

Joan Ramage | Excerpts from Curriculum Vitae

A. Biographical Information

Work: 1 W. Packer Ave. [STEPS Room 584], Lehigh University, Bethlehem, PA 18015-3001

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Educational History

Ph.D., Cornell University, Geological Sciences, 1995-2001 (Adviser: Bryan L. Isacks)

Minors in Archaeology and Atmospheric Sciences

Dissertation: *Satellite Remote Sensing of Daily, Seasonal, and Annual Changes on Southeast Alaskan Glaciers 1986-1998*

M.S., The Pennsylvania State University, Geosciences, 1993-1995 (Adviser: Thomas W. Gardner) Thesis: *Early Pleistocene Glacial Lake Lesley, West Branch Susquehanna River, Central Pennsylvania*

B.A., Carleton College, 1989-1993: graduated *cum laude* (Adviser: Mary E. Savina)

Geology major; Archaeology concentration

Honors Thesis (with Distinction): *Petrographic Analysis of Urartian Vessel Sherds from Ayanis, Van, Turkey*

Licensing

FAA Remote Pilot Certification (Part 107) 2019 -2021, renewed 2021-2023 [certificate no. 4339110]

Excerpted Employment History

Lehigh University

Faculty Director, ADVANCE Center, 2022-present

Associate Professor, 2011 – present, Earth and Environmental Sciences Dept. & Environmental Studies Program

Director, South Mountain College program, 2012-2015

Assistant Professor, 2004 – 2011

Creighton University, Environmental and Atmospheric Sciences Department

Clare Boothe Luce Faculty Chair for Women in Science, 2002 – 2004 (Assistant Professor)

Union College, Geology Department

Visiting Assistant Professor, 2000-2002

B. Publications and Other Scholarly Work

[2025] *Boueshagh, M., J. M. Ramage, M. J. Brodzik, D.G. Long, M. A. Hardman, Hans-Peter Marshall, 2025, Revealing causes of a surprising correlation: snow water equivalent and spatial statistics from Calibrated Enhanced-Resolution Brightness Temperatures (CETB) using interpretable machine learning and SHAP analysis, Frontiers in Remote Sensing. Volume 6.18 March 2025. 10.3389/frsen.2025.1554084.*

[2024] Matias, M, **Ramage, J.M.**, Gurarie, E., Brodzik, M. 2024, Snowmelt Onset and Caribou (*Rangifer tarandus*) Spring Migration, *Remote Sens.*, (Special issue: “*Understanding the Movement Ecology of Wildlife on the Changing Planet*”)16(13), 2391; doi:10.3390/rs16132391.

[2023] *Cunnick, H., J. Ramage, D. Magness, S. Peters, 2023, MDPI Remote Sensing Special Issue: “Application of Remote Sensing for Monitoring of Peatlands”*
[https://www.mdpi.com/journal/remotesensing/special_issues/peatlands_application] Mapping Fractional Vegetation Coverage Across Wetland Classes of Sub-Arctic Peatlands Using Combined Partial Least Squares Regression and Multiple Endmember Spectral Unmixing, MDPI Basel, Switzerland, *Remote Sens.*2023,15(5), 1440, <https://doi.org/10.3390/rs15051440>

[2020] Semmens, K. A., L. Fosbenner, K. Maxfield, R. Hogan Carr, **J. M. Ramage**, J. O’Leary, C. Larouche, J. Hayward, M. Henderson, 2020, Improving Middle School Students’ Understanding of and Connection to Earth Systems through Science on a Sphere®, Personal Relevance, and Arts-Based Activities, *Journal of Geoscience Education*, doi:10.1080/10899995.2020.1829396.

[2020] *Johnson, M. T., J. M. Ramage, T.J.Troy, M. J. Brodzik, 2020, Snowmelt Detection with Calibrated, enhanced-Resolution Brightness Temperatures (CETB) in Colorado Watersheds Special Issue “Advances in remote sensing, measurement, and simulation of seasonal snow”.* *Water Resources Research*; doi:10.1029/2018WR024542

- [2018] Willis, M. J., W. Zheng, W. J. Durkin IV, M. E. Pritchard, **J. M. Ramage**, J. A. Dowdeswell, T. J. Benham, R. P. Bassford, L. A. Stearns, A. F. Glazovsky, Y. Y. Macheret, C. C. Porter, 2018, Massive destabilization of an Arctic ice cap, *Earth and Planetary Science Letters*, Volume 502, 15 November 2018, Pages 146-155, doi:10.1016/j.epsl.2018.08.049 .
- [2014] Gilbert, L., J. Galster, and **J. Ramage**, 2014, InTeGrate: Interdisciplinary Teaching of Geoscience for a Sustainable Future (*Natural Hazards and Risks: Hurricanes*). Open access teaching module. http://serc.carleton.edu/integrate/teaching_materials/hazards/index.html *Note that these were accepted into a peer reviewed collection and 3 of the 6 sections were designated as exemplary materials.*
- [2014] Zhao, M., **Ramage, J.**, Semmens, K.A., Obleitner, F., 2014, Recent ice cap snowmelt in Russian High Arctic and anti-correlation with late summer sea ice extent, *Environmental Research Letters* (Special Issue : Focus on Northern Eurasia in the Global Earth System: Changes and Interactions) 9, 045009, doi:10.1088/1748-9326/9/4/045009.
- [2014] Semmens, K.A., **Ramage, J.**, Apgar, J.D., Bennett, K., Liston, G.E., Deeb, E., 2014, Passive Microwave Remote Sensing of Snowmelt and Melt-Refreeze using Diurnal Amplitude Variations, Chapter in AGU Monograph on Remote Sensing of the Terrestrial Water Cycle edited by Venkataraman Lakshmi 576 p. 2014. ISBN: 978-1-118-87203-1
- [2014] Semmens, K. A., and **J. Ramage**, 2014, Melt patterns and dynamics in Alaska and Patagonia derived from passive microwave brightness temperatures (Special Issue: Cryospheric Remote Sensing), *Remote Sens.*, 6, 603-620; doi:10.3390/rs6010603.
- [2013] Semmens, K.A. and **J. M. Ramage**, 2013, Recent changes in spring snowmelt timing in the Yukon River basin detected by passive microwave satellite data, *The Cryosphere*, 7, 905-916, doi:10.5194/tc-7-905-2013.
- [2013] Semmens, K. A., **J. Ramage**, G. Liston, and A. Bartsch, 2013, Early snowmelt events: detection, distribution, and significance in a major sub-arctic watershed, *Environ. Res. Lett.* 8 014020 , doi: 10.1088/1748-9326/8/1/014020.
- [2012] **Ramage, J.** and K. A. Semmens, 2012, Reconstructing Snowmelt Runoff in the Yukon River Basin Using the SWEHydro Model and AMSR-E Observations, *Hydrological Processes* (Eastern Snow Conference special issue), doi:10.1002/hyp.9226.
- [2012] Semmens, K.A. and **J. Ramage**, 2012, Investigating correlations between snowmelt and forest fires in a high latitude snowmelt dominated drainage basin, *Hydrological Processes* (Eastern Snow Conference special issue), doi: 10.1002/hyp.9327.
- [2012] Willis, M.J., A. K. Melkonian, M.E. Pritchard, **J. Ramage**, 2012, Ice Loss Rates at the Northern Patagonian Icefield derived using a decade of satellite remote sensing, *Remote Sensing of Environment*. Vol. 117, p. 184-198. doi: 10.1016/j.rse.2011.09.017.
- [2011] McFadden, EM, **J. Ramage**, and DT Rodbell, 2011, Landsat TM and ETM+ Derived Snow Line Altitudes in the Cordillera Huayhuash and Cordillera Raura, Peru, 1986-2005, *The Cryosphere*) <http://www.the-cryosphere.net/5/419/2011/>.
- [2010] Monahan, P. and **J. Ramage**, 2010, AMSR-E Melt Patterns on the Southern Patagonian Icefield. *Journal of Glaciology*, Vol. 56, No. 198, p.699-708, doi: 10.3189/002214310793146197.
- [2010] McFadden, EM, **J. Ramage**, and DT Rodbell, 2010, Landsat TM and ETM+ Derived Snow Line Altitudes in the Cordillera Huayhuash and Cordillera Raura, Peru, 1986-2005, *The Cryosphere Discussions*) <http://www.the-cryosphere-discuss.net/4/1931/2010/>. [Note, replaced with formally accepted paper in *The Cryosphere*.]
- [2009] Hall, S., D. L. Farber, **J. M. Ramage**, D. T. Rodbell, R. C. Finkel, J. A. Smith, B. G. Mark, C. Kassel, 2009, Geochronology of LLGM through Holocene glaciations from the tropical Cordillera Huayhuash, Peru. *Quaternary Science Reviews*, doi:10.1016/j.quascirev.2009.08.004.
- [2009] Tedesco, M., M. Brodzik, R. Armstrong, M. Savoie and **J. Ramage**, 2009, Pan arctic terrestrial snowmelt trends (1979 - 2008) from spaceborne passive microwave data and correlation with the Arctic Oscillation, *Geophys. Res. Lett.*, 36, L21402, doi:10.1029/2009GL039672.
- [2009] Yan, F., **J. Ramage**, and R. McKenney, 2009, Modeling of high latitude spring freshet from AMSR-E passive microwave observations. *Water Resour. Res.*, 45, W11408, doi:10.1029/2008WR007370.
- [2008] Kopczynski, S., **J. Ramage**, D. Lawson, S. Goetz, E. Evenson, J. Denner, and G. Larson (2008), Passive Microwave (SSM/I) Satellite Predictions of Valley Glacier Hydrology, Matanuska Glacier, Alaska, *Geophys. Res. Lett.*, doi:10.1029/2008GL034615.
- [2007] **Ramage, J. M.**, J. D. Apgar, R.A. McKenney, W. Hanna, 2007, Spatial Variability of Snowmelt Timing from AMSR-E and SSM/I Passive Microwave Sensors, Pelly River, Yukon Territory, Canada, *Hydrological Processes*, Vol. 21 p.1548-1560, doi: /10.1002/hyp.6717

- [2007] *Apgar, J.D., Ramage, J.M.,* McKenney, R.A, Maltais, P., 2007, Preliminary AMSR-E Algorithm for Snowmelt Onset Detection in Subarctic Heterogeneous Terrain, *Hydrological Processes*, Vol. 21, p.1587-1596, doi:/10.1002/hyp.6721.
- [2006] **Ramage, J.M.,** McKenney, R.A., Thorson, B., Maltais, P., *Kopczynski, S.E.,* 2006, Relationship between Passive Microwave-Derived Snowmelt and Surface-Measured Discharge, Wheaton River, Yukon Territory, Canada, *Hydrological Processes*, Vol. 20, pp. 689-704, doi: /10.1002/hyp.6133.
- [2005] **Ramage, J.M.,** Smith J.A., Rodbell, D.T., Seltzer, G.O., 2005, Comparing reconstructed Pleistocene equilibrium-line altitudes in the tropical Andes of central Peru, *Journal of Quaternary Science*, Vol. 20, pp. 777-788, doi: 10.1002/jqs.982.
- [2005] Garver, J.I, Reiners, P.W., Walker, L.J., **Ramage, J.M.,** Perry, S.E., 2005, Implications for Timing of Andean Uplift based on Thermal Resetting of Damaged Zircon in the Cordillera Huayhuash, Northern Peru, *Journal of Geology*, Vol. 113, pp. 117-138, doi: 10.1086/427664.
- [2003] **Ramage, J. M.,** and B. L. Isacks, 2003, Interannual Variations in Snow Melt and Refreeze Timing on Southeast Alaskan Glaciers, *Journal of Glaciology*, Vol. 49, No. 164, pp. 102-116, doi: 10.3189/172756503781830908.
- [2003] **Ramage, J. M.,** G. H. Shaw, *J. A. Hoffman, S. A. Johnston,* 2003, Origin of Post-Minoan Caves and Volcaniclastic Cave Fill, Thera (Santorini), Greece, *Geoarchaeology*. Vol. 18, No. 5, pp. 523-539, doi:/10.1002/gea.10078.
- [2002] **Ramage, J. M.** and B. L. Isacks, 2002, Determination of Melt Onset and Refreeze Timing on Southeast Alaskan Icefields using SSM/I Diurnal Amplitude Variations, *Annals of Glaciology*. Vol. 34, pp. 391-398, doi:/10.3189/172756402781817761.
- [2000] **Ramage, J. M.,** B. L. Isacks, and M. M. Miller, 2000, Radar Glacier Zones in Southeast Alaska: Field and Satellite Observations, *Journal of Glaciology*. Vol. 46, No. 153, pp. 287-296, doi:10.3189/172756500781832828.
- [1998] **Ramage, J. M.,** T. W. Gardner, and I. D. Sasowsky, 1998, Early Pleistocene Glacial Lake Lesley, West Branch Susquehanna River, Central Pennsylvania, *Geomorphology*, Vol. 22, pp. 19-37, doi:10.1016/S0169-555X(97)00053-6.

Workshops Developed/Taught

ADVANCE-Related Design and Delivery of the Following Faculty Development and Institutional Equity Transformation Programs:

“Evidence-Based Practices for Faculty Search Committees: Recruitment, Evaluations, Interviews, Hiring” **workshop (x5)**, updated and co-taught,

5 two-hour workshops delivered virtually in 2022; (reached 156 of 190 members of Recruitment Committees)

4 two-hour workshops (3 in person) in 2023

2 two-hour workshops in 2024

“Rubric workshop” Optional workshop for search committees

Workload Equity Working Group Spring, 2024 Member, co-produced white paper with recommendations for a Workload Equity Policy.

“What’s a Proposal to Host” Workshop on department climate and preparation for writing a proposal to host for the Advancing Future Faculty Diversity Postdoctoral Program. One session for first cohort, one session for second cohort

“Designing Equity into Tenure and Promotion Evaluation: What Can a Department Member Do?” Pilot Holistic Evaluation Workshops, developed (with M. Levine) and worked with 4 departments to support design of robust promotion and tenure training resources going forward.

“Mitigating Bias When Recruiting University Leaders”, new workshop co-developed with M. Levine to support the College of Health Dean search, developed and taught (Nov. 2022); Subsequently adapted and delivered as a rubric design workshop for the College of Business Search (Nov. 2023)

Associate Professor Workshop – Developing your Promotion Plan (Oct. 2022, October 2023) provides mentorship and clarity on expectations for promotion plan component of career advancement

New Faculty Orientation – Short welcome and ADVANCE overview (Aug. 2022, 2023)

Chair Workshop (August 2023)

Invited/Co-Facilitated NASEM Speaker Layne Scherer to speak at Lehigh about the report “Advancing Anti-Racism, Diversity, Equity, and Inclusion in STEM Organizations: A Consensus Study” and meet with RCEAS DEI Council, AVPR, Department Chairs, ODI&E, Global Studies and Marcon Institute, Faculty Senate Inclusive Community Committee, Council of Deans, and President and Provost.

LU-WISE co-chair/organized monthly meetings providing community and professional development and networking to Lehigh STEM Women Faculty (ongoing)

AFFDP Monthly Professional Development Meetings (2023-present)

Earth Science-Related Design and Delivery of NAGT Professional Development for Faculty and Graduate Students

Taught (including substantial updates): *Early Career Workshop* – 4-day virtual workshop for early career geoscience faculty (July 27-30, 2020 and July 26-29, 2021)

Topics I co-taught with other leaders were:

Incorporating Data and Research into the Classroom

Dealing with Rejection

Interdisciplinary Teaching

Strategic Planning your Research Goals

Recruiting Graduate Students

Early Career Mentoring (one on one)

Developed and Taught: *Becoming an Inclusive Geoscience Leader*, University of Texas at Austin Jackson School of Geosciences Aug. 20-21, 2020. Two half-day virtual workshop for graduate students

Developed and Taught: *Being an Inclusive Geoscientist*, University of Texas at Austin Jackson School of Geosciences May 10-11, 2021. 2 half-day workshop for faculty/staff

Taught: Department workshop, Syracuse University, May 2017

Developed (as part of team): Supporting the Success of all Students NAGT Workshop; updates in 2021

Developed (2021-2022): Generalizing *Becoming an Inclusive Geoscience Leader* for other institutions and multiple institutions (virtual, with Sue Ebanks, Savannah State University)

Program Development

Envision and Develop "LIFT" – Launching into Full Together, a professional development and mutual support network to help associate professors successfully navigate the promotion process. First cohorts starting in 2025 for next 3 cycles.

Envisioned and built a new Postdoc to Faculty Hiring and Transition Program” *Advancing Future Faculty Diversity Program*”,

Improving overall Postdoc experience at Lehigh, survey needs of current postdocs, foster interaction, listening by leaders

H. Selected Service

University Service

ADVANCE Faculty Director 2022-present

Internal Review Committee (VPR Office) 2022– 2025

Inclusive Excellence in Learning and Teaching, Planning Committee, 2022

Lactation Friendly Campus Working Group – 2018 -2022

Roy Eckardt College Scholars Program Review Committee, 2010

Lehigh Environmental Advisory Group (LEAG) – At-Large Member 2010-2012

Honorary Degrees Committee – At-Large Member 2010 – 2013

College of Arts and Sciences Service

Director, South Mountain College 2012-2015

Global Citizenship, Advisory Board, 2015-2016

Mentor Advisor, College of Arts and Sciences (Incoming cohorts 2014, 2016, 2018, 2019, 2020)

Member of South Mountain College Steering Committee, Spring 2012

Member of Eckardt College Scholars Program Advisory Board, 2011

Member of CAS College Policy Committee (2006 – 2009);

Member of Astrophysics search committee (Physics Dept.), 2006-2007

Freshman advising (Fall 2005, 2009, 2011-2013); SMC advising (Fall 2007, 2012-present)

Interdisciplinary/Extra-Departmental Service

Interdisciplinary Networking Circle (INC), Mentor 2023-2024

Member, High Performance Computing / Research Computing Steering Committee, 2016 – 2017

Participant and Academic Subgroup Chair, Sustainability Plan Workshops, 2011-2012

Member, Environmental Initiative Research Committee, 2005--2007

Member of Environmental Initiative /Library and Technology Services Computer Consultant search committee, spring 2005

Participant, South Mountain College Faculty Seminar (Spring 2007) and Faculty Member (Fall 2007, 2009, 2011); SMC advising 2007, Steering Committee (2012-2015)

Departmental Service

Member, EES Tenure Track Assistant Professor Search Committee, 2022-2023

Chair, EES Tenure Track Assistant Professor Search Committee, 2021-2022

Leader of EES's Unlearning Racism in the Geosciences (URGE) Pod Jan. – May 2021

Member of EES Committee on Diversity and Inclusion (CDI) (2019 – 2024)

Chair of EES Foster Hewett Lecture Series Program (2016) *Significance of a Changing Arctic*

Member of EES Professor of Practice Search Committee (2014-2015)

Member of EES Graduate Instruction Committee (GIC) (2004-2007, 2009-2013)

Professional Service

Universities Space Research Association (USRA) COI Chair (2024-2026); Trustee

Universities Space Research Association (USRA) Issues and Program Committee member (2018-2024) (Vice Chair 2023, Chair 2024-2026)

Past President, Eastern Snow Conference, 2024-2025

President, Eastern Snow Conference, 2023-2024

Vice President, Eastern Snow Conference, 2022-2023

Member AGU Cryosphere, Executive Committee 2023- Present (Travel Award Committee 2023-2025)

Scientific Review Panel, Innovation Fund review process for the Canada Foundation for Innovation in collaboration with the Québec government, 2020

NASA Expert Reviewer, 2020

Panelist, NASA 2005, 2006, 2007x2, 2011x2, 2014, 2016x2, 2017

Universities Space Research Association (USRA) Scholarship Review Committee (2014, 2015, 2016, 2017, 2018, 2019, 2020, 2023)

Early Career Workshop Leader, National Association of Geoscience Teachers (NAGT), 2020, 2021 (both week-long virtual workshops)

Traveling Workshop Leader, National Association of Geoscience Teachers (NAGT), December 2016 - present

President, Sigma Xi – Lehigh University Chapter, 2011-2012

Secretary, Sigma Xi – Lehigh University Chapter, 2010-2011 and 2012-2014

Advisory Committee on NSF Grant to Professors Bodzin, Anastasio, and Sahagian: *Promoting Spatial Thinking with Web-based Geospatial Technologies* 2011-2014

GSA Quaternary Geology and Geomorphology Graduate Student Awards Committee, 2006

Community Service

New Hope Eagle Fire Department (New Hope, PA), Member, Drone Applications for First Responders (2022 -ongoing) and member UAS Emergency Response Team

Tinicum Township, Bridgeton-Nockamixon-Tinicum Groundwater Management Committee Regular Participant, 2015; Member, 2016 – 2021, Treasurer (2017-2021)

Palisades School District, member Employee Misconduct Review Committee (2020)

Palisades School District, member Comprehensive Planning Team; Community Engagement focus area (2019)

Tinicum Township Environmental Advisory Council (EAC), member, 2014