

JESSICA Z. MEJIA PH.D.

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EDUCATION

DOCTOR OF PHILOSOPHY in Geology	University of South Florida	2021
MASTER OF SCIENCE in Geophysics	University of Alaska Fairbanks	2016
BACHELOR OF SCIENCE in Physics & Mathematics	Texas A&M University, Commerce	2014

PROFESSIONAL APPOINTMENTS

ASSISTANT PROFESSOR OF CRYOSPHERIC AND POLAR SCIENCES 2024–Present
Department of Earth and Environmental Sciences, Syracuse University

POSTDOCTORAL RESEARCH FELLOW 2021–2024
Department of Geology, University at Buffalo

AWARDS

Awards, Ongoing

NSF OPP-ANS: “Collaborative Research: Observing melt-forced subglacial hydrologic connectivity and its impact on ice sliding with coupled hydrology and geophysical methods” PoP: Aug 2025 to June 2028. Award total of **\$1,196,970** to **Lead PI Mejia (Syracuse University \$469,008)**, and Co-PIs Culberg and Barcheck (Cornell, \$700,962).

SU SOURCE RA Award: “Investigating supraglacial hydrology of the Greenland Ice Sheet through satellite remote sensing.” Awarded to **PI Mejia (SU \$12,401)** for the period May 2025 to Aug 2026.

NSF RCN: GOLD-EN: “Virtual Ice Community Engagement (VICE Squads)” PoP: Sept. 2023 to Aug. 2028, Total budget of **\$500,000** to Lead PI Bassis (University of Michigan) and subcontracts to Co-PI Miller (UVA, \$50,567), Co-PI Stearns (UPenn, \$45,000), and **Co-PI Mejia (SU \$45,000)**.

SELECTED PUBLICATIONS

Mejia, J., Gulley, J., Trunz, C., & Breithaupt, C. (2025). Greenland supraglacial catchment consolidation by streams breaching drainage divides. *The Cryosphere*, 19, 6445–6460. [doi:10.5194/tc-19-6445-2025](#).

Mejia, J., Poinar, K., Meyer, C., Sommers, A., & Chu, W. (2025). Mechanisms for upstream migration of firn aquifer drainage: preliminary observations of Helheim Glacier, Greenland. *Journal of Glaciology*, 71(e1), 1–34. [doi:10.1017/jog.2024.78](#)

Hageman, T., **Mejia, J.**, Duddu, R., & Martínez-Pañeda (2024). Ice viscosity governs hydraulic fracture that causes rapid drainage of supraglacial lakes. *The Cryosphere*, 18, 3991–4009. [doi:10.5194/tc-18-3991](#)

Sommers, A. N., Meyer, C. R., Poinar, K., **Mejia, J.**, Morlighem, M., Rajaram, H., Warburton, K., & Chu, W. (2024). Velocity of Greenland’s Helheim Glacier controlled both by terminus effects and

subglacial hydrology with distinct realms of influence. *Geophysical Research Letters*, 51(15), e2024GL109168
[doi:10.1029/2024GL109168](https://doi.org/10.1029/2024GL109168)

Mejia, J., Gulley, J., Trunz, C., Covington, M., Bartholomaeus, T., Breithaupt, C., Xie, S., & Dixon, T. (2022). Moulin density controls the timing of peak pressurization within the Greenland Ice Sheet's subglacial drainage system. *Geophysical Research Letters*, 49(22), 1–10. [doi:10.1029/2022GL100058](https://doi.org/10.1029/2022GL100058)

Mejia, J., Gulley, J., Trunz, C., Covington, M., Bartholomaeus, T., Xie, S., & Dixon, T. (2021). Isolated cavities dominate Greenland Ice Sheet dynamic response to lake drainage. *Geophysical Research Letters*, 48, 1–11. [doi:10.1029/2021GL094762](https://doi.org/10.1029/2021GL094762) (pdf).

INVITED SEMINARS

Syracuse University Material Physics Lab (2026), University of Rochester (2026), University of St. Andrews (2025), NASA GISS Sea Level Rise Seminar (2025), Cornell University (2024), Arctic Research Consortium of the United States (2024), University at Buffalo (2023), Dartmouth College (2023), Georgia Institute of Technology (2022)

TEACHING AT SYRACUSE UNIVERSITY

EAR 203 Earth Systems Science (S2025, S2026); **EAR 204** Introduction to Field Methods (S2025; S2027), co-taught with G. Hoke; **EAR 486/EAR 686** Snow, Ice & Permafrost (F2025); **EAR612** HydroReads (S2026); **EAR** Professional Development (S2026); **EAR 489/689** Glaciology (F2026);

RESEARCH MENTORSHIP AT SYRACUSE UNIVERSITY

undergraduate research: Lily Cassin (BS, research advisor) 2025, Nicole Vasilev (BS, ESP, research advisor), Aamna Khan (senior thesis advisor 2025–2026, **graduate research:** Mary LePere (Ph.D.) 2025–present, David Olsen (Ph.D.) 2025–present

PROFESSIONAL SERVICE

AGU Fall Meeting Program Committee, Cryosphere Section, <i>Chair</i>	2026
AGU Fall Meeting Program Committee, Cryosphere Section, <i>Co-chair</i>	2025
AGU Cryosphere Section Canvassing Committee	2025
Outstanding Student Presentation Award Judge, AGU Fall Meeting	2022–2024
CryoCoffee Hour Volunteer Mentour, AGU Fall Meeting	2024, 2025
MARS Glaciology URGE Pod	2021–2023
The International Firn Workshop, Coordinator	June 2022

Peer review: Nature, Nature Comms., J. Glaciology, The Cryosphere, Journal of Geophysical Research, Frontiers in Water (*average 4+ manuscripts/year*)

Referee, Proposals: NSF Office of Polar Programs (*average 2 proposals/year*)

Panel Member: NSF Office of Polar Programs (2022)

OUTREACH & COMMUNITY INVOLVEMENT

CU*iP: Session: Careers in Research and Academia <i>Invited Panelist</i>	January 2025
CU*iP: Networking Event Facilitator <i>Invited Moderator</i>	January 2025
WiSE/CSTEP: Stages in Research Career Paths for Women in STEM <i>Invited Panelist</i>	November 2023
New Faculty Academy: Writing, Publishing, & Media Interactions <i>Invited Speaker</i>	February 2023
Polar Impact's "What makes a mentor?" <i>Invited Panelist</i>	September 2022
Core developer of CryoCommunity	2021–present
Volunteer with Inspiring Girls Expeditions	2015–2019
Onsite Coordinator: Girls on Ice Alaska	Summer 2018
Glaciology Consultant–National Geographic Documentary	