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URL (Research page): http://clasp-research.engin.umich.edu/groups/admg/index.php

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

REASEARCH INTERESTS

- Adaptive Mesh Refinement (AMR) techniques for Atmospheric General Circulation Models (GCMs), via e.g. the AMR library Chombo
- Machine Learning techniques for GCMs
- Great Lakes research: Lake-air-land interactions and coupling of atmospheric models to lake models
- Development of test cases for the dynamical cores of GCMs
- International dynamical core model intercomparisons
- Design of future generation 'seamless' weather and climate models for multi-scale climate change applications (global to regional scale), variable-resolution techniques
- Subgrid-scale processes in the dynamical cores of GCMs: The impact of diffusion, filters and fixers on climate simulations
- Design of reduced-complexity GCMs (simpler models)
- Idealized simulations of the Quasi-Biennial Oscillation (QBO) and Sudden Stratospheric Warmings (SSWs), stratospheric dynamics
- Extratropical (baroclinic) waves
- Representation of tropical cyclones in GCMs
- Atmospheric dynamics
- Parallel and high-performance computing

PROFESSIONAL EXPERIENCE

Associate Professor Sep. 2012 – current
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
Department of Atmospheric, Oceanic & Space Sciences (AOSS)

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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

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

Vordiplom in Physik (First diploma degree in Physics), comparable to **Bachelor of Science in Physics** — Oct. 1992 – Sep. 1994
Aachen University of Technology (RWTH Aachen), Germany
Department of Physics, Minors: Computer Science & Numerical Methods

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HONORS & AWARDS

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 (AOSS department) — Mar. 2010

Keith Runcorn Travel Award for Non-Europeans (KRTA) for the EGU conference in Vienna, April 2005 — Jan. 17, 2005

Distinguished Achievement Award, University of Michigan, College of Engineering, Ann Arbor, Michigan — Mar. 14, 2004

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

Travel Stipend: Invitation to the Summer School MAMAOS 'Modern Applied Mathematics for the Atmospheric and Oceanic Sciences', University of California, Los Angeles — Jul. 13-27, 2003

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

Travel Stipend: Invitation to a workshop about the Scientific Computing Toolkit ACTS: 'How can ACTS work for you?', Lawrence Berkeley National Laboratory, California — Sep. 28-30, 2000

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. 21, 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. 21, 1999

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TEACHING AND MENTORING

UM university courses:

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

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

AOSS 605, section 5**: The Art of Climate Modeling** (Fall 2010), graduate course

CLIMATE 451**: Atmospheric Dynamics I** (Fall 2007, 2008, 2009, 2014, 2017, 2019), senior-level/graduate course

CLIMATE 321: **Earth System Dynamics** (Winter 2007, 2008, 2009, 2010, 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020), undergraduate course for students with various backgrounds, until 2015 co-taught with the UM Department of Earth and Environmental Sciences

Postdoctoral Fellows and Research Scientists (current group members and alumni):

Dr. David Wright
4/2019-current: University of Michigan, Cooperative Institute for Great Lakes Research (CIGLR) Postdoctoral Fellowship Holder (from 4/2019-3/2020), Postdoctoral Fellow at CLASP from 4/2020 onwards

Dr. Ashley Payne
9/2016 – 8/2018: University of Michigan President's Postdoctoral Research Fellow
9/2018 onwards: Assistant Professor, Department of Climate and Space Sciences and Engineering, University of Michigan

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: University of Michigan postdoctoral fellow
1/2015 onwards: Lecturer - Mathematics, Faculty of Computing, Engineering and Science, University of South Wales, U.K.

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

Dr. Peter Bosler
6/2013 – 8/2013, 6-7/2014: University of Michigan postdoctoral fellow
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
3/2016 onwards: Staff scientist, Sandia National Laboratories, Albuquerque, NM

Dr. Kevin A. Reed
5/2012 – 8/2012: University of Michigan postdoctoral fellow
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 onwards: Associate Professor, School of Marine and Atmospheric Sciences, Stony Brook University, Stony Brook, NY

Dr. Paul A. Ullrich
5/2011 – 8/2011: University of Michigan postdoctoral fellow
9/2012-8/2017: Assistant Professor, Department of Land, Air and Water Resources, University of California, Davis, CA
9/2017 onwards: Associate Professor, Department of Land, Air and Water Resources, UC Davis, CA

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

Current Ph.D. students:

Garrett Limon, Ph.D. Pre-Candidate, University of Michigan, Climate and Space Sciences and Engineering, estimated graduation in 2023. Chair

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.
6/2011-8/2012: Postdoctoral fellow, University of Michigan, Ann Arbor, MI
9/2012-8/2017: Assistant Professor, Department of Land, Air and Water Resources, University of California, Davis, CA
since 9/2017: Associate Professor, Department of Land, Air and Water Resources, University of California, Davis, CA

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: Assistant 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
since 1/2020: Associate Professor, School of Marine and Atmospheric Sciences, 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 onwards: Assistant Professor, Department of Meteorology and Atmospheric Science, Pennsylvania State University

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 – spring 2019: Software Engineer at Bloomberg, New York City, NY
since spring 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)
since 9/2017: Postdoctoral Fellow, North Carolina State University, Rayleigh, NC

Jared Ferguson, Ph.D. Candidate, University of Michigan, Applied Physics Program, graduation in August 2018. Chair.
11/2018 – 10/2019: California Council on Science and Technology (CCST) Policy Fellow, Sacramento, CA
11/2019 onwards: Legislative Aide, California State Government, Sacramento, CA

M.S. students (alumni):

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.
2014: Ph.D., Department of Atmospheric and Oceanic Sciences University of California, L.A. (UCLA), CA
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.

Preliminary and qualifying examination committees (excluding the departmental qualifying exams):

Lei Wang, Ph.D. candidate, University of Michigan, Department of Mathematics, Program in Applied Interdisciplinary Mathematics (AIM), external committee member, 12/6/2006

Archer L. Batcheller, Ph.D. candidate, University of Michigan, School of Information, external committee member, 2/25/2010

Peter Bosler, Ph.D. candidate, University of Michigan, Department of Mathematics, Program in Applied Interdisciplinary Mathematics (AIM), co-chair, 7/31/2010

Shu-Meir Wang, Ph.D. candidate, Stony Brook University, School of Marine and Atmospheric Science, external committee member, 10/25/2012

Alexander Gvakharia, Ph.D. candidate, University of Michigan, Applied Physics Program, qualifying exam, committee member, 6/3/2014

Jared Ferguson, Ph.D. candidate, University of Michigan, Applied Physics Program, chair, 9/4/2014

Hong Shen, University of Michigan, Department of Earth and Environmental Sciences, external committee member, 3/14/2016 and 8/18/2016

Ryan K. Whitcomb, Ph.D. candidate, University of Michigan, Applied Physics Program, committee member, 4/13/2016

Rahul Gogna, Ph.D. student, University of Michigan, Applied Physics Program, qualifying exam, committee member, 8/10/2016

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

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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

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

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

Undergraduate research projects (advisees):

Owen Hughes (4/30/2020 – current)
Owen's research focuses on 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).
currently: B.S. student, Mathematics, University of Michigan (projected graduation in May 2021)

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
since 9/2018: Ph.D. student, Atmospheric and Oceanic Sciences, Princeton University, NJ

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.
since 2017: Project Leader and Consultant, Boston Consulting Group, Chicago, IL

Ghassan 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
since 2018: IT Specialist at the NOAA Atlantic Oceanographic and Meteorological Laboratory / Hurricane Research Division, 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
since 2013: Senior Climate Scientist at the Environmental Defense Fund (EDF), New York City, NY

Summer schools:

Joint World Climate Research Programme (WCRP) and DCMIP-2021 Summer School on Earth System Model Development: Dynamical cores and physics-dynamics coupling (August 2021)
National Center for Atmospheric Research, Boulder, CO
Organizing team: Peter Lauritzen (NCAR), Paul A. Ullrich (University of California, Davis), Christiane Jablonowski (University of Michigan), Kevin Reed (Stony Brook University), Colin Zarzycki (Penn State University), Adam Herrington (NCAR), Hugh Morrison (NCAR), Mark Taylor (Sandia National Laboratories)
Local NCAR support: Climate and Global Dynamics Division (CGD)

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).

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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'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)

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

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

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

NSF Graduate Research Fellowship — Sep. 2018 onwards
Garrett Limon

AMS Summer Policy Colloquium — Jun. 4 – Jun. 13, 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. 11, 2016
UM 2016 CoE Engineering Graduate Symposium
Jared Ferguson

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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, Oct. 30, 2015
Diana Thatcher

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. 6, 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

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

AOSS Finalist for the Richard and Eleanor Towner Prize for Outstanding Ph.D. Research, UM 2013 CoE Engineering Graduate Symposium, Nov. 15, 2013
Weiye Yao

1st place at the UM 2013 College of Engineering Graduate Symposium (EGS) Nov. 15, 2013
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*

AGU Travel Award, Fall 2013 meeting Sep. 5, 2013
Diana Thatcher

1st place: Michigan Geophysical Union (MGU) Student Research Symposium and winner of the Student Choice Award Apr. 3, 2013
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*

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

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

American Meteorological Society (AMS) Best Oral Presentation Award Jan. 30, 2013
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*

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

1st place at the UM 2012 College of Engineering Graduate Symposium (EGS) Nov. 2, 2012
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*

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

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

Isaac Newton Institute for Mathematical Sciences, Cambridge, U.K. Aug. 22 – Oct. 27, 2012
Invited long-term participant of the program
Multiscale Numerics for the Atmosphere and Ocean
Colin Zarzycki

NCAR Advanced Study Program Summer Colloquium Jun. 4-22, 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 (now 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. 22-26, 2012
New Orleans, LA, USA
Kevin Reed

American Geophysical Union (AGU) Outstanding Student Paper Award Mar. 31, 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. 31, 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. 20, 2011
Kevin Reed

Travel award: WAVACS-COST Winter School Feb. 6-12, 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. 12, 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. 12, 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

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

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

Travel award: Summer School on Atmospheric Modeling (SSAM) Jul. 19-21, 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. 12-16, 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. 26, 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) Jun 2009 – Aug. 2009
National Center for Atmospheric Research (NCAR), Boulder, CO, USA
Computational & Information Systems Laboratory (CISL)
Peter Bosler

AMS Summer Policy Colloquium May 31 – Jun. 9, 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. 13, 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) Jun 2008 – Aug. 2008
National Center for Atmospheric Research (NCAR), Boulder, CO, USA
Computational & Information Systems Laboratory (CISL)
Paul Ullrich

NCAR Advanced Study Program Summer Colloquium Jun. 2-13, 2008
Numerical Techniques for Global Atmospheric Models, Boulder, CO, USA
Invited Participant: Paul Ullrich

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

PUBLICATIONS

Refereed Journal Papers

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

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

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

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

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

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

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

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

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

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

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

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

Gross, M., S. Malardel, C. Jablonowski and N. Wood (2016), **Bridging the (Knowledge) Gap between Physics and Dynamics**, Bull. Amer. Meteorol. Soc., Vol. 97, 137–142, doi:10.1175/BAMS-D-15-00103.1

Ullrich, P. A., K. A. Reed and C. Jablonowski (2015), **Analytical initial conditions and an analysis of baroclinic instability waves in f- and β-plane 3D channel models**, Quart. J. Roy. Meteorol. Soc., Vol. 141, 2972-2988

Thatcher, D. R. and C. Jablonowski (2015), **A moist aquaplanet variant of the Held-Suarez test for atmospheric model dynamical cores**, Geosci. Model Dev. Discuss., Vol. 8, 8263-8340, doi:10.5194/gmdd-8-8263-2015

Zarzycki, C. M. and C. Jablonowski (2015), **Experimental Tropical Cyclone Forecasts using a Variable-Resolution Global Model**, Mon. Wea. Rev., Vol. 143, 4012-4037

Walsh, K. J. E., S. J. Camargo, G. A. Vecchi, A. S. Daloz, J. Elsner, K. Emanuel, M. Horn, Y.-K. Lim, M. Roberts, C. Patricola, E. Scoccimarro, A. H. Sobel, S. Strazzo, G. Villarini, M. Wehner, M. Zhao, J. Kossin, T. LaRow, K. Oouchi, S. Schubert, H. Wang, J. Bacmeister, P. Chang, F. Chauvin, C. Jablonowski, A. Kumar, H. Murakami, T. Ose, K. A. Reed, R. Saravanan, Y. Yamada, C. M. Zarzycki, P. L. Vidale, J. A. Jonas and N. Henderson (2015), **Hurricanes and climate: the U.S. CLIVAR working group on hurricanes**, Bull. Amer. Meteorol. Soc., Vol. 96, 997–1017, doi:10.1175/BAMS-D-13-00242.1

Yao, W. and C. Jablonowski (2015), **Idealized Quasi-Biennial Oscillations in an Ensemble of Dry GCM Dynamical Cores**, J. Atmos. Sci., Vol. 72, 2201-2226

Wan, H., P. J. Rasch, M. A, Taylor and C. Jablonowski (2015), **Short-term time step convergence in a climate model**, J. Adv. Model. Earth Syst., Vol. 7, 215–225, doi:10.1002/2014MS000368.

He, F., D. J. Posselt, C. M. Zarzycki and C. Jablonowski (2015), **A Balanced Tropical Cyclone Test Case for AGCMs with Background Vertical Wind Shear**, Mon. Wea. Rev., Vol. 143, 1762-1781

Whitehead, J. P., C. Jablonowski, J. Kent and R. B. Rood (2015), **Potential vorticity: Measuring consistency between GCM dynamical cores and tracer advection schemes,** Quart. J. Roy. Meteorol. Soc., Vol. 141, 739-751

Zarzycki, C. M., C. Jablonowski, D. R. Thatcher and M. A. Taylor (2015), **Effects of localized grid refinement on the general circulation and climatology in the Community Atmosphere Model**, J. Climate, Vol. 28, 2777-2803

Wehner, M. F., K. A. Reed, F. Li, Prabhat, J. Bacmeister, C.-T. Chen, C. Paciorek, P. J. Gleckler, K. R. Sperber, W. D. Collins, A. Gettelman, and C. Jablonowski (2014), **The effect of horizontal resolution on simulation quality in the Community Atmospheric Model, CAM5.1**, J. Adv. Model. Earth Syst., Vol. 6, 980-997

Zarzycki, C. M. and C. Jablonowski (2014), **A multidecadal simulation of Atlantic tropical cyclones using a variable-resolution global atmospheric general circulation model**, J. Adv. Model. Earth Syst., Vol. 6, 805-828

Kent, J., C. Jablonowski, J. P. Whitehead and R. B. Rood (2014), **Determining the Effective Resolution of Advection Schemes. Part II: Numerical Testing,** J. Comput. Phys., Vol. 278, 497–508

Kent, J., J. P. Whitehead, C. Jablonowski and R. B. Rood (2014), **Determining the Effective Resolution of Advection Schemes. Part I: Dispersion Analysis**, J. Comput. Phys., Vol. 278, 485–496

Ullrich, P. A., T. Melvin, C. Jablonowski and A. Staniforth (2014), **A proposed baroclinic wave test case for deep- and shallow-atmosphere dynamical cores,** Quart. J. Roy. Meteorol. Soc., Vol. 140, 1590–1602

Zarzycki, C. M., M. N. Levy, C. Jablonowski, M. A. Taylor, J. R. Overfelt and P. A. Ullrich (2014),

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Aquaplanet Experiments Using CAM's Variable Resolution Dynamical Core, J. Climate, Vol. 27, 5481-5503

Bosler, P., L. Wang, R. Krasny and C. Jablonowski (2014), **A Particle/Panel Method for the Barotropic Vorticity Equation on a Rotating Sphere**, Fluid Dynamics Research, Vol. 46, 031406, doi:10.1088/0169-5983/46/3/031406

Kent, J., P. A. Ullrich and C. Jablonowski (2014), **Dynamical Core Model Intercomparison Project: Tracer Transport Test Cases**, Quart. J. Roy. Meteorol. Soc., Vol. 140, 1279–1293

Ullrich, P. A., C. Jablonowski and P. H. Lauritzen (2014), **A high-order `incremental-remap'-based semi-Lagrangian shallow water model**, International Journal for Numerical Methods in Fluids, Vol. 75, 103–133

Zarzycki, C. M., C. Jablonowski and M. A. Taylor (2014), **Using Variable Resolution Meshes to Model Tropical Cyclones in the Community Atmosphere Model,** Mon. Wea. Rev., Vol. 142, 1221-1239

Lauritzen, P. H., P.A. Ullrich, C. Jablonowski, P.A. Bosler, D. Calhoun, A.J. Conley, T. Enomoto, L. Dong, S. Dubey, O. Guba, A. B. Hansen, E. Kaas, J. Kent, J. F. Lamarque, M. J. Prather, D. Reinert, V. V. Shashkin, W. C. Skamarock, B. Sørensen, M. A. Taylor, and M. A. Tolstykh (2014), **A standard test case suite for two-dimensional linear transport on the sphere: results from a collection of state-of-the-art schemes**, Geoscientific Model Development, Vol. 7, 105–145

Yao, W. and C. Jablonowski (2013), **Spontaneous QBO-like Oscillations in an Atmospheric Model Dynamical Core,** Geophys. Res. Lett., Vol. 40, 3772–3776, doi:10.1002/grl.50723

Chen, X., N. Andronova, B. Van Leer, J. E. Penner, J. P. Boyd, C. Jablonowski and S.-J. Lin (2013), **A Control-Volume Model of the Compressible Euler Equations with a Vertical Lagrangian Coordinate**, Mon. Wea. Rev., Vol. 141, 2526-2544

Ullrich, P. A., P. H. Lauritzen and C. Jablonowski (2013), **Some considerations for high-order `incremental remap'-based transport schemes: edges, reconstructions and area integration,** International Journal for Numerical Methods in Fluids, Vol. 71, 1131-1151

Kent, J., C. Jablonowski, J. P. Whitehead and R. B. Rood (2012), **Downscale Cascades in Tracer Transport Test Cases: An intercomparison of the dynamical cores in the Community Atmosphere Model CAM5**, Geoscientific Model Development, Vol. 5, 1517-1530

Lebonnois, S., C. Covey, A. Grossmann, H. Parish, G. Schubert, R. Walterscheid, P. Lauritzen and C. Jablonowski (2012), **Angular Momentum Budget in General Circulation Models of Superrotating Atmospheres: A Critical Diagnostic**, Journal of Geophysical Research (Planets), Vol. 117, E12004, doi:10.1029/2012JE004223

Reed, K. A., C. Jablonowski and M. A. Taylor (2012), **Tropical Cyclones in the Spectral Element Configuration of the Community Atmosphere Model,** Atm. Sci. Lett., 13, 303-310, doi:10.1002/asl.399

Kent, J., C. Jablonowski, J. P. Whitehead and R. B. Rood (2012), **Assessing Tracer Transport Algorithms and the Impact of Vertical Resolution in a Finite-Volume Dynamical Core,** Mon. Wea. Rev., Vol. 140, 1620-1638

Reed, K. A. and C. Jablonowski (2012), **Idealized tropical cyclone simulations of intermediate complexity: a test case for AGCMs,** J. Adv. Model. Earth Syst., Vol. 4, M04001, doi:10.1029/2011MS000099

Ullrich, P. A. and C. Jablonowski (2012b), **MCore: A Non-hydrostatic Atmospheric Dynamical Core Utilizing High-Order Finite-Volume Methods**, J. Comput. Phys., Vol. 231, 5078-5108

Ullrich, P. A. and C. Jablonowski (2012a), **Operator-Split Runge-Kutta-Rosenbrock Methods for Nonhydrostatic Atmospheric Models**, Mon. Wea. Rev., Vol. 140, 1257-1284

Whitehead, J., C. Jablonowski, R. B. Rood and P. H. Lauritzen (2011), **A stability analysis of divergence**

damping on a latitude-longitude grid, Mon. Wea. Rev., Vol. 139(9), 2976-2993

Reed, K. A. and C. Jablonowski (2011c), **Assessing the Uncertainty in Tropical Cyclone Simulations in NCAR's Community Atmosphere Model**, J. Adv. Model. Earth Syst., Vol. 3, Art. 2011MS000076, 16 pp.

Reed, K. A. and C. Jablonowski (2011b), **Impact of physical parameterizations on idealized tropical cyclones in the Community Atmosphere Model**, Geophys. Res. Lett., Vol. 38, L04805

Reed, K. A. and C. Jablonowski (2011a), **An Analytic Vortex Initialization Technique for Idealized Tropical Cyclone Studies in AGCMs**, Mon. Wea. Rev., Vol. 139, 689-710

Ullrich, P. A. and C. Jablonowski (2011), **An Analysis of 1D Finite-Volume Methods for Geophysical Problems on Refined Grids,** J. Comput. Phys., Vol. 230, 706-725

Ullrich, P. A., C. Jablonowski and B. van Leer (2010), **High-order finite-volume methods for the shallow-water equations on the sphere,** J. Comput. Phys., Vol. 229, 6104-6134

Lauritzen, P. H, C. Jablonowski, M. A. Taylor and R. D. Nair (2010), **Rotated versions of the Jablonowski steady-state and baroclinic wave test cases: A dynamical core intercomparison**, J. Adv. Model. Earth Syst., Vol. 2, Art. #15, 34 pp.

Jablonowski, C., R. C. Oehmke and Q. F. Stout (2009): **Block-structured Adaptive Meshes and Reduced Grids for Atmospheric General Circulation Models,** Philosophical Transactions of the Royal Society A, Vol. 367, 4497-4522

Ullrich, P. A., P. H. Lauritzen, C. Jablonowski (2009), **Geometrically Exact Conservative Remapping (GECoRe): Regular latitude-longitude and cubed-sphere grids**, Mon. Wea. Rev., Vol. 137, 1721-1741

Williamson, D. L., J. Olson and C. Jablonowski (2009), **Two dynamical core formulation flaws exposed by a baroclinic instability test case,** Mon. Wea. Rev., Vol. 137, 790-796

St-Cyr, A., C. Jablonowski, J. M. Dennis, H. M. Tufo and S. J. Thomas (2008), **A Comparison of Two Shallow Water Models with Non-Conforming Adaptive Grids,** Mon. Wea. Rev., Vol. 136, 1898-1922

Nair, R. D. and C. Jablonowski (2008), **Moving Vortices on the Sphere: A Test Case for Horizontal Advection Problems,** Mon. Wea. Rev., Vol. 136, 699-711

Jablonowski, C., M. Herzog, J. E. Penner, R. C. Oehmke, Q. F. Stout, B. van Leer and K. G. Powell (2006), **Block-Structured Adaptive Grids on the Sphere: Advection Experiments**, Mon. Wea. Rev., Vol. 134, 3691-3713

Jablonowski, C. and D. L. Williamson (2006), **A Baroclinic Instability Test Case for Atmospheric Model Dynamical Cores**, Quart. J. Roy. Met. Soc., Vol. 132, October Part C, No. 621C, 2943-2975

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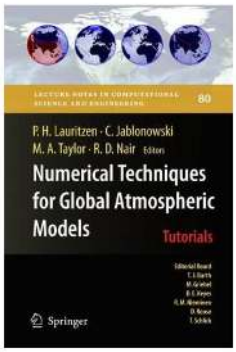
Edited books and Refereed Book Chapters



Lauritzen, P. H., C. Jablonowski, M. A. Taylor and R. D. Nair (Editors), 2011, **Numerical Techniques for Global Atmospheric Models.** Lecture Notes in Computational Science and Engineering, Springer, Vol. 80, 556 pp.

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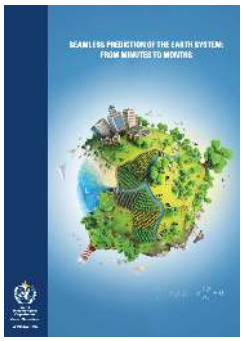

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Refereed Conference Proceedings

Zarzycki, C. and C. Jablonowski (2012): **Using Variable Resolution Meshes to Model Tropical Cyclones in NCAR'S CAM General Circulation Model,** 30th AMS Conference on Hurricanes and Tropical Meteorology, Ponte Vedra Beach, FL, USA, April 15-20, 2012, available online at http://ams.confex.com/ams/30Hurricane/webprogram/meeting.html#Tuesday

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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

CONFERENCE AND SEMINAR PRESENTATIONS

2021

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

Wright, D., C. Jablonowski, A. Fujisaki-Manome, P. Chu, B. Lofgren, G. Mann and E. Anderson (2020), **Using Model-Based Lake Surface Conditions in the Unified Forecasting System to Improve Lake-Effect Snowfall Forecasts Over the Laurentian Great Lakes Region**, oral presentation at the American Meteorological Society (AMS) 101th Annual Meeting, Virtual Conference, USA, 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, Virtual Conference, USA, 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, Virtual Conference, USA, 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, Virtual, USA, 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, Virtual Conference, U.K., 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, Virtual Conference, USA, 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), virtual conference, Canada, 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 23nd 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

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

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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

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

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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

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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 talk 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

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

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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

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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

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

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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

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

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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*, http://james.agu.org/index.php/JAMES (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 and NOAA proposals
- Member of DoE review panels, DoE ASCR proposals, DoE ALCC proposals

National and International Service

- Member of the NOAA Developmental Testbed Center (DTC) Science Advisory Board (2020 – 2022)
- Member of the NCAR Community Earth System Model (CESM) Scientific Steering Committee (SSC) (June 2019 – current)

- Member of the AMS Committee on Artificial Intelligence Applications to Environmental Science (January 2019 – current)
- Member of the NCAR Science Requirements Advisory Panel (SRAP) for the future NCAR-Wyoming Supercomputing Center (NWSC) procurement (December 2018 – current)
- University of Michigan Representative to the University Corporation for Atmospheric Research (UCAR) (May 2018 - current)
- 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 (February 2017 - current)
- 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) (11/2014 - current)
- Member of the Climate Change Science Institute Science Advisory Board at the Department of Energy's (DoE) Oak Ridge National Laboratory (2014-current)
- 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), Dec. 2010 – current
  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 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-current)
- 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),
  Sep. 2017 – current
- 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 (Sep. 2016 – current)
- Member of the College of Engineering (CoE) IT Faculty Council, (9/2015 – 8/2017, 9/2018 - current)
- Member of the CoE Scholastic Standing Committee (Fall 2014 - 2017)
- Member of CLASP's Curriculum Committee (Sep. 2013 – current)
- 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:

- Co-organizer of the workshop `Physics-Dynamics coupling in geophysical models', at the the Geophysical Fluid Dynamics Laboratory (GFDL), Princeton, NJ, in collaboration with Lucas Harris (GFDL), S. Malardel (Météo-France), H. Wan (PNNL), M. Gross (CICESE, Centro de Investigación Científica y de Educación Superior de Ensenada) and N. Wood (U.K. Met Office), planned for June 2021
- 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, planned for May 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, 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)
- Earth Science Women's Network (ESWN)