AMY J. JENSON

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EDUCATION

Monatana State University *Aug 2020 - Present*
M.S. Mathematics Advisors: Dr. Scott McCalla
GPA: 3.75 Dr. Mark Skidmore
Thesis: *Saline fluid flow in an ice-walled channel: a modeling perspective*

University of Alaska Southeast *Aug 2016 - May 2020*
B.S. Mathematics Advisors: Dr. Jason Amundson
GPA: 3.98 with Honors: *magna cum laude* *Dr. Megan Buzby*
Thesis: A SEIRV mathematical model for the dynamics of Yellow Fever Virus

CURRENT APPOINTMENT

Fall 2020 - Present Graduate Teaching Assistantship, Montana State University

PUBLICATIONS

1. **Jenson, A.J.**, Amundson, J.M., Kingslake, J., and Hood, E.: Long-period variability in ice-dammed glacier outburst floods due to evolving catchment geometry. *The Cryosphere Discuss.* [preprint], https://doi.org/10.5194/tc-2021-141, in revision, 2021.

PRESENTATIONS

1. **Jenson, A.J.**, McCalla, S., Skidmore, M.: Saline fluid flow in subglacial ice-walled channels. *WWCC Graduate Seminar* (2021) Oral Presentation
2. **Jenson, A.J.**, Amundson, J.M., Kingslake, J., and Hood, E.: A mathematical model of long-period variability in ice-dammed glacier lake outburst floods. *WWCC Graduate Seminar* (2021) Oral Presentation
3. **Jenson, A.J.**, Amundson, J.M., Kingslake, J., and Hood, E.: Evolution of glacial lake outburst floods over annual to decadal timescales. *Northwest Glaciologists'* (2020) Oral Presentation
4. **Jenson, A.J.**, Buzby, M.: Model of yellow fever among *Aedes agypti* vectors and human hosts: a SEIRV mathematical model. *Pacific Inland Mathematics Undergraduate Conference* (2020) Oral Presentation [received best speaker award]

SCHOLARSHIPS, AWARDS, AND GRANTS

2020 - 2022 Mildred Livingston Grant Presidential Scholarship, Montana State University
2020 Outstanding Graduate in Mathematics, University of Alaska Southeast
2019 - 2020 Biomedical Learning and Student Training Undergraduate Research Grant
2019 - 2020 Alumni Association Scholarship
2018 - 2020 Juneau Rotary Club Scholarship
2019 - 2020 Ron Seater Mathematics Award, University of Alaska Southeast
2017 - 2018 University of Alaska Southeast Leadership Award
2017 - 2018 Gerald W. Butts Memorial Scholarship
2016 - 2017 University of Alaska Southeast Leadership Award
2016 - 2020 Alaska Performance Scholarship Tier 1
2016 - 2020 Wrangell Scholarship
2016 - 2020 University of Alaska Scholar

RESEARCH EXPERIENCE

- **March 2021 - Present** M.S. Thesis Research, Montana State University
  - Adapted subglacial hydrology model to account for salinity with Drs. McCalla and Skidmore
  - Developed coupled partial differential equations to model evolution of brine concentration
  - Currently writing code to model solutions and do a sensitivity analysis in MATLAB
- **Sep 2019 - June 2021** Research Assistant, University of Alaska Southeast
  - Modeled the evolution of glacial lake outburst floods as a glacier retreats with Dr. Amundson
  - Integrated ice flow, subglacial hydrology, and basin hypsometry models
  - Developed and adapted code to run numerical simulations in MATLAB
  - Wrote peer reviewed paper on results of modeling, article in revision in *The Cryosphere*
- **Aug 2019 - May 2020** Undergraduate Research Experience, University of Alaska Southeast
  - Wrote funded proposal (BLaST Grant) to model transmission of yellow fever with Dr. Buzby
  - Developed a system of differential equations (SEIRV model) and found disease-free equilibrium
  - Analyzed and numerically explored solutions in Maple and MATLAB

TEACHING EXPERIENCE

- **Fall 2021** Instructor of Record for Calculus I, Montana State University
- **Spring 2021** Instructor of Record for Survey of Calculus, Montana State University
- **Fall 2020** Mathematics Tutor, Montana State University
- **Fall 2019** Backcountry Navigation Teaching Assistant, University of Alaska Southeast
- **Spring 2018** English Language Teaching Assistant, Associazione Italo Americana, Trieste, Italy
- **Fall 2016 - Spring 2018** Undergraduate Mathematics Tutor, University of Alaska Southeast

CERTIFICATIONS

2020 - Present Avalanche Level 1, University of Alaska Southeast
2019 - Present Wilderness First Responder, NOLS Wilderness Medicine

TECHNICAL SKILLS

Expertise: MATLAB, LaTeX, Github
Proficient: R, Maple, Excel, Inkscape

TESTS AND COMPETITIONS

Putnam Score: 10 Rank: 1088.5 / 3428 Percentile: 68

PROFESSIONAL AFFILIATIONS

2021 - Present International Glaciological Society (IGS)
2021 - Present American Geophysical Union (AGU)
2019 - Present Pi Mu Epsilon Mathematics Honor Society