

SAFIYA MOHAMED ALI HASSAN

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Occupation:

Lecturer at Geology Department (August 2011 until now)
Faculty of Science-Beni Suef University
Saleh Salem Street, 62111
Beni Suef- Egypt

2012-2014: Postdoctoral Fellowship at AEON-Nelson Mandela Metropolitan University, South Africa

DEGREES

- **Ph.D.** – Cairo University, El-Giza, Egypt, 2011.
- **MSc.** – Cairo University, El-Giza, Egypt, 2005.
- **BSc.** –Beni Suef Branch, Cairo University, El-Giza, Egypt, 1995.

PROFESSIONAL CAREER

- **Senior Lecturer** – University of Beni Suef, Department of Geology.
- **Postdoctoral Fellowship:** AEON-Nelson Mandela Metropolitan University, 2012-present. <http://science.nmmu.ac.za/science/media/Store/documents/FacultyNewsletter/04-Science-Newsletter-September-2012.pdf#page=1&zoom=auto,0,51>
- **Junior Lecturer** – University of Beni Suef, Department of Geology, 2011.
- **Assistant Lecturer** – University of Beni Suef, Department of Geology, 2005-2011.
- **Demonstrator** – University of Beni Suef, Department of Geology, 1996-2005.

CURRENT RESEARCH: SEDIMENTARY GEOLOGY

- Current research in sedimentary geology/sequence stratigraphy: The main research interests include estuarine systems. It has received more attention, particularly in the field of sequence stratigraphy. The interaction between relative sea level changes and sediment influx has been used to explain the genesis of estuarine valley incision and the complex and varied nature of estuarine fills. In addition, it will be great if we find successions from estuary and deltaic deposits and compare the controlling process in both of critical environments and predicting a model collect both of them. Beside the previous interests I

like to focus on the Paleogeographic, climatic and sea-level changes during important warm periods in Earth's history.

- The interactions between tectonics, climate, and sediment supply; Earth surface processes; paleosols and fluvial depositional environments; sedimentology; stratigraphy; stable isotope geochemistry and its applications to paleoclimatology; Algoa Basin and Gamtoos Basin; sediment provenance; Early Cenozoic paleoclimate as an analogue for future climate change.

RESEARCH GRANTS

- Government Egyptian overseas fund covered seven month at the host University (Columbia University, 2008).
- Two years Joint research grant for Texas University at Austin to complete my PHD (2008-2011).
- Jackson school scholarship for two months (December, January, 2010, 2011).
- Jackson school scholarship for two months (August, 2011).

AWARDS AND HONORS

- 2006, Award of Taha El-Ashery for the best M.Sc., Cairo - Egypt.

FINISHED COLLABORATIVE PROJECT

- Participating (2005 until 2009), with a group of geologists from Cairo University, In Geological Context of the Moghra Fossil Vertebrates, North western Desert, Egypt, corporative with Dr. Miller, Assistant Professor, Department of Anthropology, Wake Forest University (USA).

SUMMER INTERN PROJECT (2008)

- Early Miocene Sedimentation, Paleoecology and Strontium Isotope Geochronology in Moghra Formation, NW Egypt, corroborate with Professors from Columbia University: Dr. Nick Christie-Blick, Dr. Steve Goldstein and Associate Research Scientist, Dr. Steve Pekar.

TEACHING EXPERIENCE AT BENI SUEF UNIVERSITIES (2015-2019)

Pre-Master students

- (ج ت 608) Sedimentary Basins, Post graduate (2019).
- (ج ت 609) Subsurface Mapping, Post graduate (2017).
- (ج ت 608) Sedimentary Basins, Post graduate (2017).
- (ج ط 616) Facies and Depositinal Systems, Post graduate (2016-2017).
- (ج ر 644) Sedimentary Petrology of Clastic, Post graduate (2016-2017).

Undergraduate Students

- (ES301) Sedimentary Rocks, third graduate-Faculty of Earth science, Beni Suef University (2021).
- (G204) Sedimentary Rocks (1), undergraduate second level (2020).
- (G204) Sedimentary Rocks (1), undergraduate second level (2019).
- (AM 319) Subsurface Mapping, third graduate-Faculty of Earth Science, Beni Suef University (2018).
- (ES301) Sedimentary Rocks, third graduate-Faculty of Earth science, Beni Suef University (2018).
- (G204) Sedimentary Rocks (1), undergraduate second level (2017).
- (G204) Sedimentary Rocks (1), undergraduate second level (2016).
- (G 311) Advanced Stratigraphy, undergraduate third level (2016).
- (G 311) Advanced Stratigraphy, undergraduate third level (2015).
- (G407) Sedimentation, undergraduate Fourth level (2015).

COURSES TAUGHT At BENI SUEF UNIVERSITY (1997-2012)

Beni Suef university, Faculty of science:

- Sedimentological lab, undergraduate (2003-2007 & 2011).
- Geology of Egypt (2005-2007).
- Crystallography (1997-2005).

Beni Suef University, Faculty of Education:

- Geology, undergraduate Third Natural History level - Faculty of Education (2012).
- Structure Geology, undergraduate freshman students, Biology branch (February, 2012)
- Geological history & Structure Geology, undergraduate freshman students, Physics-Chemistry branch (February, 2012)
- Crystallography, undergraduate junior students (September 2011)

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- Faculty advisor of Beni suef University AAPG Chapter
- International Association of Sedimentologists (IAS).
- American Association of petroleum Geologists (AAPG).
- Geological Society of America (GSA).
- International Association of Sedimentologists, SEPM (Society for Sedimentary Geology).
- Geological Society of Egypt.

SHORT COURSE

- **2011 (28-29 April) SEPM short course 51:** Continental Trace Fossils held at Bureau Economic Geology, Austin, TX, with Stephen T. Hasiotis (University of Kansas, Department of Geology, Lawrence, Kansas), (SEPM note.51).
- **2011 (9-10 April),** Sequence stratigraphy course for Graduate Students held at Houston TX, George R. Brown convention center, Hyatt Gregory hotel, with instructors: **Vitor Abreu and Jack Neal (ExxonMobil Exploration Company, Houston TX).**
- **2010 Short Course** Application of Ichnology in Facies Analysis and Sequence Stratigraphy, Mendoza, Argentina (26th September-1st October 2010).
- **2010 Short Course 07 - 3-D Seismic Interpretation for Geologists** (Saturday 10 April - Sunday 11 April, **New Orleans 2010, AAPG).**
- **2010 Short Course 14 - Deltas: Processes, Stratigraphy, and Reservoirs - Core Workshop** (Thursday 15 April - Friday 16 April, **New Orleans 2010, AAPG).**
- **2010 LSEPM Luncheon - SEPM Business Meeting - Death of a Sequence Boundary and Revelations from the Cretaceous Interior Seaway of North America - Dr. Janok P. Bhattacharya** (Tuesday 13 April, **New Orleans 2010).**
- **2009 (6-7 June),** Sequence stratigraphy course for Graduate Students held at Denver Marriott City Center Hotel, with instructors: **Vitor Abreu and Jack Neal (ExxonMobil Exploration Company, Houston TX).**
- **2002,** Training course on (Electron Microscopy Techniques and Interpretation), held at Asyut University, Asyut, Egypt.
- **2001,** Training course on (A study of the mechanical analysis and heavy minerals separation), held at the National research Center (NRC), Cairo, Egypt.

PUBLICATIONS

Safiya, M. Hassan (Under Review): Sedimentology of Alluvial Fan Deposits Near Nature's Valley, South Africa. *Journal of African Earth Sciences*.

Safiya M. Hassan and Callum (Under Review): Petrography and Depositional Environments of Alexandria Formation, Algoa Basin, South Africa. *Journal of African Earth Sciences*.

Mohamed A. Hamdan, Giulio Lucarini, Maria Cristina Tomassetti, Giuseppina Mutri, Walid Salama, Safiya M. Hassan, Barbara E. Barich (2020, Accepted): Source of Pigments of the Holocene Wadi Sura Paintings, Gilf Kebir, Western Desert (Egypt), *Archaeological Review, African*.

Hamdan, M. A., Flower, R.J., Hassan, F.A., and Hassan, S. M. (2020): The Holocene history of the Faiyum Lake (Egypt) based on sediment characteristics, diatoms and ostracods content. *Journal of Great Lakes Research*.

Georgios L. Georgalis, Mohamed K. Abdel Gawad, Safiya M. Hassan, Ahmed N. El-Barkooky, Mohamed A. Hamdan (2020): Oldest co-occurrence of *Varanus* and *Python* from Africa—first record of squamates from the early Miocene of Moghra Formation, Western Desert, Egypt. *Paleontology and Evolutionary Science*. Published May 22, 2020

Ahmed S. A. A. Abu Sharib, Ali Q. Selim, Mohamed M. Abdel Fattah, Safiya M. Hassan, and Ioan V. Sanislav (2019) :Thermal Alteration of Organic Matter in the Contact of A Rift-Related Basaltic Dyke: An Example From The Black Limestone, Wadi Matulla, West Central Sinai, Egypt.

Ellen R. Miller, Gregg F. Gunnell, Mohamed Abdel Gawad, Mohamed Hamdan, Ahmed N. El-Barkooky, Mark T. Clementz, and Safiya M. Hassan (2014): Anthracotheres From Wadi Moghra, Egypt. *Journal of Paleontology*, 88 (5):967-981.

Safiya M. Hassan, Ronald J. Steel, Ahmed El Barkooky, Mohamed Hamdan, Cornel Olariu, Mark. A. Helper (2012): Stacked, Lower Miocene tide-dominated estuaries, Western Desert, Egypt. *Sedimentary Geology*, 282, 241-255.

Miller ER, Benefit BR, McCrossin ML, Plavcan JM, Leakey MG, El-Barkooky AN, Hamdan MA, Abdel Gawad MK, Hassan SM, Simons EL (2009): Systematics of early and middle Miocene Old World monkeys. *J. Hum. Evol.*, 57(3):195-211.

Abou Khadra, A. M., El-Barkooky, A.N., Gharieb, S. E. and Hassan, S. M., (2011): Sedimentological Studies on The Aheimer Formation, Western Side of The Gulf of Suez, Egypt. *Annals of Egyptian Geological survey*, XXX11.

PUBLISHED BOOK

Upper Palaeozoic Stratigraphic Evolution and Sea-Level Change, Examples: Western Side of the Gulf of Suez (2012)

<http://www.amazon.com/Palaeozoic-Stratigraphic-Evolution-Sea-Level-Change/dp/3659295973>

Sequence Stratigraphy of the Lower Miocene Moghra Formation in the Qattara Depression, North Western Desert, Egypt (2013), (Springer International Ag publishing, ISBN 978-3-319-00329-0).

<http://www.springer.com/earth+sciences+and+geography/geology/book/978-3-319-00329-0>

PRESENTATION AND CONFERENCE

S. Hassan, R.J.Steel, A. El-Barkooky and M.Hamdan: Stacked, Lower Miocene tide dominated estuaries, Northwestern Egypt. Potsdam, Germany 26-30 November 2012, Geo-Future Inkaba yeAfrica and Beyond 9th Annual Workshop.

J.A. Mondon, M.J.de Wit, B. Linol, **S. Hassan**: A re-investigation of the lithostratigraphy, depositional history, structure and tectonics of the Seychelles Continental shelf. Potsdam, Germany 26-30 November 2012, Geo-Future Inkaba yeAfrica and Beyond 9th Annual Workshop.

Safiya Hassan, Ron J. Steel, Ahmed El-Barkooky, Mohamed Hamdam: Stacked, Lower Miocene Tide Dominated Estuaries, Northwestern Egypt. 23 - 28 June 2012, VIth International Sandy Beach Symposium (Poster and five minutes oral presentation).

Hassan, Safiya M.; Christie-Blick, Nicholas; Steel, Ronald; El Barkooky, Ahmed; Hamdan, Mohamed: Lower Miocene Sequence Development in Northwestern Egypt and the U.S. Mid-Atlantic Continental Margin. April 22-25, 2012, Long Beach, California (Abstract).

Cornel Olariu, Ronald J. STEEL and **Safiya M. HASSAN**: Grain Size Distribution In Fluvial Dominated Delta Front Deposits; Case Study From The Upper Cretaceous Panther Tongue, Utah, USA. April 22-25, 2012, Long Beach, California (Poster).

Cornel Olariu, Ronald J. STEEL and **Safiya M. HASSAN**: Grain Size Distribution In Fluvial Dominated Delta Front Deposits; Case Study From The Upper Cretaceous Panther Tongue, Utah, USA. 3rd International Symposium on the Geology of the Black Sea Region, 1-10 October 2011, Bucharest, Romania.

Safiya Hassan, Ron J. Steel, Ahmed El-Barkooky, Mohamed Hamdam, Ahmed Abu Khadrah, Gouda Abdel Gawad: Presented Abstract 'Stacked, Lower Miocene-Burdigalian Tide Dominated Estuaries, Western Desert, Egypt'. In AAPG Conference (2011), Houston TX.

Abdel Gawad, M. K., Miller, E. R., Hamdan, M. A., Ali, S. M., El-Sharkawy, M.A., El-Barkooky, A.: Stratigraphic Distribution of Fossil mammals in the Early Miocene Moghra Formation, North Western Desert, Egypt, (Abstract, 10th International Conference on the Geology of the Arab World , GAW10, 2010).

Clementz M, Miller ER, El-Barkooky A, Hamdan M, Abdel Gawad M, **Hassan Safia** Mohamed Ali. Paleoenvironmental reconstruction of the Old World monkey locality; Wadi Moghra, early Miocene, Egypt. Am J Phys Anthropol 50:82A. (Poster, 2010).

A.El-Barkooky, M. Hamdan, **S. Hassan**, N. Christie-Blick, S. Goldstein, Y. Cai: Presented Abstract Sequence Stratigraphy of the Lower Miocene Moghra Formation in the Qattara Depression, North Western Desert, Egypt. In AAPG Conference (2009).

“High-resolution sequence stratigraphy of stacked incised valley fills: an Example from Upper Paleozoic outcrop of Aheimer formation, Western side Of The Gulf Of Suez, Egypt, Geology of Assiut Conference (Presented abstract, 2005).

FIELD COURSE SUPERVISOR

- 3 June 2014 NMMU honours students at NMMU to Hankey area and Utinage city to compare between Kirkwood Formation in Algoa Basin and Gamtoos Basin, Eastern Cape, South Africa.
- 10 May 2014: NMMU undergraduate Geology students (module first year, GGL 123) in the field for one day to Sardinia bay, Eastern Cape, South Africa.
- 29 September – 06 October 2012: Geoscience Department, Nelson Mandela Metropolitan University, 2012, including teaching field sedimentology, stratigraphy, and creating and advising a field course for NMMU undergraduate Geology students in the field for up to 10 days in Geology major field requirement.

	start	stop	geology
Sat-29-Sep	Port Elizabeth	Plettenberg Bay	Uitenhage Group, Cape Supergroup
Sun-30-Sep	Plettenberg Bay	Plettenberg Bay	Mesozoic Robberg formation and quaternary
Mon-01-Oct	Plettenberg Bay	Plettenberg Bay	Mesozoic Robberg formation
Tue-02-Oct	Plettenberg Bay	George	pre-Cape Kaaimans Formation and quaternary
Wed-03-Oct	George	Victoria Bay	George granites and the pre-Cape Kaaimans Formation
Thu-04-Oct	George	Eagles Nest	Cape Supergroup
Fri-05-Oct	Eagles Nest	Uniondale	Cape Supergroup
Sat-06-Oct	Eagles Nest	Port Elizabeth	Cape Supergroup

TEACHING EXPERIENCE AT NMMU (2012 & 2013)

2014

2012

I am teaching course in the Physical Geology (GGL123), NMMU (2014) for first year undergraduate students (13 students). Included a series of classroom lectures, field and lab design, individual tutoring and grading/assessment. (completed with high percentage for students between 70 to 81)

1-I taught one week an intensive sequence stratigraphy course (GGL302), NMMU May (2013) for third year undergraduate students (22 students). This course included a series of classroom lectures, and lab exercises, individual tutoring and grading/assessment.

2-I taught two weeks an intensive sedimentology and stratigraphy course in the sedimentary and petroleum section of Economic geology (GGL304), NMMU (2012) for third year undergraduate students (13 students). Included a series of classroom lectures, field and lab design, individual tutoring and grading/assessment. In addition to my teaching responsibilities, I have enjoyed the opportunity to collaborate with other NMMU honours and master students, to contribute to independent student research projects (specifically Jean Luc A. Mondon, Master Student).

PREVIOUSLY RESREACH PROJECTS AT NMMU (2013)

- 1- The interplay of salt and fresh water in the coastal zone between Cape St Francis and Port Alfred and its effects on groundwater quality and availability in the area. This is research proposal relating to NMMU RTG grant from Geosciences Department.
Applicant: Prof Daniel MIKEŠ, Marine Geologist/Sedimentologist, Associate Professor Geoscience, Coastal and Marine Research Unit, Geology Division, Geosciences Department, Nelson Mandela Metropolitan University Collaborators (staff): Mrs Zoe George (Geohydrologist), Dr Safiya Hassan (Sedimentologist) Prof Eileen Campbell (Botanist), Prof Maarten de WIT (Earth Stewardship Scientist) Zanele Hobongwana (Geology Hon student), Ms Emang Ntlhaile (Geology HON student) and .Ms Jaclyn Smith (Geology Hon student).
- 2- Structure and facies analysis of the Enon sequences near Nature's Valley and the Bitou-Keurbooms Rivers, Plettenberg Bay.
- 3- Sedimentary facies and chronostratigraphy of Sundays River and Alexandria Formations in Algoa Basin, Easter Cape, Port Elizabeth, South Africa.
- 4- Nature's Valley Research (Observations and discussions close to Nature's Valley and Bitou River Along the coast from Port Elizabeth to George (and beyond) a wide, flat marine-cut platform traverses across sub-vertical and folded Table Mountain Group (TMG) quartzites and associated sandstones).

SUPERVISOR

2017

Geoenvironmental Studies on Soils from North Western Desert, Egypt. Doctor of Philosophy (PhD) in Geology 2017 by **El-Shawadfi, Taha Moustafa Mohamd**

COMPUTER SKILLS

- Excellent Computer skills, in the use of Microsoft Office Program and the use of drawing soft- wares (Power Point, Corel Draw, Photoshop, adobe illustrator and endnote).
- ICDL (The International Computer Driving License) & ICTP Certificates in Computer Skills.

LANGUAGES

- Arabic as a mother language.
- Excellent command of English language (Written and Spoken).

Graduated courses completed, fall, 2007, Columbia University

- Attending Course Sedimentary Geology (EESC W4223x/y) of **Professor, Nicholas Christie-Blick, Columbia University.**

Graduated courses completed, Spring, 2009, And Fall, 2009, Texas University At Austin

- **Attending Courses**
- 1- (09SP) Environmental Isotope Geochem (26950).
- 2- (09SP) Sedimentary Basin Analysis (26905).
- 3- (09SP) Sequence Stratigraphy (26880).
- 4-(09SP) Morphology of the Vertebrate Skeleton.
- 5- (09F) Petrog of Carbonate Evaporite (27310).
- 6- (10SP) Gis & Gps Applics in Earth Sci (26885).
- 7- (09F) Clastic Depositional Systems (27300).

LAB EXPERTISE

- 15 years expertise in:
Thin section investigation using polarizing microscope,
Heavy mineral separation,
Macrofossil identification &
Mechanical analysis of sedimentary rocks.

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- Three months expertise in Isotope Geochemistry Lab at Lamont -Doherty Earth Observatory, Columbia University, under host Advisor, Professor (Dr. Steven L. Goldstein, Geochemistry).
 - Three months grain size analysis in lab of Jackson School, Austin, Texas, under host Advisor, Professor (Dr. Ronald Steel, chair of the department).