



Emese M. Bordy *Curriculum Vitae*

My research focuses on the quantification of the climatic and tectonic signatures in sedimentary rocks, with a strong emphasis on biogeographic and palaeo-ecological processes in the deep past. Most of my research is dedicated to decoding the world-famous rock record of southern Africa. I have two decades of geoscience teaching practice and am passionate about mentoring the next generation of Earth scientists. I enjoy my editorial work as well as scientific writing and illustrating.



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www.geology.uct.ac.za/emese/bordy



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Research Profiles



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<https://tinyurl.com/BORDYCEO>



<i>h-index:</i>	26	22
<i>Citations:</i>	1886	1287
<i>Publications:</i>	83	80

Postgraduate Students

	PhD	MSc	Hons*
Current:	2	3	3
Graduated:	8	14	30

*Research projects

CAREER

Professor, Associate Professor, Senior Lecturer: Department of Geological Sciences, University of Cape Town (UCT) 2011– to-date
Senior Lecturer, Lecturer: Department of Geology, Rhodes University 2004–2011

Acting Head of the Geology Department: Rhodes University 2009, 2010; University of Fort Hare 2001; intermittently at UCT

Geological consulting: Rio Tinto Mining & Exploration Ltd. (South Africa); Anglo-Coal Botswana; Petroleum Agency South Africa - 2006; 2009; 2011; 2012; 2017

Student Residence Hall & House Warden: Oriel Hall (residence for >200 females), Rhodes University 2004–2005

Postdoctoral Research Fellow: University of the Witwatersrand (WITS) BPI Palaeontology/Evolutionary Science Institute, School of Geosciences) 2002–2003

Senior Lecturer: University of Fort Hare 2001

EDUCATION

Doctorate in Geology - Rhodes University, Makhanda, South Africa, 2001

Master of Geology - Eötvös Loránd University, Budapest, Hungary, 1998

Postgraduate Diploma in Higher Education (with distinction) - Rhodes University, Makhanda, South Africa, 2006

TEACHING EXPERIENCE

Over 20 years of teaching practice at all undergraduate and postgraduate levels at UCT, Rhodes University, WITS and University of Fort Hare that involves full-time lecturing, conducting practicals, setting and marking assessments and exams

Current teaching at UCT:

**Introduction to Earth Sciences* - 5 weeks @1st-year level: 200–270 students

Clastic Sedimentology & Depositional Environments - 3 weeks @3rd year

Sedimentary Basin Analysis & Applied Palaeontology - 4 weeks @Honours

*Course convenor

Past courses taught at UCT, Rhodes, WITS, University of Fort Hare:

Stratigraphy; Geological History of South Africa; Introduction to Sedimentology; Geoscience Professional Communication; Field Geology and Mapping (10-day field school for 18 years); Clastic and Carbonate Sedimentology; Basin Analysis; Sequence Stratigraphy; Hydrogeology; Palaeontology; Physical Geomorphology; Introduction to Geology

POSTGRADUATE SUPERVISION

I have graduated over 50 postgraduate students and trained over 20 undergraduate students as research assistants. Students under my supervision regularly win prestigious academic awards and competitions (e.g., Howard Head, Lara Sciscio, Robert Muir, Mhairi Reid, Francisco Paiva). Since my arrival at UCT in 2011, I have established and manage the Sedimentology-Palaeontology Research Group, which has had on average ~10–15 members including postgraduate students and postdoctoral researchers. The outstanding productivity of the group is attested by the high number of citations of our co-published papers. The impact of our group may also be highlighted, among others, by the fact that the results from these projects were presented at several international and local conferences (>40 events since 2013). I have been nominated for the UCT Distinguished Teacher award by several students and multiple times. In 2021, I became the recipient of the UCT Science Faculty Established Teacher Award.

For a list of graduated students' names, see www.geology.uct.ac.za/emese/bordy

Awards

UCT Science Faculty Established Teacher Award: 2021

Outstanding Article Award from the South African Journal of Science: 2021

Merit award of the Faculty of Science: 2017

NRF - Competitive Program for Rated Researchers: 2012, 2015, 2018

GENUS (NRF-DST Centre of Excellence in Palaeosciences): 2014–2021, 2023

NRF - African Origins Platform: 2011, 2012, 2013, 2016

NRF Incentive Funding for Rated Scientists: 2009–2018

University of Cape Town, Faculty of Science (various grants): 2013, 2014

University of Cape Town Research Council: 2011–

Deputy VC of Research and Development and Dean of Science Discretionary Grants (Rhodes University): 2010

NRF South African-Hungarian Science and Technology Cooperation: 2007, 2008

Joint Research Committee of Rhodes University: 2004, 2005, 2006, 2009, 2010, 2011

NRF Postdoctoral Research Fellowship: 2002–2004

De Beers Doctoral Scholarship (fully funded): 1998–2000

Scholarship of the Hungarian Republic: 1995–1996

TEMPUS & CEPUS Scholarships at the University of Reading, Postgraduate Research Institute for Sedimentology, UK: 1996–97 & Jagiellonian University of Krakow, Poland: 1995

RESEARCH EXPERIENCE

My main research interest lies within the Palaeozoic and Mesozoic deposits of southern Africa with a strong focus on the quantification of the climatic and tectonic signatures in sedimentation and biogeographic processes. I enjoy applying clastic sedimentology, continental ichnology, geochemistry, and stratigraphy to the high-resolution reconstruction of ancient continental ecosystems spanning the entire Phanerozoic record of South Africa. My publication record (see below) reflects a passion not only for applying sedimentology, stratigraphy, and palaeontology to palaeoenvironmental reconstructions in fluvio-lacustrine to shallow marine settings, but also for integrating multidisciplinary observations at various scales to obtain robust palaeoecological snapshots of the geological past. My work is supported by the diverse background of my collaborators, who are local and international experts in palaeontology (palaeobotany, vertebrate palaeontology, taphonomy, ichnology), palaeomagnetism, geochronology, and low-temperature geochemistry.

I am an NRF rated researcher (C1) since January 2018 and the 2021 recipient of the Outstanding Article Award from the South African Journal of Science (SAJS). The award recognises outstanding work by African academics who seek to advance the SAJS's mission: to publish high-quality research from the African continent that are of interest to readers across disciplines, makes an important contribution to general knowledge and benefits academics, educators and the general public.

PUBLICATION RECORD

Peer-reviewed publications

I published >80 ISI-listed research papers and book chapters, which attracted >1880 citations. After 22 years in academia, my h-index is 26 in Google Scholar and 22 in Scopus. For the list of my papers, see my ORCID profile ([click here](#)).

Conference abstracts

To date, I have produced ~150, mostly peer-reviewed conference abstracts, and most of them, I co-authored with my postgraduate students. I firmly believe that presenting at scientific conferences effectively advances students' professional development, and therefore I actively promote their participation not only in advising them scientifically prior to these events, but also by securing funds for attending them.

ACADEMIC CITIZENSHIP

Teaching Related

Course convener for GEO1009F (Introduction to Earth Sciences), a 1st year course for 200–270 students and Applied Palaeontology Honours module at UCT as well as 1st & 2nd year courses at Rhodes University

Science Faculty Student Advisor for Geology, Archaeology and Oceanography undergraduate students at UCT, 2011–2018

Student-nominated member of the Readmission Appeals Committee, Science Faculty, UCT 2021–

Regular external examiner of PhD theses, MSc dissertations, Honours projects and undergraduate curriculum at the University of Johannesburg; University of the Witwatersrand; University of the Free State; University of KwaZulu-Natal; James Cook University; Nelson Mandela Metropolitan University; Eötvös L. University; University of Fort Hare; Rhodes University; UCT.

ACADEMIC CITIZENSHIP

Teaching Related - *continued*

Leader of geological field courses at 1st and 2nd year levels for over two decades both at UCT and Rhodes University: academic and logistical preparation, implementation, including design, management, instruction and assessment of field work

Presenter at the UCT Open Day 2022, UCT Summer School 2023 and during Orientation Week both at UCT and Rhodes University for several years

Departmental representative in the Science Faculty Teaching and Learning Committee (member of the Lecturer Evaluation as well as Lecture Attendance Subcommittees) 2011–2019

Member of the Departmental Review Committee of the Department of Geology, University of Johannesburg

Portfolio assessor of academic staff for personal promotion at Rhodes University

Panel member on various higher education fora: Quantitative Literacy Panel of the National Benchmark Tests Project: 2009; invited presenter: Centre for Higher Education Research, Teaching and Learning, Rhodes University: 2007; New Lecturers' Orientation, Rhodes University: 2006

Programme Planning at the Faculty of Science, University of Fort Hare - Writing of Applied Physical and Earth Science Programmes & workshop on Quality Enhancement in Higher Education

Departmental representative at the Earth Science Teaching Committee (UCT) and Science Undergraduate Teaching Working Group (Rhodes University)

Visiting lecturer at Rhodes University (2002; 2003); University of the Witwatersrand (2003); UCT (2010)

Research Related

Executive Editor in Sedimentology (since 2021) at *Geological Magazine* – a Cambridge University Press journal since 1864, focusing on fundamental geoscience principles that are rooted in observational geology (2021 IF = 2.452, ranks 61 out of 251 journals in Geology)

Associate Editor (since 2006) at PALAIOS – a bimonthly journal of the Society for Sedimentary Geology dedicated to emphasizing the impact of life on Earth history (2021 IF = 1.83, ranks 22 out of 100 journals in Paleontology)

Editorial Board member (since 2022) at *Palaeogeography, Palaeoclimatology, Palaeoecology* – a palaeoenvironmental geoscience Elsevier journal that focuses on significant events in the evolution of life and environment (2021 IF = 3.318, ranks 4 out of 100 journals in Paleontology)

Editorial Board member (since 2018) at the *Journal of Palaeogeography* – an open-access, peer-review journal of Elsevier (2021 IF = 2.519, ranks 21 out of 100 journals in Paleontology)

Editorial Board member (2008, 2009, 2011, 2013, 2019, 2020) at the *South African Journal of Geology* – the oldest continuously published peer-reviewed scientific journal in Africa, since 1896 (2021 IF = 1.46, ranks 114 out of 251 journals in Geology)

Elected Council Member – International Association of Sedimentologists (IAS): 2018–2022

Elected Member of the Executive Committee and Secretary – Palaeontological Society of Southern Africa (PSSA): 2018–

Elected Council Member – Society for Sedimentary Geology (SEPM): 2018–2020

Technical Reference Group Member – Permanent Okavango River Basin Commission (OKACOM): 2020–

South African Correspondent – International Association of Sedimentologists (IAS): 2010–2017

Country Ambassador – Society for Sedimentary Geology (SEPM): 2012–

Chair – Karoo Working Group of the South African Committee for Stratigraphy (SACS): 2007–2019

Senior Academic Member – Local Organizing and Scientific Committee for the “2020” and 2022 Biennial Meeting/s of the Palaeontological Society of Southern Africa

Chair – Local Organizing and Scientific Committee for the 2nd International Conference on Continental Ichnology: 2017

Elected Fellow – Geological Society of South Africa: 2015–

ACADEMIC CITIZENSHIP

Research Related - *continued*

Invited reviewer of manuscripts at various journals: Palaeogeography, Palaeoclimatology, Palaeoecology; Journal of Sedimentary Research; PALAIOS; Geological Magazine; Journal of African Earth Science; South African Journal of Geology; Palaeontologia Africana

Invited reviewer of research proposals and researcher-rating applications: National Science Found of USA (NSF); South African National Research Foundation (NRF); National Research, Development and Innovation Office of Hungary (OTKA); University of Wisconsin-Milwaukee (USA); University of Cape Town

Invited session chair/organizer at scientific conferences: 35th International Geological Congress, South Africa (Theme Champion for 'Sedimentary Processes - ancient to modern'); 4th International Workshop on Ichnotaxonomy, Russia; 16th Biennial Conference of the Palaeontological Society of Southern Africa, South Africa; 1st International Congress on Continental Ichnology, Morocco; Cape-Karoo Imbizo, South Africa; GeoCongress 2018 of the Geological Society of South Africa, South Africa

Invited keynote presenter at scientific conferences: on lacustrine sedimentation at the 34th Meeting of the International Association of Sedimentologists; on fluvial facies analysis at the 4th International Conference of Palaeogeographers; on sedimentology and stratigraphy for palaeontologists at the 19th Biennial Conference of the Palaeontological Society of Southern Africa; on Karoo shale gas at the Centre for Minerals Research UCT (cmr.uct.ac.za)

Invited speaker on sedimentology and ichnology topics at various scientific/academic organizations: GSSA; PetroSA; South African Centre for Carbon Capture & Storage; iThemba Labs; Total Energy (France); UCT Summer School (Centre for Extra-Mural Studies); Khalifa University (Abu Dhabi, UAE); Eötvös Loránd University (Budapest, Hungary); etc.

Invited instructor on sedimentology and basin analysis research methods for industry delegates at Anglo-Coal Botswana; Petroleum Agency of South Africa

Invited public speaker on general geology topics at various secular organizations: Rotary Club; ProBus (Durbanville), Mountain Backpackers Club (Durban), Puppet Planet/Jungle Theatre Company (Cape Town), UCT (Sci Fac) Winter School, etc.

Invited workshop presenter on scientific writing for multidisciplinary/non-specialist audiences for postgraduates and emerging researchers organized by the South African Journal of Science (attended by several thousand online delegates)

Numerous interviews by media, including live radio and TV, on various geoscientific topics (e.g., geohazards impacting ancient life; dinosaur behaviour and palaeoenvironments; shale gas in the Karoo Basin) by The New York Times, the Mail & Guardian, Reuters, Discover Magazine, Daily Maverick, Hungarian National TV, international bloggers and online popular science magazines, UCT News, Women in Science, etc.

Advisor on museum displays: e.g., BPI Palaeontology/ESI, WITS; Valley of Desolation, Graaff-Reinet; Albany Museum, Makhanda; Godumodumo Dinosaur Centre at Golden Gate Highlands National Park; SA National Museum Bloemfontein; Lower Moyaeni Dinosaur Track Museum Lesotho; Cave House Masitise Lesotho

Active supporter of science education, conservation and preservation of African heritage: regularly disseminate the results of our largely field-based geoscience research in form of educational posters and pamphlets to the local communities (pupils, community leaders, educators, farmers, farm workers, tour leaders, local community museums, guest houses) and publications

Member – Cape Working Group South African Committee for Stratigraphy: 2014–2016

Member – Pilot CO₂ Storage Project of the South African Centre for Carbon Capture & Storage: 2014–2016

Member – Karoo Research Initiative (CIMERA): 2013–

Member of the Karoo Shale Gas 'task team' at UCT

Member – Board of Directors for 35th International Geological Congress Legacy Fund (Non-Profit Company) established for the benefit, promotion and/or advancement of the general geosciences, geoscience students and/or professionals

Departmental representative in the UCT Library

Professional Memberships: International Association of Sedimentologists since 2011; International Association of Ichnologists since 2011; Society for Sedimentary Geology since 2015; Geological Society of South Africa since 2003; Palaeontological Society of Southern Africa since 2003; Hungarian Geological Society (1992-1998; 2018)

Regular panel member on several Recruitment and Selection Committees at UCT & Rhodes University

Member of UCT Senate (nominated by geoscience academic staff 2022–); Board of the Faculty of Science at UCT and Rhodes University (2004–2011); UCT Sci Fac Employment Equity Committee (2022–); Board of Residences (2004–2005); Board of Residences Executive Committee (2005); Emergency Services Planning Committee (2005) at Rhodes University