Christiane Jablonowski
University of Michigan
Department of Climate and Space Sciences and Engineering (CLASP)
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Ann Arbor, MI 48109-2143

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URL (CLASP): https://clasp.engin.umich.edu/people/jablonowski-christiane/
URL (Research page): https://admg.engin.umich.edu/

CURRICULUM VITAE

Christiane Jablonowski

Google Scholar Profile: https://scholar.google.com/citations?user=GOoy_K8AAAAJ&hl=en
Researcher ID: I-9068-2012
ORCID: 0000-0003-0407-0092
H-Index: 36 (Google Scholar, Feb. 2025)

REASEARCH AREAS

- Machine learning techniques for atmospheric models
- Great Lakes weather research with coupled atmosphere-lake models based on the Unified Forecast System (UFS): lake-effect storms, and river ice predictions via machine learning
- Adaptive Mesh Refinement (AMR) and variable-resolution grid techniques for the dynamical cores of atmospheric General Circulation Models (GCMs)
- High-resolution (convection-permitting) weather and climate modeling
- Development of simpler atmospheric models and test cases for dynamical cores of GCMs, international dynamical core model intercomparisons (DCMIP)
- Atmospheric dynamics:
  - Extratropical cyclones
  - Stratospheric dynamics: Idealized assessments of the Quasi-Biennial Oscillation (QBO) and Sudden Stratospheric Warmings (SSWs)
  - Dynamics of tropical cyclones
- Subgrid-scale mixing in weather and climate models: The impact of diffusion, filters and fixers on weather and climate simulations, with a current focus on cubed-sphere FV3-based models
- Physics-dynamics coupling in GCMs
- Detection of pathways in GCMs (with a current focus on tracer advection)

PROFESSIONAL EXPERIENCE

Professor Sep. 2021 – current
University of Michigan, Ann Arbor, Michigan
Department of Climate and Space Sciences and Engineering (CLASP)

Associate Professor Sep. 2012 – Aug. 2021
University of Michigan, Ann Arbor, Michigan
Department of Climate and Space Sciences and Engineering (CLASP)
until 8/2015: Department of Atmospheric, Oceanic & Space Sciences (AOSS)

Assistant Professor Sep. 2006 – Aug. 2012
University of Michigan, Ann Arbor, Michigan

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Department of Atmospheric, Oceanic & Space Sciences (AOSS)

Visiting Research Associate — Mar. 2006 – Aug. 2006
Geophysical Fluid Dynamics Laboratory (GFDL) & Princeton University, Princeton, New Jersey, visit sponsored by the University of Michigan

Postdoctoral Researcher — Feb. 2004 – Feb. 2006
National Center for Atmospheric Research (NCAR), Boulder, Colorado
Advanced Study Program (ASP) and Scientific Computing Division (SCD)

Graduate Student Research Assistant — May 1999 – Dec. 2003
University of Michigan, Ann Arbor, Michigan
Department of Atmospheric, Oceanic & Space Sciences

Visiting Scientist — Jun. 2000 – Aug. 2000
National Center for Atmospheric Research, Boulder, Colorado
Climate and Global Dynamics Division, Climate Modeling Section

Graduate Student Instructor — Sep. 1998 – Apr. 1999
University of Michigan, Ann Arbor, Michigan
Department of Atmospheric, Oceanic & Space Sciences

Graduate Student Research Assistant — Feb. 1994 – Oct. 1997
German National Research Center for Information Technology (GMD) — Mar. 1998 – Sep. 1998
(today's Fraunhofer Institute), **Sankt Augustin, Germany**
GMD Institute for Algorithms and Scientific Computing

Graduate Student Visitor — August 1997
German Weather Service (DWD), Offenbach, Germany
Research and Development Division

Consultant — Nov. 1997 – Jan. 1998
European Centre for Medium-Range Weather Forecasts, Reading, England
Numerical Aspects Division

Siemens Nixdorf Information Systems, Cologne, Germany — Jul. 1996 – Mar. 1998
Computer Consultant (part-time) for vector and parallel computing

Mathematical-Technical Assistant (3-year training)
Aachen University of Technology (RWTH Aachen), Computing Center — Sep. 1989 – Aug. 1992
Team: Vector computers and parallel computing

EDUCATION

Ph.D. in Atmospheric and Space Sciences and Scientific Computing — Sep. 1998 – Feb. 2004
University of Michigan, Ann Arbor, Michigan — graduation: April 2004
Department of Atmospheric, Oceanic & Space Sciences

Diplom-Meteorologin (Diploma degree in Meteorology), comparable to — Oct. 1994 – Aug. 1998
Master of Science in Meteorology — graduation: Nov. 1998
University of Bonn, Germany
Department of Meteorology
Minors: Geophysics, Physical Chemistry

Vordiplom in Physik (First diploma degree in Physics), comparable to — Oct. 1992 – Sep. 1994
Bachelor of Science in Physics

Phone: 734 763 6238
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Aachen University of Technology (RWTH Aachen), Germany
Department of Physics, Minors: Computer Science & Numerical Methods

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HONORS & AWARDS

2023 UCAR Outstanding Accomplishment Award for Publication — Nov. 2023

AGU EOS Publication Highlight — Feb. 2023
Co-authored paper: "The Remote Role of North-American Mesoscale Convective Systems on the Forecast of a Rossby Wave Packet: A Multi-Model Ensemble Case-Study", AGU *Journal of Geophysical Research (JGR): Atmosphere*, link

AGU EOS Publication Highlight — Sep. 2022
Co-authored paper: "Consistently Closing the Energy Budget in Earth System Models", AGU *Journal of Advances in Modeling Earth Systems*, link

Presidential Early Career Award for Scientists and Engineers (PECASE) — Sep. 2011

Department of Energy Early Career Award — Apr. 2010

University of Michigan, College of Engineering Distinguished Achievement Award — Mar. 2010

Keith Runcorn Travel Award for Non-Europeans (KRTA) — Apr. 2005
European Geophysical Union (EGU) conference, Vienna, Austria

Distinguished Graduate Student Achievement Award — Mar. 2004
University of Michigan, College of Engineering, Ann Arbor, Michigan

NCAR Postdoctoral Fellowship, Advanced Study Program and Scientific Computing Division, National Center for Atmospheric Research, Boulder, CO — Feb. 2004 – Feb. 2006

NASA Earth System Science Graduate Student Fellowship — Sep. 2000 – Aug. 2003

Winner of the open competition 'Best Projects at the German National Research Center for Information Technology in 1999 (GMD, St. Augustin, Germany) Category 'Diploma Thesis': **Award 'Best Diploma Thesis at GMD in 1999'** — Oct. 1999

Fellowship for a three-month stay at the **National Center for Atmospheric Research**, Boulder, CO, awarded by the German National Research Center for Information Technology (today: Fraunhofer Institute), St. Augustin, Germany — Oct. 1999

TEACHING AND MENTORING

UM university courses:

CLIMATE 102: **Extreme Weather** (2015), undergraduate course for non-science majors

CLIMATE 589: **The Art of Climate Modeling** (2010, 2013, 2016, 2018, 2022, 2024), graduate course

CLIMATE 451**: Atmospheric Dynamics I** (2007, 2008, 2009, 2014, 2017, 2019, 2021, 2025),

senior-level/graduate course

CLIMATE 401**: Geophysical Fluid Dynamics** (2022, 2023, 2024), senior-level/graduate course

CLIMATE 321: **Earth System Dynamics** (2007, 2008, 2009, 2010, 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2023), undergraduate course for students from various backgrounds

Postdoctoral Fellows and Research Scientists (current and alumni):

Dr. Timothy Andrews
since 10/2024: Postdoctoral Fellow, University of Michigan, CLASP

Dr. David Wright
4/2019 – 3/2020: Cooperative Institute for Great Lakes Research (CIGLR) CIGLR Postdoctoral Fellow
4/2020 – 9/2022: Postdoctoral Fellow, Department of Climate and Space Sciences and Engineering, University of Michigan
since 9/2022: Scientist, NOAA Great Lakes Environmental Research Laboratory (GLERL)

Dr. Ashley Payne
9/2016 – 8/2018: University of Michigan President's Postdoctoral Research Fellow
9/2018 – 10/2021: Assistant Professor, Department of Climate and Space Sciences and Engineering, University of Michigan
since 11/2021: Atmospheric Scientist at tomorrow.io

Dr. Malgorzata Winska
10/2015 –9/ 2016: Visiting Assistant Research Scientist, University of Michigan
since 2013: Assistant Professor and Researcher, Warsaw University of Technology (WUT), Poland

Dr. James Kent
5/2010 – 12/2014: Postdoctoral fellow, University of Michigan
1/2015 – 2020: Lecturer - Mathematics, Faculty of Computing, Engineering and Science, University of South Wales, U.K.
since 2020: Scientist, U.K. Met Office, Exeter, U.K.

Dr. Colin M. Zarzycki
6/2014 – 8/2014: Postdoctoral fellow, University of Michigan
9/2014 – 8/2016: Postdoctoral Fellowship Holder, Advanced Study Program (ASP) and Climate and Global Dynamics Division (CGD), National Center for Atmospheric Research, Boulder, CO
9/2016 – 12/2018: Project Scientist I at NCAR, Climate and Global Dynamics (CGD) and Mesoscale & Microscale Meteorology (MMM) divisions
1/2019 – 8/2024: Assistant Professor, Department of Meteorology and Atmospheric Science, Pennsylvania State University
since 9/2024: Associate Professor, Department of Meteorology and Atmospheric Science, Pennsylvania State University

Dr. Peter Bosler
6/2013 – 8/2013, 6-7/2014: Postdoctoral fellow, University of Michigan
9/2013 – 5/2014: Postdoctoral Assistant Professor, Department of Mathematics, University of Michigan
8/2014 – 3/2016: John von Neumann Postdoctoral Research Fellow in Computational Science, Sandia National Laboratories, Albuquerque, NM
since 3/2016: Staff scientist, Sandia National Laboratories, Albuquerque, NM

Dr. Kevin A. Reed
5/2012 – 8/2012: Postdoctoral fellow, University of Michigan
9/2012 – 8/2013: AGU Congressional Science Fellow in Washington, D.C.
9/2013 – 12/2014: Postdoctoral Fellowship Holder, Advanced Study Program (ASP) and Climate and

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	Global Dynamics Division (CGD), NCAR
1/2015 – 12/2019:	Assistant Professor, School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY
1/2020 – 8/2023:	Associate Professor, School of Marine and Atmospheric Sciences, Stony Brook University
since 9/2023:	Professor, School of Marine and Atmospheric Sciences, Stony Brook University
2021- 2023:	Associate Dean for Research, School of Marine and Atmospheric Sciences, Stony Brook University
since 2023:	Associate Provost for Climate and Sustainability Programming & Interim Director of Academic, Research and Commercialization Programs at the NY Climate Exchange, Stony Brook University

Dr. Paul A. Ullrich

5/2011 – 8/2011:	Postdoctoral fellow, University of Michigan
9/2012 – 8/2017:	Assistant Professor, Department of Land, Air and Water Resources, University of California, Davis, CA
9/2017 – 8/2021:	Associate Professor, Department of Land, Air and Water Resources, University of California, Davis, CA
since 9/2021:	Professor, Department of Land, Air and Water Resources, University of California, Davis
since 5/2023:	Head of the Program for Climate Model Diagnosis and Intercomparison (PCMDI) at the Department of Energy's Lawrence Livermore National Laboratory (LLNL)

Dr. Kiran Bhaganagar

2008 – 2009:	Research Scientist, University of Michigan
2009 – 2015:	Assistant Professor, Department of Mechanical Engineering, University of Texas, San Antonio (UTSA)
2015 – 2021:	Associate Professor, Department of Mechanical Engineering, UTSA
since 2021:	Professor, Department of Mechanical Engineering, UTSA

Current Ph.D. students:

Joseph Hollowed, Ph.D. Candidate, University of Michigan, Physics, graduation in May 2025. Chair, Physics Chair: Emanuel Gull (physics).

Garrett Limon, Ph.D. Candidate, University of Michigan, Climate and Space Sciences and Engineering, expected graduation in August 2025. Chair

Anthony Chen, Ph.D. Candidate, University of Michigan, Applied and Interdisciplinary Mathematics Program, expected graduation in 2026. Co-Chair (with Robert Krasny, UM Mathematics and Brian Arbic, UM Earth and Environmental Sciences)

Owen Hughes, Ph.D. Candidate, Climate and Space Sciences and Engineering, expected graduation in 2027. Chair.

Aaron Johnson, Ph.D. precandidate, University of Michigan, Climate and Space Sciences and Engineering, expected graduation in 2028. Co-Chair in collaboration with Prof. M. Flanner (UM)

Nicholas Forcone, Ph.D. Pre-Candidate, University of Michigan, Climate and Space Sciences and Engineering, expected graduation in 2029. Chair

Nicholas Androski, Ph.D. Pre-Candidate, University of Michigan, Climate and Space Sciences and Engineering, expected graduation in 2029. Chair

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Graduated Ph.D. students (alumni):

Paul A. Ullrich, Ph.D. in Atmospheric and Space Science and Scientific Computing, University of Michigan, graduation in May 2011. Chair.

5/2011 – 8/2011: Postdoctoral fellow, University of Michigan
9/2012 – 8/2017: Assistant Professor, Department of Land, Air and Water Resources, University of California, Davis, CA
9/2017 – 8/2021: Associate Professor, Department of Land, Air and Water Resources, University of California, Davis, CA
since 9/2021: Professor, Department of Land, Air and Water Resources, University of California, Davis
since 5/2023: Head of the Program for Climate Model Diagnosis and Intercomparison (PCMDI) at the Department of Energy's Lawrence Livermore National Laboratory (LLNL)

Jared Whitehead, Ph.D. in Mathematics, University of Michigan, Department of Mathematics, Program in Applied and Interdisciplinary Mathematics (AIM), graduation in Dec. 2011, Co-advisor together with Prof. Richard B. Rood (UM AOSS) and Prof. Charles Doering (UM Mathematics).
since 11/2013: Professor, Department of Mathematics, Brigham Young University, Utah

Kevin Reed, Ph.D. in Atmospheric and Space Science, Graduate Certificate in Public Policy, University of Michigan, graduation in January 2012. Chair.

9/2012 – 8/2013: AGU Congressional Science Fellow in Washington, D.C.
9/2013 –12/2014: Postdoctoral Fellowship Holder, Advanced Study Program (ASP) and Climate and Global Dynamics Division (CGD), NCAR
1/2015 –12/2019: Assistant Professor, School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY
1/2020 – 8/2023: Associate Professor, School of Marine and Atmospheric Sciences, Stony Brook University
since 9/2023: Professor, School of Marine and Atmospheric Sciences, Stony Brook University
2021– 2023: Associate Dean for Research, School of Marine and Atmospheric Sciences, Stony Brook University
since 2023: Associate Provost for Climate and Sustainability Programming & Interim Director of Academic, Research and Commercialization Programs at the NY Climate Exchange, Stony Brook University

Peter Bosler, Ph.D. in Mathematics, University of Michigan, Department of Mathematics, Program in Applied and Interdisciplinary Mathematics (AIM), graduation in May 2013, Co-Chair together with Prof. Robert Krasny (UM Mathematics).

9/2013-7/2014: Postdoctoral Assistant Professor, Department of Mathematics, University of Michigan
8/2014-2/2016: John von Neumann Postdoctoral Research Fellow in Computational Science at Sandia National Laboratories, Albuquerque, NM
since 3/2016: Staff Scientist at Sandia National Laboratories, Albuquerque, NM

Colin M. Zarzycki, Ph.D. in Atmospheric and Space Science, Graduate Certificate in Computational Discovery and Engineering, University of Michigan, graduation in May 2014. Chair.

9/2014 – 8/2016: Postdoctoral Fellowship Holder, Advanced Study Program (ASP) and Climate and Global Dynamics Division (CGD), NCAR
9/2016 – 12/2018: Project Scientist I at NCAR, Climate and Global Dynamics (CGD) and Mesoscale & Microscale Meteorology (MMM) divisions
1/2019 – 8/2024: Assistant Professor, Department of Meteorology and Atmospheric Science, Pennsylvania State University (PSU)
since 9/2024: Associate Professor, Department of Meteorology and Atmospheric Science, PSU

Weiye Yao, Ph.D. in Atmospheric and Space Science and Scientific Computing, University of Michigan, graduation in December 2014. Chair.

1/2015 – 4/2017: Postdoctoral Fellow, Geophysical Fluid Dynamics Laboratory (GFDL), Princeton, NJ
5/2017 – 2019: Software Engineer at Bloomberg, New York City, NY
since 2019: Data Scientist at Google

Gregory Tierney, Ph.D. in Atmospheric and Space Sciences, University of Michigan, graduation in August 2017. Co-chair in collaboration with Dr. Derek Posselt (NASA JPL)
9/2017 – 4/2021: Postdoctoral Fellow, North Carolina State University, Rayleigh, NC
4/2021 – 6/2024: ORISE fellow, US Environmental Protection Agency (EPA)
since 7/2024: Research Scholar, State Climate Office of North Carolina, Rayleigh, NC

Jared Ferguson, Ph.D. in Applied Physics, University of Michigan, graduation in August 2018. Chair.
11/2018 – 10/2019: California Council on Science and Technology (CCST) Policy Fellow, Sacramento, CA
11/2019 – 10/2020: Legislative Aide, California State Government, Sacramento, CA
since 10/2020: Regulatory Analyst, California Public Utilities Commission

Alexander Lojko, Ph.D. in Atmospheric and Space Sciences, University of Michigan, graduation in June 2024. Chair
since 7/2024: Postdoctoral Fellow, National Center for Atmospheric Research (NCAR), Mesoscale and Microscale Meteorology Laboratory

M.S. students (alumni):

Lisa Nguyen, Ph.D. Pre-Candidate, University of Michigan, Applied Physics, group member from 2021-2023
since 2024: Ph.D. student (Candidate), University of Michigan, Climate and Space (CLASP)

Diana Thatcher, M.S. in Atmospheric Science (9/2012-12/2015), University of Michigan, graduation in May 2015.
since 2/2016: Computer Scientist, The MITRE Corporation

Catalina Oaida, SGUS student (2008-2009), University of Michigan, graduation with SGUS Master's degree in Atmospheric, Oceanic & Space Science, May 2009.
8/2009 – 12/2014: Ph.D., Department of Atmospheric and Oceanic Sciences University of California, L.A.
3/2015 – 3/2018: Postdoctoral Scholar, Caltech/NASA Jet Propulsion Laboratory (JPL)
5/2018 – 9/2019: Applied Science Systems Engineer, Raytheon
since 10/2019: Applied Science Systems Engineer, NASA JPL

Lauren C. Anderson, M.S. student in the Department of Applied Mathematics at the University of Colorado, Boulder. External advisor from Feb. 2006 - June 2007. Graduation: summer 2007. Works in industry.

Ph.D. dissertation committees:

Lei Wang, University of Michigan, Department of Mathematics, Program in Applied Interdisciplinary Mathematics (AIM), Ph.D. committee member, 5/5/2010

Amanda Brecht, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee member, 2/18/2011

Paul A. Ullrich, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee chair, 4/19/2011

Gerardo Hernandez, University of Michigan, Department of Mathematics, external Ph.D. committee member, 4/21/2011

Archer L. Batcheller, University of Michigan, School of Information, external Ph.D. committee member, 4/21/2011

Jared Whitehead, University of Michigan, Department of Mathematics, Program in Applied

Interdisciplinary Mathematics (AIM), Ph.D. committee member, 11/30/2011

Kevin A. Reed, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee chair, 1/18/2012

Loc Khieu, University of Michigan, Department of Aerospace Engineering, external Ph.D. committee member, 4/27/2012

Xi Chen, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee member, 11/30/2012

Peter Bosler, University of Michigan, Department of Mathematics, Program in Applied Interdisciplinary Mathematics (AIM), Ph.D. co-chair, 4/25/2013

Jianping Xiao, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee member, 4/16/2014

Colin Zarzycki, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee chair, 4/22/2014

Soner Yorgun, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee member, 6/27/2014

Matthias Aechtner, McMaster University, Computational Science and Engineering, Hamilton, Canada, Ph.D. external reader, 9/3/2014

Weiye Yao, University of Michigan, Department of Atmospheric, Oceanic and Space Sciences, Ph.D. committee chair, 11/18/2014

Shu-Meir Wang, Stony Brook University, School of Marine and Atmospheric Science, external Ph.D. committee member, 5/7/2015

Chaoyi Jiao, University of Michigan, Department of Climate and Space Sciences and Engineering, Ph.D. committee member, 12/8/2015

Fei Hei, University of Michigan, Department of Climate and Space Sciences and Engineering, Ph.D. committee member, 3/11/2016

Gregory Tierney, University of Michigan, Department of Climate and Space Sciences and Engineering, Ph.D. chair with co-chair Derek Posselt, 7/21/2017

Kyle Ding, University of Michigan, Department of Aerospace Engineering, external Ph.D. committee member, 2/9/2018

Jared Ferguson, University of Michigan, Applied Physics Program. Ph.D. chair, 8/16/2018

Paige Martin, University of Michigan, Department of Earth and Environmental Sciences, external committee member, 4/26/2019

Annareli Morales, University of Michigan, Department of Climate and Space Sciences and Engineering, Ph.D. committee member, 6/4/2019

Jamie Ward, Department of Climate and Space Sciences and Engineering, Ph.D. committee member, 6/5/2020

Hong Shen, University of Michigan, Department of Earth and Environmental Sciences, external committee member, July 2020

Kali Roeten, Department of Climate and Space Sciences and Engineering, Ph.D. committee member, 5/17/2022

Haochang Luo, Department of Climate and Space Sciences and Engineering, Ph.D. committee member,

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11/15/2023

Charles Powell, Department of Climate and Space Sciences and Engineering, Ph.D. committee member, 3/29/2024

Alexander Lojko, Department of Climate and Space Sciences and Engineering, Ph.D. chair, 5/9/2024

Joseph Hollowed, University of Michigan, Department of Physics, Ph.D chair, 1/10/2025

Garrett Limon, Department of Climate and Space Sciences and Engineering, Ph.D chair, anticipated winter 2025

Anthony Chen, UM Applied and Interdisciplinary Mathematics (AIM) Program, Ph.D co-chair, anticipated winter 2026

Owen Hughes, Department of Climate and Space Sciences and Engineering, Ph.D chair, anticipated summer 2027

Aaron Johnson, Department of Climate and Space Sciences and Engineering, Ph.D co-chair, anticipated summer 2028

Nicholas Androski, Department of Climate and Space Sciences and Engineering, Ph.D chair, anticipated summer 2029

Nicholas Forcone, Department of Climate and Space Sciences and Engineering, Ph.D co-chair, anticipated summer 2029

Undergraduate research projects (advisees):

Yuyang Rao (5/1/2023 – 8/31/2023)
Evaluation of the impact of tropical heating on tropical Kelvin and mixed Rossby-gravity waves in idealized GCM simulation. B.S. student, Physics, University of Michigan
since 9/2024: Ph.D. student, Cornell University

Owen Hughes (4/30/2020 – 8/2022)
New test cases for atmospheric GCMs, and the role of orography and moisture on the idealized flow fields. The tests are conducted with NCAR's Community Earth System Model (CESM2.1), MPAS and DoE's E3SM.
B.S. student, Mathematics, University of Michigan, graduation in April 2022
since 2022: Ph.D. student, Atmospheric Sciences, University of Michigan

Ash Gilbert (9/1/2021 – 7/2022)
Assessments of lake-atmosphere interactions during lake-effect snow events in the Great Lakes region
B.S.E. in Earth System Science and Engeneering (Meteorology), University of Michigan, graduation in April 2022
since 2022: Ph.D. student, Atmospheric Sciences, University of Colorado, Boulder

Safi-ur-Rahman Syed (9/1/2021 – 12/31/2021)
Vortex interactions in a barotropic vorticity model
B.S. in Physics, University of Michigan, graduation in April 2022
since 2022: Ph.D. Student, Applied Physics, University of Michigan

Allison Hogikyan (9/1/2014 – 12/2015)
Allison's research focused on the dynamical cores of General Circulation Models, which she paired with simplified physical parameterizations like the warm-rain Kessler-type moisture scheme.
2017: B.S.E. in Earth System Science and Engeneering, University of Michigan
2018 – 2023: Ph.D. student, Atmospheric and Oceanic Sciences, Princeton University, NJ

2023 – 4/2024: Postdoctoral researcher, Princeton University, NJ
since 5/2024: Postdoctoral scholar, University of Chicago, IL

Erik Kostrzewa (5/1/2014 – 12/2014)
Erik's research addressed the representation of simplified precipitation processes in idealized GCM simulations. In particular, he assessed large-scale condensation with a re-evaporation mechanisms for flows over orography.
since 2018: Meteorologist/Reporter for FOX17 West Michigan

James Kessler (5/1/2013-12/31/2013)
REU internship and AOSS499 Directed Study: James' research focused on the results of the 2012 Dynamical Core Model Intercomparison Project (DCMIP).
2014: B.S.E. in Earth System Science and Engineering, University of Michigan
2015: M.S. in Atmospheric Science, University of Michigan
since 2015: Physical Scientist, NOAA Great Lakes Environmental Research Laboratory, Ann Arbor

Diana Thatcher (9/1/2011 – 8/30/2012)
Diana's research focused on the development of a moist variant of the Held-Suarez test. She used NCAR's Community Atmosphere Model to evaluate the characteristics of the test.
2012: B.S.E. in Earth System Science and Engeneering, University of Michigan
2015: M.S. in Atmospheric Science, University of Michigan
since 2016: Computer Scientist, MITRE Corporation

Michael Glotter (9/1/2009 – 5/31/2010)
Directed Study AOSS 499: Michael developed and tested a shallow water test case that simulates merging vortices. The test mimics the behavior of tropical cyclones.
2015: Ph.D., Department of Geological Sciences, University of Chicago, IL
2015 – 2016: AGU Congressional Science Fellow, Washington, D.C.
2017 – 2022: Project Leader and Consultant, Boston Consulting Group, Chicago, IL
since 2023: Partner, Boston Consulting Group, Chicago, IL

Ghassan (Gus) Alaka (1/1/2008 – 4/30/2008)
Directed Study AOSS 499: Gus developed wavenumber-frequency analysis techniques to detect tropical stratospheric waves in idealized dynamical core simulations of atmospheric GCMs.
2014: Ph.D., Department of Atmospheric Science, Colorado State University, Fort Collins, CO
2014 – 2018: Assistant Scientist & Postdoctoral Associate at the University of Miami, Cooperative Institute for Marine and Atmospheric Studies (CIMAS) Miami, FL
2018 – 2024: IT Specialist at the NOAA Atlantic Oceanographic and Meteorological Laboratory / Hurricane Research Division, Miami, FL
since 9/2024: Director of the Hurricane Research Division, NOAA Atlantic Oceanographic and Meteorological Laboratory, Miami, FL

Ilissa Ocko, Marian Sarah Parker Scholar (2007) (9/1/2007 – 4/30/2008)
Directed Study AOSS 499: Ilissa's research addressed tropical dynamics in the stratosphere, especially the assessment of the Transformed-Eulerian Mean Equations in idealized GCM dynamical core simulations.
2013: Ph.D., Atmospheric and Oceanic Sciences, Princeton University, NJ
2013 – 4/2024: Senior Climate Scientist at the Environmental Defense Fund (EDF), New York City, NY
since 5/2024: Senior Advisor, U.S. Special Presidential Envoy for Climate, Washington D.C.

Summer schools:

DCMIP Summer School: Non-Hydrostatic Weather and Climate Models and Machine Learning Emulators (June 2-6, 2025)
National Center for Atmospheric Research (NCAR), Boulder, CO

Organizing team: Christiane Jablonowski and Tim Andrews (University of Michigan), Peter Lauritzen and Adam Herrington (NCAR), Colin Zarzycki (Penn State University), Mark Taylor and Peter Bosler (Sandia National Laboratories), Travis O'Brien (Indiana University)
Local NCAR support: Climate and Global Dynamics Division (CGD)

The 2025 Dynamical Core Model Intercomparison Project (DCMIP-2025) and Summer School will highlight the newest modeling techniques for global climate and weather models. It will be held at the NCAR from June/2-6/2025 and will emphasize high-resolution nonhydrostatic modeling approaches and machine learning emulators for GCMs as overarching themes. The objectives of the DCMIP Summer School are (1) to teach a group of about 30 multi-disciplinary students and postdocs how today's and future atmospheric models are or need to be built, (2) to shed light on the skill and realism of machine learning emulators for atmospheric fluid flows, and (3) to use idealized test cases to expose selected model design choices in simplified modeling frameworks. The focus will lie on the three non-hydrostatic dynamical cores that are part of NCAR's/CESM's Community Atmosphere Model (CAM) and ML emulators like GraphCast and FourCastNet. DCMIP-2025 thereby continues the DCMIP-2008, DCMIP-2012 and DCMIP-2016 model intercomparison and summer school series. The DCMIP event is sponsored by the National Science Foundation (NSF), NOAA, and NCAR.

Dynamical Core Model Intercomparison Project (DCMIP-2016) and two-week Summer School
(June 5-17, 2016)
National Center for Atmospheric Research, Boulder, CO
Organizing team: Paul A. Ullrich (University of California, Davis), Christiane Jablonowski (University of Michigan), James Kent (University of South Wales), Kevin Reed (Stony Brook University), Colin Zarzycki, Peter H. Lauritzen and Ram Nair (NCAR)
Local NCAR support: Computational & Information Systems Laboratory (CISL)

DCMIP-2016 evaluated the state-of-the-art of nonhydrostatic dynamical core modeling. As DCMIP-2012, the objectives of DCMIP-2016 were (1) to teach a group of about 50 multi-disciplinary students and postdocs how today's and future non-hydrostatic atmospheric models are or need to be designed and built, (2) to invite about 12 dynamical core modeling groups to NCAR for a hands-on student-run model intercomparison project, (3) to establish new non-hydrostatic dynamical core and tropical cyclone test cases in the community and (4) to invite keynote speakers to NCAR that give lectures on modern numerical techniques, uncertainty quantification, the physics-dynamics coupling, simple moisture feedbacks, and innovative computational aspects such as variable-resolution grids. DCMIP-2016 had been endorsed by the World Meteorological Organization (WMO) Working Group on Numerical Experimentation (WGNE).

Future-Generation Non-Hydrostatic Weather and Climate Models, lead-organizer of and lecturer at the **Dynamical Core Model Intercomparison Project (DCMIP-2012)** and two-week Summer School (July 30 – August/10, 2012)
National Center for Atmospheric Research, Boulder, CO
Organizing team: Christiane Jablonowski, Paul A. Ullrich, James Kent, Kevin Reed (University of Michigan), Peter H. Lauritzen (NCAR), Mark Taylor (Sandia National Laboratories), Ram D. Nair (NCAR)
Local NCAR support: Computational & Information Systems Laboratory (CISL).

The objectives of DCMIP-2012 were (1) to teach a group of about 35 multi-disciplinary students and postdocs how today's and future non-hydrostatic atmospheric models are or need to be designed and built, (2) to invite about 10 dynamical core modeling groups to NCAR for a hands-on student-run model intercomparison project, (3) to establish new non-hydrostatic dynamical core and tropical cyclone test cases in the community and (4) to invite keynote speakers to NCAR that give lectures on modern numerical techniques, uncertainty quantification, the physics-dynamics coupling, simple moisture feedbacks, and innovative computational aspects such as variable-resolution grids. Such an exciting and energetic learning opportunity cannot be provided at any single university. The format mimicked our highly successful 2008 NCAR Advanced Study Program Colloquium (see also below). The summer school included morning lectures and afternoon hands-on model intercomparison sessions in partnership with a modeling mentor. The latter enabled the students to gain

an in-depth understanding of the modeling choices available to them in one particular model. Such small-team sessions are lively, exciting and relevant, and guarantee the direct scientific feedback about the model results. The students and mentors shared and discussed the results immediately through a novel cyber-infrastructure tool that was prototyped during the summer school. The 2012 NCAR summer school and model intercomparison project had been endorsed by the World Meteorological Organization (WMO) Working Group on Numerical Experimentation (WGNE).

Numerical Techniques for Global Atmospheric Models (DCMIP-2008), co-organizer and lecturer
NCAR Advanced Study Program (ASP) Summer Colloquium (June 1-13, 2008)
National Center for Atmospheric Research, Boulder, CO
Organized by Peter H. Lauritzen (NCAR), Christiane Jablonowski (University of Michigan), Mark Taylor (Sandia National Laboratories), Ram D. Nair (NCAR)

The two-week summer colloquium titled 'Numerical Techniques for Global Atmospheric Models' surveyed the latest developments in numerical methods for dynamical cores of atmospheric GCMs. The format of the summer school resembled the DCMIP-2012 event (see above). However, in 2008 the science focus was different and focused on numerical approaches to modeling the fluid flow of the dry atmosphere with hydrostatic models. The 2008 workshop has had long lasting implications and impacts: (1) the participants of the colloquium built an online Facebook peer-network, (2) the Springer Lecture Notes publisher approached the organizing team that has now edited and authored a Lecture Notes Book (Lauritzen et al. 2011), (3) the dynamical core intercomparison data (1.3 TeraByte) are public and disseminated through the Earth System Grid, (4) selected science results are published in the reviewed literature, (5) the test cases are becoming a community standard. The latter two have truly integrated science and education. The 2008 summer school got excellent student reviews and had a high visibility in the modeling community.

Tutorials and short courses:

Parallel Computing 101, Quentin Stout and Christiane Jablonowski, Full-day tutorial at the SuperComputing (SC) Conference

- SC'24 in Atlanta, GA, November 16, 2024
- SC'23 in Denver, CO, November 12, 2023
- SC'22 in Dallas, TX, November 13, 2022
- SC'21 in St. Louis, MO, November 14, 2021
- SC'20 in Atlanta, GA, virtual tutorial, November 9-10, 2020
- SC'19 in Denver, CO, USA, November 17, 2019
- SC'18 in Dallas, CO, USA, November 11, 2018
- SC'17 in Denver, CO, USA, November 12, 2017
- SC'16 in Salt Lake City, UT, USA, November 13, 2016
- SC'15 in Austin, TX, USA, November 15, 2015
- SC'14 in New Orleans, LA, USA, November 14, 2014
- SC'13 in Denver, CO, USA, November 17, 2013
- SC'10 in New Orleans, LA, USA, November 14, 2010
- SC'09 in Portland, OR, USA, November 15, 2009
- SC'08 in Austin, TX, USA, November 16, 2008
- SC'07 in Reno, NV, USA, November 11, 2007
- SC'06 in Tampa, FL, USA, November 12, 2006
- SC'05 in Seattle, WA, USA, November 12, 2005
- SC'04 in Pittsburgh, PA, USA, November 07, 2004
- SC'01 in Denver, Colorado, USA, November 11, 2001, (Introduction to Effective Parallel Computing)
- SC'00 in Dallas, Texas, USA, November 5, 2000 (Introduction to Effective Parallel Computing)

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Parallel Computing 101, Quentin Stout and Christiane Jablonowski, Full-day tutorial at NASA Langley, May/22/2017

On the Design of Dynamical Cores for Atmospheric General Circulation Models (GCMs): Numerical and Scientific Challenges, C. Jablonowski, 90-minute tutorial at the NSF Institute for Pure and Applied Mathematics (IPAM), Los Angeles, CA, USA, March 9, 2010

On the Design of Dynamical Cores for Atmospheric General Circulation Models (GCMs): Physical and Computational Challenges, C. Jablonowski, Two 90-minute tutorials at the NSF Institute for Pure and Applied Mathematics (IPAM), Los Angeles, CA, USA, March 10 & 16, 2010

The Lin-Rood Finite Volume (FV) Dynamical Core: Tutorial, National Center for Atmospheric Research (NCAR), May/31/2005 (≈ 20 participants)

Introduction to Effective Parallel Computing, Quentin Stout and Christiane Jablonowski, Half-day tutorial at the International Parallel and Distributed Processing Symposium 2001 (IPDPS 2001) in San Francisco, California, USA, April 23, 2001

STUDENT HONORS, STUDENT AWARDS, FELLOWSHIPS & INTERNSHIPS

Graduate Visitor Fellowship, National Center for Atmospheric Research — Apr. – July 2025
Owen Hughes

Sandia National Laboratories, Summer Internship — May 20 – Aug. 2024
Joseph Hollowed

UM CLASP First-year Ph.D. graduate student fellowship — Sep. 2024 – Apr. 2025
Nicholas Forcone

Michigan Institute for Computational Discovery and Engineering (MICDE) Fellowship — Mar. 2024
Nicholas Forcone

AMS Outstanding Student Poster Presentation Award — Aug. 2023
Authors: Alexander Lojko, Andrew Winters, Christiane Jablonowski, and Ashley Payne
Paper: The Role of North American Convective Storms on Jet Stream Dynamics: A Negative Potential Vorticity Perspective
Presented at the joint AMS conference: 20th Conference on Mesoscale Processes, 28th Conference on Numerical Weather Prediction and 32nd Conference on Weather Analysis and Forecasting

UM CLASP First-year Ph.D. graduate student fellowship — Sep. 2023 – Aug. 2024
Aaron Johnson

Sandia National Laboratories, Graduate Summer Internship Future of Research for Climate, Earth, & Energy (FORCEE) — May – Aug. 2023
Lisa Nguyen

Sandia National Laboratories, Graduate Summer Internship Future of Research for Climate, Earth, & Energy (FORCEE) — May – Aug. 2023
Joseph Hollowed

AGU EOS Publication Highlight — Feb. 2023

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Authors: Alexander Lojko, Ashley Payne and Christiane Jablonowski
Paper: "The Remote Role of North-American Mesoscale Convective Systems on the Forecast of a Rossby Wave Packet: A Multi-Model Ensemble Case-Study" in the AGU journal "Journal of Geophysical Research (JGR): Atmosphere", link

Graduate Visitor Fellowship, National Center for Atmospheric Research — June – Aug. 2023
Alexander Lojko

Mistletoe Research Fellowship, Momental Foundation — Dec. 2022 - Aug. 2023
Alexander Lojko

NSF Graduate Research Fellowship — Sep. 2022 - Aug. 2027
Anthony Chen

NSF Graduate Research Fellowship, **Honorable Mention Award** — Apr. 2022
Owen Hughes

AMS Summer Policy Colloquium — May & June 2022
American Meteorological Society (AMS), Washington, DC, USA
Invited Participant (NSF-funded): Garrett Limon

AMS Outstanding Student Paper Award — Jan. 2022
Alexander Lojko
Poster presentation at the virtual AMS Annual Meeting 2022, Jan. 23-27, 2022

Cooperative Institute for Great Lakes Research Postdoctoral Fellowship — Apr. 2019 – Mar. 2020
David Wright

Michigan Institute for Computational Discovery and Engineering (MICDE) Fellowship — 2019
Joseph Hollowed

California Council on Science and Technology (CCST) Policy Fellowship — Nov. 2018 – Oct. 2019
Jared Ferguson

NSF Graduate Research Fellowship — Sep. 2018 – Aug. 2023
Garrett Limon

AMS Summer Policy Colloquium — Jun. 2017
American Meteorological Society (AMS), Washington, DC, USA
Invited Participant (NSF-funded): Jared Ferguson

Rackham Predoctoral Fellowship, University of Michigan — May 2017 - Apr. 2018
Jared Ferguson

Richard and Eleanor Towner Prize for Outstanding Ph.D. Research, Honorable Mention Award — Nov. 2016
UM 2016 CoE Engineering Graduate Symposium
Jared Ferguson

Michigan Institute for Computational Discovery and Engineering (MICDE) Fellowship — May 2016
Jared Ferguson

DoE Office of Science Graduate Student Research (SCGSR) award — May-Sep. 2016

for a summer research project at the Lawrence Berkeley National Laboratory
Jared Ferguson

AOSS Finalist for the Richard and Eleanor Towner Prize for Outstanding Ph.D. Research, UM 2015 CoE Engineering Graduate Symposium, Diana Thatcher — Oct. 30, 2015

Ernest F. Hollings Undergraduate Scholarship — Apr. 2015
National Oceanic and Atmospheric Administration (NOAA)
2-year undergraduate scholarship (Sep. 2015- April 2017)
with a summer research experience at a NOAA laboratory (summer 2016)
Allison Hogikyan

2nd place: Michigan Geophysical Union (MGU) Student Research Symposium — Apr. 1, 2015
Ann Arbor, MI, category *Climate and Meteorology*
Jared Ferguson
poster: Jared Ferguson, Christiane Jablonowski et al., *Assessing adaptive grid refinement techniques with the Chombo-AMR model in shallow water mode*

Graduate Visitor Fellowship, National Center for Atmospheric Research — Feb-Aug. 2015
NCAR Advanced Study Program (ASP)
Diana Thatcher

2014 Rackham Proquest Distinguished Dissertation Award Competition Honorable Mention Award, University of Michigan — Feb. 2015
Colin Zarzycki

People's Choice Award (Poster competition) — Nov. 6, 2014
Michigan Institute for Computational Discovery and Engineering (MICDE) Fall 2014 Research Computing Symposium
Diana Thatcher
poster: Diana R. Thatcher and Christiane Jablonowski, *Intercomparison of numerical methods in climate simulations with idealized moisture parameterization*

AGU Newsletter "AGUniverse" Publication Highlight — Nov. 2014
Authors: Colin Zarzycki and Christiane Jablonowski
Paper: "A multidecadal simulation of Atlantic tropical cyclones using a variable-resolution global atmospheric general circulation model"
in the AGU journal "Journal of Advances in Modeling Earth Systems" (JAMES)

NCAR Postdoctoral Fellowship, Advanced Study Program (ASP) — Sep. 2014 – Aug. 2016
National Center for Atmospheric Research, Boulder, CO
Colin Zarzycki

John von Neumann Postdoctoral Research Fellow in Computational Science — Aug. 2014 – Mar. 2016
Sandia National Laboratory
Peter Bosler

Graduate Visitor Fellowship, National Center for Atmospheric Research — May - Jul. 2014
Weiye Yao

Michigan Institute for Computational Discovery and Engineering (MICDE) Fellowship — May 2014
Diana Thatcher

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AOSS Finalist for the Richard and Eleanor Towner Prize for Outstanding Ph.D. Research, UM 2013 CoE Engineering Graduate Symposium, Weiye Yao — Nov. 2013

1st place at the UM 2013 College of Engineering Graduate Symposium (EGS) Ann Arbor, MI, category *Atmospheric and Climate Sciences* Diana Thatcher poster: Thatcher, D. and C. Jablonowski, *Comparison of a moist idealized test case and aquaplanet simulations in an atmospheric general circulation model* — Nov. 2013

AGU Travel Award, Fall 2013 meeting Diana Thatcher — Sep. 2013

1st place: Michigan Geophysical Union (MGU) Student Research Symposium and winner of the Student Choice Award Ann Arbor, MI, category *Climate and Meteorology* Weiye Yao poster: Weiye Yao and Christiane Jablonowski, *The influence of convection in idealized simulations of the Quasi-biennial Oscillation with different dynamical cores* — Apr. 2013

Rackham Predoctoral Fellowship, University of Michigan Colin Zarzycki — May 2013 – Apr. 2014

2012 Rackham Proquest Distinguished Dissertation Award Competition Honorable Mention Award, University of Michigan Kevin Reed 10 awardees, and 11 honorable mention awardees were honored out of all 750 Ph.D. dissertations at UM in 2012 — Feb. 2013

American Meteorological Society (AMS) Best Oral Presentation Award 93rd Annual AMS Meeting: Weather Analysis and Forecasting Symposium, Austin, TX Colin Zarzycki, presentation: Zarzycki, C. M., C. Jablonowski, M. A. Taylor: *Assessing the Ability of Variable-Resolution Global Models to Forecast Tropical Cyclones* — Jan. 2013

NCAR Postdoctoral Fellowship, Advanced Study Program (ASP) National Center for Atmospheric Research, Boulder, CO Kevin Reed — Sep. 2013 – Aug. 2015

1st place at the UM 2012 College of Engineering Graduate Symposium (EGS) Ann Arbor, MI, category *Earth Sciences and Remote Sensing* Colin Zarzycki poster: Zarzycki, C. M. and C. Jablonowski, *Improving weather prediction and regional climate modeling through the use of variable-resolution global atmospheric models* — Nov. 2012

Rackham Merit Fellowship, University of Michigan Diana Thatcher — Sep. 2012 – Apr. 2014

AGU Congressional Science Fellowship, Washington D.C. Kevin Reed — Sep. 2012 – Aug. 2013

Isaac Newton Institute for Mathematical Sciences, Cambridge, U.K. — Aug – Oct. 2012

Invited long-term participant of the program
Multiscale Numerics for the Atmosphere and Ocean
Colin Zarzycki

NCAR Advanced Study Program Summer Colloquium Jun. 2012
The Weather-Climate Intersection: Advances and Challenges, Boulder, CO, USA
Invited Participant: Weiye Yao

NSF Graduate Fellowship Mar. 2012
former undergraduate student: Michael Glotter (University of Chicago)

NSF Mathematical Sciences Postdoctoral Research Fellowship (MSPRF) Jan. 2012
Jared Whitehead (declined)

Travel award: 23rd AMS Conference on Climate Variability and Change Jan. 2012
New Orleans, LA, USA
Kevin Reed

American Geophysical Union (AGU) Outstanding Student Paper Award Mar. 2011
Reed, K. A. and C. Jablonowski. *Assessing the Significance of Varying AGCM Physics Packages on Idealized Tropical Cyclone Simulations*,
Poster presentation at the AGU Fall Meeting 2010, San Francisco, CA, USA, December 13-17, 2010

American Geophysical Union (AGU) Outstanding Student Paper Award Mar. 2011
Ullrich, P. A. and C. Jablonowski, *A look at high-order Finite-Volume schemes for simulating atmospheric flows*,
Oral presentation at the AGU Fall Meeting 2010, San Francisco, CA, USA, December 13-17, 2010

CoE Graduate Distinguished Achievement Award, University of Michigan Mar. 2011
Kevin Reed

Travel award: WAVACS-COST Winter School Feb. 2011
Water vapour in the climate system, Venice, Italy
Kevin Reed

1st place (poster presentation) at the UM 2010 CoE Engineering Graduate Symposium, Ann Arbor, MI, category *Atmospheric, Oceanic & Space Sciences* Nov. 2010
Kevin Reed
poster: Reed, K. A. and C. Jablonowski, *Evaluating the Impact of the CAM 5 Dynamical Core in Idealized Tropical Cyclone Simulations*

AOSS Finalist: Outstanding Ph.D. Student Research Award at the UM 2010 CoE Engineering Graduate Symposium, Ann Arbor, MI Nov. 2010
Paul Ullrich
poster: Ullrich, P. A. and C. Jablonowski, *High-order finite-volume schemes for simulating atmospheric flows*

College of Engineering Dean's Fellowship, University of Michigan Sep. 2010 – Apr. 2011
Colin Zarzycki

DoE Global Change Education Program (GCEP) Graduate Research Environmental Fellowship (GREF) Sep. 2010 – Aug. 2012
Kevin Reed

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Rackham Predoctoral Fellowship, University of Michigan May 2010 – Apr. 2011
Paul Ullrich

Travel award: Summer School on Atmospheric Modeling (SSAM) Jul. 2010
Boulder, CO, USA,
sponsored by NOAA's Global Interoperability Program and
The Earth System Research Laboratory, in partnership with the Center for Multiscale Modeling of Atmospheric Processes (CMMAP), NCAR and NCEP
Weiye Yao

Travel award: NSF Institute for Pure and Applied Mathematics (IPAM) Apr. 2010
Los Angeles, CA, USA, Invited participant of the IPAM Long Program
Model and Data Hierarchies for Simulating and Understanding Climate
Kevin Reed

Travel award: NSF Institute for Pure and Applied Mathematics (IPAM) Apr. 2010
Los Angeles, CA, USA, Invited participant of the IPAM Workshop
Workshop II: Numerical Hierarchies for Climate Modeling
Paul Ullrich

2nd place (poster presentation) at the 2010 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI Mar. 2010
Jared Whitehead
poster: Whitehead, J., C. Jablonowski and R. B. Rood
Divergence Damping: Is Additional Diffusion `Good' for Stability?

Summer Internship in Parallel Computational Science (SIParCS) June – Aug. 2009
National Center for Atmospheric Research (NCAR), Boulder, CO, USA
Computational & Information Systems Laboratory (CISL)
Peter Bosler

AMS Summer Policy Colloquium June 2009
American Meteorological Society (AMS), Washington, DC, USA
Invited Participant (NSF-funded): Kevin Reed

1st place (poster presentation) and 2nd place (oral presentation) at the UM Nov. 2008
2008 CoE Engineering Graduate Symposium, category *Civil, Environmental and Atmospheric Sciences*
Paul Ullrich
presentation: Ullrich, P. A., P. H. Lauritzen and C. Jablonowski,
GECoRe: A New Geometrically Exact Remapping Scheme on the Sphere

Summer Internship in Parallel Computational Science (SIParCS) June – Aug. 2008
National Center for Atmospheric Research (NCAR), Boulder, CO, USA
Computational & Information Systems Laboratory (CISL)
Paul Ullrich

NCAR Advanced Study Program Summer Colloquium June 2008
Numerical Techniques for Global Atmospheric Models, Boulder, CO, USA
Invited Participant: Paul Ullrich

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E-mail: cjablono@umich.edu

College of Engineering Dean's Fellowship, University of Michigan Sep. 2007 – Apr. 2008
Paul Ullrich

PUBLICATIONS

Papers in review

Wright, D. M., C. Jablonowski, A. Fujisaki-Manome, B, Mroczka, A, Gilbert, D, Titze, G, E. Mann, and E, J. Anderson (2024), **The Sensitivity of Lake-Effect Snowfall to Changes in Lake Surface Conditions Across the Forecast Horizon in the Unified Forecast System's Short-Range Weather Application (UFS-SRW)**, Mon. Wea. Rev., in review

Simpson, I. R., R. R. Garcia, J. T. Bacmeister, P. H. Lauritzen, C. Hannay, B. Medeiros, J. Caron, G. Danabasoglu, A. Herrington, C. Jablonowski, D. Marsh, R. B. Neale, L. M. Polvani, J. H. Richter, N. Rosenbloom, S. Tilmes (2025), **The path toward vertical grid options for the Community Atmosphere Model version 7: the impact of vertical resolution on the QBO and tropical waves**, J. Adv. Model. Earth Syst., in review

Refereed Publications

(70) Lojko, A., A. C. Winters, A. Oertel, C. Jablonowski, and A. Payne (2025), **An ERA5 Climatology of Synoptic-Scale Negative Potential Vorticity-Jet Interactions over the Western North Atlantic**, Weather and Climate Dynamics, in press, preprint: https://doi.org/10.5194/egusphere-2024-382

(69) Yeo, A. J., E. J. Anderson, C. Jablonowski, D. M. Wright, G. E. Mann, A. Fujisaki-Manome, B. Mroczka, and D. Titze (2024), **Assessing the Potential for Medium-Range Ice Forecasts in the Laurentian Great Lakes**, Water Resources Research, 60, e2024WR037507. https://doi.org/10.1029/2024WR037507

(68) Hollowed, J. P., C. Jablonowski, H. Y. Brown, B. R. Hillman, D. L. Bull, and J. L. Hart (2024), **Localized injections of interactive volcanic aerosols and their climate impacts in a simple general circulation model**, Geosci. Model Dev., 17, 5913–5938, https://doi.org/10.5194/gmd-17-5913-2024

(67) Willson, J. L., K. A. Reed, C. Jablonowski, J. Kent, P. H. Lauritzen, R. Nair, M. A. Taylor, P. A. Ullrich, C. M. Zarzycki, D. M. Hall, D. Dazlich, R. Heikes, C. Konor, D. Randall, T. Dubos, Y. Meurdesoif, X. Chen, L. Harris, C. Kühnlein, V. Lee, A. Qaddouri, C. Girard, M. Giorgetta, D. Reinert, H. Miura, T. Ohno, and R. Yoshida (2024), **DCMIP2016: The tropical cyclone test case,** Geosci. Model Dev., 17, 2493–2507, https://doi.org/10.5194/gmd-17-2493-2024

(66) Carley, J., C. Alexander, L. Wicker, C. Jablonowski, A. Clark, J. Nelson, I. Jirak, and K. Viner (2023), **Mitigation Efforts to Address Rapid Refresh Forecast System (RRFS) v1 Dynamical Core Performance Issues and Recommendations for RRFS v2**, NOAA/NWS/NCEP Environmental Modeling Center, Office Note 516, https://doi.org/10.25923/ccgj-7140

(65) Hughes, O. K. and C. Jablonowski (2023), **A Mountain-Induced Moist Baroclinic Wave Test Case for the Dynamical Cores of Atmospheric General Circulation Models**, Geosci. Model Dev., 16, 6805-6831, https://gmd.copernicus.org/articles/16/6805/2023/

(64) Limon, G. and C. Jablonowski (2023), **Probing the Skill of Random Forest Emulators for Physical Parameterizations via a Hierarchy of Simple CAM6 Configurations**, J. Adv. Model. Earth Syst., 15, e2022MS003395, https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022MS003395?af=R

(63) Tang, Q., Golaz, J.-C., Van Roekel, L. P., Taylor, M. A., Lin, W., Hillman, B. R., Ullrich, P. A., Bradley, A. M., Guba, O., Wolfe, J. D., Zhou, T., Zhang, K., Zheng, X., Zhang, Y., Zhang, M., Wu, M., Wang, H., Tao, C., Singh, B., Rhoades, A. M., Qin, Y., Li, H.-Y., Feng, Y., Zhang, Y., Zhang, C., Zender, C. S., Xie, S., Roesler, E. L., Roberts, A. F., Mametjanov, A., Maltrud, M. E., Keen, N. D., Jacob, R. L., Jablonowski, C.,

Hughes, O. K., Forsyth, R. M., Di Vittorio, A. V., Caldwell, P. M., Bisht, G., McCoy, R. B., Leung, L. R., and Bader, D. C. (2023): **The Fully Coupled Regionally Refined Model of E3SM Version 2: Overview of the Atmosphere, Land, and River**, Geosci. Model Dev., 16, 3953-3995, https://doi.org/10.5194/gmd-16-3953-2023

(62) Lojko, A., A. Payne, and C. Jablonowski (2022), **The remote role of North-American mesoscale convective systems on the forecast of a Rossby wave packet: A multi-model ensemble case-study**, Journal of Geophysical Research: Atmospheres, 127, e2022JD037171. https://doi.org/10.1029/2022JD037171

(61) Lauritzen, P. H., N. Kevlahan, T. Toniazzo, C. Eldred, T. Dubos, A. Gassmann, V. E. Larson, C. Jablonowski, O. Guba, B. Shipway, B. E. Harrop, F. Lemarie, R. Tailleux, A. R. Herrington, W. G. Large, P. J. Rasch, A. S. Donahue, H. Wan, and A. J. Conley (2022), **Reconciling and improving formulations for thermodynamics and conservation principles in Earth System Models (ESMs)**, J. Adv. Model. Earth Syst., 14, e2022MS003117, https://doi.org/10.1029/2022MS003117

(60) Liu, L., S. Davedu, A. Fujisaki-Manome, H. Hu, C. Jablonowski, and P. Y. Chu (2022), **Machine Learning Model-Based Ice Cover Forecasting for Vital Waterway in Large Lakes**, Journal of Marine Science and Engineering, 10(8), 1022, https://doi.org/10.3390/jmse10081022

(59) Fujisaki-Manome, A., D. M. Wright, G. E. Mann, E. J. Anderson, P. Chu, C. Jablonowski, S. G. Benjamin (2022), **Forecasting Lake/Sea-Effect Snowstorms, Advancement, and Challenges**, Wiley Interdisciplinary Reviews (WIREs), e1594, https://doi.org/10.1002/wat2.1594

(58) Toniazzo, T., M. Bentsen, C. Craig, B. Eaton, J. Edwards, S. Goldhaber, C. Jablonowski, and P. Lauritzen (2020), **Enforcing conservation of axial angular momentum in the atmospheric general circulation model CAM6**, Geosci. Model Dev., Vol. 13, 685–705

(57) Ferguson, J. O., C. Jablonowski, and H. Johansen (2019), **Assessing Adaptive Mesh Refinement (AMR) in a Forced Shallow-Water Model with Moisture**, Mon. Wea. Rev., Vol. 147, 3673–3692, doi: 10.1175/MWR-D-18-0392.1

(56) Zarzycki, C. M., C. Jablonowski, J. Kent, P. H. Lauritzen, R. Nair, K. A. Reed, P. A. Ullrich, D. M. Hall, D. Dazlich, R. Heikes, C. Konor, D. Randall, X. Chen, L. Harris, M. Giorgetta, D. Reinert, C. Kühnlein, R. Walko, V. Lee, A. Qaddouri, M. Tanguay, H. Miura, T. Ohno, R. Yoshida, S.-H. Park, J. Klemp, and W. Skamarock (2019), **DCMIP2016: The Splitting Supercell Test Case**, Geosci. Model Dev., Vol. 12, 879–892

(55) Gross, M., H. Wan, P. J. Rasch, P. M. Caldwell, D. L. Williamson, D. Klocke, C. Jablonowski, D. R. Thatcher, N. Wood, M. Cullen, B. Beare, M. Willett, F. Lemarie, E. Blayo, S. Malardel, P. Termonia, P. Bechtold, A. Gassmann, P. H. Lauritzen, H. Johansen, C. M. Zarzycki, K. Sakaguchi and R. Leung (2018), **Physics–Dynamics Coupling in weather, climate and Earth system models: Challenges and recent progress,** Mon. Wea. Rev., Vol. 146, 3505-3544

(54) Ullrich, P. A. C. Jablonowski, J. Kent, P. H. Lauritzen, R. Nair, K. A. Reed, C. M. Zarzycki, D. M. Hall, D. Dazlich, R. Heikes, C. Konor, D. Randall, T. Dubos, Y. Meurdesoif, X. Chen, L. Harris, C. Kühnlein, V. Lee, A. Qaddouri, C. Girard, M. Giorgetta, D. Reinert, J. Klemp, S.-H. Park, W. Skamarock, H. Miura, T. Ohno, R. Yoshida, R. Walko, A. Reinecke and K. Viner (2017), **DCMIP2016: A Review of Non-hydrostatic Dynamical Core Design and Intercomparison of Participating Models**, Geosci. Model Dev., Vol. 10, 4477-4509, doi: 10.5194/gmd-2017-108

(53) Bosler, P. A., J. Kent, R. Krasny and C. Jablonowski (2017), **A Lagrangian Particle Method with Remeshing for Tracer Transport on the Sphere**, J. Comput. Phys., Vol. 340, 639-654

(52) Zarzycki, C. M., D. R. Thatcher and C. Jablonowski (2017), **Objective tropical cyclone extratropical transition detection in high-resolution reanalysis and climate model data**, J. Adv. Model. Earth Syst., Vol. 9, 130-148, doi:10.1002/2016MS000775

(51) Ferguson, J. O., C. Jablonowski, H. Johansen, P. McCorquodale, P. Colella and P. A. Ullrich (2016),

Analyzing the Adaptive Mesh Refinement (AMR) characteristics of a high-order 2D cubed-sphere shallow-water model, Mon. Wea. Rev., Vol. 144, 4641–4666

(50) Yao, W. and C. Jablonowski (2016), **The Impact of GCM Dynamical Cores on Idealized Sudden Stratospheric Warmings and their QBO Interactions,** J. Atmos. Sci., Vol. 73, 3397–3421, doi:10.1175/JAS-D-15-0242.1

(49) Hall, D. M., P. A. Ullrich, K. A. Reed, C. Jablonowski, R. D. Nair and H. M. Tufo (2016), **Dynamical Core Model Intercomparison Project (DCMIP) Tracer Transport Test Results for CAM-SE**, Quart. J. Roy. Meteorol. Soc., Vol. 142, 1672-1684

(48) Thatcher, D. R. and C. Jablonowski (2016), **A moist aquaplanet variant of the Held-Suarez test for atmospheric model dynamical cores**, Geosci. Model Dev., Vol. 9, 1263-1292

(47) Kent, J., C. Jablonowski, J. Thuburn and N. Wood (2016), **An Energy Conserving Restoration Scheme for the Shallow Water Equations**, Quart. J. Roy. Meteorol. Soc., Vol. 142, 1100-1110

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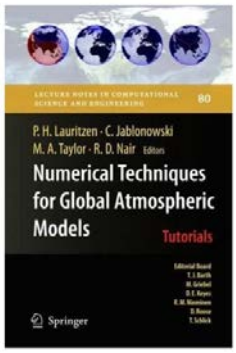

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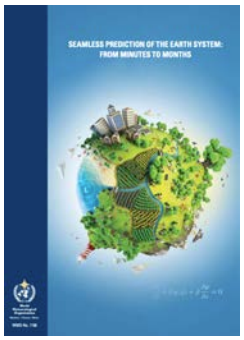

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Jablonowski, C. and C. M. Zarzycki (2014), **New Frontiers: Tropical Cyclone Modeling with NCAR's Variable-Resolution General Circulation Model CAM-SE**, Geophysical Research Abstracts, Vol. 16, EGU2014-13151, EGU General Assembly 2014

Jablonowski, C. and W. Yao (2014), **Idealized Simulations of the Quasi-Biennial Oscillation and Sudden Stratospheric Warmings with an Ensemble of Dry GCM Dynamical Cores**, Geophysical Research Abstracts, Vol. 16, EGU2014-13477, EGU General Assembly 2014Jablonowski, C. and D. Thatcher (2014),

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A Moist Variant of the Held-Suarez Test for the Assessment of Atmospheric Model Dynamical Cores, Geophysical Research Abstracts, Vol. 16, EGU2014-13608, EGU General Assembly 2014

Kent, J., C. Jablonowski, J. Thuburn and N. Wood (2014), **An Energy Backscatter Model For The Shallow Water Equations On The Sphere**, Geophysical Research Abstracts, Vol. 16, EGU2014-3085, EGU General Assembly 2014

Zarzycki, C. M. and C. Jablonowski (2013), **Evaluating the Impact of Localized GCM Grid Refinement on Regional Tropical Cyclone Climatology and Synoptic Variability using Variable-Resolution CAM-SE**, American Geophysical Union (AGU) Fall Meeting 2013, Abstract A42D-01

Thatcher, D., C. Jablonowski and C. Zarzycki (2013), **A Moist Idealized Test Case for Atmospheric General Circulation Models**, American Geophysical Union (AGU) Fall Meeting 2013, Abstract A33B-0202

Reed, K. A., C. Jablonowski, P. A. Ullrich, J. Kent, P. H. Lauritzen, M. A. Taylor and R. Nair (2013), **Multi-model GCM ensemble simulations of idealized tropical cyclones**, American Geophysical Union (AGU) Fall Meeting 2013, Abstract A33B-0219

Yao, W. and C. Jablonowski (2013), **Idealized Simulations of Sudden Stratospheric Warmings with an Ensemble of Dry GCM Dynamical Cores**, American Geophysical Union (AGU) Fall Meeting 2013, Abstract SA23A-2048

Zarzycki, C. M., C. Jablonowski and M. A. Taylor (2012), **Using the Variable-Resolution General Circulation Model CAM-SE to Simulate Regional Tropical Cyclone Climatology**, American Geophysical Union (AGU) Fall Meeting 2012, Abstract A31L-05

Yao, W. and C. Jablonowski (2012), **The influence of Convection and Gravity Wave Drag Parameterizations in Idealized Simulations of the Quasi-Biennial Oscillation With Different GCM Dynamical Cores**, American Geophysical Union (AGU) Fall Meeting 2012, Abstract A13Q-08

Kent, J., C. Jablonowski, J. Whitehead and R. B. Rood (2012), **Methods to Determine the Effective Resolution of Dynamical Cores of GCMs**, American Geophysical Union (AGU) Fall Meeting 2012, Abstract A52B-01

Ullrich, P. A., C. Jablonowski, J. Kent, K. A. Reed, M. A. Taylor, P. H. Lauritzen and R. D. Nair (2012). **Towards a Unified Test Case Suite for Global Atmospheric Models**, American Geophysical Union (AGU) Fall Meeting 2012, Abstract A53C-0159

Jablonowski, C., P. A. Ullrich, J. Kent, K. A. Reed, M. A. Taylor, P. H. Lauritzen and R. D. Nair (2012), **The 2012 Dynamical Core Model Intercomparison Project (DCMIP)**, American Geophysical Union (AGU) Fall Meeting 2012, Abstract A53C-0160

Murphy S., C, DeLuca, L. Cinquini, I. Overeem, P. N. Edwards, C, Jablonowski, R, B. Rood and V. Balaji (2012), **The Earth System CoG Collaboration Environment: Connecting Resources in the Earth Sciences**, American Geophysical Union (AGU) Fall Meeting 2012, Abstract IN51A-1683

Lauritzen, P. H., W. C. Skamarock, M. J. Prather, M. A. Taylor and C Jablonowski (2012), **Assessing accuracy of transport schemes in global climate-weather models**, Geophysical Research Abstracts, Vol. 14, EGU2012-12965, EGU General Assembly 2012

Reed, K. A., M. F. Wehner and C. Jablonowski (2012), **Towards the Direct Simulation of Tropical Cyclones in the High-Resolution Community Atmosphere Model**, Geophysical Research Abstracts, Vol. 14, EGU2012-242, EGU General Assembly 2012

Ullrich, P. A. and C. Jablonowski (2011), **MCore: A High-Order Finite-Volume Dynamical Core for Atmospheric General Circulation Models**. American Geophysical Union (AGU) Fall Meeting 2011, Abstract A41G-07

Reed, K. A. and C. Jablonowski (2011), **Idealized Tropical Cyclone Simulations of Intermediate**

Complexity: A Test Case for AGCMs. AGU Fall Meeting 2011, Abstract GC11B-0921

Zarzycki, C. M. and C. Jablonowski (2011), **Modeling Tropical Cyclones in NCAR's General Circulation Model with Variable-Resolution Meshes**. AGU Fall Meeting 2011, Abstract A32D-05

Yao, W. and C. Jablonowski (2011), **Idealized Simulations of the Quasi-Biennial Oscillation With Different GCM Dynamical Cores: The Role of Parameterized Gravity Waves**. AGU Fall Meeting 2011, Abstract A51A-0216

Fiorella, R. P., C J. Poulsen, C. Jablonowski and C. M. Bitz (2011), **Resistance to Snowball Earth Initiation in the CAM3.1 Slab Ocean Model**. AGU Fall Meeting 2011, Abstract PP13B-1835

Kent, J., J. Whitehead, C. Jablonowski and R. B. Rood (2011), **Assessing the Accuracy of Tracer Transport Schemes in the Dynamical Cores of General Circulation Models**. AGU Fall Meeting 2011, Abstract A51A-0225

Reed, K. A. and C. Jablonowski (2010), **Assessing the Significance of Varying AGCM Physics Packages on Idealized Tropical Cyclone Simulations**, AGU Fall Meeting 2010, Abstract A23A-0214

Ullrich, P. A. and C. Jablonowski (2010), **A look at high-order Finite-Volume schemes for simulating atmospheric flows**, AGU, Fall Meeting 2010, Abstract A41G-07

Jablonowski, C. and K. A. Reed (2010), **Idealized Tropical Cyclone Simulations of Intermediate Complexity: A Test Case for Atmospheric GCMs**, AGU, Fall Meeting 2010, Abstract A41G-06

Jablonowski, C., P. H. Lauritzen, M. A. Taylor and R. D. Nair (2008), **An Intercomparison of 10 Atmospheric Model Dynamical Cores**, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A33A-0214

Reed, K. A. and C. Jablonowski (2008), **Idealized Tropical Cyclones in Atmospheric General Circulation Models**, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A33A-0215

Lauritzen, P. H. and C. Jablonowski (2008), **A rotated version of the Jablonowski-Williamson baroclinic wave test case**, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A33A-0212

Oehmke, R., D. Vandenberg, N. Andronova, J. Penner, Q. Stout, V. Zubov and C. Jablonowski (2008), **3-D grid refinement using the University of Michigan adaptive mesh library for a pure advective test**, Eos Trans. AGU, 89(23), Jt. Assem. Suppl., Abstract IN33A-06

Jablonowski, C. (2006), **A Proposed Test Suite for Atmospheric Model Dynamical Cores**, Eos Trans. AGU, 87(52), Fall Meet. Suppl., Abstract A41D-0062

Jablonowski, C., M. Herzog, R. C. Oehmke, J. E. Penner, Q. F. Stout and B. van Leer (2005), **Adaptive Grids for Future Weather Prediction Models,** Geophysical Research Abstracts, Vol. 7, 00134, 2005, SRef-ID: 1607-7962/gra/EGU05-A-00134

Jablonowski, C., M. Herzog, R. C. Oehmke, J. E. Penner, Q. F. Stout and B. van Leer (2003), **Adaptive Grids in Climate Modeling: Tests of the Dynamical Core,** Eos Trans. AGU, 84(46), Fall Meet. Suppl., Abstract A11D-02

Herzog, M., C. Jablonowski, R. C. Oehmke, J. E. Penner, Q. F. Stout and B. van Leer (2003), **Adaptive Grids in Climate Modeling: Concept and First Results**, Eos Trans. AGU, 84(46), Fall Meet. Suppl., Abstract A11D-01

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CONFERENCE AND SEMINAR PRESENTATIONS

2025

Jablonowski, C., A. Johnson, N. Androski, and M. Flanner (2025**), Exploring the impact of CO2 and ozone changes on the QBO in aqua-planet simulations**, QBOi – SNAP – QUOCA (QSQ) joint workshop: Improved simulations of the stratosphere for better predictions of weather, climate and extreme events, Cambridge, U.K., March 24-28, 2025

Jablonowski, C. (2025), **Representing Lake-Atmosphere Interactions in NOAA's Weather Prediction Models**, CIGLR-GLERL Great Lakes Seminar, NOAA Great Lakes Environmental Research Laboratory, Ann Arbor, MI, USA, March 4, 2025

Jablonowski, C., L. Wicker, and K. Viner (2025), **Supporting Model Design Decisions and Innovations via Model Hierarchies**, AMS 105th Annual Meeting 2025, Fourth Symposium on Community Modeling and Innovation, New Orleans, LA, USA, January 12-16, 2025

Limon, G., and C. Jablonowski (2025), **Assessing the Offline and Online Performance of Physical Parameterization Emulators via Simplified Climate Model Configurations**, AMS 105th Annual Meeting 2025, Fourth Symposium on Community Modeling and Innovation, New Orleans, LA, USA, January 12-16, 2025

Yeo, A., E. J. Anderson, D. Wright, J. Kessler, D. Titze, B. Mroczka, G. Mann, A. Fujisaki-Manome, and C. Jablonowski (2025), **Evaluating Approaches to Lake Representation in Operational Forecasting**, AMS 105th Annual Meeting 2025, Fourth Symposium on Community Modeling and Innovation, New Orleans, LA, USA, January 12-16, 2025

2024

Jablonowski, C., J. Hollowed, B. Wagman, T. Ehrmann, and B. Hillman (2024), **Shedding Light on the Stratospheric Circulation in the Department of Energy CMIP6 Model E3SMv2**, American Geophysical Union (AGU) Annual Meeting, Washington D.C., USA, December 9-13, 2024

Jablonowski, C., D. Wright, A. Fujisaki-Manome, B. Mroczka, D. Titze, G. Mann, E. Anderson, A. Yeo, and U. Turuncoglu (2024), **The Impact of Atmosphere-Lake Interactions on Lake-Effect Snowfall Forecasts in the Great Lakes Region**, AGU Annual Meeting, Washington D.C., USA, December 9-13, 2024

Johnson, A. M., M. Flanner, and C. Jablonowski (2024), **Exploring the Drivers of the Quasi-Biennial Oscillation in a Changing Aquaplanet Climate**, AGU Annual Meeting, Washington D.C., USA, December 9-13, 2024

Hughes, O. K., O. Guba, M. A. Taylor, and C. Jablonowski (2024), **A novel deep-atmosphere variant of the HOMME dynamical core for the E3SM climate model**, AGU Annual Meeting, Washington D.C., USA, December 9-13, 2024

Hughes, O. K., C. Jablonowski, O. Guba, and M. A. Taylor (2024), **Results of idealized test cases from a deep-atmosphere variant of the HOMME dynamical core**, DoE EESM PI meeting, Rockville, MD, USA, August 6-9, 2024

Guba, O., O. K. Hughes, C. Jablonowski, and M. A. Taylor (2024), **Deep atmosphere formulation of HOMME**, DoE EESM PI meeting, Rockville, MD, USA, August 6-9, 2024

Jablonowski, C., J. Hollowed, T. Ehrmann, B. Wagman, and B. Hillman (2024), **Characteristics of E3SMv2's stratospheric circulation**, DoE EESM PI meeting, Rockville, MD, USA, August 6-9, 2024

Jablonowski, C., L. Wicker, and K. Viner (2024), **Supporting Model Design Decisions and Innovations via Model Hierarchies**, Unifying Innovations in Forecasting Capabilities Workshop, Jackson, MS, USA, July 22-26, 2024

Hertneky, T., M. Ek, J. Dudhia, T. Jensen, M. Kavulich, W. Li, L. Nance, K. Newman, S. Rasmussen, T. Schneider, L. Xue, L. Bernardet, J. Beck, D. Swales, X. Sun, S. Trahan, M. Zhang, G. Firl, S. Flampouris, Y.-C. Teng, C. Jablonowski, C. Stan, and L. Wicker (2024), **Improving Earth System Models via Hierarchical System Development**, Joint WRF/MPAS Users Workshop 2024, Boulder, CO, USA, June 25-28, 2024

Jablonowski, C., G. Danabasoglu, P. Lauritzen, B. Medeiros, T. Hauser, F. Judt, P. Chang, and R. Saravanan (2024), **NSF StormSPEED: The 'Storm-resolving SPEctral Element Dycore' for CESM3**, 29th Annual CESM Workshop 2024, Boulder, CO, USA, June 10-12, 2024

Hughes, O. K., C. Jablonowski, O. Guba, and M. A. Taylor (2024), **A conservative deep-atmosphere configuration for the HOMME dynamical core**, 29th Annual CESM Workshop 2024, Boulder, CO, USA, June 10-12, 2024

Yeo, A., Anderson, E. J., Jablonowski, C., Wright, D., Fujisaki-Manome, A. Mroczka, B., Titze, D., and Mann, G. (2024), **Assessing the Potential for Medium-Range Ice Forecasts in the Laurentian Great Lakes**, 67th Annual Conference of the International Association for Great Lakes Research (IAGLR), Windsor, ON, Canada, May 20-24, 2024

Jablonowski, C. (2024), **Numerical Characteristics of the Current and Future UFS Dynamical Cores**, NOAA UFS SRW/CAM Application Team Project Meeting, virtual, Apr. 5, 2024

Jablonowski, C., O. K. Hughes, G. Danabasoglu, P. H. Lauritzen, B. Medeiros, T. Hauser, F. Judt, P. Chang, R. Saravanan, O. Guba, and M. A. Taylor (2024), **Upcoming Innovations for CAM's Spectral Element Dynamical Core and CESM: Nonhydrostatic and Deep-Atmosphere Modeling**, CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, Feb. 12-14, 2024

Jablonowski, C., D. Wright, A. Fujisaki-Manome, B. Mroczka, D. Titze, G. Mann, E. Anderson, A. Yeo, and U. Turuncoglu (2024), **Improving lake-effect snowfall forecasts via UFS-based atmosphere-lake models**, NOAA Winter Weather Experiment (WWE) seminar, virtual, Feb. 8, 2024

Li, W., M. Ek,T. Hertneky, X. Sun, L. Bernardet, T. Jensen, L. Xue, J. Beck, J. Dudhia, G. Firl, M. Kavulich, L. Nance, K. Newman, J. H. Gotway, D. Swales, S. Trahan, M. Zhang, C. Jablonowski, C. Stan, L. Wicker, S. Flampouris, Y.-C. Teng, T. Schneider (2024), **Improving Earth System Models via Hierarchical System Development**, AMS 104th Annual Meeting 2024, Third Symposium on Community Modeling and Innovation, Baltimore, MD, USA, Jan. 28 – Feb. 1, 2024

Wicker, L., C. R. Alexander, L. Bernardet, J. R. Carley, A. Chawla, B. D. Gross, D. Heinzeller, C. Jablonowski, N. A. Jacobs, D. Rosen, D. J. Swales, H. L. Tolman, Dr. Ir., K. C. Viner, and J. Wang (2024), **Evolving the UFS to Meet our Future Prediction Needs: A Case Study from CAM**, AMS 104th Annual Meeting 2024, Third Symposium on Community Modeling and Innovation, Baltimore, MD, USA, Jan. 28 – Feb. 1, 2024

Limon, G., and C. Jablonowski (2024), **Practical Limitations of Machine Learning Approaches for Online Emulation of Simplified Physical Processes in CAM6**, AMS 104th Annual Meeting 2024, 23rd Conference on Artificial Intelligence for Environmental Science, Baltimore, MD, USA, Jan. 28 – Feb. 1, 2024

Jablonowski, C., D. Wright, A. Fujisaki-Manome. B. Mroczka, D. Titze, G. Mann, E. Anderson, A. Yeo, and U. Turuncoglu (2024), **Atmosphere-Lake Coupling Improves Lake-Effect Snowfall Forecasts in the Great Lakes Region**, AMS 104th Annual Meeting 2024, 22nd Symposium on the Coastal Environment, Baltimore, MD, USA, Jan. 28 – Feb. 1, 2024

Yeo, A., E. J. Anderson, C. Jablonowski, D. Wright, A. Fujisaki-Manome, B. Mroczka, D. Titze, and G. Mann (2024), **Medium-range ice forecasting using the GFS and the Great Lakes Operational Forecast**

System (GLOFS), AMS 104th Annual Meeting 2024, 22nd Symposium on the Coastal Environment, Baltimore, MD, USA, Jan. 28 – Feb. 1, 2024

2023

Lojko, A., A. C. Winters, M. Chasteen, M. Wong, A. F Prein, A. Oertel, B. Z. Ribeiro, C. Jablonowski, and A. E. Payne (2023), **Negative Potential Vorticity Can Explain how Convective Updrafts Remotely Amplify the North Atlantic Jet Stream**, American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, USA, Dec. 11-15, 2023, A33R-2789

Jablonowski, C., J. Hollowed, L. Nguyen, O. Hughes, T. Ehrmann, B. Wagman, and B. Hillman (2023), **A Closer Look at E3SM's Stratosphere: Circulation Biases**, **Transport, Tracers**, DoE CLDERA All-Hands Meeting, Albuquerque, NM, USA, Oct 17-19, 2023

Hollowed, J., C. Jablonowski, T. Ehrmann, D. Bull, B. Wagman, and B. Hillman (2023), **Dynamically Identifying Circulation Changes by Volcanic SAIs with the E90 Passive Tracer**, DoE CLDERA All-Hands Meeting, Albuquerque, NM, USA, Oct 17-19, 2023

Jablonowski, C., J. Hollowed, L. Nguyen, T. Ehrmann, B. Wagman, B. Hillman (2023), **Tropical Stratosphere-Troposphere Interactions in Selected CMIP6 Models**, Joint SPARC DynVar - SNAP Meeting, Munich, Germany, Oct. 9-13, 2023

Jablonowski, C. (2023), **Shedding Light on Hidden Aspects of Dynamical Cores**, NCAR Mesoscale Microscale Meteorology (MMM) Seminar, Boulder, CO, USA, Aug. 3., 2024

Ek, M., T. Hertneky, L. Xue, T. Jensen, W. Li, K. Newman, L. Nance, X. Sun, M. Zhang, L. Bernardet, J. Beck, G. Firl, C. Jablonowski, C. Stan, and L. Wicker (2023), **Improving Earth System Models via Hierarchical System Development**, Unifying Innovations in Forecasting Capabilities Workshop (UIFCW), Boulder, CO, USA, July 24-28, 2023

Jablonowski, C. (2023), **Panel Discussion on Use Cases & Needs of UFS Applications by New Professionals, Professors & Industry**, Unifying Innovations in Forecasting Capabilities Workshop (UIFCW), Boulder, CO, USA, July 24-28, 2023

Lojko, A., A. C. Winters, C. Jablonowski, and A. Payne (2023), **The Role of North American Convective Storms on Jet Stream Dynamics: A Negative Potential Vorticity Perspective**, Joint AMS conferences: 20th Conference on Mesoscale Processes, 28th Conference on Numerical Weather Prediction and 32nd Conference on Weather Analysis and Forecasting, Madison, WI, USA, July 17-21, 2023

Wright, D., C. Jablonowski, A. Fujisaki-Manome, B. Mroczka, D. Titze, G. Mann, Eric Anderson (2023), **Improved Predictability of Lake-Effect Snowfall in the UFS Short-Range Weather Application Through the Use of Modeled Lake Surface Conditions**, 28th AMS Conference on Numerical Weather Prediction (NWP), Madison, WI, USA, July 17-21, 2023

Chen, A., R. Krasny, and C. Jablonowski, **Fast Summation for the Barotropic Vorticity Equations**, PDEs on the Sphere Workshop, Grenoble, France, July 3-7, 2023

Hughes, O., C. Jablonowski, M. A. Taylor, and O. Guba (2023), **Test Results from the Deep-Atmosphere Configuration of the HOMME Dynamical Core**, PDEs on the Sphere Workshop, Grenoble, France, July 3-7, 2023

Jablonowski, C., O. Hughes, G. Limon (2023), **Causes and Effects of Dissipation in Dynamical Cores**, PDEs on the Sphere Workshop, Grenoble, France, July 3-7, 2023

Hughes, O., C. Jablonowski, O. Guba, and M. Taylor (2023), **A Prototype Deep-Atmosphere Configuration of HOMME: Design and First Results**, E3SM All-Hands Meeting, Denver, CO, USA, June 26-28, 2023

Hughes, O., C. Jablonowski, O. Guba, and M. Taylor (2023), **A conservative deep-atmosphere**

configuration for the HOMME dynamical core, CESM Workshop 2023, Boulder, CO, USA, June 12-14, 2023

Hollowed, J., C. Jablonowski, T. Ehrmann, D. Bull, B. Wagman, and B. Hillman (2023), **Simulating the Climate Forcing of Volcanic Aerosols with a Simplified Interactive Model**, CESM Workshop 2023, Boulder, CO, USA, June 12-14, 2023

Limon, G., and C. Jablonowski (2023), **Limitations of Machine Learning Approaches for Emulating Simplified Physical Parameterizations in CAM6**, CESM Workshop 2023, Boulder, CO, USA, June 12-14, 2023

Jablonowski, C., L. Nguyen, D. Kinnison, and the CLDERA project team (2023), **Characteristics of the stratospheric tropical circulation in DoE's Energy Exascale Earth System Model E3SMv2**, CESM Workshop 2023, Boulder, CO, USA, June 12-14, 2023

Jablonowski, C., G. Danabasoglu, P. Lauritzen, B. Medeiros, T. Hauser, F. Judt, P. Chang, R. Saravanan (2023), **Modeling Across Scales: A Vision for CESM,** CESM Workshop 2023, Boulder, CO, USA, June 15, 2023

Jablonowski, C., G. Danabasoglu, P. Lauritzen, B. Medeiros, T. Hauser, F. Judt, P. Chang, R. Saravanan, **Modeling Across Scales: A Vision for CESM,** Workshop on Future Storm-Resolving Configurations of CESM, Colorado State University, May 16-17, 2023

Hollowed, J. and C. Jablonowski (2023), **A Simple Model of Volcanic Aerosol Forcing Against an Idealized Climatological Background in Support of the DOE CLDERA Project**, European Geosciences Union (EGU) 2023, Abstract EGU23-1720, Vienna, Austria, 23-28, April 23-28, 2023

Lojko, A., A. C. Winters, C. Jablonowski, and A. E. Payne (2023), **The Role of North American Convective Storms on Jet Stream Dynamics: A Negative Potential Vorticity Perspective**, European Geosciences Union (EGU) 2023, Abstract EGU23-3912, Vienna, Austria, April 23-28, 2023

Jablonowski, C., L. Nguyen, J.-C. Golaz, N. Rosenbloom, and G. A. Meehl (2023), **Characteristics of the Stratospheric Tropical Circulation of the Energy Exascale Earth System Model E3SMv2**, European Geosciences Union (EGU) 2023, Abstract EGU23-15173, Vienna, Austria, April 23-28, 2023

Jablonowski, C. (2023), **Computational Frontiers in Weather and Climate Modeling,** University of Michigan MICDE Symposium, Ann Arbor, March 25, 2023

Jablonowski, C. (2023), **Numerical Characteristics of the FV3 Dynamical Core and its Physics-Dynamics Coupling**, UFS SRW/CAM Application Team Meeting, virtual, March 29, 2023

Jablonowski, C. (2023), **Numerical Characteristics of the FV3 Dynamical Core and its Physics-Dynamics Coupling**, UFSR2O Physics-Dynamics Working Group, virtual, March 9, 2023

Jablonowski, C., D. Wright, A. Fujisaki-Manome, B. Mroczka, D. Titze, G. Mann, E. Anderson, and the NOAA GSL & EMC team (2023), **Advancing the UFS/RRFS Lake-Effect Snowfall Predictions via the Coupled Lake Model FVCOM**, NOAA Winter Weather Experiment (WWE) seminar, virtual, Feb. 28, 2023

Jablonowski, C. (2023), **The NAS Digital Twins Workshop – Summary for the CESM CAB Meeting**, CESM Advisory Board Meeting, National Science Foundation, virtual, Feb. 22, 2023

Jablonowski, C. (2023), **Digital Twins: Building Bridges between the Real World and Model World – Current Current Methods and Practices**, NASEM Workshop on Digital Twins in Atmospheric, Climate, and Sustainability Science, panel discussion, virtual, Feb. 1, 2023

Jablonowski, C., D. M. Wright, A. Fujisaki-Manome, B. Mroczka, P. Chu, G. Mann, E. J. Anderson, and D. Titze (2023), **Coupling of Community Models to Advance Lake-Effect Snowfall Predictions: The Lake Model FVCOM and the UFS Short-Range Weather Application**, American Meteorological Society (AMS) 103rd Annual Meeting, Denver, CO, USA, Jan. 9-12, 2023

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2022

Hollowed, J., C. Jablonowski, and CLDERA Project Team (2022), **A Simple Model of Volcanic Aerosol Forcing Against an Idealized Climatological Background in Support of the Sandia Labs CLDERA Project**, American Geophysical Union (AGU) Fall Meeting 2022, Abstract A13C-01, Chicago, IL, USA, Dec. 12-16, 2022

Lojko, A. C. Jablonowski, A. E. Payne, and A. C. Winters (2022), **The Role of Severe Thunderstorm Jetstreaks over North America on the Intensification of Atmospheric Rivers in the Euro-Atlantic**, American Geophysical Union (AGU) Fall Meeting 2022, Abstract A45O-2065, Chicago, IL, USA, Dec. 12-16, 2022

Lauritzen, P. H., H., N. Kevlahan, T. Toniazzo, C. Eldred, T. Dubos, A. Gassmann, V. E. Larson, C. Jablonowski, O. Guba, B. Shipway, B. E. Harrop, F. Lemarie, R. Tailleux, A. R. Herrington, W. G. Large, P. J. Rasch, A. S. Donahue, H. Wan, and A. J. Conley (2022), **Reconciling and improving formulations for thermodynamics and conservation principles in Earth System Models (ESMs),** American Geophysical Union (AGU) Fall Meeting 2022, Abstract A35O-1664, Chicago, IL, USA, Dec. 12-16, 2022

Wicker, L., C. Alexander, J. Carley, and C. Jablonowski (2022), **Lowering the "Cost of Entry" to using the UFS**, Unifying Innovations in Forecasting Capabilities Workshop, College Park, MD, USA, July 18-22, 2022

Jablonowski, C. (2022), **UFS: A Perspective from Academia**, Unifying Innovations in Forecasting Capabilities Workshop, College Park, MD, USA, July 18-22, 2022

Wright, D., C. Jablonowski, A. Fujisaki-Manome, L. Gilbert, P. Chu, G. Mann, E. Anderson, B. Mroczka, B. Lofgren, C. Alexander, and S. Benjamin (2022), **Evaluating the Impacts of Hourly Updating Lake Surface Conditions on the Lake-Effect Snow Forecasting Capabilities of the Unified Forecast System's Short-Range Weather Application**, Unifying Innovations in Forecasting Capabilities Workshop, College Park, MD, USA, July 18-22, 2022

Mroczka, B., Wright, D. M., C. Jablonowski, A. Fujisaki-Manome, G. Mann, E. J. Anderson, P. Chu, Gilbert, L., and B. Lofgren (2022), **Evaluating the Impacts of Rapidly Updating Lake Surface Conditions on the Lake-Effect Snow Forecasting Capabilities of NOAA's Unified Forecast System (UFS)**, International Workshop on Modeling the Oceans (IWMO), 12th Annual Meeting, Ann Arbor, MI, USA, June 28 - July 1, 2022

Jablonowski, C. and O. Hughes (2022**), Assessing the interaction between dissipation and physical processes in FV3-based GCMs via idealized test cases**, Workshop on Physics-Dynamics Coupling (PDC) in Weather & Climate Models, Princeton, NJ, USA, June 1-3, 2022

Wright, D. M., C. Jablonowski, A. Fujisaki-Manome, L. Gilbert, P. Chu, G. Mann, E. J. Anderson, B. Mroczka, B. Lofgren, C. Alexander, and S. Benjamin (2022), **Evaluating the Lake Effect Snow Forecast Capabilities of NOAA's Unified Forecast System (UFS)**, 28th Annual U.S./Canada Great Lakes Operational Meteorology Workshop (virtual), May 2-5, 2022

Jablonowski, C. (2022), **NOAA Modeling Board Community modeling: A weather and climate modeling perspective from academia**, NOAA Modeling Board, panel discussion, virtual, Feb. 16, 2022

Jablonowski, C., D. Wright, A. Fujisaki-Manome, L. Gilbert, P. Chu, B. Mroczka, G. Mann, E. Anderson, B. Lofgren, C. Alexander, and S. Benjamin (2022), **Improving Lake-Effect Snow Forecasting Capabilities via Advanced Coupling Techniques in NOAA's Unified Forecast System (UFS)**, NOAA Winter Weather Experiment (WWE) seminar, virtual, Feb. 15, 2022

Jablonowski, C. and O. Hughes (2022), **Numerical Characteristics of CAM's FV3 dynamical core**,

CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, virtual, Feb. 7-10, 2022

Hughes, O. and C. Jablonowski (2022**), Numerical Characteristics of CAM's SE dynamical core**, CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, virtual, Feb. 7-10, 2022

Wright, D. M., C. Jablonowski, A. Fujisaki-Manome, G. Mann, E. J. Anderson, P. Chu, and B. Lofgren (2022), **Addressing Limitations in Simulating Lake-Effect Snowfall in the UFS-SRW over the Laurentian Great Lakes**, American Meteorological Society (AMS) 102nd Annual Meeting, Houston, TX, USA, Jan. 23-27, 2022

2021

Wright, D., C. Jablonowski, A. Fujisaki-Manome, G. Mann, E. Anderson, P. Chu, and B. Lofgren (2021), **Addressing Current Limitations in Simulating Lake-Effect Snowfall in Operational Numerical Weather Predictions**, American Geophysical Union (AGU) Fall Meeting, New Orleans, LA, USA, Dec. 13-17, 2021

Jablonowski, C. (2021), Panel member for the session **'Earth Prediction Innovation Center (EPIC) Enterprise Participation in EPIC – Status & Next Steps: A Perspective from Academia'**, 2021 AMS Summer Community Meeting, virtual, September 21, 2021.

Limon, G. and C. Jablonowski (2021), **Neural Networks and Random Forests for Emulating Simplified Physical Processes in the Community Atmosphere Model**, 2021 CESM Workshop, Boulder, CO, USA, virtual, June 14-17, 2021

Jablonowski, C. (2021), **Insights into the Dissipation and Conservation Characteristics of the FV3 Dynamical Core**, NOAA UFS Coupled Global Modeling Seminar, virtual, June 11, 2021

Jablonowski, C. (2021), **Developing Dynamical Cores for Future Weather and Climate Models**, Seminar at the ETH Zuerich, Switzerland, virtual, May 31, 2021

Jablonowski, C. and O. Hughes (2021), **Insights into the Physical and Numerical Impact of Topographic Barriers on the Atmospheric Circulation**, PDEs on the Sphere Workshop, Frankfurt, Germany, virtual, May 17-21, 2021

Hughes, O. and C. Jablonowski (2021), **Extending the Dynamical Core Test Case Hierarchy: Moist Baroclinic Waves with Topography**, PDEs on the Sphere Workshop, Frankfurt, Germany, virtual, May 17-21, 2021

Jablonowski, C. and G. Limon (2021), **Can Physical Processes in Climate Models be Emulated via Machine Learning Approaches?**, Applied Physics Seminar, University of Michigan, virtual, Feb. 17, 2021

Jablonowski, C. and O. Hughes (2021), **Extending the Dynamical Core Test Case Hierarchy: Moist Baroclinic Waves with Topography**, CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, virtual, Feb. 8-12, 2021

Limon, G. and C. Jablonowski (2021), **Assessing Machine Learning Techniques as Emulators for Simple Physics in the Community Atmosphere Model**, CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, virtual, Feb. 8-12, 2021

Limon, G. and C. Jablonowski (2021), **A First Look at Coupling Machine Learning Emulators for Simple Physics Parameterizations in the Community Atmosphere Model**, American Meteorological Society (AMS) 101th Annual Meeting, USA, virtual conference, Jan. 10-14, 2021

Wright, D., C. Jablonowski, A. Fujisaki-Manome, P. Chu, B. Lofgren, G. Mann and E. Anderson (2021), **Using Model-Based Lake Surface Conditions in the Unified Forecasting System to Improve Lake-Effect Snowfall Forecasts Over the Laurentian Great Lakes Region**, American Meteorological Society (AMS)

101th Annual Meeting, USA, virtual conference, Jan. 10-14, 2021

2020

Limon, G. and C. Jablonowski (2020), **Exploring Various Machine Learning Techniques for Emulating Simplified Physical Parameterizations in the Community Atmosphere Model**, oral presentation at the 2nd NOAA Workshop on Leveraging AI in Environmental Sciences: Exploiting Space- and Ground-Based Observations and Enhancing Earth System Prediction, USA, virtual conference, Dec. 3, 2020

Limon, G. and C. Jablonowski (2020), **An Evaluation of Coupled Machine Learning Emulators for Physical Parameterizations in the Community Atmosphere Model**, poster presentation at the 2020 American Geophysical Union (AGU) Fall Meeting, USA, virtual conference, Dec. 1-17, 2020

Jablonowski, C. and G. Limon (2020), **Evaluating Machine Learning Approaches for Physical Parameterizations in a GCM Model Hierarchy**, invited oral presentation in the US CLIVAR Data Science Working Group Seminar Series, USA, virtual, Nov. 23, 2020

Jablonowski, C. and G. Limon (2020), **Assessing Machine Learning Approaches for Physical Parameterizations in Atmospheric General Circulation Models**, invited oral presentation at the ECMWF-ESA Workshop on Machine Learning for Earth System Observation and Prediction, Reading, U.K., virtual conference, Oct. 5-8, 2020

Wright, D., C. Jablonowski, A. Fujisaki-Manome, P. Chu, G. Mann, E. Anderson, B. Lofgren (2020), **Using an Asynchronous Coupled Atmosphere-Lake Modeling System to Improve Lake-Effect Snowfall Forecasts over the Laurentian Great Lakes Region**, oral presentation at the Unified Forecasting System (UFS) Users' Workshop, USA, virtual conference, July 27-29, 2020

Wright, D., C. Jablonowski, A. Fujisaki-Manome, P. Chu, G. Mann, E. Anderson, B. Lofgren (2020), **Using a Coupled FV3SAR–FVCOM Modeling System to Improve Lake-Effect Snowfall Forecasts**, oral presentation at the 63rd Annual Conference of the International Association for Great Lakes Research (IAGLR), Canada, virtual conference, June 9-11, 2020

Jablonowski, C. (2020), **Frontiers in Earth System Modeling: Where do we go from here?**, invited oral presentation at the AAAS (American Association for the Advancement of Science) Annual Meeting, Seattle, WA, USA, Feb. 13-16, 2020

Limon, G. and C. Jablonowski (2020), **Utilizing Machine Learning to Replace Physical Parameterization Schemes: How do Different Techniques Compare?**, oral presentation at the American Meteorological Society (AMS) 100th Annual Meeting, Boston, MA, USA, Jan. 12-16, 2020

Wright, D., C. Jablonowski, A. Fujisaki-Manome, P. Chu, B. Lofgren, G. Mann and E. Anderson (2020), **Using a Coupled FV3GFS-FVCOM Modeling System to Improve Lake-Effect Snowfall Forecasts**, poster presentation at the American Meteorological Society (AMS) 100th Annual Meeting, Boston, MA, USA, Jan. 12-16, 2020

2019

Limon, G. and C. Jablonowski (2019), **An Assessment of Machine Learning Techniques for Replicating Physical Forcing Mechanisms in Climate Models**, poster presentation at the 2019 American Geophysical Union (AGU) Fall Meeting, Abstract A41R-2898, San Francisco, CA, USA, Dec. 9-13, 2019, available in the online archive: Earth and Space Science Open Archive, doi: 10.1002/essoar.10501799.1

Jablonowski, C., J. O. Ferguson and H. Johansen (2019), **Adaptive and Variable-Resolution Meshes for Weather and Climate Models**, invited seminar at the Geophysical Fluid Dynamics Laboratory (GFDL), Princeton, NJ, USA, Sep. 26, 2019

Jablonowski, C. and G. Limon (2019), **Exploring Machine Learning Approaches for Physical Parameterizations,** poster presentation at the Workshop on Machine Learning for Weather and Climate

Modelling, Oxford, Great Britain, Sep. 2-5, 2019

Wright, D., P. Chu, C. Jablonowski, A. Fujisaki-Manome, B. Lofgren, G. Mann and E. Anderson (2019), **Improving Lake-Effect Snowfall Forecast through a Coupled FV3GFS-FVCOM Modeling System**, poster presentation at the International Association for Great Lakes Research (IAGLR) 2019 Conference on Great Lakes Research, Brockport, NY, USA, June 10-14, 2019

Jablonowski, C., J. O. Ferguson and H. Johansen (2019), **Evaluating 2D and 3D Adaptive Mesh Refinement (AMR) Techniques with Moisture Processes**, oral presentation at the Workshop on Partial Differential Equations on the Sphere, Montreal, Canada, April 29 – May 3, 2019

Jablonowski, C., J. Ferguson, H. Johansen and C. Zarzycki (2019), **Trends in Earth System Modeling and Emerging Data Science Opportunities**, invited seminar at the California Institute of Technology (Caltech), Pasadena, CA, USA, March 6, 2019

Jablonowski, C., I. Simpson, Peter Lauritzen, Brian Medeiros, Kevin Reed, Andrew Gettelman, Patrick Callaghan, Julio Bacmeister, John Truesdale, Cheryl Craig, Steve Goldhaber (2019), **Overview of the CESM2.0/CESM2.1 Simpler Model Framework**, oral presentation at the CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, February 19-21, 2019

2018

Jablonowski, C., J. Ferguson, H. Johansen, P. Colella (2018), **An Adaptive Mesh Refinement (AMR) Framework for Future Weather and Climate Models**, oral presentation at the 2018 American Geophysical Union (AGU) Fall Meeting, Abstract A32F-445487, Washington, D.C., USA, December 10-14, 2018

Payne, A., C. Jablonowski, C. Zarzycki, J. Olson (2018), **Mesoscale Convective Systems within Variable-resolution CESM**, 2018 American Geophysical Union (AGU) Fall Meeting, Abstract A54H-18, Washington, D.C., USA, December 10-14, 2018

Jablonowski, C., J. Ferguson, H. Johansen, P. Colella (2018), **An Adaptive Mesh Refinement (AMR) Framework for 2D Shallow Water and 3D Nonhydrostatic Dynamical Cores**, invited oral presentation at the SIAM Conference on Mathematics of Planet Earth (SIAG/MPE), Philadelphia, PA, USA, September 13-15, 2018

Jablonowski, C., P. A. Ullrich, C. M. Zarzycki, K. A. Reed, J. Kent, P. H. Lauritzen and R. Nair (2018), **Analyzing Physics-Dynamics Coupling in an Ensemble of Simplified GCMs**, oral presentation at the 3rd Workshop on Physics-Dynamics Coupling (PDC18), European Centre for Medium-Range Weather Forecasts (ECMWF), Reading, U.K., July 10-12, 2018

Payne, A., C. Jablonowski, C. Zarzycki, J. Olson (2018), Evaluation of a **Mesoscale Convective Systems in Variable-Resolution CESM**, oral presentation at the 23rd Annual CESM Workshop, Boulder, CO, USA, June 18-21, 2018

Jablonowski, C., J. Ferguson, H. Johansen, P. Colella, C. Zarzycki (2018), **Trends in Earth System Modeling and Emerging Data Science Opportunities**, oral presentation at IRSA Conference on Statistics and Data Science for Earth Systems, Institute for Research in Statistics and its Applications (IRSA), Minneapolis, MN, May 3-5, 2018

Jablonowski, C., J. Ferguson, H. Johansen, P. Colella (2018), **Dynamic Grid Adaptations in Moist 2D Shallow Water and 3D Nonhydrostatic Dynamical Cores**, poster presentation at the European Geosciences Union (EGU) General Assembly, Abstract EGU2018-11638, Vienna, Austria, April 8-13, 2018

Jablonowski, C., P. A. Ullrich, C. M. Zarzycki, K. A. Reed, J. Kent, P. H. Lauritzen and R. Nair (2018), **Updated Results from the Dynamical Core Model Intercomparison Project (DCMIP-2016)**, oral presentation at the CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, February 12-14, 2018

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Payne, A. E. and C. Jablonowski (2018), **Evaluation of a Mesoscale Convective System in Variable-Resolution CESM**, 98th AMS Annual Meeting and 32nd Conference on Hydrology, Austin, TX, USA, January 7-11, 2018

2017

Ferguson, J., C. Jablonowski, H. Johansen, P. McCorquodale, P. A. Ullrich, W. Langhans and W. Collins (2017), **Capturing Multiscale Phenomena via Adaptive Mesh Refinement (AMR) in 2D and 3D Atmospheric Flows**, poster presentation at the 2017 American Geophysical Union (AGU) Fall Meeting, Abstract A31J-2321, New Orleans, LA, USA, December 11-15, 2017

Payne, A. E. and C. Jablonowski (2017), **Evaluation of a Mesoscale Convective System in Variable-Resolution CESM**, oral presentation at the 2017 American Geophysical Union (AGU) Fall Meeting, Abstract A12C-03, New Orleans, LA, USA, December 11-15, 2017

Jablonowski, C., J. Ferguson, H. Johansen, P. Colella and W. Collins (2017), **Bridging Scales in Weather and Climate Models with Adaptive Mesh Refinement Techniques**, invited keynote presentation at the SIAM Conference on Mathematical and Computational Issues in the Geosciences, Erlangen, Germany, September 11-14, 2017

Johansen, H., W. Collins, J. Ferguson and C. Jablonowski (2017), **Implications of 3D refinement in non-hydrostatic atmospheric flows**, oral presentation at the International Conference on Scientific Computation And Differential Equations (SciCADE), Bath, U.K., September 11-15, 2017

Payne, A. E. and C. Jablonowski (2017), **Evaluation of Convection Parameterizations in Variable-Resolution CESM over the Southern Great Plains"**, 17th AMS Conference on Mesoscale Processes, San Diego, CA, USA, July 24-27, 2017

Payne, A. and C. Jablonowski (2017), **Evaluation of Convection Parameterizations in Variable-Resolution CESM over the Southern Great Plains**, poster presentation at the 21st AMS Conference on Atmospheric and Oceanic Fluid Dynamics, Portland, OR, USA, June 26-30, 2017

Jablonowski, C. and W. Yao (2017), **An Analysis of Sudden Stratospheric Warmings and QBO-like Oscillations in Idealized General Circulation Models**, oral presentation at the 19th AMS Conference on the Middle Atmosphere, Portland, OR, USA, June 26-30, 2017

Payne, A., C. Jablonowski, J. Olson and C. Zarzycki (2017), **Evaluation of Convection Parameterizations in Variable-Resolution CESM over the Southern Great Plains**, poster presentation at the 22nd Annual CESM Workshop, Boulder, CO, USA, June 19-22, 2017

Collins, W., H. Johansen, C. Jablonowski and J. Ferguson (2017), **Demonstration of nonhydrostatic adaptive mesh dynamics for multiscale climate models**, 7th International Workshop on Advances in High-Performance Computational Earth Sciences (IHPCES), Zuerich, Switzerland, June 12-14, 2017

Jablonowski, C., P. A. Ullrich, K. A. Reed, C. M. Zarzycki, J. Kent, P. H. Lauritzen and R. Nair (2017), **Highlights from the 2016 Dynamical Core Model Intercomparison Project (DCMIP-2016)**, poster presentation at the European Geosciences Union (EGU) General Assembly, Abstract EGU2017-19539, Vienna, Austria, April 24-28, 2017

Ferguson, J., C. Jablonowski, H. Johansen, P. McCorquodale, P. Colella, W. Langhans, P. Ullrich (2017), **Adaptive Mesh Refinement in 2D forced shallow-water and idealized 3D simulation**, poster presentation at the University of Michigan 2017 MICDE Symposium on 'The New Era of Data-Enabled Computational Science', Ann Arbor, MI, USA, April 18, 2017

Jablonowski, C., K. A. Reed, P. A. Ullrich, C. M. Zarzycki, J. Kent, P. H. Lauritzen and R. Nair (2017), **DCMIP-2016: Overview and Results of the Moist Baroclinic Wave Test Case**, oral presentation at the Workshop on Partial Differential Equations on the Sphere, Paris, France, April 3-7, 2017

Reed, K. A., C. Jablonowski, P. A. Ullrich, C. M. Zarzycki, J. Kent, P. H. Lauritzen and R. Nair (2017), **DCMIP-2016: Overview and Results of the Tropical Cyclone and Supercell Test Cases**, oral presentation at the Workshop on Partial Differential Equations on the Sphere, Paris, France, April 3-7, 2017

Johansen, H., J. Ferguson, P. A. Ullrich, C. Jablonowski, P. McCorquodale and C. Jablonowski (2017), **CAMR: An adaptive non-hydrostatic dynamical core for tracking atmospheric features**, oral presentation at the Workshop on Partial Differential Equations on the Sphere, Paris, France, April 3-7, 2017

Ferguson, J., C. Jablonowski, H. Johansen, P. McCorquodale and P. A. Ullrich (2017), **Evaluating adaptive mesh refinement in 2D and 3D idealized atmosphere experiments**, oral presentation at the Workshop on Partial Differential Equations on the Sphere, Paris, France, April 3-7, 2017

Jablonowski, C., J. Ferguson, H. Johansen, P. McCorquodale and P. Colella (2017), **Bridging Scales in Weather and Climate Models with Adaptive Mesh Refinement Techniques**, Invited seminar at the University of Toronto, Canada, March 20, 2017

Jablonowski, C., P. A. Ullrich, C. M. Zarzycki, K. A. Reed, J. Kent, P. H. Lauritzen and R. Nair (2017), **Lessons learned from the Dynamical Core Model Intercomparison Project (DCMIP-2016)**, oral presentation at the CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, February 27 – March, 1, 2017

2016

Ferguson, J., C. Jablonowski, H. Johansen, E. Goodfriend, P. McCorquodale (2016), **Bridging Scales with a High-Order Adaptive Mesh Refinement Dynamical Core**, oral presentation at the 2016 American Geophysical Union (AGU) Fall Meeting, Abstract A34A-06, San Francisco, CA, USA, December 12-16, 2016

Jablonowski, C., C. M. Zarzycki, K. A. Reed, P. A. Ullrich, J. Kent, P. H. Lauritzen and R. D. Nair (2016), **The Dynamical Core Model Intercomparison Project (DCMIP-2016): Results of the Moist Baroclinic Wave Test Case**, poster presentation at the 2016 American Geophysical Union (AGU) Fall Meeting, Abstract A31A-0001, San Francisco, CA, USA, December 12-16, 2016

Reed, K. A., C. Jablonowski, C. M. Zarzycki, P. A. Ullrich, J. Kent, P. H. Lauritzen and R. D. Nair (2016), **The Dynamical Core Model Intercomparison Project (DCMIP-2016): Results of the Tropical Cyclone Test Case**, poster presentation at the 2016 American Geophysical Union (AGU) Fall Meeting, Abstract A31A-0002, San Francisco, CA, USA, December 12-16, 2016

Zarzycki, C. M., K. A. Reed, C. Jablonowski, P. A. Ullrich, J. Kent, P. H. Lauritzen and R. D. Nair (2016), **The Dynamical Core Model Intercomparison Project (DCMIP-2016): Results of the Supercell Test Case**, poster presentation at the 2016 American Geophysical Union (AGU) Fall Meeting, Abstract A31A-0003, San Francisco, CA, USA, December 12-16, 2016

Jablonowski, C., J. Ferguson, H. Johansen, P. McCorquodale, P. Colella, P. A. Ullrich, C. Zarzycki, **High-Resolution Climate Modeling via Variable-Resolution Approaches**, invited oral presentation at the PRIMAVERA Team Meeting, 2nd General Assembly, KNMI, De Bilt, Netherlands, Nov/29-Dec/1, 2016

Ferguson, J., C. Jablonowski, H. Johansen, P. McCorquodale and P. A. Ullrich (2016), **Bridging Scales Using High-Order Adaptive Mesh Refinement for Idealized Simulations in a Global Atmospheric Model**, UM College of Engineering, poster presentation at the Engineering Graduate Symposium, Ann Arbor, November 11, 2016

Jablonowski, C. and W. Yao (2016), **In-depth Assessments of Dynamical Phenomena via an Ensemble of Idealized Dynamical Cores**, poster presentation at the Modeling Hierarchies Workshop, Princeton, NJ, November 2-4, 2016

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Jablonowski, C., J. Ferguson, H. Johansen and P. Colella (2016), **Transforming Climate Modeling via Scale-Adaptive Computational Techniques**, oral presentation at the Advances in Mathematical and Computational Climate Modeling (AXICCS) Workshop, Rockville, MD, September 12-13, 2016

Jablonowski, C., P. A. Ullrich, C. M. Zarzycki, K. A. Reed, J. Kent, P. H. Lauritzen and R. Nair (2016), **The Dynamical Core Model Intercomparison Project DCMIP-2016,** oral presentation at the 21st Annual CESM Workshop, Breckenridge, CO, USA, June 20-23, 2016

Collins, W., H. Johansen, T. O'Brien, E. Goodfriend, J. N. Johnson, N. Keen, J. Ferguson and C. Jablonowski (2016), **Nonhydrostatic adaptive mesh dynamics for multiscale climate models**, poster presentation at the 21st Annual CESM Workshop, Breckenridge, CO, USA, June 20-23, 2016

Jablonowski, C. (2016), **The components of a general circulation model**, tutorial presentation at the DCMIP-2016 summer school, National Center for Atmospheric Research, Boulder, CO, June 6, 2016

Jablonowski, C. and W. Yao (2016), **Understanding the Impact of GCM Dynamical Cores on Idealized QBO-like Oscillations and Sudden Stratospheric Warmings**, invited seminar at MIT, Cambridge, MA, May 2, 2016

Jablonowski, C., J. Ferguson, H. Johansen, P. McCorquodale, P. Colella, P. A. Ullrich, C. Zarzycki and M. Taylor (2016), **High-Order Adaptive Mesh Refinement (AMR) and Variable-Resolution Techniques for Weather and Climate Models**, invited keynote presentation at the 'Workshop on Multiscale Modeling and its Applications: From Weather and Climate Models to Models of Materials Defects', Fields Institute, Toronto, Canada, April 25-29, 2016

Reed, K. A., B. Medeiros, D. Chavas and C. Jablonowski (2016**), Continued efforts in reduced complexity modeling with CAM,** oral presentation at the CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, February 8-10, 2016

Tonazzio, T., P. H. Lauritzen and C. Jablonowski (2016**), Dissipation of angular momentum in CAM FV,** oral presentation at the CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, February 8-10, 2016

Jablonowski, C. and D. R. Thatcher (2016), **Moist idealized CAM assessments with simplified physics**, oral presentation at the CESM Atmosphere Model Working Group (AMWG) Meeting, Boulder, CO, USA, February 8-10, 2016

2015

Ferguson, J., C. Jablonowski, H. Johansen, P. McCorquodale and P. A. Ullrich (2015), **Using the Chombo Adaptive Mesh Refinement Model in Shallow Water Mode to Simulate Interactions of Tropical Cyclone-like Vortices**, poster presentation at the American Geophysical Union (AGU) Fall Meeting 2015, Abstract NG23A-1769, San Francisco, CA, USA, December 14-18, 2015

Thatcher, D. R., C. M. Zarzycki and C. Jablonowski (2015), **Extratropical Transition of Tropical Cyclones in the North Atlantic: Multi-Decadal Climatology and Phase Space Analysis using a Variable-Resolution GCM**, poster presentation at the American Geophysical Union (AGU) Fall Meeting 2015, Abstract A51P-0315, San Francisco, CA, USA, December 14-18, 2015

Thatcher, D., C. M. Zarzycki and C. Jablonowski (2015), **Modeling the multi-decadal climatology of the extratropical transition of tropical cyclones in the North Atlantic**, UM College of Engineering, poster presentation at the Engineering Graduate Symposium, Ann Arbor, Oct/30/2015

Jablonowski, C. and D. R. Thatcher (2015), **A Moist Aqua-Planet Variant of the Held-Suarez Test**, oral presentation at the Workshop on Partial Differential Equations on the Sphere, Seoul, South Korea, October 19-22, 2015

Ferguson, J., C. Jablonowski, H. Johansen, P. McCorquodale and P. A. Ullrich (2015), **Evaluating Adaptive**

Mesh Refinement in Shallow Water Simulations with the Chombo-AMR Model, oral presentation at the Workshop on Partial Differential Equations on the Sphere, Seoul, South Korea, October 19-22, 2015

Wan, H., P. J, Rasch, M. A. Taylor and C. Jablonowski (2015), **A Simple but Effective Method for Quantifying and Attributing Time-Stepping Errors in Climate Models**, SIAM Conference on Mathematical & Computational Issues in the Geosciences, Stanford, CA, USA, June 29 – July 2, 2015

Thatcher, D., C. Jablonowski and C. Zarzycki (2015), **Extra-tropical transition of tropical cyclones in variable-resolution in CAM5**, Oral presentation at the 20th Annual CESM Workshop, Breckenridge, CO, USA, June 15-18, 2015

Jablonowski, C., D. Thatcher, J. Ferguson, C. Zarzycki, A. Gettelman, J. Bacmeister, J. Richter, R. Neale, C. Hannay, P. Lauritzen, P. Callaghan, V. Larson, K. Reed, P. Ullrich, M. Wehner, M. Taylor (2015), **The Path Forward: High-Resolution Next-Generation CESM Simulations and Scale-Aware Physics**, Oral presentation at the 20th Annual CESM Workshop, Breckenridge, CO, USA, June 15-18, 2015

Ferguson, J., C. Jablonowski, H. Johansen, P. McCorquodale and P. Colella (2015), **Assessing Adaptive Grid Refinement Techniques with the Chombo-AMR Model in Shallow Water Model,** Poster Presentation at the 20th Annual CESM Workshop, Breckenridge, CO, USA, June 15-18, 2015

Jablonowski, C., J. Ferguson, H. Johansen, P. McCorquodale, P. A. Ullrich, P. Colella, C. Zarzycki and M. Taylor (2015), **High-Order Adaptive Mesh Refinement (AMR) and Variable-Resolution Techniques for Weather and Climate Models**, invited seminar at Notre Dame University, South Bend, IN, USA, April 16, 2015

Jablonowski, C., J. Ferguson, H. Johansen, P. McCorquodale, P. A. Ullrich, P. Colella, C. Zarzycki and M. Taylor (2015), **High-Order Adaptive Mesh Refinement (AMR) and Variable-Resolution Techniques for Atmospheric General Circulation Models**, invited seminar, Oak Ridge National Laboratory, April 8, 2015

Ferguson, J., C. Jablonowski, H, Johansen, P. McCorquodale and P. Colella (2015), **Assessing Adaptive Grid Refinement Techniques with the Chombo-AMR Model in Shallow Water Model,** Poster Presentation at the 2015 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI, USA, April 1, 2015

Jablonowski, C., J. Ferguson, H. Johansen, P. McCorquodale, P. A. Ullrich, P. Colella, C. Zarzycki and M. Taylor (2015), **High-Order Adaptive Mesh Refinement (AMR) and Variable-Resolution Techniques for Atmospheric General Circulation Models**, invited presentation at the Workshop on Galerkin Methods with Applications in Weather and Climate Forecasting, Edinburgh, United Kingdom, March 23-27, 2015

Jablonowski, C. and W. Yao (2015), **Understanding the Impact of GCM Dynamical Cores and Dissipation Mechanisms on Idealized QBO-like Oscillations**, oral presentation at the QBO Modelling and Reanalyses Workshop, Victoria BC, Canada, March 16-18, 2015

2014

Ferguson, J., C. Jablonowski, H. Johansen, R. E. English, P. McCorquodale, P. Colella, J. Benedict, W. D. Collins, J. Johnson and P. A. Ullrich, **Assessing Grid Refinement Strategies in the Chombo Adaptive Mesh Refinement Model**, oral presentation at the American Geophysical Union (AGU) Fall Meeting 2014, Abstract A13M-06, San Francisco, CA, USA, December 15-19, 2014

Zarzycki, C. M. and C. Jablonowski**, Improving Tropical Cyclone Track and Intensity in a Global Model with Local Mesh Refinement,** oral presentation at the American Geophysical Union (AGU) Fall Meeting 2014, Abstract A13R-06, San Francisco, CA, USA, December 15-19, 2014

Kent, J., C. Jablonowski and R. B. Rood**, Diagnosing Energy and Potential Enstrophy Transfers in Dynamical Cores of GCMs,** poster presentation at the American Geophysical Union (AGU) Fall Meeting 2014, Abstract A21B-3018, San Francisco, CA, USA, December 15-19, 2014

Thatcher, D. R., C. M. Zarzycki, J. Ferguson and C. Jablonowski**, Extratropical Transition Using 23 Years**

of Tropical Cyclones in a Variable-Resolution Global GCM, poster presentation at the American Geophysical Union (AGU) Fall Meeting 2014, Abstract A33L-3379, San Francisco, CA, USA, December 15-19, 2014

Bosler, P., R. Krasny and C. Jablonowski**, Adaptive Particle / Panel Methods for Global Geophysical Flow**, poster presentation at the American Geophysical Union (AGU) Fall Meeting 2014, Abstract A21A-3009, San Francisco, CA, USA, December 15-19, 2014

Zarzycki, C. M., C. Jablonowski and M. A. Taylor, **Recent application of variable-resolution CAM-SE to investigate extreme weather phenomena**, invited seminar presentation in the NCAR Climate and Global Dynamics Seminar Series, Boulder, CO, December 2014

Jablonowski, C. and D. R. Thatcher, **Physics-Dynamics Test Strategies: Bridging the Gap with Simplified Moist Test Cases,** oral presentation at the Physics-Dynamics Coupling Workshop (PDC14), Ensenada, Mexico, December 2-4, 2014

Johansen, H., E. Goodfriend, P. McCorquodale, P. Colella, W. Collins, J. Johnson, D. Rosa, J. Benedict, P. Ullrich, J. Ferguson, C. Jablonowski, **Progress towards a space-time adaptive non-hydrostatic dynamical core,** oral presentation at the Physics-Dynamics Coupling Workshop (PDC14), Ensenada, Mexico, December 2-4, 2014

Zarzycki, C. M., C. Jablonowski and M. A. Taylor, **Physics Scaling in Multi-Resolution CAM Simulations,** oral presentation at the Physics-Dynamics Coupling Workshop (PDC14), Ensenada, Mexico, December 2-4, 2014

Thatcher, D. R. and C. Jablonowski, **Intercomparison of numerical methods in climate simulations with idealized moisture parameterization,** poster presentation at the Michigan Institute for Computational Discovery and Engineering (MICDE) Fall 2014 Research Computing Symposium, Ann Arbor, MI, USA, November 6, 2014

Jablonowski, C., C. M. Zarzycki, J. O. Ferguson, M. A. Taylor, H. Johansen, W. D. Collins, R. E. English, P. McCorquodale, P. Colella and P. A. Ullrich, **Variable-resolution modeling with the Spectral Element Community Atmosphere Model (CAM-SE) and the Adaptive Mesh Refinement dynamical core AMR-Chombo**, invited talk at the joint 6th International Workshop on Global Cloud Resolving Modeling (GCRM) and 3rd International Workshop on Nonhydrostatic Numerical Models (NHM), Kobe, Japan, September, 24-26, 2014

Jablonowski, C. and C. M. Zarzycki, **Advancing the Frontiers of Tropical Cyclone Modeling with the Variable-Resolution General Circulation Model CAM-SE**, invited keynote presentation at the World Weather Open Science Conference (WWOSC) 2014, Montreal, Canada, August 16-21, 2014

Colella, P., H. Johansen, E. English, P. McCorquodale, P. Ullrich, W. Collins, J. Benedict, J. Johnson, C. Jablonowski, J. Ferguson, **Development of a Multiscale Global Climate Model with Adaptive Mesh Refinement**, poster presentation at the 2014 Scientific Discovery through Advanced Computing (SciDAC-3) Principal Investigator Meeting, Washington D.C., USA, July 30 - August 1, 2014

Zarzycki, C. M., C. Jablonowski, D. Thatcher and M. Taylor, **Evaluating the impact of localized grid refinement on global climatology in CAM**, oral presentation at the 19th Annual CESM Workshop, Breckenridge, CO, USA, June 16-19, 2014

Jablonowski, C., J. Ferguson, J. Benedict, W. Collins, E. English, H. Johansen, J. Johnson, P. McCorquodale, P. Colella, P. Ullrich, **The Chombo Adaptive Mesh Refinement (AMR) Technique for Future GCM Dynamical Cores,** poster presentation at the 19th Annual CESM Workshop, Breckenridge, CO, USA, June 16-19, 2014

Benedict, J., W. D. Collins, J. N. Johnson, H. Johansen, E. English, P. McCorquodale, C. Jablonowski, J. Ferguson, **Development of a multiscale global climate model with adaptive mesh refinement,** poster presentation at the 19th Annual CESM Workshop, Breckenridge, CO, USA, June 16-19, 2014

Yao, W., C. Jablonowski, J. Richter and J. Bacmeister, **The characteristics of the QBO and SSW with different GCM dynamical cores in idealized simulations**, poster presentation at the 19th Annual CESM Workshop, Breckenridge, CO, USA, June 16-19, 2014

Thatcher, D. R. and C. Jablonowski, **Dynamical core intercomparison using a moist variant of the Held-Suarez test case on CAM5**, poster presentation at the 19th Annual CESM Workshop, Breckenridge, CO, USA, June 16-19, 2014

Zarzycki, C. M., C. Jablonowski, M. A. Taylor and M. N. Levy, **Using idealized tests to diagnose the impact of physical parameterizations on atmospheric simulations**, poster presentation at the 19th Annual CESM Workshop, Breckenridge, CO, USA, June 16-19, 2014

Jablonowski, C., C. M. Zarzycki and M. A. Taylor, **Tropical Cyclone Modeling with the DoE/NCAR Variable-Resolution General Circulation Model CAM-SE**, oral presentation at the Department of Energy (DoE) Principal Investigator Meeting, Potomac, MD, USA, May 12-14, 2014

Jablonowski, C., R. B. Rood, J. Kent, D. R. Thatcher, W. Yao, C. M. Zarzycki, J. P. Whitehead, P. H. Lauritzen, K. A. Reed, R. D. Nair, P. A. Ullrich and M. A. Taylor, **Diagnosing and Improving the Characteristics of Atmospheric Model Dynamical Cores via Idealized Test Cases**, oral presentation at the Department of Energy (DoE) Principal Investigator Meeting, Potomac, MD, USA, May 12-14, 2014

Zarzycki, C. M., C. Jablonowski, M. A. Taylor and M. N. Levy, **Using idealized tests to diagnose the impact of physical parameterizations on atmospheric simulations**, poster presentation at the Department of Energy (DoE) Principal Investigator Meeting, Potomac, MD, USA, May 12-14, 2014

Jablonowski, C. and C. M. Zarzycki, **New Frontiers: Tropical Cyclone Modeling with NCAR's Variable-Resolution General Circulation Model CAM-SE**, invited oral presentation at the European Geosciences Union (EGU) General Assembly 2014, Vienna, Austria, April 27 - May 2, 2014

Jablonowski, C. and W. Yao, **Idealized Simulations of the Quasi-Biennial Oscillation and Sudden Stratospheric Warmings with an Ensemble of Dry GCM Dynamical Cores**, oral presentation at the European Geosciences Union (EGU) General Assembly 2014, Vienna, Austria, April 27 - May 2, 2014

Jablonowski, C. and D. Thatcher, **A Moist Variant of the Held-Suarez Test for the Assessment of Atmospheric Model Dynamical Cores**, poster presentation at the European Geosciences Union (EGU) General Assembly 2014, Vienna, Austria, April 27 - May 2, 2014

Kent, J., C. Jablonowski, J. Thuburn and N. Wood, **An Energy Backscatter Model For The Shallow Water Equations On The Sphere**, poster presentation at the European Geosciences Union (EGU) General Assembly 2014, Vienna, Austria, April 27 - May 2, 2014

Bosler, P., R. Krasny and C. Jablonowski, **Lagrangian particle methods for global atmospheric flow**, oral presentation at the 2014 Partial Differential Equations on the Sphere (PDEs on the Sphere) Workshop, Boulder, CO, USA, April 7-11, 2014

Ferguson, J., C. Jablonowski, H. Johansen, E. English, P. Ulrich, P. McCorquodale and P. Colella, **Assessments of the Chombo adaptive mesh refinement model in shallow water mode**, oral presentation at the 2014 Partial Differential Equations on the Sphere (PDEs on the Sphere) Workshop, Boulder, CO, USA, April 7-11, 2014

Zarzycki, C. M. and C. Jablonowski, **The impact of localized grid refinement on sub-grid parameterization in idealized climate experiments**, poster presentation at the 2014 Partial Differential Equations on the Sphere (PDEs on the Sphere) Workshop, Boulder, CO, USA, April 7-11, 2014

Reed, K. A., B. Medeiros, P. Lauritzen, J. Bacmeister and C. Jablonowski, **Idealized tropical cyclone experiments of varying complexity: a tool for model development**, poster presentation at the 2014 Partial Differential Equations on the Sphere (PDEs on the Sphere) Workshop, Boulder, CO, USA, April 7-11, 2014

Jablonowski, C., J. Kent, P. A. Ullrich, K. A. Reed, P. H. Lauritzen, R. D. Nair and M. A. Taylor, **Updates on the Dynamical Core Model Intercomparison Project (DCMIP)**, oral presentation at the 2014 Partial Differential Equations on the Sphere (PDEs on the Sphere) Workshop, Boulder, CO, USA, April 7-11, 2014

Yao, W. and C. Jablonowski, **A Stratospheric Perspective of a GCM Dynamical Core Intercomparison**, poster presentation at the 2014 Partial Differential Equations on the Sphere (PDEs on the Sphere) Workshop, Boulder, CO, USA, April 7-11, 2014

Thatcher, D. and C. Jablonowski, **A Moist Variant of the Held Suarez Test for-Atmospheric Model Dynamical Core Intercomparisons**, poster presentation at the 2014 Partial Differential Equations on the Sphere (PDEs on the Sphere) Workshop, Boulder, CO, USA, April 7-11, 2014

Jablonowski, C., C. M. Zarzycki, J. Ferguson, M. A. Taylor, H. Johansen and P. Colella, **Pushing the Frontiers of High-Resolution Climate Modeling**, invited presentation, Applied Physics Seminar, University of Michigan, Ann Arbor, MI, USA, April 2, 2014

Zarzycki, C. M. and C. Jablonowski, **Deterministic Forecasts of Tropical Cyclones Using a Variable-Resolution Global Model**, oral presentation at the 31st Conference on Hurricanes and Tropical Meteorology, San Diego, CA, USA, March 31 – April 4, 2014

Zarzycki, C. M., C. Jablonowski and D. Thatcher, **The impacts of high-resolution refinement in variable-resolution CAM-SE on regional climate in CESM**, Atmospheric Working Group Meeting (AMWG), National Center for Atmospheric Research, Boulder, CO, USA, February 10-12, 2014

Yao, W. and C. Jablonowski, **Idealized Simulations of Sudden Stratospheric Warmings with an Ensemble of Dry GCM Dynamical Cores**, poster presentation at the SPARC General Assembly 2014, Queenstown, New Zealand, January 12-17, 2014

Jablonowski, C. and W. Yao, **Spontaneous QBO-like Oscillations in Atmospheric Model Dynamical Cores**, poster presentation at the SPARC General Assembly 2014, Queenstown, New Zealand, January 12-17, 2014

2013

Zarzycki, C. M. and C. Jablonowski, **Evaluating the Impact of Localized GCM Grid Refinement on Regional Tropical Cyclone Climatology and Synoptic Variability using Variable-Resolution CAM-SE**, oral presentation at the American Geophysical Union (AGU) Fall Meeting 2013, Abstract A42D-01, San Francisco, CA, USA, December 9-13, 2013

Thatcher, D., C. Jablonowski and C. Zarzycki (2013), **A Moist Idealized Test Case for Atmospheric General Circulation Models**, poster presentation at the American Geophysical Union (AGU) Fall Meeting 2013, Abstract A33B-0202, San Francisco, CA, USA, December 9-13, 2013

Reed, K. A., C. Jablonowski, P. A. Ullrich, J. Kent, P. H. Lauritzen, M. A. Taylor and R. Nair, **Multi-model GCM ensemble simulations of idealized tropical cyclones**, poster presentation at the American Geophysical Union (AGU) Fall Meeting 2013, Abstract A33B-0219, San Francisco, CA, USA, December 9-13, 2013

Yao, W. and C. Jablonowski, **Idealized Simulations of Sudden Stratospheric Warmings with an Ensemble of Dry GCM Dynamical Cores**, poster presentation at the American Geophysical Union (AGU) Fall Meeting 2013, Abstract SA23A-2048, San Francisco, CA, USA, December 9-13, 2013

Jablonowski, C., C. Zarzycki, M. A. Taylor, H. Johansen and Phillip Colella, **Pushing the frontiers of high-**

resolution climate modeling, invited Keynote talk at the University of Michigan CyberInfrastructure (CI) Days, Ann Arbor, MI, USA, Nov 13-14, 2013

Yao, W. and C. Jablonowski, **The influence of moisture and gravity wave drag in idealized simulations of Quasi-Biennial Oscillation**, poster presentation, UM College of Engineering Graduate Symposium (EGS), Ann Arbor, MI, USA, Nov. 15, 2013

Thatcher, D. and C. Jablonowski, **Comparison of a moist idealized test case and aquaplanet simulations in an atmospheric general circulation model**, poster presentation, UM College of Engineering Graduate Symposium (EGS), Ann Arbor, MI, USA, Nov. 15, 2013

Jablonowski, C., **A Seamless World: Challenges and Opportunities**, invited talk at the High-Performance Computational Science with Structured Meshes and Particles (HPCS-SMP) Workshop on Simulation and Modeling in Climate, Berkeley, CA, USA, Oct. 14-16, 2013

Yao, W. and C. Jablonowski, **The characteristics of the QBO and SSW with different GCM dynamical cores in idealized simulations**, oral presentation at the 19th AMS Conference on Atmospheric and Oceanic Fluid Dynamics and the 17th AMS Conference on the Middle Atmosphere, Newport, RI, USA, June 16-21, 2013

Kent, J., J. P. Whitehead, C. Jablonowski and R. B. Rood, **Methods to Determine the Effective Resolution of Dynamical Cores**, oral presentation at the 2013 SIAM Conference on Mathematical & Computational Issues in the Geosciences, Padova, Italy, June 17-20, 2013

Jablonowski, C., K. A. Reed and C. M. Zarzycki, **Uncertainty in tropical cyclone simulations in multi-model GCM ensembles**, invited oral presentation at the 4th International Summit on Hurricanes and Climate Change, Kos, Greece, June 13-18, 2013

Zarzycki, C. M. and C. Jablonowski, **High-resolution tropical cyclone climate simulations in NCAR's variable-resolution general circulation model CAM-SE,** poster presentation at the 4th International Summit on Hurricanes and Climate Change, Kos, Greece, June 13-18, 2013

Jablonowski, C., C. M. Zarzycki and M. A. Taylor, **New Frontiers: Tropical Cyclone Modeling with NCAR's Variable-Resolution General Circulation Model CAM-SE**, ZMAW (Zentrum für Marine und Atmosphärische Wissenschaften)/KlimaCampus Seminar, Hamburg, Germany, June 11, 2013

Zarzycki, C. M. and C. Jablonowski, **High-resolution, multi-decadal tropical cyclone simulations using a variable-resolution general circulation model**, oral presentation at the U.S. CLIVAR Hurricane Workshop, Geophysical Fluid Dynamics Laboratory, Princeton, NJ, USA, June 5-7, 2013

Jablonowski, C., **Uncertainty in Weather and Climate Models: A Dynamical Core Perspective**, invited oral presentation at the Workshop on Stochastic Modelling and Computing for Weather and Climate Prediction, Oriel College, Oxford, U.K., March 18-21, 2013

Zarzycki, C. M. and C. Jablonowski, **Utilizing Grid Refinement in the Cubed-sphere Spectral Element Option of CAM to Model Tropical Cyclones, oral** presentation at the minisymposium **'**Cubed-Sphere Grids for Planet Earth and Beyond' at the 2013 SIAM Conference on Computational Science and Engineering, Boston, MA, USA, February 25- March 1, 2013

Jablonowski, C., P. A. Ullrich, J. Kent, K. A. Reed, M. A. Taylor, P. H. Lauritzen and R. D. Nair, **Status of the Dynamical Core Model Intercomparison Project (DCMIP),** invited oral presentation at the 2nd IS-ENES Workshop on HPC for Climate Models, Toulouse, France, January 30 – February 1, 2013

Zarzycki, C. M., C. Jablonowski and M. A. Taylor, **Assessing the Ability of Variable-Resolution Global Models to Forecast Tropical Cyclones**, oral presentation at the Special Symposium on Advancing Weather and Climate Forecasts: Innovative Techniques and Applications, 93rd Annual American Meteorological Society Meeting, Austin, TX, USA, January 6-10, 2013

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2012

Zarzycki, C. M., C. Jablonowski and M. A. Taylor, **Using the Variable-Resolution General Circulation Model CAM-SE to Simulate Regional Tropical Cyclone Climatology**, oral presentation at the AGU Fall Meeting 2012, abstract A31L-05, San Francisco, CA, USA, December 3-7, 2012

Yao, W. and C. Jablonowski, **The influence of Convection and Gravity Wave Drag Parameterizations in Idealized Simulations of the Quasi-Biennial Oscillation With Different GCM Dynamical Cores**, oral presentation at the AGU Fall Meeting 2012, abstract A13Q-08, San Francisco, CA, USA, December 3-7, 2012

Kent, J., C. Jablonowski, J. Whitehead and R. B. Rood, **Methods to Determine the Effective Resolution of Dynamical Cores of GCMs**, oral presentation at the AGU Fall Meeting 2012, abstract A52B-01, San Francisco, CA, USA, December 3-7, 2012

Ullrich, P. A., C. Jablonowski, J. Kent, K. A. Reed, M. A. Taylor, P. H. Lauritzen and R. D. Nair. **Towards a Unified Test Case Suite for Global Atmospheric Models**, poster presentation at the AGU Fall Meeting 2012, abstract A53C-0159, San Francisco, CA, USA, December 3-7, 2012

Jablonowski, C., P. A. Ullrich, J. Kent, K. A. Reed, M. A. Taylor, P. H. Lauritzen and R. D. Nair, **The 2012 Dynamical Core Model Intercomparison Project (DCMIP)**, poster presentation at the AGU Fall Meeting 2012, abstract A53C-0160, San Francisco, CA, USA, December 3-7, 2012

Murphy S., C, DeLuca, L. Cinquini, I. Overeem, P. N. Edwards, C, Jablonowski, R, B. Rood and V. Balaji, **The Earth System CoG Collaboration Environment: Connecting Resources in the Earth Sciences**, poster presentation at the AGU Fall Meeting 2012, abstract IN51A-1683, San Francisco, CA, USA, December 3-7, 2012

Zarzycki, C. M. and C. Jablonowski, **Improving weather prediction and regional climate modeling through the use of variable-resolution global atmospheric models**, poster presentation at the UM 2012 CoE Graduate Engineering Symposium, Ann Arbor, MI, USA, November 2, 2012

Zarzycki, C. M., C. Jablonowski and M. A. Taylor, **Evaluating Variable-Resolution CAM-SE with High-Resolution Forecast Simulations**, Workshop on Weather and Climate Prediction on Next Generation Supercomputers: Numerical and Computational Aspects, U.K. Met Office, Exeter, U.K., October 22-25, 2012

Whitehead, J., C. Jablonowski, J. Kent and R. B. Rood, **Potential Vorticity: A Diagnostic Tool for General Circulation Models**, oral presentation at the Workshop on the Solution of Partial Differential Equations on the Sphere, Cambridge, U.K., September 24-28, 2012

Bosler, P. A., C. Jablonowski and R. Krasny, **Particle Methods for Geophysical Flow on the Sphere**, oral presentation at the Workshop on the Solution of Partial Differential Equations on the Sphere, Cambridge, U.K., September 24-28, 2012

Kent, J., C. Jablonowski and P. A. Ullrich, **DCMIP 2012: Tracer Transport Tests in Dynamical Cores**, oral presentation at the Workshop on the Solution of Partial Differential Equations on the Sphere, Cambridge, U.K., September 24-28, 2012

Zarzycki, C. M., C. Jablonowski and M. A. Taylor, **Improving Tropical Cyclone Representation in General Circulation Models through the Use of Variable Resolution**, oral presentation at the Workshop on the Solution of Partial Differential Equations on the Sphere, Cambridge, U.K., September 24-28, 2012

Jablonowski, C., P. A. Ullrich, J. Kent, K. A. Reed, M. A. Taylor, P. H. Lauritzen and R. D. Nair, **Highlights of the Dynamical Core Model Intercomparison Project (DCMIP)**, oral presentation at the Workshop on the Solution of Partial Differential Equations on the Sphere, Cambridge, U.K., September 24-28, 2012

Jablonowski, C., **Model Evaluations I: How to think about and what to expect from dynamical core and GCM tests,** Tutorial presentation at the Dynamical Core Model Intercomparison Project (DCMIP) Summer

School on Future-Generation Non-Hydrostatic Weather and Climate Models, National Center for Atmospheric Research, Boulder, CO. USA, July 30 - August 10, 2012

Jablonowski, C., **Model tuning II: Review of possible filtering operations and diffusive mechanisms in dynamical cores,** Tutorial presentation at the Dynamical Core Model Intercomparison Project (DCMIP) Summer School on Future-Generation Non-Hydrostatic Weather and Climate Models, National Center for Atmospheric Research, Boulder, CO. USA, July 30 - August 10, 2012

Bosler, P. A., R. Krasny and C. Jablonowski, **Particle Methods for Geophysical Flow on the Sphere**, poster presentation at the 2012 SIAM Annual Meeting, Minneapolis, MN, USA, July 9-13, 2012

Zarzycki, C. M., C. Jablonowski, M. A. Taylor and M. N. Levy, **Tropical Cyclone Modeling Using CAM-SE's Variable Resolution Option**, poster presentation at the 17th Annual CESM Workshop, Breckenridge, CO, USA, June 18-21, 2012

Reed, K. A., M. F. Wehner, C. Jablonowski and F. Li, **Tropical cyclone climatology in High Resolution CAM**, oral presentation at the 17th Annual CESM Workshop, Breckenridge, CO, USA, June 18-21, 2012

Lauritzen, P. H., W. C. Skamarock, M. J. Prather, M. A. Taylor and C Jablonowski, **Assessing accuracy of transport schemes in global climate-weather models**, poster presentation at the EGU General Assembly 2012, Vienna, Austria, April 22-27, 2012

Reed, K. A., M. F. Wehner and C. Jablonowski, **Towards the Direct Simulation of Tropical Cyclones in the High-Resolution Community Atmosphere Model**, oral presentation at the EGU General Assembly 2012, Vienna, Austria, April 22-27, 2012

Jablonowski, C and K. A. Reed, **Structural Uncertainty of Tropical Cyclone Simulations in General Circulation Models**, oral presentation at the 30th AMS Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, FL, USA, April 15-20, 2012

Zarzycki, C. and C. Jablonowski, **Using variable resolution meshes to model tropical cyclones in NCAR's CAM general circulation model**, oral presentation at the 30th AMS Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, FL, USA, April 15-20, 2012

Reed, K. A., M. F. Wehner and C. Jablonowski, **Tropical Cyclone Characteristics in the High-Resolution Community Atmosphere Model**, oral presentation at the 30th AMS Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, FL, USA, April 15-20, 2012

Reed, K. A., C. Jablonowski and M. F. Wehner, **Tropical Cyclone Structure in the High-Resolution Community Atmosphere Model**, oral presentation at the 1st U.S. CLIVAR Hurricane Working Group Workshop, New Orleans, LA, USA, January 27-28, 2012.

Reed, K. A. and C. Jablonowski, **Evaluating the impact of the CAM 5 dynamical core in idealized tropical cyclone simulations**, oral presentation at the 92nd American Meteorological Society (AMS) Annual Meeting and 24th Conference on Climate Variability and Change, New Orleans, LA, USA, January 22-26, 2012

2011

Ullrich, P. A. and C. Jablonowski, **MCore: A High-Order Finite-Volume Dynamical Core for Atmospheric General Circulation Models**, oral presentation at the AGU Fall Meeting 2011, Abstract A41G-07, San Francisco, CA, USA, December 5-9, 2011

Reed, K. A. and C. Jablonowski, **Idealized Tropical Cyclone Simulations of Intermediate Complexity: A Test Case for AGCMs**, poster presentation at the AGU Fall Meeting 2011, Abstract GC11B-0921, San Francisco, CA, USA, December 5-9, 2011

Zarzycki, C. M. and C. Jablonowski, **Modeling Tropical Cyclones in NCAR's General Circulation Model with Variable-Resolution Meshes**, oral presentation at the AGU Fall Meeting 2011, Abstract A32D-05, San

Francisco, CA, USA, December 5-9, 2011

Yao, W. and C. Jablonowski, **Idealized Simulations of the Quasi-Biennial Oscillation with Different GCM Dynamical Cores: The Role of Parameterized Gravity Waves**, poster presentation at the AGU Fall Meeting 2011, Abstract A51A-0216, San Francisco, CA, USA, December 5-9, 2011

Fiorella, R. P., C J. Poulsen, C. Jablonowski and C. M. Bitz, **Resistance to Snowball Earth Initiation in the CAM3.1 Slab Ocean Model**, poster presentation at the AGU Fall Meeting 2011, Abstract PP13B-1835, San Francisco, CA, USA, December 5-9, 2011

Kent, J, J. Whitehead, C. Jablonowski and R. B. Rood, **Assessing the Accuracy of Tracer Transport Schemes in the Dynamical Cores of General Circulation Models**, poster presentation at the AGU Fall Meeting 2011, Abstract A51A-0225, San Francisco, CA, USA, December 5-9, 2011

Reed, K. A. and C. Jablonowski**, Towards the Simulation of Tropical Cyclones in High-Resolution GCMs:** Assessing Uncertainty, Poster presentation at the World Climate Research Programme (WCRP) Open Science Conference, Denver, CO, October 24-28, 2011

Whitehead, J., J. Kent, C. Jablonowski and R. B. Rood**, Evaluating the impact of dissipative subgrid-scale mixing processes in the dynamical cores of NCAR's Community Atmosphere Model**, Invited presentation at the Department of Energy's Climate and Earth System Modeling Program Team Meeting, Washington, D.C., USA, September 19-22, 2011

Reed, K. A. and C. Jablonowski**, Towards the Simulation of Tropical Cyclones in High-Resolution GCMs**, Invited presentation at the Workshop on Numerical Methods for Scale Interactions, Hamburg, Germany, September 21-23, 2011

Jablonowski, C., P. A. Ullrich and K. A. Reed, **High-Order Methods and Nonhydrostatic Designs on Quasi-Uniform and Variable-Resolution Grids: Tackling the Numerical Challenges for Future-Generation GCMs,** Invited presentation at the Global-to-Regional Climate Simulation Workshop, Santa Fe, NM, USA, August 3-5, 2011

Jablonowski, C. and P. A. Ullrich**, A High-Order Finite-Volume Scheme for the Dynamical Core of Weather and Climate Models,** Invited poster presentation at the Scientific Discovery through Advanced Computing Program (SciDAC) Conference**,** Denver, CO, USA, July 10-14, 2011

Reed, K. A. and C. Jablonowski**, Assessing the uncertainty of tropical cyclone simulations in GCMs**, Poster presentation at the 3rd International Summit on Hurricanes & Climate Change, Rhodes, Greece, June 27-July 2, 2011

Ullrich, P. A. and C. Jablonowski**, MCore: A High-Order Finite-Volume Dynamical Core,** Poster presentation at the 16th Annual CCSM Workshop, Breckenridge, CO, USA, June 20-23, 2011

Reed, K. A., C. Jablonowski and M.A. Taylor**, Evaluating the Potential of CAM HOMME to Simulate Idealized Tropical Cyclones**, Poster presentation at the 16th Annual CCSM Workshop, Breckenridge, CO, USA, June 20-23, 2011

Jablonowski, C., P. A. Ullrich and K. A. Reed, **Tackling the numerical challenges of future-generation climate models: High-order methods, nonhydrostatic designs, variable-resolution and cubed-sphere grids, and how to test models**, Invited presentation at the Institute for Mathematics and Its Applications (IMA), Workshop 'Societally Relevant Computing', Minneapolis, MN, USA, April 11-15, 2011

Jablonowski, C., P. A. Ullrich, **A High-Order Finite-Volume Scheme for the Dynamical Core of Weather and Climate Models**, Poster presentation at the Institute for Mathematics and Its Applications (IMA), Workshop 'Societally Relevant Computing', Minneapolis, MN, USA, April 11-15, 2011

Bosler, P. A., R. Krasny and C. Jablonowski, **A Lagrangian Particle Method for Scalar Transport on the Sphere**, oral presentation at the Workshop on Transport Schemes on the Sphere, National Center for

Atmospheric Research (NCAR), Boulder, CO, USA, March 30-31, 2011

Yao, W. and C. Jablonowski, **Assessing the Impact of Three Temperature Profiles on Idealized Simulations of the Quasi-Biennial Oscillation,** Poster Presentation at the 2011 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI, USA, March 25, 2011

Reed, K. A. and C. Jablonowski, **Evaluating the Uncertainty of Tropical Cyclone Simulations in General Circulation Models,** Poster Presentation at the 2011 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI, USA, March 25, 2011

Ullrich, P. A. and C. Jablonowski, **A Family of High-Order Finite-Volume Schemes for Simulating Atmospheric Flows**, SIAM Conference on Mathematical and Computational Issues in the Geosciences, Long Beach, CA, USA, March 21-24, 2011

Jablonowski, C. and P. A. Ullrich, **A High-Order Finite-Volume Technique for Nonhydrostatic Dynamical Cores on (Adaptive) Cubed-Sphere Grids**, Invited presentation at the NCAR/UKMO/NCAS Workshop on Next Generation Weather and Climate Models, Boulder, CO, USA, 7-9 March 2011

Reed, K. A. and C. Jablonowski, **Role of the convection parameterization in AGCM simulations of idealized tropical cyclones**, Poster presentation at the COST Water Vapor in the Climate System Winter School, Venice, Italy, February 6-12, 2011

Reed, K. A. and C. Jablonowski, **Evaluating the impact of the CAM 5 dynamical core in idealized tropical cyclone simulations**, Oral presentation at the AMS 91st Annual Meeting and 23rd Conference on Climate Variability and Change, Seattle, WA, USA, January 23-27, 2011

2010

Reed, K. A. and C. Jablonowski, **Assessing the Significance of Varying AGCM Physics Packages on Idealized Tropical Cyclone Simulations**, poster presentation at the AGU Fall Meeting 2010, Abstract A23A-0214, San Francisco, CA, USA, December 13-17, 2010

Ullrich, P. A. and C. Jablonowski, **A look at high-order Finite-Volume schemes for simulating atmospheric flows**, oral presentation at the AGU Fall Meeting 2010, Abstract A41G-07, San Francisco, CA, USA, December 13-17, 2010

Jablonowski, C. and K. A. Reed, **Idealized Tropical Cyclone Simulations of Intermediate Complexity: A Test Case for Atmospheric GCMs**, oral presentation at the AGU Fall Meeting 2010, Abstract A41G-06, San Francisco, CA, USA, December 13-17, 2010

Reed, K. A. and C. Jablonowski, **Evaluating the Impact of the CAM 5 Dynamical Core in Idealized Tropical Cyclone Simulations**, poster presentation at the UM 2010 CoE Graduate Engineering Symposium, Ann Arbor, MI, USA, November 12, 2010

Ullrich, P. A. and C. Jablonowski, **High-order finite-volume schemes for simulating atmospheric flows**, poster presentation at the UM 2010 CoE Graduate Engineering Symposium, Ann Arbor, MI, USA, November 12, 2010

Jablonowski, C., **The Pros and Cons of Diffusion, Filters and Fixers in Atmospheric General Circulation Models**, Invited seminar presentation at the Geoforschungszentrum (GFZ German Research Centre for Geosciences), Potsdam, Germany, August 30, 2010

Ullrich, P. A. and C. Jablonowski, **A look at high-order Finite-Volume schemes for simulating atmospheric flows**, Oral presentation at the Workshop on Partial Differential Equations on the Sphere, Potsdam, Germany, August 24-27, 2010

Jablonowski, C. and K. A. Reed, **Complementing the Hierarchy of GCM Test Cases: Idealized Tropical Cyclone Simulations of Intermediate Complexity**, Oral presentation at the Workshop on Partial Differential Equations on the Sphere, Potsdam, Germany, August 24-27, 2010

Whitehead, J., C. Jablonowski, R. B. Rood and P. H. Lauritzen, **A Stability Analysis of Divergence Damping on a Latitude-Longitude Grid**, Oral presentation at the Workshop on Partial Differential Equations on the Sphere, Potsdam, Germany, August 24-27, 2010

Jablonowski, C. and K. A. Reed, **Evaluating the Impact of the GCM Dynamical Core in Idealized Tropical Cyclone Simulations,** Oral presentation at the Workshop on High-Resolution Global Modeling, Fort Collins, CO, USA, June 15-17, 2010

Reed, K. A. and C. Jablonowski, **Idealized tropical cyclone experiments in High-Resolution AGCMs,** Poster presentation at the Workshop on High-Resolution Global Modeling, Fort Collins, CO, USA, June 15-17, 2010

Jablonowski, C., **The Design of Future-Generation Dynamical Cores and GCMs**, Invited presentation at the IPAM Culminating Workshop, Lake Arrowhead, CA, USA, June 7-11, 2010

Reed, K. A. and C. Jablonowski, **Idealized tropical cyclones in atmospheric general circulation models: sensitivity to convective parameterizations,** Oral presentation at 29th AMS Conference on Hurricanes and Tropical Meteorology, Tucson, USA, AZ, May 14, 2010

Jablonowski, C. and K. A. Reed, **Idealized Tropical Cyclones in Atmospheric General Circulation Models: The Impact of the Dynamical Core**, Poster Presentation at the 29th AMS Conference on Hurricanes and Tropical Meteorology, Tucson, USA, AZ, May 13, 2010

Jablonowski, C. and P. A. Ullrich, **An Analysis of Finite-Volume schemes: High-order Methods and Grid Reflections on Adaptive Grids,** Invited oral presentation at the NSF Institute for Pure and Applied Mathematics (IPAM), Workshop II: Numerical Hierarchies for Climate Modeling, Los Angeles, CA, USA, April 16, 2010

Ullrich, P. A. and C. Jablonowski, **High-Order Finite-Volume Methods for Geophysical Flow Problems**, Poster presentation at the NSF Institute for Pure and Applied Mathematics (IPAM), Workshop II: Numerical Hierarchies for Climate Modeling, Los Angeles, CA, USA, April 12, 2010

Whitehead, J., C. Jablonowski and R. B. Rood, **Divergence Damping: Is Additional Diffusion `Good' for Stability?**, Poster presentation at the DoE Science Team Meeting, Earth System Modeling (ESM) Program, Washington D.C., USA, March 31, 2010

Ullrich, P. A. and C. Jablonowski, **High-Order Finite-Volume Methods for Geophysical Flow Problems**, Poster presentation at the 2010 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI, USA, March 26, 2010

Whitehead, J., C. Jablonowski and R. B. Rood, **Divergence Damping: Is Additional Diffusion `Good' for Stability?**, Poster presentation at the 2010 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI, USA, March 26, 2010

Jablonowski, C., **On the Design of Dynamical Cores for Atmospheric General Circulation Models (GCMs): Physical and Computational Challenges (Part II),** Tutorial at the NSF Institute for Pure and Applied Mathematics (IPAM), Los Angeles, CA, USA, March 16, 2010

Jablonowski, C., **On the Design of Dynamical Cores for Atmospheric General Circulation Models (GCMs): Physical and Computational Challenges (Part I),** Tutorial at the NSF Institute for Pure and Applied Mathematics (IPAM), Los Angeles, CA, USA, March 10, 2010

Jablonowski, C., **On the Design of Dynamical Cores for Atmospheric General Circulation Models (GCMs): Numerical and Scientific Challenges,** Tutorial at the NSF Institute for Pure and Applied Mathematics (IPAM), Los Angeles, CA, USA, March 9, 2010

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E-mail: cjablono@umich.edu

Reed, K. A. and C. Jablonowski**, Idealized Tropical Cyclones in Atmospheric General Circulation Models: Sensitivity to Initial Conditions and Physics Parameterizations**, Oral presentation at the AMS 90th Annual Meeting and 22nd Conference on Climate Variability and Change, Atlanta, GA, Jan. 17-21, 2010

2009

Ullrich, P. A. and C. Jablonowski**, Riemann-Solver Based Finite-Volume Models for the Shallow-Water Equations on the Sphere**, Oral presentation at the 2009 UM Engineering Graduate Symposium, session: *Civil, Environmental and Atmospheric Sciences*, November 13, 2009

Reed, K. and C. Jablonowski**, Idealized Tropical Cyclones in Atmospheric General Circulation Models: Sensitivity to Initial Conditions and Physics Parameterizations**, Oral presentation at the 2009 UM Engineering Graduate Symposium, session: *Civil, Environmental and Atmospheric Sciences*, November 13, 2009

Jablonowski, C., **Introducing Software Infrastructure into the Climate Modeling Curriculum**, Kick-off Meeting of the NOAA Global Interoperability Program (GIP), Princeton, NJ, Nov. 5-6, 2009

Jablonowski, C and P. A. Ullrich, **Adaptive Mesh Refinement on the Sphere: Insights into computational grids, wave propagation and diffusion properties**, Invited minisymposium talk at the conference ICOSAHOM 09, Trondheim, Norway, June 22-26, 2009

Jablonowski, C., W. Sawyer, B. Eaton, W. Putman, A. Mirin, P. H. Lauritzen, M. A. Taylor, J. Edwards, P. Worley, J. Drake, **The FV-Cube Dynamical Core in NCAR's Community Atmosphere Model CAM**, Poster presentation at the 14th Annual CCSM Workshop, Breckenridge, CO, USA, June 15-18, 2009

Ullrich, P., P. H. Lauritzen, C. Jablonowski, **GECoRe: A new geometrically exact remapping scheme on the sphere**, Oral presentation at the Workshop on Solutions of Partial Differential Equations on the Sphere, Santa Fe, NM, USA, April 27-30, 2009

Jablonowski, C., P. H. Lauritzen, M. A. Taylor and R. D. Nair, **A Test Suite for GCMs: An Intercomparison of 11 Dynamical Cores,** Oral presentation at the Workshop on Solutions of Partial Differential Equations on the Sphere, Santa Fe, NM, USA, April 27-30, 2009

Jablonowski, C., R. B. Rood, K. Bhaganagar, **Subgrid-Mixing in Climate Models: A Novel Look at Diffusion, Accuracy and Climate Sensitivity**, Poster presentation at the DoE Climate Change Prediction Program (CCPP) Meeting, Bethesda, MD, USA, April 7-9, 2009

Penner, J. E., N. Andronova, Q. F. Stout, B. van Leer, J. Boyd, C. Jablonowski, K. Powell, **The 3-D AMR on a Spherical Shell for Atmospheric Models with Lagrangian Coordinates**, Poster at the DoE Climate Change Prediction Program (CCPP) Meeting, Bethesda, MD, USA, April 7-9, 2009

Jablonowski, C and P. A. Ullrich, **The Pros and Cons of Adaptive Meshes in Atmospheric Finite Volume Models**, Invited key lecture at the workshop *Multi-scale Modelling of the Atmosphere and Ocean*, Reading, UK, March 25-26, 2009

Reed, K. and C. Jablonowski, **Idealized Tropical Cyclones in Atmospheric General Circulation Models**, Poster Presentation at the 2009 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI, USA, March 20, 2009

Ullrich, P. A., P. H. Lauritzen and C. Jablonowski**, GECoRe: A New Geometrically Exact Remapping Scheme on the Sphere**, Poster presentation at the 2009 Michigan Geophysical Union (MGU) Meeting, Ann Arbor, MI, USA, March 20, 2009

2008

Jablonowski, C., P. H. Lauritzen, M. A. Taylor and R. D. Nair, **An Intercomparison of 10 Atmospheric Model Dynamical Cores** (Dec. 17, 2008), Poster Presentation, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A33A-0214, San Francisco, CA, USA, December 15-19, 2008

Reed, K. and C. Jablonowski, **Idealized Tropical Cyclones in Atmospheric General Circulation Models** (Dec. 17, 2008), Poster Presentation, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A33A-0215, San Francisco, CA, USA, December 15-19, 2008

Lauritzen, P. H. and C. Jablonowski, **A rotated version of the Jablonowski-Williamson baroclinic wave test case** (Dec. 17, 2008), Poster Presentation at the AGU Fall Meeting 2008, San Francisco, CA, USA, December 15-19, 2008

Ullrich, P. A., P. H. Lauritzen and C. Jablonowski**, GECoRe: A New Geometrically Exact Remapping Scheme on the Sphere**, Poster presentation at the 2008 UM Engineering Graduate Symposium, session: *Civil, Environmental and Atmospheric Sciences*, November 7, 2008

Ullrich, P. A., P. H. Lauritzen and C. Jablonowski**, GECoRe: A New Geometrically Exact Remapping Scheme on the Sphere**, Oral presentation at the 2008 UM Engineering Graduate Symposium, session: *Civil, Environmental and Atmospheric Sciences*, November 7, 2008

Jablonowski, C. and A. St-Cyr, **Adaptive Mesh Refinement (AMR) for Multi-Scale Climate Models,** Invited seminar presentation at Harvard University, Boston, MA, October 17, 2008

Jablonowski, C., **Test Cases for Atmospheric Model Dynamical Cores** (Sep. 24, 2008), Invited presentation at the NCAR Workshop on Global Atmospheric Dynamical Cores, Boulder, CO, USA, Sep. 24-25, 2008

Taylor, M., C. Jablonowski, P. H. Lauritzen and R. Nair, **Petascale Atmospheric Models for the CCSM: New Developments and Evaluation of Scalable Dynamical Cores**, Invited presentation at the DoE SciDAC 2008 meeting, Seattle, Washington, July 13-17, 2008

Jablonowski, C. and A. St-Cyr, **Adaptive Mesh Refinements for Weather and Climate Models** (July 10, 2008), Invited presentation at the SIAM Annual Meeting, San Diego, CA, USA, July 7-11, 2008

Jablonowski, C., P. H. Lauritzen, M. A. Taylor and R. D. Nair**, The Dynamical Core Experiment: An Overview of the 2008 NCAR ASP Colloquium**, Poster Presentation at the 13th Annual CCSM Workshop, Breckenridge, CO, USA, June 17-19, 2008

Jablonowski, C., **Numerical Noise: The Pros and Cons of Filters, Diffusion and Damping Mechanisms** (June 6, 2008), NCAR ASP Summer Colloquium, Boulder, CO, USA, June 2-13, 2008 (invited)

Jablonowski, C., **Adaptive Grids for Atmospheric General Circulation Models** (June 5, 2008), NCAR ASP Summer Colloquium, Boulder, CO, USA, June 2-13, 2008 (invited)

Jablonowski, C., P. H. Lauritzen, M. A. Taylor and R. D. Nair**, Idealized Test Cases for Dynamical Core Experiments** (June 3, 2008), NCAR ASP Summer Colloquium, Boulder, CO, USA, June 2-13, 2008 (invited)

Lauritzen, P. H., C. Jablonowski, M. A. Taylor and R. D. Nair**, NCAR's 2008 ASP Summer Colloquium on Numerical Techniques for Global Atmo-spheric Models (June 2, 2008)**, NCAR ASP Summer Colloquium, Boulder, CO, USA, June 2-13, 2008 (inv.)

Oehmke, R., D. Vandenberg, N. Andronova, J. Penner, Q. Stout, V. Zubov and C. Jablonowski, **3-D grid refinement using the University of Michigan adaptive mesh library for a pure advective test,** AGU Joint Assembly 2008, Fort Lauderdale, FL, USA, May 27-30, 2008

Jablonowski, C., **Test cases for extra terrestrial (Mars and Venus) General Circulation Models**, NCAR Atmosphere Working Group Meeting, Invited presentation at the break-out session on Extra-Terrestrial Atmospheres, Boulder, CO, February 12-15, 2008

2007

Jablonowski, C., **In-depth look at the Adaptive Mesh Refinement (AMR) in the FV model** (Dec 5, 2007), Invited presentation at the Kakushin Workshop, Kyoto, Japan

Jablonowski, C. and A. St-Cyr**, Adaptive Mesh Refinements (AMR) for Multi-Scale Climate Models** (Dec

3, 2007), Invited presentation at the APCOM '07-EPMESC XI conference, Kyoto, Japan

St-Cyr, A. and C. Jablonowski**, A Comparison of Two Shallow Water Models with Non-Conforming Adaptive Grids,** Seminar of numerical analysis (invited), Mathematics section, University of Geneva, Switzerland, October 10, 2007

St-Cyr, A. and C. Jablonowski, **A Comparison of Two Shallow Water Models with Non-Conforming Adaptive Grids**, Second-generation Louvain-la-Neuve Ice-ocean Model (SLIM) meeting, Louvain-la-Neuve, Belgium, October 5, 2007

Jablonowski, C. and A. St-Cyr, **Adaptive Grids for Multi-Scale Dynamical Cores: Cubed-Spheres versus Latitude-Longitude Grids** (Sep. 26, 2007), Presentation at the 2007 Workshop on the Solution of Partial Differential Equations on the Sphere (PDEs on the Sphere), Exeter, United Kingdom, September 24-27, 2007

Jablonowski, C., A. St-Cyr, J. M. Dennis, R. C. Oehmke, J. E. Penner, N. Andronova, Q. F. Stout and M. Herzog, **Adaptive Mesh Refinements (AMR) for Multi-Scale Climate Models** (Sep. 19, 2007), Invited poster presentation at the DoE Climate Change Prediction Program (CCPP) Meeting, Indianapolis, IN, USA, Sep. 17-19, 2007

Jablonowski, C., A. St-Cyr, J. M. Dennis, R. C. Oehmke, J. E. Penner, N. Andronova, Q. F. Stout and M. Herzog, **Adaptive Mesh Refinements (AMR) for Multi-Scale Climate Models** (Aug. 28, 2007), Poster presentation at the Second International Conference on Earth System Modeling, Hamburg, Germany, August 27-31, 2007

St-Cyr, A. and C. Jablonowski, **A Comparison of Two Shallow Water Models with Non-Conforming Adaptive Grids**, University of Victoria, Mathematics colloquium (invited), Victoria, Canada, August 2007

St-Cyr, A. and C. Jablonowski, **Deux methods numeriques a maillage adaptatif pour les equations de St-Venant sur la sphere, Recherche en prevision numerique**, Invited seminar presentation, Environment Canada, Montreal, Canada, July 2007

St-Cyr, A. and C. Jablonowski, **Deux methods numeriques a maillage adaptatif pour les equations de St-Venant sur la sphere**, Invited seminar presentation, Recherche en prevision numerique, UQAM, Montreal, Canada, July 2007

Jablonowski, C., **On the Existence and Non-Existence of QBO-like Oscillations in Dynamical Cores of General Circulation Models** (June 27, 2007), Presentation at the 16th Conference on Atmospheric and Oceanic Fluid Dynamics, Santa Fe, NM, USA, June 24-29, 2007

Penner, J., N. Andronova, R. Oehmke, J. Brown, C. Jablonowski and Q. Stout, **Three-Dimensional Adaptive Mesh Refinement on a Spherical Shell for Atmospheric Models with Lagrangian Coordinates**, Invited poster presentation at the SciDAC 2007 meeting, 24–28 June 2007, Boston, MA, USA

Jablonowski, C. and A. St-Cyr, **Adaptive Meshes on the Sphere: Cubed-Spheres versus Latitude-Longitude Grids** (May 31, 2007), Invited presentation at the ICON & Friends Workshop, Langen, Germany, May 29 – June 1, 2007

St-Cyr, A., C. Jablonowski, J. M. Dennis, H. M. Tufo and S. J. Thomas, **A Comparison of Two Shallow Water Models with Non-Conforming Adaptive Grids**, Invited seminar presentation at the Applied Mathematics Colloquium, New York City, NY, February 20, 2007

2006

Jablonowski, C., **A Proposed Test Suite for Atmospheric Model Dynamical Cores,** Poster presentation at the AGU Fall Meeting 2006, San Francisco, CA, USA, December 11-15, 2006

Jablonowski, C. and A. St-Cyr, **Adaptive Meshes on the Sphere: Cubed-Spheres versus Latitude-Longitude Grids** (Dec. 8, 2006), Invited seminar presentation, Department of Atmospheric, Oceanic & Space Sciences, University of Michigan, Ann Arbor, MI

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Jablonowski, C., **A Proposed Test Suite for Atmospheric Model Dynamical Cores**, Presentation at the 2006 Workshop on the Solution of Partial Differential Equations on the Sphere, Monterey, CA, USA, June 26 - 29, 2006

Jablonowski, C., **Quasi-Biennial (QBO)-like Oscillations in Idealized Dynamical Core Experiments** (June 27, 2006), Presentation at the 2006 Workshop on the Solution of Partial Differential Equations on the Sphere, Monterey, CA, USA, June 26 - 29, 2006

Jablonowski, C., **A Proposed Test Suite for Atmospheric Model Dynamical Cores**, Poster presentation at the 11th Annual CCSM Workshop, Breckenridge, Colorado, USA, June 20 - 22, 2006

Jablonowski, C., M. Herzog, J. E. Penner, R. C. Oehmke, Q. F. Stout, **Adaptive Mesh Refinements for Future Weather and Climate Models** (May 10, 2006), Invited seminar presentation, Courant Institute, New York University, New York, NY

Penner P., N. Andronova, M. Herzog, R. C. Oehmke, C. Jablonowski, B. van Leer, Q. F. Stout and K. G. Powell, **Development of an Atmospheric Climate Model with Self-Adapting Grid and Physics**, Invited poster presentation at the DoE Climate Change Prediction Program (CCPP) meeting, April 24- 26, 2006, Cambridge, MA, USA

Jablonowski, C. and D. L. Williamson, **A baroclinic instability test case for dynamical cores of GCMs,** Invited presentation at the CCSM Atmosphere Model Working Group Meeting, NCAR, Boulder, CO, March 20-22, 2006

2005

Jablonowski, C., M. Herzog, J. E. Penner, R. C. Oehmke, Q. F. Stout, **Adaptive Grids for Future Weather and Climate Models** (November 18, 2005), Invited seminar presentation, Department of Atmospheric Sciences, University of Washington, Seattle, WA

Jablonowski, C., **QBO-like Oscillations in Dynamical Core Experiments,** Poster presentation at the 10th Annual CCSM Workshop, Breckenridge, Colorado, USA, June 21 - 23, 2005

Jablonowski, C., **QBO-like Oscillations in Dynamical Core Experiments** (June 15, 2005), Presentation at the AMS meetings: 13th Conference on Middle Atmosphere, 15th Conference on Atmospheric and Oceanic Fluid Dynamics, 7th Conference on Climate Variability and Change, Cambridge, MA, USA, June 12 - 17, 2005

Jablonowski, C., **Adaptive Grids for Future Weather Prediction Models**, Presentation at the SIAM Conference on Mathematical & Computational Issues in the Geosciences, Avignon, France, June 7 - 10, 2005

Jablonowski, C., **Adaptive Grids for Weather and Climate Models** (June 3, 2005), Invited seminar presentation at the Laboratoire de Meteorologie Dynamique du CNRS - Ecole Normale Superieure (LMD/ENS), Paris, France

Jablonowski, C., M. Herzog, R. Oehmke, J. E. Penner, Q. F. Stout, B. van Leer, **Adaptive Grids for Future Weather Prediction Models** (April 27, 2005), Presentation at the European Geosciences Union General Assembly, Vienna, Austria, April 24 - 29, 2005

2004

Jablonowski, C., M. Herzog, R. Oehmke, J. E. Penner, Q. F. Stout, B. van Leer, **Adaptive Grids for Weather and Climate Models** (September 9, 2004), Invited presentation at the ECMWF 2004 Seminar on Recent Developments in Numerical Methods for Atmospheric and Ocean Modelling, Reading, UK, September 6 - 10, 2004

Jablonowski, C., M. Herzog, R. C. Oehmke, J. E. Penner, Q. F. Stout and B. van Leer, **An Adaptive Mesh Refinement Strategy for Future GCMs** (July 23, 2004), Presentation at the 2004 Workshop on the Solution of Partial Differential Equations on the Sphere, Yokohama, Japan, July 20 - 23, 2004

Jablonowski, C., **Adaptive Grids for Weather and Climate Models,** Poster presentation at the 9th Annual CCSM Workshop, Santa Fe, New Mexico, USA, July 7 - 9, 2004

Jablonowski, C., M. Herzog, R. C. Oehmke, J. E. Penner, Q. F. Stout and B. van Leer, **Adaptive Mesh Refinements for Weather and Climate Models** (March 29, 2004), Invited presentation at the 8th Copper Mountain Conference on Iterative Methods (Minisymposium), Copper Mountain, CO, 3/28 – 4/2, 2004

Herzog, M., C. Jablonowski, R. C. Oehmke, J. E. Penner, Q. F. Stout, B. van Leer, **Development of an Atmospheric Climate Model with Self-Adapting Grid and Physics** (March 23, 2004), Invited presentation at the SciDAC 2004 meeting, Charleston, SC, USA, March 22-24, 2004

2003

Jablonowski, C., M. Herzog, R. C. Oehmke, J. E. Penner, Q. F. Stout and B. van Leer (December 8, 2003), **Adaptive Grids in Climate Modeling: Dynamical Core Tests**, Presentation at the AGU Fall Meeting 2003, San Francisco, California, USA, December 8-12, 2003

Herzog, M., C. Jablonowski, R. C. Oehmke, J. E. Penner, Q. F. Stout and B. van Leer (2003), Adaptive Grids in Climate Modeling: Concept and First Results, Presentation at the AGU Fall Meeting 2003, San Francisco, California, USA, December 8-12, 2003

Jablonowski, C., **Adaptive Grids in Climate and Weather Modeling** (March 31, 2003), Invited seminar presentation, VIGRE Working Group in Scientific Computing, Department of Mathematics, University of Michigan, Ann Arbor, MI, USA

2002 – 1998

Jablonowski, C., **New idealized test cases for dynamical cores** (August 12, 2002), Presentation at the 2002 Workshop on the Solutions of Partial Differential Equations on the Sphere, Toronto, ON, Canada, August 12 - 15, 2002

Jablonowski, C., **Adaptive Methods in Weather and Climate Modeling** (February 5, 2002), Invited presentation at the NCAR Workshop on Adaptive and High-Order Methods with Applications in Turbulence, Boulder, CO, USA, February 4-6, 2002

Jablonowski, C., **Towards a standardized test suite for dynamical core intercomparisons: Growing baroclinic waves** (May 18, 2001), Presentation at the 2001 Workshop on the Solutions of Partial Differential Equations on the Sphere, Montreal, Quebec, Canada, May 15 - May 18, 2001

Jablonowski, C., **The Dynamical Core Intercomparison Project: Approaches to analyzing dynamical core experiments** (December 1, 1999), Presentation at the 8th Workshop on the Solutions of Partial Differential Equations on the Sphere, San Francisco, CA, USA, November 30 - December 3, 1999

Jablonowski, C., **Test of three dynamical cores: A discussion about the new DWD global model GME, the operational DWD model GM and the ECMWF model IFS** (April 28, 1998), Presentation at the 6th Workshop on the Solutions of Partial Differential Equations on the Sphere, Gatlinburg TN, 4/28 – 5/1, 1998

Untch, A., C. Jablonowski and M. Hortal, **Results of dynamical core tests at ECMWF (**April 28, 1998), Presentation at the 6th Workshop on the Solutions of Partial Differential Equations on the Sphere, Gatlinburg TN, USA, April 28 - May 1, 1998

SCIENTIFIC AND COMMUNITY SERVICE

Editorial and reviewer activities

- Associate Editor of the *Journal of Advances in Modeling Earth Systems (JAMES),* open-access AGU journal (2010-2013)

- Associate Editor of the AMS Journal *Monthly Weather Review* (in 2008)
- Reviewer for the *Monthly Weather Review*, *Journal of Computational Physics, Quarterly Journal of the Royal Meteorological Society, Bulletin of the American Meteorological Society (BAMS), Philosophical Transactions of the Royal Society A, Geoscientific Model Development, Journal of the Atmospheric Sciences, Journal of Geophysical Research (Atmospheres), Computing in Science and Engineering, Lecture Notes in Computational Science and Engineering (Springer), Atmospheric Science Letters, Journal of Climate, Theoretical and Computational Fluid Dynamics, Geophysical Research Letters, Tellus, Computers and Mathematics with Applications, Earth and Space Science*
- Reviewer for NSF, DoE, NOAA and NASA proposals
- Member of DoE review panels, DoE ASCR proposals, DoE ALCC proposals
- Reviewer for DoE's Exascale Computing Project (ECP), 2022-2023

National and International Service

- Panelist in the Presidential Session 'Bridging the Scale Gap and Increasing Resilience in Communities' at the AMS Annual Meeting in New Orleans, LA, Jan. 8-12, 2025
- Member of the Model for Prediction Across Scales (MPAS) Science Advisory Committee (MPAS-SAC), NCAR, 2023 - current
- Member of the NCAR Community Earth System Model (CESM) Scientific Steering Committee (SSC) (2019 – current)
- Co-chair of NOAA's Unified Forecast System Short-Range Weather (UFS-SRW) application team (2022 – current)
- University of Michigan Representative to the University Corporation for Atmospheric Research (UCAR) (2018 - current)
- Member of the NCAR/NOAA Developmental Testbed Center (DTC) Science Advisory Board (2020 – 2025)
- Member of the AMS Committee on Artificial Intelligence Applications to Environmental Science (2019 – 2025)
- Member of the NCAR Science Requirements Advisory Panel (SRAP) for the NCAR-Wyoming Supercomputing Center (NWSC) procurement (2018 – 2020)
- Co-Lead of NOAA's Research-to-Operations (R2O) science team for the Unified Forecast System (UFS): Coupled Model Developments (2020 - 2021)
- Co-Chair of the National Oceanic and Atmospheric Administration (NOAA) Next Generation Global Prediction System (NGGPS) Strategic Implementation Plan (SIP) Working Group on Dynamics and Nesting (2017 - 2020)
- Co-Chair of the CESM Atmosphere Model Working Group (AMWG), responsible for the future direction of the Community Atmosphere Model (CAM) which is the atmospheric component of NCAR's Community Earth System Model (CESM) (2014 - 2022)
- Member of the Climate Change Science Institute Science Advisory Board at the Department of Energy's (DoE) Oak Ridge National Laboratory (2014-2018)
- Member of the advisory committee for the Computer Science and Mathematics Division at Oak Ridge National Laboratory (2015)
- Member of the External Expert Advisory Board (EEAB) for the European PRIMAVERA project (PRocess-based climate sIMulation: AdVances in high-resolution modelling and European climate Risk Assessment, https://www.primavera-h2020.eu/), 2015 - 2020
  led by Dr. Malcolm Roberts, U.K. Met Office, and Dr. Pier-Luigi Vidale, University of Reading, U.K.

- Executive Board Committee Member, Earth System Modeling Framework (ESMF), 2010 - 2017
- Core Network Member: International Centre for Earth Simulation (ICES), 2010 www.icesfoundation.org
- Member of the Steering Committee of NOAA's Global Interoperability Program (GIP), 2009 – 2012
- Invited participant in the World Modelling Summit for Climate Prediction, held at the European Centre for Medium-Range Weather Forecasts (ECMWF), Reading, U.K., 6-9 May 2008

University of Michigan Service

- Member of UM's Rackham Predoctoral Fellowship Selection Committee (2025 – 2027)
- Member of the UM Launch Committee for Dr. Jinyi Yang, Astronomy (2024 – 2025)
- Member of the UM CLASP Awards Committee (2024 – 2026)
- Member of the UM CLASP graduate admissions committee (2024 – 2026)
- Panelist for UM CoE NextProf Engineering workshop for Early-Career Scientists, panel on 'Leadership in Service While Protecting Your Time', May 8, 2024
- Panelist for the CLASP Early-Career Mentoring Event 'Life Cycle of a Climate and Space Scientist', February 23, 2024
- Chair of the UM CLASP Qualifying Exam Committee (2023 - current)
- Member of the CLASP faculty search committee, UM Department of Climate and Space Sciences and Engineering (2023-2024)
- Chair of the UM CoE Launch Committee for Dr. Sabine Loos, Civil and Environmental Engineering (2023-2024)
- Chair of the CLASP faculty search committee, UM Department of Climate and Space Sciences and Engineering (2022-2023)
- Chair of the UM CoE Launch Committee for Dr. Maria Coronel, Biomedical Engineering (2022-2023)
- Member of CLASP's Qualifying Exam Committee (2021 - 2023)
- Member of CLASP's Executive Committee (2021 - 2024)
- Member of the College of Engineering (CoE) Honors and Awards Committee (2021 - 2022)
- Member of the CLASP T&TT Promotion Committee for Dr. Gretchen Keppel-Aleks (2019-2020)
- Chair of the CLASP IT committee, UM Department of Climate and Space Sciences and Engineering (2018-2021)
- Member of UM's Advanced Research Computing Advisory Team (ARCAT), ARCAT is the steering committee of UM's Advanced Research Computing – Technology Services (ARC-TS), 2017 – 2021
- Member of the CLASP Faculty Hiring Committee for Dr. Ashley Payne (2017-2018)
- Chair of the Strategic Planning committee, UM Department of Climate and Space Sciences and Engineering (2016-2018)
- Member of the Michigan Institute for Computational Discovery and Engineering (MICDE) Management Committee (2016 – 2021)
- Member of the College of Engineering (CoE) IT Faculty Council, (9/2015 – 8/2017, 9/2018 - 2021)
- Member of the CoE Scholastic Standing Committee (2014 - 2017)
- Member of CLASP's Curriculum Committee (2013 – 2020)
- Member of the Steering Committee of the Michigan Institute for Computational Discovery and Engineering (2013-2016)

- Faculty representative for Applied Physics at the Science Cafe during the Conference for Undergraduate Women in Physics (CUWiP), sponsored by the American Physical Society (APS), Ann Arbor, Jan/17/2015
- Member of UM's Rackham Predoctoral Fellowship Committee (2014 & 2015)
- AOSS Executive Committee (9/2012 – 8/2014)
- AOSS Outreach Committee, March 2012 – 2013
- AOSS Earth System Science and Engineering (ESSE) Undergraduate Advisor for Climate Science, 2006 – 2015
- Member of AOSS faculty hiring committee, Petascale Computing, Fall 2010 & Winter 2011
- AOSS faculty representative at the Graduate Commencement, UM Rackham Graduate School (April 2011)
- Member of the AOSS Qualifying Exam Committee, Winter 2009, 2012, 2013, 2015
- AOSS faculty contact and contributing author of the cluster hire *Petascale Computing* proposal, Jan. 2009
- Member of the AOSS seminar committee, March 2008 – April 2009
- Member of the AOSS graduate committee, May 2008
- March Major Madness (AOSS undergraduate recruiting) event organizer, March 2008
- Member of a hiring committee for an AOSS research scientist, January 2008

Conferences and Workshops:

- Lead-organizer, fundraiser, lecturer: Dynamical Core Model Intercomparison Project (DCMIP) and 1-week summer school on `Non-Hydrostatic Weather and Climate Models and Machine Learning Emulators', NCAR, Boulder, CO, 6/2-6/2025
- Co-organizer of the Workshop on Partial Differential Equations on the Sphere (PDEs on the Sphere) 2025 in collaboration with Pedro Peixoto, Jörn Behrens, Peter Lauritzen, Martin Schreiber, Sao Paulo, Brazil, May 12-16, 2025
- Co-organizer of the workshop `Physics-Dynamics coupling in weather and climate models', at the University of Exeter, U.K., in collaboration with Jemma Shipton (University of Exeter), Lucas Harris (GFDL), S. Malardel (Météo-France), H. Wan (PNNL), Nigel Wood (U.K. Met Office), B. Shipway (U.K. Met Office), June 18-20, 2024
- Co-organizer of the AMS Conference Session 'Applications of Hierarchical System Development to Improve Numerical Weather Prediction and Earth System Modeling' at the 32nd Conference on Weather Analysis and Forecasting (WAF) / 28th Conference on Numerical Weather Prediction (NWP) in collaboration with Lulin Xue (NCAR/RAL and DTC), Paul Field (UK Met Office), Grant Firl (CIRA/NOAA and DTC), Weiwei Li (NCAR/RAL and DTC), and Yunyan Zhang (DOE/LLNL), July 17-21, 2023
- Co-organizer of the Workshop on Partial Differential Equations on the Sphere (PDEs on the Sphere) 2023 in collaboration with Jörn Behrens, Thomas Dubos, Peter Lauritzen, Laurent Debreu, Florian Lemarié, Martin Schreiber, Annie Simon, Sophie Bigourden-Azzaro, Grenoble, France, July 3-7, 2023
- Co-organizer of the NOAA 'Unifying Innovations in Forecasting Capabilities Workshop' for the Earth Prediction Innovation Center (EPIC), the Unified Forecast System (UFS), and the UFS Research to Operations communities, July 18-22, 2022, College Park, MD
- Co-organizer of the workshop `Physics-Dynamics coupling in weather and climate models', at the Geophysical Fluid Dynamics Laboratory (GFDL), Princeton, NJ, in collaboration with Lucas Harris (GFDL), S. Malardel (Météo-France), H. Wan (PNNL) and N. Wood (U.K. Met Office), virtual coffee talk in June 2021, in-person workshop from June 1-3, 2022
- Co-organizer of the Workshop on Partial Differential Equations on the Sphere (PDEs on the Sphere) 2021

in collaboration with Jörn Behrens, Martin Charron, Thomas Dubos, Peter Lauritzen, Abdessamad Qaddouri and Christopher Subich, Offenbach, German Weather Service, Germany, virtual conference, May 17-21, 2021

- Member of the Program Committee for the workshop 'AI for Earth Sciences', held in conjunction with the Eighth International Conference on Learning Representations (ICLR) 2020, Addis Ababa, Ethiopia, virtual, April 27-30, 2020
- Co-Convener of the session 'Machine Learning for Subgrid Parameterization in Weather and Climate Models' at the 19th AMS Conference on Artificial and Computational Intelligence and its Applications to the Environmental Sciences, Boston, MA, in collaboration with Ryan Lagerquist (University of Oklahoma), January 12-16, 2020
- Co-Convener of the session 'Applications of Machine Learning in Earth System Modeling' at the 19th AMS Conference on Artificial and Computational Intelligence and its Applications to the Environmental Sciences, Boston, MA, in collaboration with Chien Wang (MIT/CNRS/UPS) and Christoph Keller (NASA GMAO), January 12-16, 2020
- Co-Convener of the session 'Use of Machine Learning and Causal Discovery to Advance Knowledge in the Atmospheric Sciences – Striking a Balance Between Utility and Limitations' at the AGU 2019 Fall Meeting in San Francisco, CA, in collaboration with Benjamin Brown-Steiner (MIT) and Imme Ebert-Uphoff (Colorado State University), December 9-13, 2019
- Co-organizer of the Workshop on Partial Differential Equations on the Sphere (PDEs on the Sphere) 2019 in collaboration with Jörn Behrens, Martin Charron, Thomas Dubos, Peter Lauritzen, Abdessamad Qaddouri and Christopher Subich, Montreal, Canada, April 29 – May 3, 2019
- Co-Convener of the session 'Recent Developments in Numerical Earth System Modelling' at the EGU 2019 Meeting in Vienna, Austria, in collaboration with Christopher Eldred, Werner Bauer, Christiane Jablonowski, Christian Kühnlein, April 7-12,2019
- Co-Convener of the session 'Machine Learning Techniques for Atmospheric and Oceanic Prediction Models' at the 18th AMS Conference on Artificial and Computational Intelligence and its Applications to the Environmental Sciences, Phoenix, AZ, in collaboration with Amy McGovern (University of Oklahoma), January 6-10, 2019
- Lead-organizer of the workshop `Emerging Data Science and Machine Learning Opportunities in the Weather and Climate Sciences' at the AGU 2018 Fall Meeting in Washington, D.C., December 10-14, 2018
- Co-organizer of the workshop `Physics-Dynamics coupling in geophysical models', at the European Centre for Medium-Range Weather Forecasts (ECMWF), Reading, U.K., in collaboration with S. Malardel (ECMWF), H. Wan (PNNL), M. Gross (CICESE, Centro de Investigación Científica y de Educación Superior de Ensenada) and N. Wood (U.K. Met Office), July 10-12, 2018
- Co-organizer and convener of the session 'Recent Developments in Numerical Earth System Modelling' at the EGU 2018 Meeting in Vienna, Austria, in collaboration with Christopher Eldred, Werner Bauer, Christiane Jablonowski, Christian Kühnlein, April 8-13, 2018
- Co-organizer and convener of the session 'Recent developments in numerical atmospheric, oceanic and sea-ice models: towards global cloud and eddy resolving simulations on exascale supercomputers' at the EGU 2017 Meeting in Vienna, Austria, in collaboration with Peter Düben, Christopher Eldred, Florian LeMarie, Xavier Lapillonne, Valentine Anantharaj, Werner Bauer, Sergey Danilov, Laurent Debreu, Rieke Heinze, Mehmet Ilicak, Christiane Jablonowski, Christian Kühnlein, Thierry Penduff, Pier-Luigi Vidale, April 24-28, 2017
- Co-organizer and convener of the session 'Advances in Numerical Methods for Geophysical Modeling' at the AGU 2016 Fall Meeting in San Francisco, CA, in collaboration with David Hall (University of Colorado) and Peter Lauritzen (NCAR), December 12-16, 2016
- Co-organizer of the workshop `Physics-Dynamics coupling in geophysical models', at the Pacific

Northwest National Laboratory (PNNL), Richmond, WA, in collaboration with H. Wan and P. Rasch (PNNL), M. Gross (CICESE, Centro de Investigación Científica y de Educación Superior de Ensenada), N. Wood (U.K. Met Office) and S. Malardel (ECMWF), September 20-22, 2016

- Co-organizer, fundraiser and lecturer: Dynamical Core Model Intercomparison Project (DCMIP-2016) and 2-week summer school, NCAR, Boulder, CO, June 6-17, 2016
- Co-organizer of the workshop `Physics-Dynamics coupling in geophysical models – Bridging the gap', in Ensenada, Baja California, Mexico, in collaboration with M. Gross (CICESE, Centro de Investigación Científica y de Educación Superior de Ensenada), N. Wood (U.K. Met Office) and S. Malardel (ECMWF), December 2-4, 2014
- Co-organizer and convener of the session 'Numerical methods of the atmosphere and ocean (including composition and boundary layer at all latitudes)' at the World Weather Open Science Conference (WWOSC) 2014 in Montreal, Canada, in collaboration with Dr. Jean Côté, August 16-21, 2014
- Co-organizer and convener of the session 'Recent developments in numerical Earth System Modelling' at the European Geosciences Union (EGU) General Assembly 2014 in Vienna, Austria, in collaboration with James Kent, Colin Zarzycki, Eigil Kaas, Brian Sorensen, Peter H. Lauritzen, April 27 – May 2, 2014
- Lead-organizer, fundraiser, lecturer: Dynamical Core Model Intercomparison Project (DCMIP) and 2-week summer school on `Future-Generation Non-Hydrostatic Weather and Climate Models', NCAR, Boulder, CO, 7/30-8/10/2012
- Organizer and leader of the panel discussion `Pushing the Frontiers of Climate and Weather Models: High-Performance Computing, Numerical Techniques and Physical Consistency', at the conference SuperComputing SC'10, New Orleans, November 18, 2010, panel members: P. H. Lauritzen (NCAR). D. L. Randall (CSU), S.-J. Lin (GFDL), W. Putman (NASA), T. Davies (UK Met Office)
- Co-Organizer and session chair of the IPAM Workshop on 'Numerical Model Hierarchies for Climate Modeling' (April 12-16, 2010) as part of the IPAM long program on `Model and Data Hierarchies for Simulating and Understanding Climate', Institute for Pure and Applied Mathematics (IPAM), NSF Math Institute at UCLA, Los Angeles, March 8 - June 10, 2010, in collaboration with Prof. Francis Giraldo (Naval Postgraduate School, Monterey, CA) and Prof. Sebastian Reich (University of Potsdam, Germany)
- Leader of the mentoring event (luncheon) for junior women in mathematics and atmospheric science at the Institute for Pure and Applied Mathematics (IPAM), Los Angeles, CA, April 13, 2010
- Discussion leader at the Workshop *Multi-scale Modelling of the Atmosphere and Ocean*, University of Reading and Isaac Newton Institute for Mathematical Sciences, Reading, UK, March 25-26, 2009
- Co-organizer and convener of the session 'Recent Advances in Atmospheric General Circulation Models: Towards Earth System Models' at the AGU 2008 Fall Meeting in San Francisco, CA, in collaboration with Peter H. Lauritzen (NCAR), December/15-19/2008
- Co-organizer, fundraiser, lecturer: 2-week NCAR Advanced Study Program (ASP) summer colloquium on Numerical Techniques for Global Atmospheric Models, Boulder, CO, June 1-13/2008
- Co-organizer and convener of the session 'Recent Advances in Climate Modeling' (oral session A33F and poster session A41D) at the AGU 2006 Fall Meeting in San Francisco, CA, in collaboration with Jadwiga Richter (NCAR) and Karen Shell (Oregon State University), December/11-15/2006

PROFESSIONAL SOCIETIES AND NETWORKS

Member of the

- American Geophysical Union (AGU)
- American Meteorological Society (AMS)

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- Earth Science Women's Network (ESWN)