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Professional Preparation

1998-2000	Honours B.Sc. Geology	University of Edinburgh	UK
2000-2002	M.S. Oceanography	MIT-WHOI Joint Program	USA
2002-2003	MPhil Fluid Flow	University of Cambridge	UK
2003-2008	Ph.D. Petroleum Engineering	Stanford University	USA

Appointments

2016-2022	Associate professor	Geological Sciences	University of Texas at Austin
2009-2015	Assistant professor	Geological Sciences	University of Texas at Austin
2008-2009	Postdoctoral scholar	Geophysics	Brown University

Honours and awards

2015	Outstanding Research Award	Jackson School of Geosciences
2014	US Junior Oberwolfach Fellowship	National Science Foundation
2013	Junior Scientist Prize	SIAM - Activity Group on Geosciences
2009	David Crighton Fellowship	University of Cambridge

Synergistic activities

1. Vice-Chair of 2024 Gordon Conference on Flow and Transport in Permeable Media
2. Vice-chair SIAM Activity Group on Geosciences 2020-2021
3. Associate editor for Transport in Porous Media, 2013-2018.
4. Editors Citation for Excellence in Refereeing for Geophysical Research Letters, 2013.
5. Organizing Committee Member, "SIAM Conference on Mathematical and Computational Issues in the Geosciences," June 29-July 2, 2015, Stanford University.

Five relevant products

1. Carnahan, Vance, Journeux, Hesse, Sotin (2022) Dynamics of mixed clathrate-ice shells on icy ocean worlds, *Geophys. Res. Lett.*, **49**(8), 1-11, 2021GL097602

2. Hesse, Jordan, Vance, Oza (2022) Downward oxidant transport through Europa's ice shell by density-driven brine percolation, *Geophys. Res. Lett.*, **49**(5), 1-9, doi:10.1029/2021GL095416, [link]

3. Carnahan, Wolfenbarger, Jordan, Hesse (2021) Ice shell convection in icy ocean worlds with temperature-dependent physical properties, *Earth Planet. Sci. Lett.*, **563**, 116886, 1-10, doi:10.1016/j.epsl.2021.116886, [link]

4. Raymond, Ermakov, Castillo-Rogez, Marchi, Johnson, Hesse, Scully, Buczkowski, Sizemore, Schenk, Nathues, Park, Prettyman, Rayman, Russell (2020) Impact-Driven Mobilization of Deep Crustal Brines on Dwarf Planet Ceres, *Nat. Astron.*, **4**, 741747, doi:10.1038/s41550-020-1168-2, [link]

5. **Hesse**, Castillo-Rogez (2018) Thermal evolution of the impact-induced cryomagma chamber beneath Occator Crater on Ceres, *Geophys. Res. Lett.*, **45**, 1-9, doi: 10.1029/2018gl080327.

Five additional products

1. Lucas, Dygert, Ran, Hesse, Miller, McSween (2022) Thermochemcial evolution of the acapulcoite-lodranite parent body: Evidence for fragmentation-disrupted partial differentiation, in press *Meteorit. Planet. Sci.*, **57**(12), 2248-2275, doi:10.1111/maps.13930, [link]

2. Ren, Hesse, Lucas, Dygert (2022) On the cooling rate evolution of asteroid fragments, *Icarus*, **379**, 114905, 1-6, doi:10.1016/j.icarus.2022.114905 [link]

3. Vance, Journaux, Hesse, Steinbrügge (2021) The Salty Secrets of Icy Ocean Worlds, *J. Geophys. Res.-Planets*, **126**(1), 1-5, doi:10.1029/2020JE006736 [link]

4. Lukas, Dygert, Ren, Hesse, Miller, McSween (2020) Evidence for early fragmentation-reassembly of ordinary chondrite (H, L, and LL) parent bodies from REE-in-two-pyroxene thermometry, *Geochim. Cosmochim. Acta*, 290(1), 366-390, doi:10.1016/j.gca.2020.09.010, [link]

5. Castillo-Rogez, Hesse, Formisano, Sizemore, Bland, Ermakov, Fu (2019) Conditions for the Long-Term Preservation of a Deep Brine Reservoir in Ceres, *Geophys. Res. Lett.*, **46**, 1-9, doi:10.1029/2018GL081473 [link].