

Gustavo Martins, M.S.

Curriculum Vitae

University of Kentucky/Department of Earth and Environmental Sciences

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1. SUMMARY

Interested in natural sciences from young age. Committed to diversity and inclusion. Acquired experience in the United States, United Kingdom, Norway and Brazil. Strong communication and negotiation skills.

2. RESEARCH INTERESTS

Tectonics; stratigraphy; basin analysis; carbonate and clastic depositional systems; sequence stratigraphy; seismic interpretation; petroleum geoscience; CO₂ storage; metallogenesis; and deep-sea minerals.

3. EDUCATION

2019 – 2023 (June): **Ph.D. Geology** (GPA: 4.0/4.0), University of Kentucky, United States

- **Emphasis:** Modelling, log interpretation, public speaking, and technical writing.
- **Project:** *Analogue usage and tectonostratigraphic development of the Appalachian and Barents Sea basins.*
- **Advisor:** Dr. Frank Ettensohn (Full Professor, UK Earth & Environmental Sciences, Lexington, US).
- **Methods and results:** The tectonostratigraphy and geodynamics of the Appalachian system of basins and platforms were used to build regional analogues to the Barents Sea shelf in terms of flexural modelling.
- **In partnership with:** The Norwegian Petroleum Directorate (NPD).
- **Funded by:** The Norwegian Petroleum Directorate (NPD).

2017: **M.S. Geology/Petroleum Geoscience**, University of Tromsø, Tromsø, Norway

- **Emphasis:** Seismic interpretation, petroleum prospecting, subsurface mapping, and attribute usage.
- **Project:** *Seismic interpretation and stratigraphy of the Paleogene in the Bjørnøya Basin, Barents Sea.*
- **Advisor:** Dr. Stig-Morten Knutsen (Assistant Director, Norwegian Petrol. Directorate, Harstad, Norway).
- **Methods and results:** Seismic stratigraphy and wireline-log data were used to study Paleogene sedimentary responses to North Atlantic tectonics.
- **In partnership with:** The Norwegian Petroleum Directorate (NPD), the Research Centre for Arctic Petroleum Exploration (ARCEX), and Spectrum Geophysics (TGS).
- **Funded by:** The Research Council of Norway.
- Selected for one M.S. level course in sequence stratigraphy in the **University Centre in Svalbard (UNIS)** at Longyearbyen/Norway, as part of the M.S. degree in the University of Tromsø.
- In UNIS, used sequence stratigraphy in terms of basin analysis, reservoir characterization, tectonostratigraphy, and depositional systems. Outcrop logging and field work.

2012: **B.S. Geology**, Federal University of Bahia, Salvador, Brazil

- **Emphasis:** Mineral prospecting and mapping. Interpretation of lithologic, petrologic, and geochemical data.
- **Project:** *Study of titanomagnetite occurrences in gabbro-anorthosites, Bahia, Brazil.*
- **Advisor:** Dr. Johildo Barbosa (Full Professor, UFBA Geosciences Institute, Salvador, Brazil).
- **Methods and results:** Lithologic, petrologic, and geochemical data analysis were performed to better understand the metallogenesis of titanomagnetite.
- **In partnership with:** The Rio Tinto Mineral Development Company.
- **Funded by:** The Rio Tinto Mineral Development Company.

4. PROFESSIONAL EXPERIENCE

Research, Teaching, and Field Assistant, University of Kentucky, United States Jan 2019 – present

- Quantitative, basin, stratigraphic, and structural modeling using well data.
- Assisted students in geologic mapping and sedimentology in remote field areas.
- Published in international journals and presented at industry-related conferences.
- Helped students with mapping, stratigraphy, and structural analysis across the Colorado Rocky Mountains.

University of Tromsø

Sep 2016 – Nov 2016

Scientific Assistant, Tromsø, Norway

- Taught 27 M.S. students 3D seismic interpretation, attribute usage, and amplitude analysis.
- Assisted in Petrel usage, data analysis, wireline-log correlation, and prospect evaluation.

Schlumberger/WesternGeco

Oct 2012 – Oct 2014

Field Geophysicist, offshore Norway, United Kingdom and United States

- Promoted from Junior to Field Geophysicist. Ability to make decisions in time-sensitive situations.
- Performed 3D and 4D seismic acquisition, onboard processing, and quality control.
- Monitored data production and processing both with the team and independently.
- Conducted risk evaluation and accident prevention both onboard and offshore.
- Collaborated with multidisciplinary departments and stakeholders.

SURVEYS

2014 3D survey with magnetic and gravimetric acquisition, BP, Southeast of the Clair field, North Sea, West of Shetland, United Kingdom

2014 Triple Coil, Multiclient, Gulf of Mexico, United States

2014 ObliQ, Multiclient, Gulf of Mexico, United States

2014 Dual Coil Survey, Multiclient, Gulf of Mexico, United States

2013 WAZ (Wide Azimuth), Multiclient. Gulf of Mexico, United States

2013 4D time lapse, Apache, North Sea, Norway

2013 4D time lapse, BP, Foinaven/Schiehallion North Sea, Shetland Islands, United Kingdom.

Rio Tinto Mineral Development

Aug 2011 – Aug 2012

Geologist Intern, Salvador, Brazil

- Responsible for risk management and daily leadership of a prospecting team in high-risk field areas.
- Produced high-resolution geologic maps assessing distribution of mineral resources.

Caraiba Metals

Jan 2011 – Mar 2011

Geologist Intern, Pilar, Brazil

- Geotechnical analysis, core description, data management, and warehouse organization.
- Handled core description, data management, and warehouse organization.

National Council for Scientific and Technological Development

Aug 2009 – Jul 2010

Research Assistant, Salvador, Brazil

- Assisted with sampling, data analysis, field work, technical writing.
- Published abstracts and presented in conferences.

Petrobras S/A

Jul 2008 – Aug 2008

Project Intern, Sao Paulo, Brazil

- Assisted the engineering team in the implementation and monitoring of a refinery plant project.

5. ACTIVITIES, SERVICE AND VOLUNTEERING

2019–2020 **Committee Member**, Bluegrass Student Chapter of AAPG, Lexington, United States

(INVITED) 2023: Session Member, Geological Society of America Annual Meeting Session: Paleozoic Stratigraphic and Tectonic Evolution of the Appalachian Foreland: A session in Honor of Frank Ettensohn (*GSA Annual Meeting at Pittsburgh, United States*)

(INVITED) 2023: Abstract Reviewer, Third International Meeting for Applied Geoscience & Energy, Conference Session/Integrated Topic: Mining & Mineral Exploration” (*IMAGE: The International Meeting for Applied Geoscience & Energy, Houston, United States*)

6. RESEARCH

REFEERED PUBLICATIONS

2020

Ettensohn, F.R., Seckinger, D. C., Eble, C. F., Clayton, G., Li, J., **Martins, G. A.**, Hodelka, B. N., Lo, E. L., Harris, F. R., Taghizadeh, N., 2020, Age and tectonic significance of diamictites at the Devonian–Mississippian transition in the central Appalachian Basin. in Swezey, C.S., and Carter, M.W., eds., *Geology Field Trips in and around the U.S. Capital: Geological Society of America Field Guide 57*, p. 79–103. doi: [https://doi.org/10.1130/2020.0057\(04\)](https://doi.org/10.1130/2020.0057(04)).

2022

Martins, G., Ettensohn, F., and Knutsen, S. -M., 2022, The Appalachian area as a tectonostratigraphic analogue for the Barents Sea shelf: **Basin Research**, v. 34, p. 274–299. doi: <https://doi.org/10.1111/bre.12619>. (**Nominated for the BREC award for best 2022 paper**).

MANUSCRIPTS IN PREPARATION OR SUBMITTED

Martins, G., Ettensohn, F., and Knutsen, S. -M., 2023, Use of backstripping in the Triassic–Middle Jurassic, southern-central Barents Sea shelf succession to understand regional tectonic mechanisms and structural responses: *Submitted to **Tectonophysics***.

Martins, G., Ettensohn, F., and Knutsen, S. -M., 2023, Using the Appalachian tectophase model to interpret the evolution of the Late Triassic–Early Jurassic Barents Sea shelf in terms of compressional tectonics: *Submitted to **Frontiers in Earth Science***.

(IN PREP) **Martins, G.**, 2023, Tectonostratigraphy of the Novaya Zemlya Archipelago and regional implications: A review: *To be submitted to **Earth-Science Reviews***.

ABSTRACTS

2009

Drefahl, M., Moraes, S.S., **Martins, G. A.**, Machado, A.J., 2009, (*In Portuguese language*) Primeiro registro de paleomastofauna do Pleistoceno no Município de Quijingue, Bahia. Resumos PALEO NE 2009, 1, 10-10. (*Presented as a talk in the PALEO 2009 conference, Crato, Brazil*).

Martins, G.A., Drefahl, M., Machado, A.J., 2009, (*In Portuguese language*) Análise tafonomica preliminar da concentração fossilífera em tanque situado no município de Quijingue, nordeste da Bahia. XXVIII Seminário Estudantil de Pesquisa e X Seminário de Pesquisa e Pós-Graduação. 10-10. (*Presented as a talk in the X Seminário de Pesquisa e Pós-Graduação-UFBA, Salvador, Brazil*).

2010

Martins, G.A., Drefahl, M., Machado, A.J., 2010, (*In Portuguese language*) Implicações paleontológicas e geológicas da primeira ocorrência fóssil em Quijingue, nordeste da Bahia. XXIX Seminário Estudantil de Pesquisa (SEMEP) e XI Seminário de Pesquisa e Pós-Graduação. Livro de Programa e Resumos. 232-232. (*Presented as a talk in the XI Seminário de Pesquisa e Pós-Graduação-UFBA, Salvador, Brazil*).

2021

Martins, G. A., Ettensohn, F. R., and Knutsen, S. -M., 2021, Appalachian-Basin analogs as a tool for understanding the geology of the Barents Sea shelf: *Geological Society of America with Programs*, v. 53 (2); doi: 10.1130/abs/2021SE-362211 (*Presented as a talk in the Southeastern GSA Annual meeting, section 70th, Online*).

Martins, G. A., Ettensohn, F. R., and Knutsen, S. -M., 2021, Understanding the tectonostratigraphic development of the Upper Permian–Middle Jurassic clastic succession on the Barents Sea shelf: *Geological Society of America with Programs*, v. 53 (6). doi: 10.1130/abs/2021AM-365012 (*Presented as a talk in the GSA annual meeting 2021 connects, Portland, United States*).

EXTENDED ABSTRACTS

2022

Martins, G. A., Ettensohn, F. R., and Knutsen, S. -M., 2022, Tectonostratigraphic evolution of the Barents Sea shelf: Lessons from the Appalachian Basin: European Association of Geoscientists and Engineers, Conference Proceedings, v. 2022, p. 1–5; doi: <https://doi.org/10.3997/2214-4609.202210604> (Presented as a *talk* in the 83rd EAGE Annual Conference and Exhibition, Madrid, Spain).

Martins, G. A., Ettensohn, F. R., and Knutsen, S. -M., 2022, Using the Appalachian superbasin as an analogue to the Permo-Carboniferous succession and petroleum-systems of the Barents Sea shelf: Second International Meeting for Applied Geoscience & Energy, v. 2022, p. 436–440; doi: <https://doi.org/10.1190/image2022-3738174.1> (Presented as a *poster* in the IMAGE annual meeting: The International Meeting for Applied Geoscience & Energy, Houston, United States).

7. GRANTS

124590 USD Norwegian Petroleum Directorate (Ph.D. project funding), 2020–2023

5000 USD Rio Tinto Minerals Development (B.S. project funding), 2011–2012

49750 USD University of Kentucky Graduate full tuition scholarship, 2019–2022

2600 USD Brown-MacFarlan Student Travel Grant, 2021–2022

500 USD Earth Rates Conference Support, 2021

1000 USD Pioneer Graduate excellence stipend, 2019

1800 USD National Council for Scientific and Technological Development scholarship, 2009–2010

8. HONORS AND AWARDS

- Basin Research (Impact Factor: 4.100) BREC award for best 2022 paper (*nominated, in process*)
- Omicron Delta Kappa: The National Leadership Honor Society (*lifetime member*)
- Sigma Gamma Epsilon: The National Honor Society for the Earth Sciences (*lifetime member*)

9. FIELDWORK

2019 **Regional transect across Arizona, Utah, and Colorado** (w/ University of Kentucky) (1 week)

2019 **Colorado Rocky Mountains** (w/ University of Kentucky) (6 weeks)

2019 **Appalachian Basin in Kentucky** (w/ Geological Society of Kentucky) (1 day)

2016 **Spitsbergen/Svalbard** (w/ the University Centre in Svalbard) (1 week)

2016 **Norwegian Barents Sea** (w/ the University of Tromsø) (2 days)

2013–2014 **Norwegian North Sea** (w/ Schlumberger) (several 5-week rotations)

2013–2014 **Gulf of Mexico** (w/ Schlumberger) (several 5-week rotations)

2013–2014 **British North Sea** (w/ Schlumberger) (several 5-week rotations)

2012 **Menchen Vanadium Mine, Brazil** (w/ Largo Resources and Rio Tinto RTDM) (1 week)

2011 **Bauxite/Vanadium Exploration Areas in Bahia, Brazil** (w/ Rio Tinto RTDM) (12 weeks)

2011 **Onshore Basement of the Campos Basin, Brazil** (w/ UERJ and Petrobras) (1 day)

2009 **Araripe Basin, Brazil** (w/ Federal University of Bahia) (2 weeks)

2008 **Chapada Diamantina, Brazil** (w/ Baiana Company of Mineral Research/CBPM) (1 week)

2008 **Reconcavo Basin, Bahia, Brazil** (w/ Petrobras) (1 week)

10. TEACHING

COURSE APPOINTMENTS

Principals of Physical Geology (B.S. level, United States, 2023)

Invertebrate Paleontology and Evolution (B.S. level, United States, 2019)

Earthquakes and Volcanoes (B.S. level, United States, 2019–2020)

Sedimentology (B.S. level, United States, 2019)

Field Geology and Summer Field Camp (B.S. level, United States, 2019)

Fundamentals of Geology I (B.S. level, United States, 2019)

Fundamentals of Geology II (B.S. level, United States, 2019)

Marine Geophysics (M.S. level, Norway, 2016)

11. LANGUAGE AND COMPUTER SKILLS

LANGUAGE

- Portuguese: native
- English: fluent (University of Cambridge Level C1 certification)
- Norwegian: advanced
- Spanish: intermediate

COMPUTER

- Petrel E&P Software Platform
- Omega Geophysical Data Processing Platform
- QGIS
- Microsoft Office Suite
- Adobe Cloud Suite
- Python

12. PROFESSIONAL AND EXTRACURRICULAR TRAINING

2023 **Project Management Institute (PMI)**, Project Management Basics, Lexington, United States

- Preparation for the CAPM/PMI certification in project management

2021 **University of Tromsø/ Norwegian Petroleum Directorate**, Management of Norwegian Petroleum Resources, Tromsø, Norway

- Regulatory framework of the Norwegian continental shelf and project management.

2021 **URGE**, Unlearning Racism in Geoscience, Lexington, United States

- Anti-racist policies and mitigation strategies in the academia.

2021 **Houston Geological Society**, How to Use Paleontology in the Oil and Gas Industry, Virtual

- Paleontological data applied to stratigraphic analysis, exploration, and prospect development.

2020 **American Association of Petroleum Geologists**, Python Coding and Petroleum, Virtual

- Introduction to Python and its application to data analysis.

2020 **American Association of Petroleum Geologists**, Beginner's Guide to Unstructured Data and Machine Learning in Oil, Virtual

- Introduction to machine learning and unstructured data.

2019 **Society of Exploration Geophysics**, Structural Geology in Seismic Interpretation, San Antonio, United States

- Structural models, seismic interpretation, and seismic signatures of complex structures.

2016 **University Centre in Svalbard**, Sequence Stratigraphy: a tool for basin analysis, Svalbard, Norway

- Outcrop logging, formation evaluation and reservoir characterization.

2015 **NorTex Petroleum Cluster/Schlumberger**, Petrophysics and Logging, Bergen, Norway

- Wireline log interpretation, formation evaluation, measuring tools, and case studies.

2014 **Schlumberger**, Processing Techniques II, Houston, United States

- Noise and multiple attenuation, Petrel usage, and advanced processing techniques.

2013 **Schlumberger**, Processing Techniques I, Houston, United States

- Noise attenuation, marine/land acquisition, and processing techniques.

2013 **Schlumberger**, Marine Seismic Acquisition, Asker, Norway

- Marine acquisition systems and quality control.

2013 **Schlumberger**, 3D Seismic and Project Management, Houston, United States

- Project management, data processing, and quality control from survey setting to production.

- 2012 **Schlumberger**, Introduction to Petrel and Omega, Abu Dhabi, United Arab Emirates
 - Operations, quality control, seismic processing workflows, and project setting.
- 2012 **Schlumberger**, Seismic Processing, Abu Dhabi, United Arab Emirates
 - Fundamentals of seismic acquisition and signal processing.
- 2012 **Schlumberger**, Petroleum Geology and Seismic Processing, Abu Dhabi, United Arab Emirates
 - Fundamentals of petroleum geology.
- 2012 **Schlumberger**, Introduction to the E&P Industry, Rio de Janeiro, Brazil
 - HSE, business, goals, and activities in the exploration and production industry.
- 2012 **Rio Tinto Mineral Development**, Applied Opaque Petrology, Brasilia, Brazil
 - Mineralogical/Petrological work on opaque/polished thin sections.
- 2003 **Federal University of Minas Gerais**, Astronomy for Beginners, Belo Horizonte, Brazil
 - Introduction to Astronomy. Basic theory and observation techniques.
- 2003 **Federal University of Minas Gerais**, Introduction to Speleology, Belo Horizonte, Brazil
 - Fundamentals of speleology and cave prospecting techniques.

13. HEALTH SAFE AND ENVIRONMENT

- 2019 **American Red Cross**, Adult CPR and AED, Lexington, United States
 - CPR techniques and first aid.
- 2014 **Schlumberger**, Small Boat Operations, Kristiansund, Norway
 - Equipment maintenance offshore and accident prevention.
- 2014 **British Petroleum**, Accident Prevention Care Workshop, Stavanger, Norway
 - Risk observation and accident prevention.
- 2014 **British Petroleum**, Accident Prevention Care Workshop, Aberdeen, United Kingdom
 - Risk observation and accident prevention.
- 2013 **Falck Alford**, HSE Certifications (US Coast Guard approved), Houston, United States
 - Basic firefighting, first aid, CPR, EBS, HUET, personal safety, and social responsibilities.

14. PROFESSIONAL AFFILIATIONS

- American Association of Petroleum Geologists
- Society of Exploration Geophysicists
- Project Management Institute
- Geological Society of Houston
- Geophysical Society of Houston
- Brazilian Association of Petroleum Geologists
- Geological Society of America