

**CSDMS 2024 Annual Meeting - "Coastlines, critical zones, and cascading hazards: Modeling dynamic interfaces from deep time to human time"**

**May 14-16, 2024**

**Montclair State University, Conference Center, University Hall – 7th Floor, 1 Normal Avenue, Montclair, NJ 07073**

**\*\*\*\*All times provided in Eastern Daylight Time**

**Tuesday, May 14, 2024**

| <b>Time</b>       | <b>Session</b>                                   | <b>Presenter</b>  | <b>Topic</b>  |
|-------------------|--|---|---|
| 9:00AM            | Welcome (Main Ballroom - 7th flr)                | Jorge Lorenzo Trueba, MSU (Moderator)<br>Lora Billings, Dean, College of Science and Mathematics, MSU | Welcome   |
| 9:05AM            | Introduction                                     | Paola Passalacqua, U Texas, Austin  | Thematic Introduction   |
| 9:15AM            | Community Updates                                | Greg Tucker, CSDMS Exec. Director   | State of CSDMS  |
| 9:35 AM           | <b>Plenary</b> Keynote (Main Ballroom - 7th flr) | Robert Kopp, Rutgers U  | <i>Co-producing advances in natural/human coastal climate systems research and coastal climate adaptation services: the Megalopolitan Coastal Transformation Hub (MACH)</i> |
| 9:55AM            | <b>Plenary</b> Keynote                           | Neil Ganju, USGS  | <i>Getting Meaning from Models: Lessons from Salt Marsh Geomorphic Modeling</i>   |
| 10:15AM           | <b>Plenary</b> Keynote                           | Chaopeng Shen, Penn State U   | <i>Differentiable Modeling to Unify Neural Networks and Process-based Modeling for Global Geosciences under Global Change</i>   |
| 10:35AM           | <b>Break</b>                                     |   |   |
| 11:00AM - 12:30PM | Breakout 1 (Main Ballroom - 7th flr)             | Moira Zellner, Northeastern U   | <i>CSDMS meet and greet - get to know your colleagues with Human Dimensions focus</i>   |
| 12:30PM - 1:30PM  | <b>Lunch</b>                                     |   |   |
| 1:30PM - 3:30PM   | Clinic 1.1 (Rm 2042)                             | Jacky Austermann, Columbia U, LDEO  | <i>Solving the Sea Level Equation: Earth's Response to Ice and Ocean Load Changes</i>   |
|                   | Clinic 1.2 (Rm 2044)                             | Todd Swannack & Candice Piercy, USACE   | <i>Vegetation as Ecogeomorphic Features: Incorporating Vegetation into Earth Surface Models</i>   |
|                   | Clinic 1.3 (Rm 2046)                             | Kelsea Best, Ohio State U   | <i>Introduction to Agent-based Modeling for Socio-environmental Systems</i>   |
|                   | Clinic 1.4 (Rm 2048)                             | Allen Lee, Arizona State U & Mark Piper, CSDMS IF   | <i>The Last FAIR Clinic You'll Ever Need</i>  |
|                   | Clinic 1.5 (Rm 1020)                             | Caitlin Haedrich, North Carolina State U  | <i>Coastal Evolution Analysis and Inundation Modeling with GRASS GIS</i>  |
| 3:30PM            | <b>Break</b>                                     |   |   |
| 3:45PM - 3:55PM   | E-Pubs Lightning Talk                            |   |   |
| 3:55PM - 6:00PM   | Poster Session A                                 |   |   |

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**Wednesday, May 15, 2024**

| Time              | Session                                    | Presenter   | Topic   |
|-------------------|--|---|---|
| 9:00AM            | Welcome                                    | Moderator - Irina Overeem, CSDMS IF                         | Welcome   |
| 9:05 AM           | <b>Plenary</b> Keynote (Main BR - 7th flr) | Julia Hopkins, Northeastern U                               | <i>Adapting Urban Coastlines to Climate Change: Using Models to Understand the Potential and Pitfalls of Nature-based Solutions</i> |
| 9:25AM            | <b>Plenary</b> Keynote                     | Bhavna Arora, Lawrence Berkeley National Lab                | <i>Modeling Approaches for Providing Water and Energy Solutions to the World</i>  |
| 9:45AM            | <b>Plenary</b> Keynote                     | Amilcare Porporato, Princeton U                             | <i>On the Practical Importance of Theory in Landscape Evolution Models</i>  |
| 10:05AM           | <b>Plenary</b> Student Keynote             | Sebrian Beselly, IHE/TU Delft                               | <i>Simulating Mangrove-Mudflat Dynamics with a Hybrid Eco-Hydro-Morphodynamic Model</i>   |
| 10:25AM           | <b>Break</b>                               |   |   |
| 11:00AM - 12:30PM | Breakout 1 (Rm 1020 )                      | Group Meetings  | <i>Terrestrial WG, Geodynamics, Hydrology and CZ FRGs</i>   |
|                   | Breakout 2 (Main BR - 7th flr )            | Group Meetings  | <i>Marine and Coastal WGs, Chesapeake and Ecosystem Dynamics FRGs</i>   |
| 12:30PM - 1:30PM  | <b>Lunch</b>                               |   |   |
| 1:30PM - 3:30PM   | Clinic 2.1 (Rm 2042)                       | Moira Zellner, Northeastern U                               | <i>Fora.ai: A Participatory Modeling Platform to Reshape How we Collaborate for Climate and Social Impact</i>                       |
|                   | Clinic 2.2 (Rm 2044)                       | Samapriya Roy, MAXAR  | <i>Introduction &amp; Building with Google Earth Engine: Batteries Included</i>   |
|                   | Clinic 2.3 (Rm 2048)                       | Katherine Anarde, North Carolina State U & Ian Reeves, USGS | <i>Parameterizing Human Dynamics in Geomorphic Models: Learning from Coastal Barrier Evolution Models</i>                           |
|                   | Clinic 2.4 (Rm 2046)                       | Eyal Marder, Indiana U                                      | <i>Coupling Biological and Surface Processes in Landscape Evolution Models</i>  |
| 3:30PM            | <b>Break</b>                               |   |   |
| 3:45PM - 6:00PM   | Poster Session B                           |   |   |

*Banquet 6:00PM to 8:30PM - MSU Conference Center*

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**Thursday, May 16, 2024**

| <b>Time</b>       | <b>Session</b>                      | <b>Presenter</b>  | <b>Topic</b>   |
|-------------------|-------------------------------------|---|--|
| 9:00AM            | Welcome                             | Moderator - Albert Kettner, CSDMS IF  | Welcome and Poster Awards  |
| 9:10AM            | <b>Plenary</b> Keynote              | Kyle Mandli, Flatiron Institute at the Center for Computational Mathematics | <i>Measuring the Change in Coastal Flooding Risk from a Multi-hazard Perspective</i>                                 |
| 9:35AM            | <b>Plenary</b> Keynote              | Matt Ross, Colorado State U   | <i>Tidy and... Tedious: Empowering Large-scale Watershed Science Through Inclusive, Welcoming Data Harmonization</i> |
| 9:55AM            | <b>Plenary</b> Student Keynote      | Miles Reed, U Wisconsin, Madison  | <i>Designing and Applying a Landscape Evolution Model Infused with Cosmogenic Nuclides for Geomorphic Insights</i>   |
| 10:10AM           | <b>Break</b>                        |   |  |
| 11:00AM - 12:30PM | Breakout 1 (Main BR - 7th flr)      | Greg Tucker, CSDMS IF   | <i>Landlab Cafe (Landlab updates)</i>  |
|                   | Breakout 2 (Rm 1020)                | Scott Peckham, U Colorado, Boulder  | <i>Cyber WG Meeting/Evolving Technologies Discussion</i>   |
|                   | Office Hours (Main BR - 7th flr)    | Eric Hutton, Mark Piper and Tian Gan, CSDMS IF, Allen Lee, Arizona State U  | <i>Bring your questions to the CSDMS/COMSES Research Software Engineers</i>  |
| 12:30PM           | <b>Lunch</b>                        |   |  |
| 1:30PM - 3:30PM   | Clinic 3.1 (Rm 2042)                | Kerry Callaghan, U Illinois, Chicago  | <i>Using Fill-Spill-Merge to Understand and Analyze Landscape Depressions</i>  |
|                   | Clinic 3.2 (Rm 2044)                | Chang Liao and Matt Cooper, Pacific Northwest National Lab                  | <i>Mesh Independent Flow Directions Modeling Using HexWatershed 3.0</i>  |
|                   | Clinic 3.3 (Rm 2046)                | Randy LeVeque, U Washington   | <i>New Features and Basic Usage of the GeoClaw Software for Depth-averaged Flow</i>                                  |
|                   | Clinic 3.4 (Rm 1020)                | Richard Barnes, UC Berkeley   | <i>A Hands-on Workshop on GPU-based Landscape Evolution Modeling</i>   |
| 3:30PM            | <b>Break</b>                        |   |  |
| 3:45PM - 4:45PM   | Lightning Talks (Main BR - 7th flr) | CSDMS Summer Visiting Scholars  | <i>Research progress updates</i>   |
| 4:45PM - 5:00PM   | Closing Remarks and Adjourn         | Greg Tucker, Executive Director, CSDMS IF                                   | <i>Farewell and information about 2025 Annual Meeting in Boulder, CO</i>   |

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***Friday, May 17- meeting by invitation***

|                  |                    |                                   |   |
|------------------|--------------------|-----------------------------------|---|
| 9:00AM-11:00AM   | Location: CELS 110 | CSDMS Executive Committee Meeting | (by invitation only - lunch will be served 11AM-12PM) |
| 12:00PM - 2:00PM | Location: CELS 110 | CSDMS Steering Committee Meeting  | (by invitation only - lunch will be served 11AM-12PM) |