

Harrison Martin

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Education

2018 - Present **Second Year PhD, Geoscience (to-date GPA: 3.99)**

Indiana University, Bloomington, IN, U.S.A.

Supervisor: **Dr. Doug Edmonds**

Thesis:

- Investigating bend-scale mechanics of meandering and sediment transport in rivers using drone-based lidar and bathymetry.
- Using remote sensing and mathematical modeling of meandering river avulsion in alluvial basins over stratigraphic timescales.

Minor: **Scientific Computing**

2015-2018 **MSc, Geoscience (Thesis-based) (GPA: 3.85)**

University of Calgary, Calgary, AB, Canada

Supervisor: **Dr. Stephen Hubbard**

Thesis title: Stratigraphic Characterization of an Early Cretaceous Channel-belt Avulsion: Implications for Paleoenvironmental Interpretations of the McMurray Formation, Alberta.

- Developed a regional-scale stratigraphic framework and a series of maps which both conveyed regional trends and honored local complexities in a prolific, extensively drilled basin.
- Used an understanding of modern fluvial avulsion mechanics to understand the evolutionary history of an ancient river, with implications for paleoenvironment and a possible recognition of the backwater effect in a large, shallow fluvial-deltaic system.
- Published in the *Journal of Sedimentary Research*.

2011-2015 **Honours BSc, Integrated Science, with a Concentration in Earth & Environmental Sciences (final year GPA: 3.95)**

McMaster University, Hamilton, Ontario, Canada

Supervisor: **Dr. Janok Bhattacharya**

Program Director: **Dr. Carolyn Eyles**

Minor: **GIS**

Work and Research Experience

Fall 2016 **Geology Exploration Term Student, Statoil [now Equinor] Canada Ltd.**

- Investigated sediment provenance (via detrital zircon analysis) and reservoir properties as part of a regional assessment of several East Coast Canada frontier basins in Statoil's Canadian exploration team.
- Detrital zircon work included analysis of data from both the American and European portions of the North Atlantic Conjugate Margin.

- Given the freedom to contribute to research direction, with interim and final presentations and deliverables.

Summer 2016 **Consortium Secondee**, BP Canada Energy Group ULC

- Conducted research on my Master's thesis at the BP Calgary office, utilizing BP data and employee experience.

2015-2017 **Teaching Assistant**, University of Calgary

- *Introduction to Petroleum Geology* – GLGY 577
- *Surficial Systems* – GLGY 353

2014 **Teaching Assistant**, McMaster University

- *Earth and the Environment* – EARTHSC 1G03

Summer 2014 **Field Assistant**, McMaster University

- Under Dr. Janok Bhattacharya, in the Ferron Sandstone of Utah, U.S.A.
- Assisted graduate students with fieldwork and simultaneously collected data for my own thesis research in plan-view bar-scale fluvial scaling relationships.

Honors and Awards

2020 John Barrett Patton Endowment Fund Award
Indiana University

2018-2019 Chevron Oil Company Graduate Fellowship
Indiana University

2016-2017 Queen Elizabeth II Graduate (Master's) Scholarship
University of Calgary

2016 David Wilson Memorial Graduate Scholarship in Geoscience
University of Calgary

2016 1st Place Team, Imperial Barrel Awards Competition, Canada Region
University of Calgary

2015-2016 ConocoPhillips Canada Graduate Scholarship in Applied Basin Studies
University of Calgary

2011-2015 Summa Cum Laude
McMaster University

2011, 2012, 2014, 2015 Dean's Honour List
McMaster University

2011 McMaster Honour Award, Level II
McMaster University

Publications, Presentations, and Academic Experiences

- **Martin, H.K.**, Hubbard, S.H., Hagstrom, C.A., Horner, S.C., and Durkin, P.R. (2019). Planform Recognition and Implications of a Cretaceous-age Continental-scale River Avulsion Node in the Western Interior Basin, Alberta, Canada: *Journal of Sedimentary Research*, v. 89(7), p. 610-628.
- Horner, S.C., Hubbard, S.M., **Martin, H.K.**, and Hagstrom, C.A., 2019. Reconstructing basin-scale drainage dynamics with regional subsurface mapping and channel-bar scaling, Aptian, Western Canada Foreland Basin: *Sedimentary Geology*, v. 385, p. 26-44.
- Horner, S., Hubbard, S., **Martin, H.K.**, Hagstrom, C., and Leckie, D., (2018). The impact of Aptian glacio-eustasy on the stratigraphic architecture of the Athabasca Oil Sands, Alberta, Canada: *Sedimentology*, v. 66(5), p. 1600-1642.
- Oral Presenter, SEPM Annual Meeting (2020; Accepted, Event Cancelled)
- Poster Presenter, AGU Annual Meeting (2020)
- Oral Presenter, GSA Annual Meeting (2018)
- Poster Presenter, International Conference on Fluvial Stratigraphy, Calgary, AB (2017)
- Oral Presenter, Poster Presenter, CSPG Annual Conference in Calgary, AB (2017)
- Invited Speaker, Shell Canada Luncheon at the University of Calgary (2015)
- Poster Presenter, McMurray Geology Consortium Annual Meeting, Calgary (2015, 2016, 2017; internal)
- Poster Presenter, AAPG Annual Conference in Denver, CO (2015)
- Vice President and Co-Founder, AAPG McMaster Student Chapter (2014-2015)
- VP Academic, Integrated Science Society, McMaster University (2013-2014)
- Co-Lead, QSL Consortium Field Trip to Utah (August 2013)

Skills and Technical Proficiencies

- Applied machine learning skills; independently designed and completed a term research project using large raster datasets.
- Interpreted >4,400 wireline well logs and >1.5 mi of drill core for my MSc thesis.
- Comfortable and competent presenter and communicator, through multiple media.
- Experience planning and constructing mathematical models in Matlab.
- Proficient in GeoScout and Adobe Illustrator.
- Intermediate in Petrel, ArcGIS, DZStats.
- Experience conducting fieldwork safely and efficiently.