

Jason Cerveneć

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Web site: <https://byrd.osu.edu/research/groups/education-outreach>

Professional Preparation

The Ohio State University	Biology	B.S.	2000
The Ohio State University	Secondary Science	M.Ed.	2001

Appointments

2012-present Education & Outreach Director, Byrd Polar and Climate Research Center, The Ohio State University, Columbus, Ohio
2001-2012 High School Science Teacher, Worthington City Schools, Worthington, Ohio
2002-2012 Science Olympiad Coach, Worthington City Schools, Worthington, Ohio
2004-2011 Professional Development Workshop Leader, Ohio Board of Regents ITQ Grant

Products

Fluid Earth, a tool to explore Earth's atmosphere and oceans, developed with Aaron Wilson, Michael Gravina, Em Zhan, Bidhya Yadav, Daniel Hamilton, Adelyn Arens, Mimi Cai, Shaniqwa Martin, Jesse Fox, and Julien Nicholas, <https://fluid-earth.byrd.osu.edu/>

Virtual Ice Explore, immersive virtual field trips to Earth's icy landscapes, developed with Michael Gravina, Daniel Hamilton, Adelyn Arens, Kira Harris, and Kasey Krok, <https://virtualice.byrd.osu.edu/>

Exploring Polar Science, an Ohio 4-H Project Book, co-authored with Molly Hunt, <https://extensionpubs.osu.edu/exploring-polar-science/>

Virtual Rock Box, a virtual collection of samples from the Polar Rock Repository created for educators during the pandemic, developed with Daniel Hamilton, <https://byrd.osu.edu/virtual-rock-box>

Publications and Presentations

Cerveneć, J., J.A. Fox, K. Peggau, A.B. Wilson, B. Li, D. Hu, R. Chang, J. Wong, and C. Bossley. Under review. Interactive data visualizations of Earth's atmosphere: Effects on student engagement and perceived learning.

Cerveneć, J. (2021). Polar Mysteries and Climate Change Update. Invited workshop at the Appalachian Green Teachers Conference, Burr Oak State Park, Ohio, 28, October 2021.

Harris, K., K. Krok, R. Hollister, and J. Cerveneć (2021), Virtual tours through the ice using everyday tools, *Eos*, 102, <https://doi.org/10.1029/2021EO160631>. Published on 09 July 2021.

Cerveneć, J. and S. Porter. (2021). Climate Change: The Fierce Urgency of Now. Online as part of the Wexner Medical Center's Earth Day lunch and learn series on 22 April 2021.

O'Brien, K., W. Schlingman, C. Canan, J. Cerveneć, M. Delgado, and C. Price. Pivoting during the Pandemic: Strategies to Support Educators and Engage the Public. Online as part of the 2021 Advancing Research Impact in Society conference on 12 May 2021.

Porter, S. and J. Cerveneć. (2021). Climate Change, Scientific Research, and the Search for Truth. Invited presentation to Thomas Worthington H.S. PoliRad classes, online, 10 May 2021.

Porter, S. and J. Cerveneć. (2020). Climate Change, Scientific Research, and the Search for Truth. Invited presentation to Thomas Worthington H.S. PoliRad classes, online, 09 December 2020.

Cerveneć, J., K. Peggau, G. Davis, and J. Armstrong. (2021). Climathon: Adapting the "hackathon" model to engage undergraduates, researchers, and members of the community in building climate resilience. Presentation online as part of 2021 Earth Educator Rendezvous on 14 July 2021.

- Peggau, K., J. Cerveneć, S. Hogan, E. Kridel, and E. Altermatt. (2021). Polar Mystery: Using Puzzles to Connect Youth to Polar Regions. Presentation online as part of 2021 Earth Educator Rendezvous on 14 July 2021.
- Cerveneć, J., K. Peggau, J. McDonnell, E. Altermatt, and S. Hogan. (2020). Polar Literacy: Maintaining and Innovating Youth STEM Outreach Programs during a Pandemic. Presentation online at AGU Fall Meeting 2020 on 16 December 2020.
- Wilson, A. and J. Cerveneć. (2020). Ohio's Climate Impacts and Responses. Presentation online as part of a faith retreat for the Church of the Brethren on 22 October 2020.
- Cerveneć J., A. Wilson, and M. Gravina. Fluid Earth Viewer: A tool for exploring Earth's atmosphere and oceans. Online talk to American Meteorological Society Education Group on 15 October 2020.
- Cerveneć, J. (2020). Teaching Weather and Climate, presentation for virtual teacher professional development sessions offered by OSU, 04, August 2020.
- Cerveneć, J. (2020). Climate Change, Scientific Research, and the Search for Truth. Invited presentation to Thomas Worthington H.S. PoliRad and Composition classes, online, 04 May 2020.
- Cerveneć, J. (2020). Creation of a Climate Change Adaptation Plan for Columbus, Ohio, presentation for ENR 3500 course at OSU, 14, April 2020.
- Cerveneć, J. (2020). Application of the Columbus Climate Adaptation Plan to the Central Ohio Region, presentation to Central Ohio ROAR Summit, 29 February 2020.
- Cerveneć, J. (2020). An Overview of Climate Change and Its Impacts. Presentation for the Little Garden Club, Columbus, Ohio, 19, February 2020.
- Cerveneć, J. (2020). Discussion with ENGL 3398 course at OSU, 14, February 2020.
- Cerveneć, J. (2020). Creation of a Climate Change Adaptation Plan for Columbus, Ohio, presentation for City and Regional Planning course at OSU, 05, February 2020.
- Cerveneć, J. (2019). Climate Change, Scientific Research, and the Search for Truth. Invited presentation to Thomas Worthington H.S. PoliRad and Composition classes, Worthington, Ohio, 05 December 2019.
- Cerveneć, J. (2019). Climate and Weather Workshop. Invited workshop at the Appalachian Green Teachers Conference, Burr Oak State Park, Ohio, 30, October 2019.
- Cerveneć, J. (2019). Climate Change Connections to School Gardening. Invited presentation to Ohio 4-H School Gardening Conference, Columbus, Ohio, 25, October 2019.
- Cerveneć, J. (2019). Changing Climate and Impacts on Ag in Ohio. Presentation to Licking County Professional Agrarians, Newark, Ohio, 10, September 2019.
- Cerveneć, J. and Wilson, A. (2019). Presentation for Ohio Farm Bureau Policy Team, Columbus, Ohio, 12, July 2019.
- Cerveneć, J. (2019). Climate Change, Climate Adaptation. Invited presentation for the Wexner Medical Center Green Team, Columbus, Ohio, 23, May 2019.
- Cerveneć, J. (2019). Building Climate Resilience Demands Voices Beyond Physical Sciences and Engineering. Invited presentation at ROTO as part of COSI STEM Festival, Dublin, Ohio, 02, May 2019.
- Cerveneć, J. (2019). An Overview of Climate Change and Its Impacts. Invited talk at Chalmers Wylie VA, Columbus, Ohio, 30, April 2019.
- Cerveneć, J. (2019). An Overview of Climate Change and Its Impacts. Invited presentation to retired OSU faculty/staff luncheon, Upper Arlington, Ohio, 21, February 2019.
- Cerveneć, J. (2019). Interview with Spectrum News 1 about Columbus Climate Adaptation Plan, 20, February, 2019.
- Cerveneć, J. and Wilson, A. (2019). FARM App/Columbus Climate Adaptation Plan, presenters and session conveners for OSU Engagement Forum, Columbus, Ohio, 23, January 2019.
- Cerveneć, J. (2019). Creation of a Risk and Vulnerability Report for Columbus, Ohio. Invited speaker for CCAP at Indiana University, online, 08, January 2019.
- Cerveneć, J. (2018). Interview with Beth Burger for The (Columbus) Dispatch about the Columbus Climate Adaptation Plan, 18, December 2018.

Cervenec, J. Interview with Paige Pflieger on WOSU about Columbus Climate Adaption Plan. <
<https://radio.wosu.org/post/ohio-state-team-submits-plan-columbus-fight-climate-change>>, 18,
 December, 2018.

Cervenec, J. (2018). An Overview of Climate Change and Its Impacts. Presentation for the Bexley Garden
 Club, Bexley, Ohio, 06, November 2018.

Cervenec, J. (2018). An Overview of Climate Change and Its Impacts. Presentation for Our Lady of
 Perpetual Help parish, Grove City, Ohio, 01, October 2018.

Cervenec, J. and A. Wilson. (2018). From Fields to Forecasts: Participatory Practices for Engaging
 Farmers in Climate Conversations and Solutions, Great Lakes Adaptation Forum, Ann Arbor,
 Michigan, 26, September 2018.

Cervenec, J. and A. Wilson. (2018). Creation of a Climate Change Adaptation Plan for Columbus, Ohio,
 Great Lakes Adaptation Forum, Ann Arbor, Michigan, 25, September 2018.

Cervenec, J. and A. Wilson. (2018). Small Farm Impacts from and Adaptations to Climate Change,
 invited talk as part of 2018 Farm Science Review, London, Ohio, 19, September, 2018.

Petcovic, H., J. Cervenec, K. Cheek, R. Dahl, N. Price, and E. Pyle. (2018). Research on Elementary,
 Middle, and Secondary Earth and Space Sciences Teacher Education. In St. John, K. (Ed.)
 (2018). *A Community Framework for Geoscience Education Research*. National Association of
 Geoscience Teachers: <https://nagt.org/nagt/geoedresearch/GER_framework/theme3/index.html>

Cervenec, J. and A. Wilson. The Science of Climate Change, invited talk to College of Food, Agricultural
 and Environmental Sciences emeriti and retirees, Upper Arlington, Ohio, 19, March, 2018.

Cervenec, J. (2018). Interview with Rachael Penton for Channel 6 about Columbus Climate Adaptation
 Plan, 07, March 2018.

Wilson, A., J. Cervenec, and G. Dipre. Building Climate Change Resilience in Columbus through
 University and Community Engagement, OSU community engagement conference, Columbus,
 Ohio, 24, January, 2018.

Cervenec, J. and J. Nicolas. Fluid Earth Viewer, a Freely Available Digital Tool for Investigating
 Weather and Climate, presentation at Science Education Council of Ohio conference, Lewis
 Center, Ohio, 30, January, 2018.

Cervenec, J. Climate Change: Causes, Impacts, and Options, invited talk as part of Diocese of Toledo
 Care for Our Common Home workshop, Findlay, Ohio, 4, October, 2017.

Cervenec, J. Climate Change: Causes, Impacts, and Options, invited talk for SAVE Organization at
 Lourdes University, Sylvania, Ohio, 11, September, 2017.

Cervenec, J., B.G. Mark, and A. Wilson. Long-form interview with Joe Cornely on Town Hall Ohio,
 available at <<https://ofbf.org/2017/09/07/climate-change-town-hall-ohio/>>, 7, September, 2017.

Cervenec, J. and A. Wilson. Changing Climate in Ohio: Impacts on Small Farms and Rural Communities,
 invited talk as part of 2017 Farm Science Review, London, Ohio, 21, September, 2017.

Cervenec, J. Climate and Energy Education for Physical Science and Physics Classrooms, invited talk at
 2017 Summer Meeting of American Association of Physics Teachers, Cincinnati, Ohio, 24 July
 2017.

Cervenec, J. Research of the Byrd Center, Climate Change Impacts on Ohio, and Local Efforts to Adapt,
 invited talk as part of workshop for environmental remediation staff, Columbus, Ohio, 31 May
 2017.

Cervenec, J. Climate Change: A Global Problem Requiring Widespread Solutions, invite talk at St. John
 XXIII Church, Perrysburg, Ohio, 24 March 2017.

Cervenec, J. Columbus Climate Change Action Plan Overview presented as part of 2017 GreenSpot
 Celebration at the Columbus Main Library, Columbus, Ohio, 24 March 2017.

Cervenec, J. and B.G. Mark. Delivered professional testimony about science and climate to Ohio State
 Senate committee, Ohio Statehouse, Columbus, Ohio, 8 December 2016. Hearing was on House
 Bill 554 to end freeze on renewable energy standards.

Cervenec, J. Climate Changes, Impacts, and Vulnerabilities Report Overview. Sierra Club and

- National Wildlife Federation program at The Ohio State University, Columbus, Ohio, November 2016.
- Cummings, T.R., J. Cervenec, and A. Wilson. Development of a Mobile Sensor Platform for Micro-scale Climate and Air Quality Monitoring at Innovative Environmental Monitoring Technology Symposium, Athens, Ohio, 17-18 October 2016.
- Cervenec, J. and A. Wilson. Climate Change Information & Educational Resources, invited talk to Ohio Certified Volunteer Naturalist 2016 State Conference, 8 Oct 2016.
- Cervenec, J. Create Classroom Ice Cores, presented at 2016 Earth Educators Rendezvous, Madison, Wisconsin, 18-22 July 2016.
- Gordon, S., J. Cervenec and M. Durand. 2016. Introducing Teachers to Modeling Water in Urban Environments. *Journal of Computational Science Education*, 7(1), 21-26.
- Cervenec, J. Climate Change: Information and Education Resources, presented as part of Research to Practice Webinar Series for Ohio Certified Volunteer Naturalists, online webinar, 9 Mar 2016.
- GLISA. Climate Change in Columbus Ohio: An Assessment of Columbus' Key Climate Changes, Impacts, and Vulnerabilities of Concern, March 2016, available online at <http://bpcrc.osu.edu/greenteam>.
- Cervenec, J. and P. Gabrielli. Climate Change Science and Communication, presented for a Polar Educators International Master Class, online webinar, 25 Feb 2016.
- Cervenec, J. and M. Durand. Teaching the Water Cycle and Watersheds Using Hands on Experiments and Online Tools, presented at 2016 Ohio Science Institute, Columbus, Ohio, 25-26 Jan 2016.
- Cervenec, J. and A. Wilson. Climate Change Information & Educational Resources, presented at 2016 Ohio Science Institute, Columbus, Ohio, 25-26 Jan 2016.
- Cervenec, J. and M. Durand. From classrooms to geosciences careers: developing and testing a curriculum module and web application for modeling water in urban environments, Abstract ED11A-3391 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec 2014.
- Cervenec, J.M., G. Hitzhusen, S. Ward and C. Foster. A science-faith partnership to provide education and facilitate action on climate change and energy, Abstract ED22A-08 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec 2014.
- Cervenec, J. and C.E. Landis. Experiences & tools from modeling instruction applied to earth Sciences, Abstract ED13B-0782 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec 2012.
- Landis, C.E. and J. Cervenec. Arctic forecasts available from polar bear exhibit as an example of formal/informal collaboration, Abstract ED31C-08 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec 2012.
- Clark, T.M., J. Cervenec and J. Mamais. 2011. "The Price is Right" for your classroom. *Journal of Chemical Education*, 88(4), 428-431, doi: 10.1021/ed100224w.
- Cervenec, J. 2009. Stuck in grade nine? Modeling instruction in freshman physical science (Invited talk), presented at American Association of Physics Teachers Summer Meeting, An Arbor, Michigan July 2009, Session FD: Modeling Instruction in Physics.
- Cervenec, J., K. Harper, and A. Heckler. 2005. Professional development for standards-based physical science education using modeling physics, Abstract TP-C2 presented at Physics Education Research Conference: Connecting Physics Education Research (PER) to Teacher Education at All Levels: K-20, 10-11 August 2005, University of Utah, Salt Lake City.

Synergistic Activities

- Build climate change, climate resilience, and science education partnerships at The Ohio State University, within Columbus, and throughout Ohio
- Collaborate with local teachers and university professors to improve geosciences education, focus on crosscutting concepts, and support the transition to the Common Core and Next Generation Science Standards

- Organize programs and outreach activities for local schools, community organizations, and Ohio State students related to climate change, geosciences education, polar science, and work of the Byrd Polar and Climate Research Center
- Coordinate undergraduate employees and high school interns at the Byrd Polar and Climate Research Center
- Fulbright Exchange Teacher with the U.S. Department of State in Mumbai, India, 2010

Collaborators

Individuals: Aaron Wilson, OSU; Bryan Mark, OSU; Jim DeGrand, OSU; Karina Peggau, OSU; Michael Gravina, OSU; Laura Kissel, OSU; Jane Wright, OSU; Sue Hogan, OSU; Kelly Best Lazar, Clemson; Janice McDonnell, Rutgers; Anna Liljedahl, Woods Hole Research Center

OSU Departments & External Institutions: University Libraries/University Archives; School of Earth Sciences; Geography Department; College of Arts and Sciences; College of Food, Agricultural, and Environmental Sciences; OSU Extension; School of Environment and Natural Resources; The STEAM Factory; Center for Applied Plant Sciences; Center for Automotive Research; Department of Astronomy; Department of Mathematics; College of Pharmacy; Museum of Biological Diversity; Sustainability Institute; ERIK; Office of Student Life; Office of Outreach and Engagement; University Communications; Wexner Medical Center; Wexner Center for the Arts; Ohio 4-H; Franklin Park Conservatory & Botanical Gardens; Ohio History Connection; City of Columbus; MORPC; Franklin County Public Health; NOAA; Ohio Emergency Management and Homeland Security; Rural Action; Camp Oty'Okwa; Homeless Families Foundation; Gladden Community House; Central Library Consortium; Rutgers University; Clemson University; University of Alaska – Fairbanks; Woods Hole Research Center; Arctic Data Center; ARCUS; CIRES – CU Boulder; Navigating the New Arctic Community Office

Current Funded Projects

REU Supplement for Summer 2021

Funding Source: NSF NNA (Total Budget: \$13,052; 0 months salary)

WestFest 2021

Funding Source: Ohio State Energy Partners (Total Budget: \$13,075; 0.25 months salary matched)

Byrd Center Goldthwait Polar Library Renovation – Phase 2

Funding Source: OSU Public Spaces Grant (Total Budget: \$151,000; 0 months salary)

REU Supplement for Summer 2020

Funding Source: NSF AISL (Total Budget: \$45,629; 0 months salary)

The Scientist Next Door: Making STEM Accessible Through Storytelling

Funding Source: BETHA (Total Budget: \$105,538 of which \$44,321 from grant ; 0.5 months salary matched)

WestFest 2020

Funding Source: Ohio State Energy Partners (Total Budget: \$6,400; 0.25 months salary matched)

Byrd Center Goldthwait Polar Library Renovation – Phase 1

Funding Source: OSU Public Spaces Grant (Total Budget: \$154,159; 0 months salary)

Permafrost Discovery Gateway

Funding Source: NSF NNA (Total Budget: \$106,230; 1 month salary)

OSU Urban Heat Island Study and Instrumentation

Funding Source: OSU Sustainability Grant (Total Budget: \$149,905; 0.5 months salary matched)

Fluid Earth Viewer (FEVer)

Funding Source: NSF AISL (Total Budget: \$305,000; 6.25 months salary)

Past Funded Projects

Virtual Ice Explorer

Funding Source: NSF AISL (Total Budget: \$299,140; 5 months salary)

Columbus Climate Action Plan

Funding Source: Natural Resources Defense Council (Total Budget: \$50,000; 2 months salary)

Installation of Science on a Sphere System and Development of Program Content

Funding Source: Women & Philanthropy at The Ohio State University, OSU Office of Research, and Byrd Polar and Climate Research Center (Total Budget: \$42,000)

Development of FARM App and Submission of Midwest RISA Center Proposal

Funding Source: OSU Connect and Collaborate Grant (Total Budget: \$45,000; 2 weeks salary)

Harnessing Education and Technology for Environmental Detection (HEATED)

Funding Source: BETHA Grant 2014 (Total Budget: \$53,308; 1 month salary)

Ohio Earth Sciences Boot Camp

Funding Source: Ohio Board of Regents (Total Budget: \$40,368; 0.6 month salary)

Climate Explorations & Climate Collaborative: Bringing Cutting Edge Science & Hands-On

Investigations to Your Neighborhood & Building Collective Action on Climate Change Education

Funding Source: OSU Cares Grant 2014 (Total Budget: \$40,310; 1 month salary)

Argumentation Workshop for Middle and High School Teachers

Funding Source: Ohio Humanities Council Grant 2014 and Donation to BPRC Education & Outreach Fund (Total Budget: \$7,640)

Connecting Climate Science and Inquiry in K-6 Classrooms

Funding Source: Ohio Board of Regents – Improving Teacher Quality Grant 2013 (Total Budget: \$102,958; 2.4 months salary)

Classrooms to Geoscience Careers: Developing, Testing and Disseminating a High School Module on Modeling Water in Urban Environments

Funding Source: NSF 2013 and 2014 (Total Budget: \$149,638; 1.75 months salary)

Contributions to the Geosciences Education, Climate Services, Polar Science, and OSU Communities

- 2021-present Convener of OSU Climathon (annual event to connect researchers and practitioners, involve students in developing climate solutions, offer products and services to the community)
- 2020-present Co-convener of OSU Climate Change and Health working group (applied for OSU seed grant, hosted climate change and health workshop, drafted NIH letter, networked on and off-campus researchers and practitioners)
- 2020-present Co-convener of OSU STEM Impacts Collaborative (bi-weekly meetings, bi-weekly public office hours, and various public events)
- 2020-present Convener of Byrd Center Diversity and Inclusion Committee (drafted diversity and inclusion statement and plan of action, created code of conduct in consultation with Byrd Center members, selected seminar speakers, released annual report)
- 2019-present Organizing Committee member for annual Byrd Symposium
- 2017-present Organizing Committee member for OSU's annual *WestFest* public outreach and sustainability event
- 2013-present Leader for *Ohio Science Olympiad State Tournament* events (including Dynamic Planet and Remote Sensing for middle and high school)
- 2021 Selection committee member for Byrd Center Archival Program Research Award
- 2021 Judge for 4-H project book *Exploring Polar Science* at Ohio State Fair in on August 5, 2021 in Columbus, Ohio
- 2021 Co-organizer of virtual tour of South Pole Station with NSF Polar Programs and Byrd Center for 106 individuals on June 23, 2021
- 2021 Book discussion with *The Loneliest Polar Bear* author Kale Williams in collaboration with Gramercy Books on May 13, 2021
- 2020 Provided technical information to Franklin County Public Health on extreme heat in response to the COVID-19 pandemic, with Aaron Wilson

- 2019 Participated in CFAES Legislator Date at the Ohio Statehouse as part of State Climate Office of Ohio
- 2019 Selection committee member for Byrd Center Archival Program Research Award
- 2019 Organizing Committee member for *50th Anniversary Celebration of First All-Women Research Team in Antarctica*, held at the Byrd Center, Columbus, OH on October 17 and 18, 2019
- 2019 Host for OSU's *Road Scholar Tour* kick-off site
- 2019 Member of climate change panel for discussion at Old Worthington Library with Celebrezze, D. and Taylor-Miesle, H.
- 2019 Served on sustainability panel for OSU service learning luncheon
- 2019 Served on broader impacts panel for workshop at CAPS/ABRC at OSU
- 2019 Organizing Committee member for the *Ohio Climate Services Summit*, a collaboration of the State Climate Office of Ohio and National Weather Service, held at the Byrd Center, Columbus, OH on June 4 and 5, 2019
- 2018 Selection committee member for Byrd Center Archival Program Research Award
- 2018 Member of panel on climate change and Midwest perceptions for Denison University journalism workshop, Newark, Ohio 10, November 2018.
- 2018 Served on National Science Foundation Review Panel
- 2015-2017 Chaired the Climate Working Group for the (Columbus) Mayor's Green Team that produced *Climate Change in Columbus Ohio: An Assessment of Columbus' Key Climate Changes, Impacts, and Vulnerabilities of Concern* in collaboration with Great Lakes Integrated Sciences + Assessments
- 2017 Participant in Geoscience Education Research Grand Challenges and Strategies Workshop at 2017 *Earth Educators' Rendezvous*, Albuquerque, New Mexico, 16-19 July 2017.
- 2016 Served as reviewer for materials in the SERC collection at the *Earth Educators' Rendezvous*, Madison, Wisconsin
- 2015 Served on NASA Review Panel
- 2014 Served on National Science Foundation Review Panel

Service to the Local Community

- 2014-Present Volunteer with Franklin County Juvenile Court, East Side Restorative Justice Circle
- 2015-Present Member of the Creation Care Team for the Roman Catholic Diocese of Columbus
- 2014-2018 Board Member of Ohio Interfaith Power and Light
- 2015-2017 Member of the Mayor's Green Team for the City of Columbus and Chair of the Climate Change Subcommittee