

Curriculum Vitae - Celestine Woodruff

Professional Preparation

Appalachian State University	Applied Mathematics	B.S. 2005
Appalachian State University	Mathematics	M.A. 2007
Florida State University	Applied and Computational Mathematics	M.S. 2011
Florida State University	Applied and Computational Mathematics	Ph.D. 2015

Appointments

- Interim Assistant Dean & DEI Co-Director, College of Science and Mathematics, James Madison University 2022 – present
- Associate Professor of Mathematics, James Madison University 2022 – present
- Assistant Professor of Mathematics, James Madison University 2013 – 2022
- Adjunct Instructor, Appalachian State University 2007 - 2008
- Adjunct Instructor, Caldwell Community College 2007 - 2008

Publications

- Celestine Woodruff. “An efficient and accurate numerical scheme for long time statistical properties of the infinite Prandtl number model for convection”. *Journal of Mathematical Analysis and Applications*. Volume 509, Issue 1, 2022. 125944. ISSN 0022-247X. <https://doi.org/10.1016/j.jmaa.2021.125944>
- Yonathan Admassu, Celestine Woodruff. “Improved Automated Mapping of Sinkholes Using High-Resolution DEMs”. *Environmental and Engineering Geoscience* (2021); 27 (3): 331 - 351. doi: <https://doi.org/10.2113/EEG-D-20-00081>
- Nan Chen, Max Gunzburger, Bill Hu, Xiaoming Wang, and Celestine Woodruff. “Calibrating the exchange coefficient in the modified coupled continuum pipe-flow model for flows in karst aquifers.” *Journal of Hydrology* (2012). doi: <https://doi.org/10.1016/j.jhydrol.2011.11.001>

Selected Presentations

- *Identifying Geohazards with Mathematics and Statistics* 2021
virtual Mathfest via Hopin
- *Automated Identification of Sinkholes* 2020
Joint Mathematics Meetings in Denver, Colorado
- *Geohazards - What's Math Got To Do With It?* 2020
Girls Math and Coding Day, James Madison University in Harrisonburg, VA

- *Modeling With Data in an Introductory Numerical Methods Course* 2018
Annual Meeting of the Society for Mathematical Biology & the Japanese Society for Mathematical Biology in Sydney, Australia
- *Identifying Sinkholes in an Introductory Numerical Methods Course* 2018
Joint Math Meetings in San Diego, CA
- *Two Mathematical Problems Arising in Geosciences* 2016
Appalachian State University in Boone, NC
- *Numerically exploring low Rayleigh number fluid flow using the infinite Prandtl number model* 2015
MAA MD-DC-VA Section Meeting in Roanoke, VA

Selected Undergraduate Research Projects

- *Automated Detection of Geologic Features* 2019
- *Citizen Science Project: Analyzing Grain Size* 2019
In collaboration with Dr. Shelley Whitmeyer in Department of Geology

Selected Professional Development

- TPSE Math: The Problematic Math of College Admissions 2022
- Inclusive Mathematics Classrooms: Advocating for Policies, Practices, and Resources Webinar 2022
- Equitable, Accessible, and Inclusive Teaching Practices webinar 2022
- Diversity & Resiliency Institute of El Paso (DRIEP) Anti-Racism Training 2021
- JMU Libraries Institute for Online Learning 2020
- AMS Accessibility Best Practices for Moving Mathematics Online Webinar 2020
- AMS Teaching Math Online: Theory Into Practice Webinar 2020
- SIMIODE Minicourse on Modeling in Teaching Differential Equations 2018
Joint Math Meetings

Selected Service

- Co-director of madiSTEM (formerly EYH) 2021 – present
- Expanding Your Horizons (EYH) Conference (multiple roles) 2014 - 2021
- Haynes Residential Learning Community Steering Committee member 2020 – present
- Alumni mentor for a student scholar in the S-STEM (formerly CSEMS) program at Appalachian State University 2013 – present
- PRIMUS Journal referee 2016

Selected Honors and Awards

- General Education Graceful Pivot Award 2021
- MAA Project NExT Fellow 2015 – 2016

Professional Affiliations

- Mathematical Association of America
- Association for Women in Mathematics
- American Mathematical Society