

## Dr. Alexey Portnov, Research Associate

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University of Texas profile: <https://www.ig.utexas.edu/staff/alexey-portnov/>

### Education

- 2012-2015 **PhD degree.** CAGE - Centre for Arctic Gas Hydrate, Environment and Climate, UiT, The Arctic University of Norway, Tromsø, Norway. PhD thesis: “Role of subsea permafrost and gas hydrate in postglacial Arctic methane releases”. Study areas – South Kara Sea, Barents Sea, West Svalbard margin.
- 2007-2009 **Master’s degree.** “Geology and geophysics of sea and ocean”. Saint-Petersburg State University, Geological faculty, Saint Petersburg, Russia.  
 Master’s degree thesis, “Identification of gas-saturated sediments in the upper section of the South Kara Sea sediment cover using high-resolution seismic and sediment sampling data”.

### Employment History

- 2020-present Research Associate at the University of Texas at Austin, Jackson School of Geosciences, Austin, USA
- 2017-2020 Postdoctoral scholar at the Ohio State University, School of Earth Sciences, Columbus, USA
- 2016-2017 Postdoctoral scholar at CAGE - Centre for Arctic Gas Hydrate, Environment and Climate, UiT-The Arctic University of Norway, Tromsø, Norway
- 2006-2012 Marine geophysicist at FSUE “I.S. Gramberg VNIIOkeangeologia”, Saint-Petersburg, Russia
- 2007-2009 Researcher at the Otto Schmidt Laboratory. Saint-Petersburg, Russia and Kiel, Germany

### Field Experience

- 2017 May Deep-water Gulf of Mexico on Drilling Vessel Helix Q4000. University of Texas GOM2-1 deep-sea drilling project. Pressure coring in a gas hydrate reservoir.
- 2016 October Central Barents Sea, West Svalbard Margin on RV Helmer Hanssen. Scientific cruise of University of Tromsø and CAGE. Installation of long-term marine bottom observatories in areas of active seafloor gas release. Collection of sediment cores.
- 2016 June-July Fram Strait, West Svalbard Margin, Barents Sea on RV Helmer Hanssen. Scientific cruise of University of Tromsø and CAGE. 3D and 2D seismic survey, multibeam, OBS studies.
- 2016 June Barents Sea, West Svalbard margin on RV Helmer Hanssen. Scientific cruise of University of Tromsø and CAGE. ROV survey, hydroacoustic, biological, geochemical studies.
- 2014 October Norwegian Sea, West Svalbard Margin on RV Helmer Hanssen. Scientific cruise of University of Tromsø and CAGE. Hydro-acoustic, 2D seismic and geological investigations in the areas of active gas plumes. Collection of sediment cores.
- 2014 June Norwegian Sea, West Svalbard Margin on RV Helmer Hanssen. Scientific cruise of University of Tromsø and CAGE. Hydro-acoustic, 2D seismic and geological investigations in the areas of intensive gas plumes. Collection of sediment cores.
- 2013 August Kara Sea on RV Aldan. Supervisor in Rosneft and ExxonMobil joint acoustic survey at the potential oil and gas fields.
- 2012 August Kara Sea, West Yamal Shelf on RV Spasatel. Scientific cruise of VNIIOkeangeologia. Complex gas-geochemical and high-resolution seismic survey. Collection of sediment cores.
- 2012 June Norwegian and Barents Sea on RV Helmer Hanssen. Scientific cruise of University of Tromsø. seismic survey 3D, sediment core acquisition over seafloor gas vents.

- 2011 September Kara Sea on RV Akademik Mstislav Keldysh. Scientific cruise of P.P. Shirshov Institute of Oceanology, Moscow
- 2009-2011 Four expeditions in the South-China Sea on RV Iskatel-5 and RV Emma. Gas-geochemical and seismic survey, under the contract with JSC “Vietgazprom”.
- 2007 August Laptev Sea on RV Ivan Petrov. Russian-German offshore permafrost drilling cruise.
- 2006 September Barents Sea on RV Gidrolog. VNIIOkeangeologia geophysical and gas-geochemical survey, under the contract with JSC “Severneftegas”.

### **Grants and funding**

- 2021 (*Stalled due to travel restrictions till 2022*). Funded NSF proposal “Analysis of Offshore Geophysical Data from a Formerly Glaciated Russian Arctic Shelf” (39 554\$). Alexey Portnov (PI). Proposal Number: 2129882.
- 2019 Active IODP Proposal “Linking sediment deposition during glacial cycles and methane hydrate occurrence”. A. Cook (Lead Proponent), A. Portnov (Data Lead), A. Malinverno, S. Phillips, K. Thirumalai, E. Arellano Torres, R. Colwell, E., Soloman, J. Hillman, K. Weitemeyer, and P. Flemings. 961-APL.
- 2019 Bureau of Ocean Energy Management Award “Gulf of Mexico Hydrate Mapping and Interpretation Analysis” (109 700\$). A. Cook (PI), Alexey Portnov (Project Lead). Award #140M0119P0041  
<https://www.boem.gov/oil-gas-energy/resource-evaluation/ohio-state-university-methane-hydrate-prospect-analysis-gulf>
- 2016-2018 postdoc scholarship at UiT- The Arctic University of Norway 1.48 mln NOK (~177 000\$). Project proposal for postdoctoral fellowship entitled “Coupled response of gas hydrate and permafrost systems in Arctic petroleum provinces to post-glacial ice sheet retreat”

### **Selected cooperation with international research groups**

- Ohio State University (USA)
- University of Texas at Austin (USA)
- Bureau of Ocean Energy Management (USA)
- US Geological Survey (USA)
- Chevron (USA)
- CAGE - Center for Arctic Gas Hydrate Environment and Climate, The Arctic University of Norway (Norway)
- CEED - Centre for Earth Evolution and Dynamics, Oslo University (Norway)
- VBPR-Volcanic Basin Petroleum Research (Norway)
- CGF - Center for Geophysical Forecasting, Norwegian University of Science and Technology (Norway)
- Marine Research Center, Moscow State University (Russia)
- Earth Cryosphere Institute of Tyumen Scientific Centre SB RAS (Russia)
- VNIIOkeangeologia - I.S. Gramberg All-Russia Scientific Research Institute of Geology and Mineral Resources of the World Ocean (Russia)
- VSEGEI - A.P. Karpinsky Russian Geological Research (Russia)
- GEOMAR - Helmholtz Centre for Ocean Research Kiel (Germany)
- OGS-National Institute of Oceanography and Experimental Geophysics (Italy)
- The UCD School of Earth Sciences (Ireland)
- GNS Science (New Zealand)
- CSIR-National Institute of Oceanography Goa (India)
- MGMC - Marine Natural Resources - Environment Survey Center (Vietnam)

### **Invited talks**

- 2021 November Society for Sedimentary Geology (SEPM) meeting invited talk, USA
- 2021 November Ocean Data Platform guest talk, Norway
- 2020 December AGU Fall Meeting, USA

2020 February	University of Texas at Austin, Institute for Geophysics, USA
2020 January	University of Houston, Earth and Atmospheric Science Department, USA
2019 October	Russian Academy of Science and Moscow State University, Russia
2019 May	Chevron Oil Company, Houston, USA
2018 May	Stockholm University, Department of Geological Sciences, Sweden
2018 June	Minerals of The Ocean – 9 research conference, Saint-Petersburg, Russia
2017 December	Ohio State University, School of Earth Sciences, USA

### Academic Service

- Member of the Global Cryosphere Watch - Best Practices for Permafrost advisory board
- Editor for: MDPI Geosciences Special Issue: “*Gas Hydrate Exploration and Interpretation Analysis*”, 2021 [https://www.mdpi.com/journal/geosciences/special\\_issues/Gas\\_Hydrate\\_Exploration](https://www.mdpi.com/journal/geosciences/special_issues/Gas_Hydrate_Exploration)
- Reviewer for: *Nature Communications, Geology, Journal of Geophysical Research, G-cubed, Marine and Petroleum Geology, Geosciences, Global Change Biology, Journal of Environment and Earth Science, Marine Geophysical Research, Applied Sciences, Interpretation, IODP and NSF proposals.*
- September 2021, chair at SEG|AAPG joint meeting in Denver, USA. Session: “*Gas Hydrates – hydrocarbons of the future*”.
- December 2018, AGU Fall Meeting Session co-convenor and co-chair. “*Geological and Geophysical Characterization of Marine Gas Hydrate Reservoirs*”.
- September 2018, co-organizer of GOM<sup>2</sup> Gas Hydrate Drilling Workshop at the Ohio State University, USA
- March 2018, discussion Leader at Gordon Research Conference on Natural Gas Hydrate Systems. Galveston, USA
- September 2016, co-organizer of Gas in Marine Sediments conference, Tromso, Norway.
- June 2012, co-organizer of Minerals of The Ocean - 6 conference, Saint-Petersburg, Russia.

### Projects with industry and academia

2017-present	GOM <sup>2</sup> : Methane Hydrates at the University of Texas. Project focusing on methane hydrates as a future energy resource. The effort is supported by the U.S. Department of Energy and links UTIG, the Department of Geological Sciences at the Jackson School of Geosciences, and the UT Department of Petroleum and Geosystems Engineering with Columbia University, Ohio State, the University of New Hampshire, the University of Oregon, the University of Washington, the USGS, and the BOEM.
2019-2020	“Gulf of Mexico Hydrate Mapping and Interpretation Analysis” project of the US Bureau of Ocean Energy Management and the Ohio State University. Exploration for new gas hydrate reservoirs. <a href="https://www.boem.gov/oil-gas-energy/resource-evaluation/ohio-state-university-methane-hydrate-prospect-analysis-gulf">https://www.boem.gov/oil-gas-energy/resource-evaluation/ohio-state-university-methane-hydrate-prospect-analysis-gulf</a>
2014	“Arctic-2014”. Analyses and interpretation of high-resolution seismic data in the areas of gas seepage in the northern Kara Sea, Laptev Sea and Chukchi Sea. Under the contract with PJSC Rosneft.
2013	“Marine geochemical survey within the license block VP-1”. Acquisition of multibeam, side-scan sonar and chirp data. Collection of sediment cores. Supervisor from Rosneft-Shelf Far East.
2012	“Regional geological and geophysical studies at the South Kara Sea, off-Yamal peninsula”. Contract with the Federal Subsoil Resources Management Agency of Russia.
2011	“Complex interpretation of regional geophysical and geochemical studies within blocks 129-132 of Vietnam continental shelf” under the contract with JSC “Sevmorneftegeophysica”. Collection of sediment cores. 2D seismic data interpretation integrated with regional geochemical survey.
2010	“Offshore geochemical survey in blocks 129, 130, 131, 132 on Vietnam’s continental shelf”. Performance of laboratory analysis and interpretation under the contract with JSC “Vietgazprom”.
2010	“Provision of detailed geochemical survey on the licensed drilling sites Kolskiy-1, Kolskiy-2, Kolskiy-3” within Kolsko-Kaninskaya monocline on the Barents Sea shelf”. Under the contract with JSC “Severneftegas”.
2008-2009	“SEDORA” project under the contact with “Shell”. High-resolution seismic data interpretation within Russian Arctic shelf. Development of the database of gas-related acoustic anomalies in the Barents Sea, Kara Sea, and Laptev Seas.
2007-2008	“Prospecting for hydrocarbon potential of Angola continental shelf within blocks 12, 13, 29, 30 based on the 2D seismic data” under the contract with “Sevmorgeologia”. 2D seismic data interpretation.

- 2006 “Marine geological engineering studies within licensed polygons JSC “Severneftegas”, Kolsko-Kaninskaya monocline on the Barents Sea continental shelf” under the contract with JSC “Severneftegas”. High-resolution seismic data interpretation.
- 2005-2006 “Hydro-geochemical survey within the licensed blocks of JSC “Severneftegas”, Kolsko-Kaninskaya monocline at the Barents Sea continental shelf” under the contract with JSC “Severneftegas”.

### **Training courses and seminars**

- 2021 April Geoscientific data analyses using UNIX and GMT, University of Texas at Austin
- 2016 October Geological course in Sicily, CAGE, The Arctic University of Norway
- 2015 May Scientific presentation workshop (conducted by Melissa Marshall, Pennsylvania State University)
- 2014 April ArcGIS training course, Arctic University of Norway, Tromsø, Norway
- 2014 March QPS Fledermaus training course, Portsmouth, New Hampshire, USA
- 2010 March HPR & HiPAP Acoustic Positioning courses, Kongsberg Maritime - Subsea Training Centre, Norway
- 2009 May Saint-Petersburg State University, “Shell” company seminar, Saint-Petersburg, Russia
- 2008 April Saint-Petersburg State University, “Schlumberger” company seminar, Saint-Petersburg, Russia

### **Teaching**

- 2018-2020 Earth Sciences 5687 (Borehole Geophysics) and Earth Sciences 5780 (Reflection Seismology) classes at Ohio State University. Guest lecturer
- 2020 “Dynamic geological systems, seismic exploration and geophysical data interpretation” short course at Moscow State University
- 2009-2010 Teaching assistant for offshore seismic interpretation class at Saint-Petersburg State University

### **Supervision**

- 4) Abby Varona, M.S. 2022. University of Texas, co-supervisor.
- 3) Stuart Skopec, M.S. 2021. Ohio State University, co-supervisor.
- 2) Gabriel Martinez, M.S. 2021. Ohio State University, co-supervisor.
- 1) Ryan Heber, M.S. 2020. Ohio State University, co-supervisor.

### **Dissertation Committee**

- 1) Olin Rico Carty, M.S. 2021. University of Texas at Austin.

### **Computer skills**

- Experienced user Windows/Linux. Python programming.
- Geo-Software: Petrel, The Kingdom Suite, Fledermaus, Global Mapper, Paradigm Geolog, ArcGIS, Surfer, Corel Draw, GMT, Microsoft Office and other.

### **Outreach**

- Geo-visualization channel on YouTube “Visualization Lab”, showing various techniques helping to communicate marine geophysical research, first presented at AGU conference, New Orleans, USA. “Make it fun for everyone: visualization techniques in geoscience”:  
<https://www.youtube.com/c/VisualizationLabAlexeyPortnov>
- Invited speaker at Deloitte company YouTube podcast (December 2020).  
<https://www.youtube.com/watch?v=yf6ovLAqyxA&list=PLvViFZNmVYh8LHViCFzi6sm0M6MWO0eJg&index=1>
- Interviewed by several media-resources in English and Russian, e.g.  
<https://www.smithsonianmag.com/science-nature/tiny-world-glacier-microbes-has-outsized-impact-global-climate-180959817/>  
<http://barentsobserver.com/en/arctic/2015/01/alarm-over-kara-sea-permafrost-thawing-09-01>  
[http://www.gazeta.ru/science/2014/12/23\\_a\\_6355645.shtml](http://www.gazeta.ru/science/2014/12/23_a_6355645.shtml)

### **Awards**

2019 Certificate of Appreciation from Program Committee of “Marine Research and Education-2019” for being an invited lecturer at Moscow State University.

2010 Diploma of “I.S. Gramberg VNIIOkeangeologia” for long-term conscientious working activity and scientific contribution in the research of ore stock of Russian shelf and the World Ocean by the results of 2010 year.

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**Additional information**

- Native Russian language, fluent English language, basics of Norwegian
- Driving license – B category
- Personal skills: self-discipline, productivity, analytical thinking, good social skills, responsibility, punctuality.