

Agenda – CESM Polar Modeling Workshop
August 13-17, 2018, Damon Room, NCAR Mesa Lab
<http://www.cesm.ucar.edu/events/workshops/2018PMWS/>

Workshop Instructors (* = Early Career by NSF's definition)

Dave Bailey, NCAR
Cecilia Bitz, University of Washington (UW)
*Ed Blanchard-Wrigglesworth, UW
*Alice DuVivier, NCAR
Marika Holland, NCAR
*Elizabeth Maroon, University of Colorado (CU)
Jen Kay, CU
*Yongfei Zhang, UW

Confirmed Early Career Workshop Participants by Group

Atmosphere #1: Yiyi Huang, Hansi Singh, Liran Peng

Atmosphere #2: Nicholas Szapiro, Lauren Wheeler, Marie McGraw

Atmosphere #3: Akila Sampath, Claire Pettersen, Tyler Janoski

Ocean/Sea Ice: Abigail Ahlert, Andrew Pauling, Hannah Zanowski

Land: Danica Lombardozi, Diana Gergel, Daniel Vecellio, Youmi Oh

Land Ice #1: Jessica Badgeley, Leo VanKampenhout, Emily Schwans

Land Ice #2: Matthew Osman, Jamie Ward, Gunter Leguy

Day 1, Monday August 13: Introductions, Stage-setting, CESM Refresher
Organizers: Dave Bailey (NCAR) and Jen Kay (CU)

9:00-10:00 am Welcome, Introductions, and Goals for the Week

10:00-10:30 am Group Icebreakers

10:30-11:00 am Coffee Break

11:00-12:00 pm Lecture: CESM Basics (Dave)

12:00-1:30 pm Lunch and short walk weather permitting

1:30-2:00 pm Lecture: Preparing Computing Proposals for CISL (Dave)

2:00-3:00 pm Practical Session: Run a CESM experiment with code modifications

3:00 Snack Service

3:00-4:30 pm Practical Session: Analyze the CESM experiment using the CESM postprocessing suite, command line tools (ncview, ncdiff), and analysis software (Python Jupyter Notebook, NCL, IDL, Matlab) on Cheyenne/Geysler/Caldera

4:30-6:00 One Big Idea Poster Session, Appetizers and Drinks Served, Held in the Mesa Lab Cafeteria

6:00 Adjourn

Day 2, Tuesday August 14: Predictability and Variability
Organizers: Marika Holland (NCAR) and Ed Blanchard-Wrigglesworth (UW)

9:00-9:05 am Introduce Plan for the Day

9:05-10:00 am Lecture: Introduction to prediction science (Ed)

10:00-10:30 am Lecture: Boundary forced predictability and the challenges of internal variability (Alexandra Jahn, CU)

10:30-11:00 am Coffee Break

11:00-11:30 am Lecture: Forecasts with CESM: Decadal prediction ensemble, Arctic sea ice example (Steve Yeager, NCAR)

11:30-12:00 pm CESM tools for predictability research (Marika, Ed)

12:00-1:30 pm Lunch and walk weather permitting

1:30-2:45 pm Practical session: Assessing Predictors in the CESM

2:45-4:00 pm Practical session: Initial Value Predictability and Boundary Value Predictability

3:00 Snack Service

4:00-4:30 pm Practical Session Debrief

4:30-5:00 pm Group Work: pose a hypothesis and design an experiment to address it -- What tools and resources are needed? How simulations will be analyzed?, etc.

5:00 pm Adjourn

6:30 pm Workshop Dinner in South Boulder at Jen Kay's house

Day 3, Wednesday August 15: Model Hierarchies
Organizers: Alice DuVivier (NCAR) and Elizabeth Maroon (CU)

9:00-9:05 Introduce Plan for the Day

9:05-10:00 am Lecture: Model Hierarchies with a focus on coupling (Alice, Elizabeth)

10:00-10:30 am Practical Session: Model Hierarchies

10:30-11:00 am Coffee Break

10:30-11:30 am Practical Session: Model Hierarchies continued

11:30-12:00 am Practical Session Debrief/Discussion

12:00-1:30 pm Lunch and walk weather permitting

1:30-2:00 pm Lecture: Simplified models (Alice, Elizabeth)

2:00-4:00 pm Practical Session: Running Simplified Models: 1) single column Community Land Model (Alice), 2) Held Suarez Dry Dynamical Core (Elizabeth)

3:00 Snack Service

4:00-4:30 pm Practical Session Debrief/Discussion

4:30-5:00 pm Group Work on Proposal

5:00 pm Adjourn

Day 4, Thursday August 16: Models and Observations Together
Organizers: Cecilia Bitz, Jen Kay, and Yongfei Zhang

9:00-9:15 Introduce Plan for the Day

9:15-10:00 am Lecture: Data assimilation (Yongfei Zhang)

10:00-10:30 am Lecture: Satellite simulators (Jen Kay)

10:30-11:00 am Coffee Break

11:00-11:30 pm Lecture: Introduce the practical session on Data Assimilation

11:30-12:00 pm Lecture: Introduce the practical session on Satellite Simulators

12:00 – 1:30 pm Lunch and walk weather permitting

1:30-4:00 pm Practical Session: Using tools to bring together models and observations: 1) Assimilate freeboard (Cecilia, Yongfei), 2) Detection and attribution using satellite simulators (Jen)

3:00 Snack Service

4:00-4:30 pm Practical Session Debrief/Discussion

4:30-5:00 pm Group Work on Proposal

5:00 pm Adjourn

Day 5, Friday August 17: Putting it all together
Organizers: All

9:00-9:05 am Introduce Plan for the Day

9:05-10:30 am Group Work Time to Finalize Proposal

10:30 am Healthy Start Snack and Coffee Service

10:30-11:30 am Group Present Proposal Science and Computing Plan to “CESM Expert” Reviewers

11:30-12:00 pm Collect Workshop Feedback

12:00 pm Adjourn