2007.
- **S. Mitchell**, A. Hastie, R. Ramsook, I. Brown & A. Kerr. “Cretaceous evolution of Jamaican terrains and their relation to the evolution of the Caribbean Plate.” 18va Conferencia Geologica del Caribe 2008, Santo Domingo, Dominican Republic, March 2008.
- **S. Mitchell**, S. James, R. Ramsook, R. Coutou & J. Fisher. “St Ann’s Great River Inlier, Jamaica: a standard section for the Santonian to Campanian stages (Cretaceous) of the Antillean Region?” 18va Conferencia Geologica del Caribe 2008, Santo Domingo, Dominican Republic, March 2008.

- R. Ramsook & **S. Mitchell**. “Ichnology and sedimentology of a deep water Paleocene syn-rift deposit, Blue Mountain Inlier, eastern Jamaica.” 18va Conferencia Geologica del Caribe 2008, Santo Domingo, Dominican Republic, March 2008.
- R. Coutou & **S. Mitchell**. “Stratigraphy and hydrocarbon potential of the Yellow Limestone Group at Broomwell, Jamaica, as a model for the Walton Basin.” 18va Conferencia Geologica del Caribe 2008, Santo Domingo, Dominican Republic, March 2008.
- “Biostratigraphy and its implications for the early Tectonic evolution of the Great Arc of the Caribbean.” Geological Society of American Annual Convention, Houston, Texas, USA, October 2008.

#### **K. Rhiney**

- **K. Rhiney**, R. Jaffe & C. Francis. “Contested spaces, contesting identities? Graffiti, space and power in Kingston, Jamaica.” Annual Meeting of the Association of American Geographers, Boston, Massachusetts, USA, April 2008.

#### **E. Robinson**

- “Effects of climate change on the Jamaican coastline: methodology and tools.” Workshop on Jamaica’s Second Communication to UNFCCC, November 2007.
- “Climate change and coastal resources.” National Environment Committee’s National Forum on Climate Change, November 2007.
- “Coastal impacts and tourism development.” Geological Society of Jamaica Workshop on Geohazards, Planning, Management and Insurance, November 2007.

#### **B. Spence**

- “Promoting comprehensive disaster management for sector risk management: education.” Second Caribbean Conference on Comprehensive Disaster Management, Barbados, December 2007.

- “Natural disaster risk management benchmarking tool: a mechanism for mitigating disaster impact in the Caribbean.” Second Caribbean Conference on Comprehensive Disaster Management, Barbados, December 2007.
- “Hazard vulnerability in the Caribbean coastal zone.” UNDP Conference on Techniques for Hazard Mapping in Caribbean Coastal Zones, Turks and Caicos Islands, January 2008.
- “Disaster awareness game: a strategy for evaluating and promoting disaster awareness among children.” Jamaican National Planning Council Meeting, February 2008.

#### **T. Stemann**

- “Pennular-like structures in modern and fossil scleractinian corals of the Family Agariciidae.” Tenth Fossil Cnidaria and Porifera Conference, St Petersburg, Russia, August 2007.
- “Re-evaluating the biogeography of Cenozoic Caribbean reef corals.” Eighteenth Caribbean Geological Conference, Santo Domingo, Dominican Republic, March 2008.
- “Early Cenozoic recovery of Caribbean reef coral communities.” Eleventh International Coral Reef Symposium, Fort Lauderdale, Florida, USA, July 2008.

#### **E. Thomas-Hope**

- “Caribbean regional trends in migration.” International Organization for Migration and United Nations High Commission for Refugees Seminar for Caribbean Governments, Cayman Islands, November 2007.
- “Implications of climate change for agriculture.” National Forum on Climate Change for Civil Society, organized by the National Environmental Education Committee of the Government of Jamaica National Environment and Planning Agency and the Environmental Foundation of Jamaica, Kingston, November 2007.
- “Migration and Jamaica’s national development.” Centennial Commemorative Regional Conference, Northern Caribbean University, Mandeville, November 2007.

- “Social and economic impact of migration and policy implications: Jamaica.” Institute of Public Policy Research and Global Development Network Seminar, Brisbane, Australia, February 2008.
- “Development implications of migration for the Caribbean: can labour markets work for the poor?” Canadian International Development Research Centre International Migration Seminar on Globalization, Growth and Poverty, Singapore, April 2008.
- “Coordination of a holistic approach to the management of contingency planning and emergency response to mass migration in Trinidad and Tobago.” International Organization for Migration Contingency Planning and Emergency Response Workshop, Port of Spain, Trinidad, July 2008.

**Papers presented at Conference on Foundations and Directions: Celebrating Geography and Geology at the University of the West Indies, Mona, July 2008.**

**R. Ahmad**

- “Flooding processes in small-scale drainage basins.”
- **R. Ahmad** & P. Lyew-Ayee. “Civil engineering works in Jamaica: the limestone terrain.”

**D. Barker**

- “Foundations and directions: through the eyes of an agricultural geographer.”
- D. Campbell, **D. Barker** & D. McGregor. “Dealing with drought: small farmers and environmental hazards in southern St Elizabeth.”

**T. Jackson**

- “Graduate research in Geology at The University of the West Indies.”
- **T. Jackson**, P. Scott & A. Butcher. “Pumice deposits of Dominica and St Lucia: their petrology and industrial minerals use.”

- S.K. Donovan, **T.A. Jackson**, R.W. Portell, R.K. Pickerill, D.A.T. Harper & J.W.M. Jagt. “A starfish bed in the Lesser Antilles: Grand Bay Formation (Middle Miocene), Carriacou, The Grenadines.”

#### **S. Mains**

- “Exploring changing spaces: travels through Caribbean cultural geography.”

#### **D. Miller**

- **D. Miller** & A. Pearson. “Beach dynamics and shoreline change on a carbonate beach: Manatee Bay, St Catherine, Jamaica.”
- **D. Miller** & F. Patel. “Tower karst symmetry in the Bull Savannah area, southern St Elizabeth: form, process and geological controls.”

#### **S. Mitchell**

- R. Coutou & **S. Mitchell**. “The Yellow Limestone Group at Broomwell, Jamaica: stratigraphy, provenance and properties for hydrocarbon exploration.”
- S. Khan & **S. Mitchell**. “Coastal retreat in southeast Jamaica: hurricanes and storms as driving mechanisms.”
- R. Ramsook & **S. Mitchell**. “Ichnology and paleogeography of the Richmond Formation, Wagwater Belt, eastern Jamaican.”
- **D. Miller**, F. Patel & **S. Mitchell**. “Tower karst asymmetry in the Bull Savanna area, southern St Elizabeth, Jamaica: form, process and geological controls.”

#### **K. Rhiney**

- “Contested spaces, contesting identities? Graffiti, space and power in Kingston, Jamaica.”

#### **E. Robinson**

- **E. Robinson**, S. Khan, R. Coutou & M. Johnson. “Coastal hazards: preparing for the future.”



## B. Spence

- Agricultural good practices for the mitigation of hydro-meteorological hazards in Jamaica.”

## Postgraduate Conference Papers

Nine presentations were made by postgraduate students during the period.

## PUBLICATIONS

### Refereed Book Chapters and Journal Articles

#### D. Barker

- \* C. Beckford, **D. Barker** & S. Bailey. “Adaptation, innovation and domestic food production in Jamaica: some examples of survival strategies of small-scale farmers.” *Singapore Journal of Tropical Geography*, 28, 2007, pp. 273-286.

#### T. Jackson

- \* **T.A. Jackson**, P.W. Scott, S.K. Donovan, R.K. Pickerill, R.W. Portell & D.A.T. Harper. “The volcanoclastic turbidites of the Grand Bay Formation, Carriacou, Grenadines, Lesser Antilles.” *Caribbean Journal of Science*, 44(1), pp. 116-124.

#### S. Mains

- \* “Spatial inequality.” In B. Warf *et al.* (eds.), Encyclopedia of Human Geography. New York, Sage, 2006, pp. 453-454.
- \* “Discourse.” In B. Warf *et al.* (eds.), Encyclopedia of Human Geography. New York, Sage, 2006, pp. 111-113.
- \* **S. Mains** & C. Clifford. “A dialogue with masculinity in Jamaica.” In A. Jones (ed.), Men of the Global South. New York, Zed Books, 2006.
- \* “Hurricanes in Toronto: distance, identity, and the Jamaican diaspora.” *Focus on Geography*, 50(1), 2007, pp. 1-8.
- \* “Transnational communities, identities, and moving populations.” In E.E.L. Jackiewica & F.J. Bosco (eds.), Placing

Latin America: Contemporary Themes in Human Geography.  
Lanham, MD, Rowman & Littlefield, 2008, pp. 205-234.

- \* “English fever’: documenting the Caribbean diaspora in ‘The Colony’.” In A. Escher, A.C. Lukinbeal & S. Zimmerman (eds.), The Geography of Cinema – A Cinematic World. Stuttgart, Franz Steiner-Verlag.

#### **A. Mandal**

- \* **A. Mandal** & D. Sengupta. “Geochemical hazard by coal ash from a coal-based thermal power plant in Kolaghat, West Bengal, India.” *Geochemica et Cosmochimica Acta*, 71(15), 2007, p. A617.

#### **S. Mitchell**

- \* **T. Stemann**, G. Gunter & **S. Mitchell**. “Reef coral diversity in the Late Maastrichtian of Jamaica. In B. Hubmann & W.E. Piller (eds.), *Fossil Corals and Sponges*. Proceedings of the 9<sup>th</sup> International Symposium on Fossil Cnidaria and Porifera. Osterr. Akad. Schiffenr. Erdwiss. Komm, 17, 2007, pp. 455-469.
- \* **S. Mitchell**, G. Gunter & R. Ramsook. “Paleoecology of the Maastrichtian rudist Biradiolites in Jamaica.” In R.W. Scott (ed.), *Cretaceous Rudists and Carbonate Platforms: Environmental Feedback*. Society for Sedimentary Geology Special Publication No. 87, 2007, pp. 81-94.
- \* A. Hastie, A. Kerr, J. Pearce & **S. Mitchell**. “Classification of altered volcanic island arc rocks using immobile trace elements: development of the Th-Co discrimination diagram.” *Journal of Petrology*, 48, 2007, pp. 2341-2357.

#### **K. Rhynie**

- \* D. Dodman & **K. Rhiney**. “‘We nyammin?’ Food supply, authenticity, and the tourist experience in Negril, Jamaica.” In M. Daye et al. (eds.), New Perspectives in Caribbean Tourism. New York & London, Routledge, 2008, pp. 115-132.

#### **T. Stemann**

- \* **T. Stemann** & S. Donovan. “Paleo-channel or sinkhole? Reinterpretation of an enigmatic structure near Discovery

Bay, north central Jamaica.” *Caribbean Journal of Science*, 44(2), 2008, pp. 242-245.

## INCOME GENERATION

**Professor Simon Mitchell** was awarded a grant of J\$3 million for reservoir, seal and provenance studies in Jamaica from a joint venture oil exploration group. The grant includes support for a postgraduate student’s research. He also received a grant of US\$3,500 from the Petroleum Corporation of Jamaica to support fieldwork for a research fellowship on Eocene rift basins in Jamaica.

**Dr Thomas Stemann** and Principal Investigator Professor Jeremy Jackson of the Scripps Institute of Oceanography, University of San Diego, La Jolla, California, USA, received a grant from the US National Geographic Society of approximately J\$90,000 for field and laboratory equipment, and J\$50,000 as consultancy fees.

**Dr Savitha Ganapathy** was the head of the team which created and enhanced the GIS database and developed web integration functionality for a project on HIV/AIDS Interventions for Jamaican Children. The project was carried out between April and June 2008 for the Caribbean Child Development Centre, UWI, and funding amounted to J\$695,992. Dr Ganapathy was also awarded a UWI New Initiatives Grant worth US\$9,610 for an 18-month research project on “Forest fire dynamics: fire-risk mapping in tropical forests of Jamaica.”

**The Marine Geology Unit** received a grant of US\$20,000 from the United Nations Development Programme and the Jamaica Meteorological Service for an integrated assessment of resources, vulnerability and adaptation of selected coastal sites in Jamaica to the effects of climate change. The Unit also received a grant of J\$760,000 from the Environmental Foundation of Jamaica for a physical assessment of shoreline damage and changes due to the impact of Hurricane Dean. The final report was submitted in January 2008.

The **Environmental Management Unit** received a grant of US\$50,000 from the Global Development Network for “Development on the Move – Jamaica Pilot Study.” It also received J\$4,565,487 from the Environmental Foundation of Jamaica for a study on “The Recovery of PET and High-Density Polyethylene Plastic Containers on the UWI Mona Campus.”

## **PUBLIC SERVICE**

### **R. Ahmad**

- Associate Editor, *Quarterly Journal of Engineering Geology and Hydrogeology of the Geological Society*.
- Member, National Damage Assessment, Recovery and Rehabilitation Subcommittee, Office of Disaster Preparedness and Emergency Management, Jamaica.
- Fellow, Geological Society of London.
- Council Member, Geological Society of Jamaica.

### **D. Barker**

- Editor, *Caribbean Geography*.
- President, Jamaican Geographical Society.

### **T. Jackson**

- Fellow, Caribbean Academy of Sciences.

### **S. Mains**

- Member, Association of American Geographers International Research across the Americas Advisory Group.
- External member, Tenure Review Committee, Division of Social Science, York University, Toronto, Canada.
- Guest editor, *Singapore Journal of Tropical Geography*,
- Guest editor, *Caribbean Geography*
- Chair, Session on “Exploring Musical Topographies,” Global Reggae
- Manuscript reviewer, *Caribbean Geographer*, *Geografiska Annaler B: Human Geography*, *Professional Geographer*, *Social and Cultural Geography*.

### **D. Miller**

- Book review editor, *Caribbean Geography*.
- Council member, Jamaican Geographical Society.
- Secretary, Jamaican Association of Geomorphologists.

### **S. Mitchell**

- Permanent member, Standing Committee, for the Caribbean Geological Conferences.
- Member, Scientific Committee, International Rudist Congress.
- Chairman, Commission on Jamaican Lithostratigraphy.
- External examiner, Geology, Council of Community Colleges of Jamaica

### **E. Robinson**

- Member, Board of the Nature Preservation Foundation.
- Member, Board of C-CAM.
- Member, National Council on Ocean and Coastal Zone Management.

### **B. Spence**

- Member, Government of Jamaica Task Force on Hazard Risk Reduction and Climate Change.

### **T. Stemann**

- Council member, Geological Society of Jamaica.
- Editor, *Caribbean Journal of Earth Science*.

### **E. Thomas-Hope**

- Chairman of the Board, Jamaica Sustainable Development Network.
- Member, Government of Jamaica Tribunal for the Adjudication of Environmental Disputes under the NRCA Act.
- Member, National Watershed Council.
- Member, Environmental and Natural Resources Management Task Force for “Vision Twenty-Thirty”, Planning Institute of Jamaica.
- Director, Luis Fred Kennedy Environmental Foundation.
- Director, Grace Kennedy Foundation.

- Member, Editorial Advisory Board, *Progress in Development Studies* (University of London).
- Referee for *Social and Economic Studies*; *International Development Planning Review*; *Journal of Eastern Caribbean Studies*; *World Health Organization Bulletin*; *Progress in Development Studies*; *Population, Space and Place*; *Singapore Journal of Tropical Geography*.

## CATEGORIES OF STUDENTS

### Undergraduates: Geography

Year I:	114
Year II:	52
Year III:	43

### Undergraduates: Geology

Year I:	102
Year II:	48
Year III:	39

### Postgraduates:

MPhil Geography:	7
MPhil Geology:	4
MPhil Environmental Management	1
PhD Geography:	5
PhD Geology:	4 (2 completed)
PhD Environmental Management	6 (2 completed)