

## DANIEL W. ZIETLOW, PH.D. - *Curriculum Vitae* 2022

[zietlow@ucar.edu](mailto:zietlow@ucar.edu)

### EDUCATION

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**Ph.D., Geophysics**, University of Colorado, Boulder May 2016

Dissertation: *Four Brothers and a Waka: Investigating Accommodation of Shear and Convergence Underlying the South Island of New Zealand*

**A.B.H., Physics and Art History**, Rollins College May 2010

Honors Thesis: *The Dynamic Response of Circular Flat Plates*

### PROFESSIONAL EXPERIENCE

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**Educational Designer II** 2018 - present

*National Center for Atmospheric Research (NCAR)*

- Manages and leads video production efforts
- Supports outreach projects (e.g., lectures, exhibits)

**Producer, Executive Director, Editor** 2014 - present

*Provare Media* (<http://www.provaremedia.com>)

- Co-leads development, filming, and editing of original science-focused media
- Currently co-producing the network TV show *Adventures in Science*
- Production designer and editor on full-length documentary *Tomorrow*
- Co-produced *Breaking Science*, a YouTube-based science show

**Videographer, Editor, and Education Generalist** 2016 - 2018

*UNAVCO, Inc.*

- Produced video content and educational materials (e.g., posters, hands-on demos)

**Graduate Research Assistant** 2010 - 2016

*University of Colorado, Boulder*

- Undertook independent geophysical research incorporating ocean bottom seismometers into seismic anisotropy and body wave tomography studies

**Undergraduate Research Assistant** 2006 - 2010

*Rollins College*

- Physics research focused on the musical acoustics of trumpets and flat plates

### SCIENTIFIC AND VIDEOGRAPHY FIELDWORK EXPERIENCE

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**OTREC**, Liberia, Costa Rica (videography) 2019

- Interviewed the Organization of Tropical East Pacific Convection project team
- Documented science and education activities

**RELÁMPAGO**, Córdoba, Argentina (videography) 2018

- Documented the Remote Sensing of Electrification, Lightning, and Mesoscale/Microscale Processes with Adaptive Ground Observations field campaign

- WE-CAN**, Boise, Idaho (videography) 2018
- Documented scientists and students during Western wildfire Experiment for Cloud chemistry, Aerosol absorption and Nitrogen
- Arctic Caribou**, Toolik Lake Field Station, Alaska (videography) 2017
- Filmed the story of how arctic caribou are impacted by climate change
- Kaapvaal Craton**, Johannesburg, South Africa (scientific) 2016
- Collected syenite samples across southern Africa for thermochronology work
- Black Ice Himalaya**, Ngozumpa Glacier, Nepal (scientific & videography) 2013
- Installed/dismantled time-lapse cameras and ran sonar for glacial studies
  - Video documentary: <http://vimeo.com/84409072>
- DRIFTER**, Colorado and New Mexico (scientific) 2012 - 2013
- Installed/removed long-period and broadband magnetotelluric equipment for the Deep RIFT Electrical Resistivity Experiment in the Rio Grande Rift
- Cascadia Initiative**, Offshore Oregon and Washington (scientific) 2012
- Recovered ocean bottom seismometers associated with the Cascadia Initiative Experiment from abroad R/V Oceanus
  - Expedition blog: <http://cascadia.uoregon.edu/CIET/leg-1-may-12-may-26-2012-rv-oceanus-oc-1205a - Out at Sea: A Graduate Student39s Perspective of the CIET>
- Bighorn Arch Seismic Experiment**, Wyoming (scientific) 2010
- Installed/removed "Texan" seismometers in an active source experiment

## TEACHING EXPERIENCE

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- Film Workshops** 2018 - present
- Teaches the fundamentals of filmmaking and science storytelling
  - Workshops for university and scientific organization audiences
- Earth Explorers** 2018 - present
- Co-teaches a middle school STEM class designed for underrepresented youth that combines the exploration of science with videography skills
- Putney Student Travel** 2017 - present
- National Geographic Student Expeditions & New York Times Student Journeys*
- Expedition leader on trips to Massachusetts Institute of Technology, University of California, Berkeley, and Switzerland teaching high school students about science, innovation, and travel
- Graduate Teaching Assistant**, University of Colorado, Boulder 2012, 2015
- GEOL 4130: Principles of Geophysics - taught weekly recitations and in-class demonstrations, and created weekly reading quizzes

- GEOL 4714/5714: Field Geophysics - developed weekly quizzes, taught students to deploy geophysical instrumentation, and maintained field equipment

## SELECTED PUBLICATIONS

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1. R.W. Vachon, **D.W. Zietlow**, A. Gold, and E. Leckey, *Sharing Science With Film: A Guide to Student Productions*, available from: <https://cires.colorado.edu/outreach/resources/unit/sharing-science-film-guide-student-productions> (2020).
2. **D.W. Zietlow**, A.F. Sheehan, and M.V. Bernardino, "Teleseismic S-wave tomography of South Island, New Zealand upper mantle," *Geosphere*, doi: 10.1130/GES01591.1 (2018).
3. **D.W. Zietlow**, P.H. Molnar, and A.F. Sheehan, "Teleseismic P-wave tomography of South Island, New Zealand upper mantle: Evidence of subduction of Pacific lithosphere since 45 Ma," *J. Geophys. Res. Solid Earth*, doi: 10.1002/2015JB012624 (2016).
4. **D.W. Zietlow**, A.F. Sheehan, P.H. Molnar, M.K. Savage, G. Hirth, J.A. Collins, and B.H. Hager, "Mantle seismic anisotropy at a strike-slip fault: South Island, New Zealand," *J. Geophys. Res. Solid Earth*, 119, doi: 10.1002/2013JB010676 (2014).
5. **D.W. Zietlow**, D.C. Griffin, and T.R. Moore, "The limitations on applying classical thin plate theory to thin annular plates clamped on the inner boundary," *AIP Advances*, 2, 042103, doi: 10.1063/1.4757928 (2012).
6. W. Kausel, **D.W. Zietlow**, and T.R. Moore, "Influence of wall vibrations on the sound of brass wind instruments," *Journal of the Acoustical Society of America*, 128, 3161-3175, doi: 10.1121/1.3493457 (2010).
7. T.R. Moore, **D.W. Zietlow**, C.W. Gorman, D.C. Griffin, C.P. Ballance, and D.J. Parker, "Transient motion of a circular plate after an impact," *Journal of the Acoustical Society of America*, 125, EL63-EL69, doi: 10.1121/1.3049584 (2009).

## SELECTED PRESENTATIONS

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1. **D.W. Zietlow**, L. Medina Luna, and C.A. Davis, "Thinking of new ways to engage through the NCAR Explorer Series," 2021 Fall Meeting of the American Geophysical Union, New Orleans, Louisiana, December 13-17, 2021.
2. **D.W. Zietlow**, L. Medina Luna, R.W. Vachon, and R. Haacker, "Bringing Your Film Idea to Life: Crafting Outreach Videos for Diverse Audiences," Workshop at the 2020 Fall Meeting of the American Geophysical Union, virtual.
3. **D.W. Zietlow** and R.W. Vachon, "Science Films: Lessons Learned From Communicating Through Video," 2020 Fall Meeting of the American Geophysical Union, virtual.

4. **D.W. Zietlow** and R.W. Vachon, "Developing a Youth Science Education TV Series from the Ground Up," 2019 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 9-13, 2019.
5. L. Medina Luna and **D.W. Zietlow**, "NCAR Explorer Series: Videos of Real People, Doing Real Science," 2019 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 9-13, 2019.
6. **D.W. Zietlow**, B. Bartel, and S.E. Olds, "Hands-On Geodesy: Engaging the Public and Fostering Intern Professional Development," 2017 Annual Meeting of the Geological Society of America, Seattle, WA, October 22-25, 2017.
7. **D.W. Zietlow**, C. Molnar, C.M. Meertens, D.A. Phillips, B.A. Bartel, and D.J. Ertz, "Geodetic Data Via Web Services: Standardizing Access, Expanding Accessibility, and Promoting Discovery," 2016 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 12-16, 2016.
8. **D.W. Zietlow** and A.F. Sheehan, "Investigating Lithospheric Structure via Ocean Bottom Seismometers: South Island, New Zealand," 2013 Ocean Bottom Seismometer Workshop, Redondo Beach, CA, October 21-22, 2013.
9. **D.W. Zietlow**, A.F. Sheehan, Z. Yang, J.C. Stachnik, J. Collins, and M.K. Savage, "Determining Mantle Anisotropy at a Transform Plate Boundary via Ocean Bottom Seismometers: South Island, New Zealand," IUGG Mathematical Geophysics Conference, Edinburgh, UK, June 18-22, 2012.
10. **D.W. Zietlow** and T.R. Moore, "The auger shell whistle," 158th Meeting of the Acoustical Society of America, San Antonio, TX, October 19-23, 2009.
11. T.R. Moore, **D.W. Zietlow**, and C. Gorman, "High-speed electronic speckle pattern interferometry of a struck flat plate," 155th Meeting of the Acoustical Society of America, Paris, France, June 30-July 4, 2008.

## EXTERNAL GRANTS AND FELLOWSHIPS

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1. National Science Foundation, Geosciences Directorate, *EAGER: Elevating and empowering Hispanic/Latinx voices through video: Reducing barriers in academia and building an ecosystem for success in the Earth system sciences*, \$256,312, 2021-2023
2. National Science Foundation, Division of Research on Learning, *Advancing Informal STEM Learning, Adventures in Science - Co-Design of Broadcast Film for Multi-Knowledge Understanding of Earth System Science*, \$2,061,672, 2021 - declined
3. National Science Foundation, Division of Research on Learning, *Advancing Informal STEM Learning, Adventures in Science - The role of peer co-viewing in science learning and broader-topic contextualization*, \$1,318,925, 2019 - declined

4. National Science Foundation, Office of International Science & Engineering, East Asia and Pacific Summer Institutes (EAPSI), *Constraining Anisotropy Under the South Island of New Zealand*, \$5700, 2011

## **HONORS AND AWARDS**

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University Corporation for Atmospheric Research Education & Outreach Award	2021
Best Documentary: Western Canadian International Film Festival	2021
Semi-Finalist: New York City Film & Television Festival	2021
Official Selection: Markham (Canada) International Film Festival	2021
Northwest Regional Emmy Nomination	2019
CIRES Graduate Student Research Award	2014
Bruce Curtis Graduate Fellowship	2011
Senior Scholar in Science and Mathematics Division, Rollins College	2010
Senior Scholar in Physics, Rollins College	2010
Best Student Paper Award in Musical Acoustics, Acoustical Society of America	2009

## **PROFESSIONAL ORGANIZATIONS**

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American Geophysical Union  
 American Meteorological Society  
 Geological Society of America  
 National Academy of Television Arts & Sciences Heartland Chapter

## **SUMMARY OF OTHER QUALIFICATIONS**

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Proficient with Adobe Premiere Pro, Photoshop, Audition, After Effects, Illustrator, InDesign, DSLR and mirrorless cameras, sound/lightning design, NSF grant writing, MatLab and Bash scripting, HTML coding, website management, and Microsoft Office products.