

BASIN & RESERVOIR LAB

Basin & Reservoir Lab Newsletter

January-March, 2021

Professor Wach awarded D'Arcy McGee Beacon Fellowship

Grant Wach has been awarded the D'Arcy McGee Beacon Fellowship by the Ireland Canada University Foundation (ICUF). The D'Arcy McGee Beacon Fellowship enables leading Irish and Canadian academics, researchers and thinkers to connect and engage, via online lectures. The program consists of a Beacon lecture and a smaller lecture/workshop series. Professor Wach will showcase his research in Energy Sustainability, Paleogeography and Geoforensics. This lecture fellowship is the latest in a long history of collaboration and research connection between Professor Wach and the Irish geological community.

Over the years, Professor Wach has collaborated with Dr. Alastair Ruffell at Queen's University in Belfast. Research themes include Lidar, GPR, Geoforensics, Stratigraphy and Sedimentology, Reservoir Characterization, and paleogeographic and paleoclimate studies. Some recently published work resulting from this research partnership include *Gamma-ray log correlation and interpretation of Fitton's and Casey's stratigraphy with offshore borehole 99/16-1* (Ruffell and Wach, 2020) and *Location of the Brecourt (Normandy, France) WW2 Howitzer battery using a geoforensic search strategy* (Ruffell and Wach, 2019). Professor Wach also retains strong research ties with Dr. Ricardo Silva, former BRL postdoctoral fellow who moved on to Trinity College/University College Dublin.

Professor Wach worked with SLR Consulting Ireland on projects here in Nova Scotia and completed a study of the CO₂ storage potential of Nova Scotia, *Carbon Transport and Storage Assessment Offshore Nova Scotia*, for the CCS Research Consortium of Nova Scotia in 2012. The most recent product of this collaboration was a *Proposal for an Assessment of Geothermal Resources in Onshore Nova Scotia*, submitted to the Nova Scotia Offshore Energy Research Association (OERA) in spring 2020. Through its role as project manager of Ireland's PIP Infrastructure Programme, SLR Consulting Ireland has developed further research links with Professor Wach including support for former M.Sc. students Charlie Carlisle and Carla Skinner to complete their work on offshore Irish sedimentary basins.

He also co-founded the Conjugate Margins Conferences, biennial scientific meetings focused on improving knowledge on the geological evolution of the divergent Atlantic margin basins. Held in Halifax in 2008 and 2018, and in Dublin in 2012, these conferences attract researchers from around the globe and strengthen research connections between the Basin and Reservoir team and their Irish counterparts.

Professor Wach is looking forward to strengthening his research ties with Ireland and engaging with Irish researchers through this opportunity. Congratulations!!

"From afar, a beacon provides light, guidance and hope in challenging times. The **D'Arcy McGee Beacon Fellowship** ...enables leading Irish and Canadian academics, researchers and thinkers to nurture and develop strong and fruitful collaborations which will enrich connections between our two countries.

- Ireland Canada University Foundation (ICUF) Webpage

D'Arcy McGee Beacon Fellowship Lecture

On March 12, 2021 Professor Wach presented his lecture, *The Energy Transition: The Greening of Atlantic Canada and Ireland*, to a virtual audience on both sides of the Atlantic.

If you missed it: This lecture will be posted on the ICUF webpage; contact kristie.mcvicar@dal.ca for more information



Above: Portrait of Thomas D'Arcy McGee. Photo credit: Wikipedia

On April 2, 2021 Professor Wach presented his second fellowship lecture, *Geoforensics in Nova Scotia: Application of GPR for the study of Graveyards and Criminal Investigations*. This lecture was very well received and participants logged in from around the world.

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Atlantic Geosciences Colloquium

The 47th Atlantic Geosciences Society Colloquium was held online on February 5-6, 2021. Several members of the Basin & Reservoir Lab had the opportunity to participate, and M.Sc. student Kenneth Martyns-Yellowe presented his work, **Crestal faulting: a source of trap integrity loss and gas migration in the Migrant Structure, Sable Delta, Offshore Nova Scotia**. Congratulations, Kenneth!

ERTH 4157 Petroleum Geoscience Field Methods

For the first time in over 15 years, the Petroleum Geoscience Field Methods course held in Trinidad and Tobago was cancelled this year due to the Covid-19 pandemic. The hands-on experience and experiential learning opportunities, as well as the collaboration between Dalhousie University, The University of West Indies and The Geological Survey of Trinidad and Tobago make this field course an excellent experience for our earth science students. We are already planning our course for 2022 and are looking forward to continuing this valuable petroleum geoscience training opportunity.



BRL alumnus Xinyue Hu & friends celebrating the **Lunar New Year**

Where are they now?

Alumnus of the BRL team pursue many diverse opportunities around the globe. Here are where some of our graduates are now:

Elliot McLauchlan – Elliot worked as a research assistant on our Gas Seepage Project (GaSP) in 2018-18. Elliot is currently a Market Analyst on the Regulatory Policy Team of Canada's Energy Regulator in Calgary, Alberta, Canada.

Fiona Henderson – Fiona also was a research assistant on our GaSP project. She is currently completing her M.Sc. at the University of Queensland, in Brisbane, Australia.

Maxwell Angel – Max was a research assistant at the BRL until September 2020. He is starting a M.Sc. degree in Applied Geoscience (Energy and Mineral Resource stream) at RWTH Aachen University, Germany.

ERTH 6300 - Research Design and Scientific Presentations

Carla Skinner has been working on the research design and plan for her Ph.D. work to fulfill the requirements of EARTH 6300. She will be defending her research proposal on April 9, 2021.

Upcoming Event: Dawson Informal Research Talk (DIRT) via Zoom

On Thursday, April 29, 2021, Ph.D. candidate Carla Skinner will deliver talk, "High Pressure Situations: Overpressure & Reservoir Connectivity in the Sable Subbasin",

The **First EAGE Workshop on Geothermal in Latin America** will be held on August 19-20, 2021 in Guanacaste, Costa Rica. To read more and register, please visit <https://eage.eventsair.com/first-eage-workshop-on-geothermal-energy-in-latin-america/>

Basin & Reservoir Lab M.Sc. Defenses

BRL M.Sc. candidates Anne Hargreaves and Kenneth Martyns-Yellowe are wrapping up their Masters thesis projects. Kenneth successfully defended his thesis on March 23, 2021. Anne is finishing up her corrections and is planning on submitting her final thesis this March as well.

Great work, Anne and Kenn!

KAUST Research Conference—Enabling CO₂ Geological Storage within a Low-Carbon Economy

On February 22-24, 2021, the King Abdullah University of Science and Technology (KAUST) hosted a virtual research conference, "Enabling CO₂ Geological Storage within a Low-Carbon Economy". Members of the BRL team attended this virtual event, and M.Sc. candidate Kenneth Martyns-Yellowe presented his work, Crestal faulting: A source trap integrity loss and gas migration in the Migrant Structure, Sable Delta, Offshore Nova Scotia.