

# Dustin M. Schroeder

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## EDUCATION

- 2014 Jackson School of Geosciences, University of Texas, Austin, TX  
Doctor of Philosophy (Ph.D.) in Geophysics
- 2007 Bucknell University, Lewisburg, PA  
Bachelor of Science in Electrical Engineering (B.S.E.E.), departmental honors, magna cum laude  
Bachelor of Arts (B.A.) in Physics, magna cum laude, minors in Mathematics and Philosophy

## PROFESSIONAL EXPERIENCE

- 2016 – present Assistant Professor of Geophysics, Stanford University
- 2017 – present Assistant Professor (by courtesy) of Electrical Engineering, Stanford University
- 2016 – present Faculty Affiliate, Stanford Woods Institute for the Environment
- 2014 – 2016 Radar Systems Engineer, Jet Propulsion Laboratory, California Institute of Technology
- 2012 Graduate Researcher, Applied Physics Laboratory, Johns Hopkins University
- 2008 – 2014 Graduate Researcher, University of Texas Institute for Geophysics
- 2007 – 2008 Platform Hardware Engineer, Freescale Semiconductor
- 2006 – 2007 Undergraduate Researcher, Bucknell University Department of Electrical Engineering
- 2005 Undergraduate Researcher, Lerner Research Institute, Cleveland Clinic Foundation
- 2004 Undergraduate Researcher, Harvard-Smithsonian Center for Astrophysics

## AWARDS

- 2016 Frederick E. Terman Fellowship, Stanford University
- 2015 JPL Team Award, Europa Mission Instrument Proposal
- 2014 Best Graduate Student Paper, Jackson School of Geosciences
- 2014 National Science Olympiad Heart of Gold Award for Service to Science Education
- 2013 Best Ph.D. Student Speaker, Jackson School of Geosciences
- 2013 Jackson School of Geosciences Research Symposium, 1<sup>st</sup> Place Late-Career Ph.D.
- 2012 NASA Group Achievement Award: Operation Ice Bridge
- 2012 Gale White Fellowship, University of Texas Institute for Geophysics
- 2012 David Brunton Jr. Fellowship, University of Texas Graduate School
- 2011 National Science Foundation Antarctic Service Medal
- 2010 The Friar Society, The University of Texas
- 2009 NSF Graduate Research Fellowship
- 2008 University of Texas Graduate School Recruiting Fellowship
- 2007 Thelma Johnson Showalter Prize, Bucknell University
- 2007 Phi Beta Kappa, Bucknell University
- 2006 Tau Beta Pi, Bucknell University
- 2006 Sigma Pi Sigma, Bucknell University
- 2005 COMAP Mathematical Contest in Modeling, Meritorious Winner

## PUBLICATIONS

### Journal Articles (\* indicates student or postdoc advisees)

- 2017 D.M. Schroeder, A.M. Hilger<sup>\*</sup>, J.D. Paden, D.A. Young, H.F.J. Corr, Ocean Access Beneath the Southwest Tributary of Pine Island Glacier, West Antarctica, *Annals of Glaciology*
- 2017 G. Steinbruegge<sup>\*</sup>, D.M. Schroeder, M.S. Haynes, H. Hussmann, C. Grima, D.D. Blankenship, Assessing the potential for measuring Europa's tidal Love number  $h_2$  using radar sounder and topographic imager data, *Earth and Planetary Science Letters*
- 2017 D. Castelletti<sup>\*</sup>, D.M. Schroeder, S. Hensley, C. Grima, G. Ng, D.A. Young, Y. Gim, L Bruzzone, A. Moussessian, D.D. Blankenship, An Interferometric Approach to Cross-Track Clutter Detection in Two Channel VHF Radar Sounders, *IEEE Transactions on Geoscience and Remote Sensing*
- 2017 T.M. Jordan<sup>\*</sup>, M.A. Cooper, D.M. Schroeder, C.N. Williams, J.D. Paden, M.J. Siegert, J.L. Bamber, Self-affine subglacial roughness: consequences for radar scattering and basal water discrimination in northern Greenland, *The Cryosphere*
- 2017 B.A. Campbell, D.M. Schroeder, J.L. Whitten, Mars Radar Clutter and Surface Roughness Characteristics from MARSIS Data, *Icarus*
- 2017 K. Kalousova<sup>\*</sup>, D.M. Schroeder, K. Soderlund, Radar attenuation in Europa's ice shell: Obstacles and opportunities for constraining the shell thickness and its thermal structure, *Journal of Geophysical Research*
- 2017 Y. Aglyamov<sup>\*</sup>, D.M. Schroeder, S.D. Vance, Bright prospects for radar detection of Europa's ocean, *Icarus*
- 2016 W. Chu<sup>\*</sup>, D. M. Schroeder, H. Seroussi, T. Creyts, S. J. Palmer, R. E. Bell, Extensive winter subglacial water storage beneath the Greenland Ice Sheet, *Geophysical Research Letters*
- 2016 D.M. Schroeder, H. Seroussi, W. Chu, D.A. Young, Adaptively constraining radar attenuation and temperature across the Thwaites Glacier catchment using bed echoes, *Journal of Glaciology*
- 2016 A. Khazendar, E. Rignot, D.M. Schroeder, H. Seroussi, M.P. Schodlok, B. Scheuchl, J. Mouginot, T. Sutterley, I. Velicogna, Rapid submarine ice melting in the grounding zones of ice shelves in West Antarctica, *Nature Communications*
- 2016 D.M. Schroeder, A. Romero-Wolf, L. Carrer, C. Grima, B.A. Campbell, W. Kofman, L. Bruzzone, D.D. Blankenship, Assessing the potential for passive radio sounding of Europa and Ganymede with RIME and REASON, *Planetary and Space Science*
- 2016 A. Romero-Wolf, D.M. Schroeder, P. Ries, B.G. Bills, C. Naudet, B.R. Scott, R. Treuhaft, S. Vance, Prospects of passive radio detection of a subsurface ocean on Europa with a lander, *Planetary and Space Science*
- 2016 M.J. Siegert, N. Ross, J. Li, D.M. Schroeder, D. Rippin, D. Ashmore, R. Bingham, P. Gogineni, Subglacial Controls on the Flow of Institute Ice Stream, West Antarctica, *Annals of Glaciology*
- 2016 M.G.P. Cavitte, D.D. Blankenship, D.A. Young, D.M. Schroeder, F. Parrenin, E. LeMeur, J.A. MacGregor, M.J. Siegert. Deep Radiostratigraphy of the East Antarctic Plateau: Connecting the Dome C and Vostok Ice Core Sites, *Journal of Glaciology*
- 2016 D.M. Schroeder, C. Grima, D.D. Blankenship. Evidence for Variable Grounding-Zone and Shear-Margin Basal Conditions Across Thwaites Glacier, West Antarctica, *Geophysics*
- 2015 D.A. Young, D.M. Schroeder, D.D. Blankenship, S.D. Kempf, E. Quartini. The Distribution of Basal Water Between Antarctic Subglacial Lakes from Radar Sounding, *Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences*
- 2015 C. Grima, D.D. Blankenship, D.M. Schroeder. Radar Signal Propagation through Europa Ionosphere, *Planetary and Space Science*

- 2015 J.S. Greenbaum, D.D. Blankenship, D.A. Young, A.R.A. Aitken, B. Legresy, D.M. Schroeder, T.G. Richter, J.L. Roberts, R.C. Warner, T.D. van Ommen, M.J. Siegert. Ocean Access to Totten Glacier, East Antarctica, *Nature Geoscience*
- 2015 D.M. Schroeder, D.D. Blankenship, R.K. Raney, C. Grima. Estimating Subglacial Water Geometry from the Specularity of Radar Bed Echoes: Application to Thwaites Glacier, West Antarctica. *IEEE Geoscience and Remote Sensing Letters*
- 2014 D.M. Schroeder, D.D. Blankenship, D.A. Young, A.E. Kirshner, J.B. Anderson. Airborne Radar Sounding Evidence for Deformable Sediments and Outcropping Bedrock Beneath Thwaites Glacier, West Antarctica, *Geophysical Research Letters*
- 2014 G. Grima, D.D. Blankenship, D.A. Young, D.M. Schroeder. Surface Slope Control on Firn Density at Thwaites Glacier, West Antarctica: Results from airborne radar sounding, *Geophysical Research Letters*
- 2014 D.M. Schroeder, D.D. Blankenship, D.A. Young, E. Quartini. Evidence for Elevated and Spatially Heterogeneous Geothermal Flux Beneath the West Antarctic Ice Sheet, *Proceedings of the National Academy of Sciences*
- 2014 C. Grima, D.M. Schroeder, D.D. Blankenship, D.A. Young. Planetary Landing Zone Assessment by Radar Sounder: Demonstration in Antarctica, *Planetary and Space Science*
- 2014 A.E. Witus, C.M. Branecky, J.B. Anderson, W. Szczucinski, D.M. Schroeder, D.D. Blankenship, M. Jakobsson. Meltwater Intensive Glacial Retreat in Polar Environments and Investigation of Associated Sediments: Example from Pine Island Bay, West Antarctica, *Quaternary Science Reviews*
- 2013 D.M. Schroeder, D.D. Blankenship, D.A. Young. Evidence for a Water System Transition Beneath Thwaites Glacier, West Antarctica, *Proceedings of the National Academy of Sciences*
- 2013 J.A. MacGregor, G.A. Catania, H.B. Conway, D.M. Schroeder, I.R. Joughin, D.A. Young, S.D. Kempf, D.D. Blankenship. Weak Bed Control of the Eastern Shear Margin of Thwaites Glacier. *Journal Glaciology*
- 2012 A.P. Wright, D.A. Young, J.L. Roberts, D.M. Schroeder, J.L. Bamber, J.A. Dowdeswell, N.W. Young, A.M. Le Brocq, R.C. Warner, A.J. Payne, D.D. Blankenship, T.D. van Ommen, M.J. Siegert. Evidence for a Hydrological Connection Between the Ice Divide and Ice Sheet Margin in the Aurora Subglacial Basin Sector of East Antarctica, *Journal of Geophysical Research Earth Surface*
- 2011 D.A. Young, A.P. Wright, J.L. Roberts, R.C. Warner, N.W. Young, J.S. Greenbaum, D.M. Schroeder, D.E. Sugden, J.W. Holt, D.D. Blankenship, T. Van Ommen, M.J. Siegert. A Dynamic Early East Antarctic Ice Sheet Suggested by Ice Covered Fjord Landscapes, *Nature*

**Refereed Conference Proceedings** (\* indicates student or postdoc advisees)

- 2015 D. Castelletti\*, D.M. Schroeder, S. Hensley, C. Grima, G. Ng, D. Young, Yonggyu Gim, L. Bruzzone, A. Moussessian, D. D. Blankenship, Clutter Detection Using Two-Channel Radar Sounder Data, *IEEE Geoscience and Remote Sensing Society, Milan, July 26<sup>th</sup> – 31<sup>st</sup>*

**INVITED TALKS**

- 2018 Department of Earth and Planetary Sciences, Washington University in Saint Louis
- 2018 Department of Earth System Science, Stanford University
- 2017 Europa Science Series, Jet Propulsion Laboratory, Caltech
- 2017 Department of Earth and Planetary Science, Johns Hopkins University
- 2017 Berkeley Seismology Lab, University of California, Berkeley
- 2017 Keynote, International Glaciological Society Symposium, Boulder

## Schroeder C.V. December 2017

- 2017 Advanced Instrumentation Seminar, SLAC National Accelerator Laboratory
- 2017 School of Geosciences, University of Edinburgh
- 2017 Keynote, Canadian Geophysical Union and CSAFM Joint Annual Scientific Meeting, Vancouver
- 2017 Symposium Keynote, Department of Electronic and Electrical Engineering, University College London
- 2017 Department of Earth and Space Sciences, University of Washington
- 2016 Institute of Planetary Research, German Aerospace Center
- 2016 Glaciology Center Seminar, Bristol University
- 2016 Remote Sensing Laboratory, University of Trento
- 2016 Physics Department, Bucknell University
- 2016 Planetary Seminar Series, Georgia Institute of Technology
- 2016 Institute for Geophysics and Planetary Physics, UC Santa Cruz
- 2016 Lamont-Doherty Earth Observatory, Columbia University
- 2015 Scripps Institute of Oceanography, University of California San Diego
- 2015 AGU Fall Meeting, San Francisco
- 2015 Climate Center Seminar, Jet Propulsion Laboratory
- 2015 Department of Geophysics, Stanford University
- 2015 Radar Science and Engineering Section, Jet Propulsion Laboratory, Caltech
- 2015 Department of Electrical Engineering, University of Colorado, Boulder
- 2014 Department of Geophysics, Stanford University
- 2014 Workshop on Instruments for Polar Geology and Geophysics Research, NASA/NSF
- 2014 Norwegian Polar Research Institute, Tromsø
- 2014 Department of Geology, University of Kansas
- 2013 Earth and Planetary Science, Johns Hopkins University
- 2013 Radar Science and Engineering Section, Jet Propulsion Laboratory, Caltech
- 2012 Institute for Geophysics, University of Texas at Austin
- 2012 Space Research Group, Applied Physics Lab, Johns Hopkins University
- 2011 AGU Fall Meeting, San Francisco

### CONFERENCE PARTICIPATION (\* indicates student or postdoc advisees)

- 2017 D.M. Schroeder, J.A. Dowdeswell, E.J. MacKie<sup>\*</sup>, K.I. Vega<sup>\*</sup>, J.R. Simmons<sup>\*</sup>, K. Winstein, R.G. Bingham, T.J. Benham, High-Resolution Digitization of the Film Archive of SPRI/NSF/TUD Radar Sounding of the Antarctic Ice Sheet, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 W. Chu<sup>\*</sup>, D.M. Schroeder, H.L. Seroussi, T.T. Creyts, R.E. Bell, J.D. Paden, Constraining Greenland basal water extent and drainage morphology from radar reflectivity and specularly analysis, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 D. Castelletti<sup>\*</sup>, D.M. Schroeder, Estimating Englacial Vertical Velocity from Airborne Radar Sounding Data, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 A.M. Hilger<sup>\*</sup>, D.M. Schroeder, H.F.J. Corr, D.D. Blankenship, J.D. Paden, Constraining Basal Conditions across the Amundsen Sea Embayment of West Antarctica using a Synthesis of the PASIN and HiCARS Radar Sounding Data, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 S.T. Peters<sup>\*</sup>, D.M. Schroeder, A. Romero-Wolf, M.S. Haynes, Preliminary Field Demonstration of Passive Radio Sounding Using the Sun as a Signal for Echo Detection, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>

## Schroeder C.V. December 2017

- 2017 T.M. Jordan<sup>\*</sup>, C. Williams, D.M. Schroeder, Y.M. Matos, M. Cooper, M.J. Siegert, J.D. Paden, P. Huybrechts, J.L. Bamber, The Distribution of Basal Water Beneath the Greenland Ice Sheet from Radio-Echo Sounding, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 M.R. Siegfried<sup>\*</sup>, S. Adusumilli, H.A. Fricker, T.A. Scambos, D.M. Schroeder, B.E. Smith, Unraveling the cause of large surface-height anomalies on Slessor and Recovery glaciers, East Antarctica, with multi-mission data integration, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 A. Rutishauser, M.J. Sharp, D.D. Blankenship, M.L. Skidmore, C. Grima, D.M. Schroeder, J.S. Greenbaum, J.A. Dowdeswell, D.A. Young, Geophysical Investigations of Hypersaline Subglacial Water Systems in the Canadian Arctic: A Planetary Analog, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 J.S. Greenbaum, D.D. Blankenship, C. Grima, D.M. Schroeder, K.M. Soderlund, D.A. Young, S.D. Kempf, M.J. Siegert, J.L. Roberts, R.C. Warner, T.D. van Ommen, Remote Characterization of Ice Shelf Surface and Basal Processes: Examples from East Antarctica, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 L.M. Simkins, S.P. Carter, S. Greenwood, D.M. Schroeder, Meltwater drainage beneath ice sheets: What can we learn from uniting observations of paleo- and contemporary subglacial hydrology?, AGU Fall Meeting, December 11<sup>th</sup> – 15<sup>th</sup>
- 2017 G.W. Patterson, L.M. Carter, A.M. Stickle, J.T.S. Cahill, M.C. Nolan, G.A. Morgan, D.M. Schroeder, Mini-RF Team, Mini-RF S- and X-Band Bistatic Radar Observations of the Moon, Annual Meeting of the Lunar Exploration Analysis Group, Columbia, MD, October 10<sup>th</sup> – 12<sup>th</sup>
- 2017 D.M. Schroeder, J.A. Dowdeswell, High Resolution Digitization of the Film Archive of SPRI/NSF/TUD Radar Sounding of the Antarctic Ice Sheet, International Symposium on Polar Ice, Polar Climate, Polar Change: Remote Sensing and Modeling Advances in Understanding the Cryosphere, Boulder, August 14<sup>th</sup> – 19<sup>th</sup> (invited keynote)
- 2017 T. Teisberg<sup>\*</sup>, T. Diamandis<sup>\*</sup>, L. Herrera<sup>\*</sup>, I. Kushan<sup>\*</sup>, A. Tedjarati<sup>\*</sup>, D.M. Schroeder, Radar Sounder Development for an Expendable High Altitude Balloon, International Symposium on Polar Ice, Polar Climate, Polar Change: Remote Sensing and Modeling Advances in Understanding the Cryosphere, Boulder, August 14<sup>th</sup> – 19<sup>th</sup>
- 2017 S.T. Peters<sup>\*</sup>, D.M. Schroeder, A. Romero-Wolf, M. Haynes, Passive Radio Sounding for Terrestrial Glaciology: Preliminary Field Testing and Proof-of-Concept, International Symposium on Polar Ice, Polar Climate, Polar Change: Remote Sensing and Modeling Advances in Understanding the Cryosphere, Boulder, August 14<sup>th</sup> – 19<sup>th</sup>
- 2017 A.K. Kendrick<sup>\*</sup>, D.M. Schroeder, T.J. Young<sup>\*</sup>, P. Christoffersen, P.V. Brennan, K.W. Nicholls, L. Lok, Estimating seasonal englacial water content using autonomous phase-sensitive radio-echo sounding data, International Symposium on Polar Ice, Polar Climate, Polar Change: Remote Sensing and Modeling Advances in Understanding the Cryosphere, Boulder, August 14<sup>th</sup> – 19<sup>th</sup>
- 2017 A.M. Hilger<sup>\*</sup>, D.M. Schroeder, H.F.J. Corr, D.D. Blankenship, J.D. Paden, Synthesizing the PASIN and HiCARS Radar Sounding Data to Constrain Basal Conditions across the Amundsen Sea Embayment of West Antarctica, International Symposium on Polar Ice, Polar Climate, Polar Change: Remote Sensing and Modeling Advances in Understanding the Cryosphere, Boulder, August 14<sup>th</sup> – 19<sup>th</sup>
- 2017 T.J. Young<sup>\*</sup>, D.M. Schroeder, P. Christoffersen, L. Lok, K.W. Nicholls, P.V. Brennan, S. Doyle, B. Hubbard, A. Hubbard, Observing and quantifying dipping internal reflectors in 3-dimensions using phase-sensitive ice-penetrating radar, International Symposium on Polar Ice, Polar Climate, Polar Change: Remote Sensing and Modeling Advances in Understanding the Cryosphere, Boulder, August 14<sup>th</sup> – 19<sup>th</sup>

## Schroeder C.V. December 2017

- 2017 W. Chu<sup>\*</sup>, D.M. Schroeder, H. Seroussi, T.T. Creyts, R.E. Bell, Large Variability in Subglacial Drainage Processes Revealed by Airborne Radar Sounding Across the Greenland Ice Sheet, International Symposium on Polar Ice, Polar Climate, Polar Change: Remote Sensing and Modeling Advances in Understanding the Cryosphere, Boulder, August 14<sup>th</sup> – 19<sup>th</sup>
- 2017 D.M. Schroeder, Advances in Ice Penetrating Radar Time Series Observations, Canadian Geophysical Union and CSAFM Joint Annual Scientific Meeting, Vancouver, May 28<sup>th</sup> – 31<sup>st</sup> (invited keynote)
- 2017 D.M. Schroeder, A.M. Hilger<sup>\*</sup>, J. Paden, H. Corr, D.D. Blankenship, Radar Sounding Investigations at the Boundary of Thwaites and Pine Island Glaciers, European Geosciences Union, April 23<sup>rd</sup> – 28<sup>th</sup>
- 2017 T. Jordan, M. Cooper, J.L. Bamber, D.M. Schroeder, C. Williams, J.D. Paden, M.J. Siegert, P. Huybrechts, O. Gagliardini, F. Gillet-Chaulet, S.F. Price, Self-Affine Subglacial Roughness: Consequences for Radar Scattering and Basal Thaw Discrimination from Radio-Echo Sounding, EGU, April 23<sup>rd</sup> – 28<sup>th</sup>
- 2017 J.S. Greenbaum, D.M. Schroeder, C. Grima, F. Habbal, C. Dow, J.L. Roberts, D. Gwyther, T. van Ommen, M.J. Siegert, D.D. Blankenship, Morphological evidence and direct estimates of rapid melting beneath Totten Glacier Ice Shelf, East Antarctica, European Geosciences Union, April 23<sup>rd</sup> – 28<sup>th</sup>
- 2017 G. Steinbruegge<sup>\*</sup>, D.M. Schroeder, M.S. Haynes, H. Hussmann, C. Grima, D.D. Blankenship, Assessing the Potential for Measuring Europa's Tidal Love Number h2 Using Radar Sounder and Topographic Imager Data, European Geosciences Union, April 23<sup>rd</sup> – 28<sup>th</sup>
- 2017 C. Grima, D.D. Blankenship, C. Paty, Y. Gim, W. Kurth, E. Chapin, D.M. Schroeder, J.J. Plaut, G.W. Patterson, A. Moussessian, D.A. Young, Investigating Europa's Plasma Environment from Radar Sounding, 48<sup>th</sup> Lunar and Planetary Science Conference, The Woodlands, TX, March 20<sup>th</sup> – 24<sup>th</sup>
- 2017 D.D. Blankenship, C. Grima, D.A. Young, D.M. Schroeder, K.M. Soderlund, Y. Gim, J.J. Plaut, G.W. Patterson, A. Moussessian, A. Rutishauser, I. Koch, Understanding Europa's Ice Shell and Subsurface Water Through Terrestrial Analogs for Flyby Radar Sounding, 48<sup>th</sup> Lunar and Planetary Science Conference, The Woodlands, TX, March 20<sup>th</sup> – 24<sup>th</sup>
- 2017 D.M. Schroeder, T.J. Young<sup>\*</sup>, A. Kendrick<sup>\*</sup>, L.B. Lok, P. Christoffersen, Stationary Radio Sounding Time Series Observations: Challenges and Opportunities, NASA PARCA Meeting, January 24<sup>th</sup> – 25<sup>th</sup>
- 2016 D.M. Schroeder, J.D. Paden, H.F.J. Corr, D.D. Blankenship, A.M. Hilger<sup>\*</sup>, Cross-Instrument Radar Sounding Synthesis: Characterizing Basal Conditions Across the Amundsen Sea Embayment, AGU Fall Meeting, December 12<sup>th</sup> – 16<sup>th</sup>
- 2016 W. Chu<sup>\*</sup>, D.M. Schroeder, H.L. Seroussi, T.T. Creyts, S.J. Palmer, R.E. Bell, Distinct Subglacial Drainage Patterns Revealed in High-Resolution Mapping of Basal Radar Reflectivity across Greenland, AGU Fall Meeting, December 12<sup>th</sup> – 16<sup>th</sup>
- 2016 M. Haynes, D.M. Schroeder, X. Duan, D. Arumugam, J.G. McMichael, S. Hensley, T. Cwick, Simulator for Large-scale Planetary and Terrestrial Radar Sounding, AGU Fall Meeting, December 12<sup>th</sup> – 16<sup>th</sup>
- 2016 T. Jordan, M. Cooper, J.L. Bamber, D.M. Schroeder, C. Williams, J.D. Paden, M.J. Siegert, P. Huybrechts, O. Gagliardini, F. Gillet-Chaulet, S.F. Price, An Integrated Assessment of Basal Scattering and Topographic Roughness Information Derived from Greenland Radar-Sounding Data, AGU Fall Meeting, Dec. 12<sup>th</sup> – 16<sup>th</sup>
- 2016 K. Kalousova<sup>\*</sup>, D.M. Schroeder, K.M. Soderlund, Radar attenuation in Europa's ice shell: obstacles and opportunities for constraining shell thickness and thermal structure, Division of Planetary Sciences #48 and European Planetary Science Congress, Pasadena, October 16<sup>th</sup> - 21<sup>st</sup>
- 2016 J.S. Greenbaum, D.M. Schroeder, C.Y. Grima, C.F. Dow, D.D. Blankenship, D.A. Young, J.L. Roberts, D.E. Gwyther, A.H. Orsi, B. Huber, A. Leventer, R.C. Warner, T.D. van Ommen, and M.J. Siegert, Basal melt in channels and terraces beneath Totten Glacier, East Antarctica, Forum for Research into Ice Shelf Processes, October 4<sup>th</sup> – 6<sup>th</sup>

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- 2016 E. Quartini, D.A. Young, D.M. Schroeder, D.D. Blankenship, An Evaluation of Geothermal Flux Along a Subglacial Volcano in the Executive Committee Range, SCAR Open Science Conference, Kuala Lumpur, Malaysia, August 20<sup>th</sup> – 30<sup>th</sup>
- 2016 M.R. Siegfried\*, D.M. Schroeder, T. Scambos, S.P. Carter, H.A. Fricker, A large, rapid subglacial lake drainage beneath Slessor Glacier, East Antarctica, and its potential impact in the Filchner Trough, IGS International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean, La Jolla, July 10<sup>th</sup> – 15<sup>th</sup>
- 2016 D.M. Schroeder, C. Grima, M.S. Haynes, J.S. Greenbaum, Distinguishing the Signatures of Ice Shelf Surface Roughness, Basal Roughness, Temperature, and Chemistry in Radar Sounding Data, IGS International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean, La Jolla, July 10<sup>th</sup> – 15<sup>th</sup>
- 2016 J.S. Greenbaum, D.D. Blankenship, D.M. Schroeder, D. Gwyther, D.A. Young, L.E. Lindzey, J.L. Roberts, R.C. Warner, T. Van Ommen, M.J. Siegert, Basal terraces beneath Totten Glacier, East Antarctica, IGS International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean, La Jolla, July 10<sup>th</sup> – 15<sup>th</sup>
- 2016 L.E. Lindzey, D.M. Schroeder, J.S. Greenbaum, D.A. Young, D.D. Blankenship, Dielectric losses in Totten Ice Shelf using multiple reflection from ice penetrating radar, IGS International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean, La Jolla, July 10<sup>th</sup> – 15<sup>th</sup>
- 2016 D.M. Schroeder, H. Seroussi, W. Chu\*, D.A. Young, Signature of Recent Ice Flow Acceleration in the Radar Attenuation and Temperature Structure of Thwaites Glacier, West Antarctica, EGU General Assembly, Vienna, Austria, April 17<sup>th</sup> – 22<sup>nd</sup>
- 2016 Y.S. Aglyamov\*, D.M. Schroeder, M.S. Haynes, S. Vance, An Investigation of Radar Scattering from Fracture in Europa's Upper Ice Shell, Lunar & Planetary Science Conf., The Woodlands, TX, Mar. 21<sup>st</sup> – 25<sup>th</sup>
- 2016 M.G.P. Cavitte, D.D. Blankenship, D.A. Young, F. Parrenin, C. Ritz, J.L. Roberts, T. van Ommen, D.M. Schroeder, M.J. Siegert, E. le Meur, Old Ice and the Stability of the Byrd-Totten Glacier Divide Region, International Partnerships in Ice Cores Sciences, Hobart, Australia, March 7<sup>th</sup> – 11<sup>th</sup>
- 2015 D.M. Schroeder, H. Seroussi, Characterizing Englacial and Subglacial Temperature Structure Using Airborne Radar Sounding, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup> (invited)
- 2015 A. Khazendar, E.J. Rignot, D.M. Schroeder, H.L. Seroussi, M. Schodlok, B. Scheuchl, T.C. Sutterley, I. Velicogna, Direct Observations of Rapid Basal Melting and Bed Topography in the Grounding Zones of the Dotson and Crosson Ice Shelves, West Antarctica, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup>
- 2015 A. Moussessian, D.D. Blankenship, J. Plaut, G.W. Patterson, Y. Gim, D.M. Schroeder, K.M. Soderlund, D. Young, C. Grima, E. Chapin, REASON for Europa, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup>
- 2015 M. Haynes, D.M. Schroeder, G. Steinbruegge\*, B. Bills, Europa Tide Inversion from REASON Altimetry, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup>
- 2015 W. Chu\*, D.M. Schroeder, H. Seroussi, R. Bell, T. Creyts, Extensive Subglacial Hydrological Network and Basal Temperate Layer in Southwest Greenland: An Integrated Approach of Radar Analysis and Ice Sheet Modeling, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup>
- 2015 Y. Aglyamov\*, D.M. Schroeder, M. Haynes, S. Vance, Significance of Near-Surface Ice Fracture for Radar Sounding of Europa's Ice, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup>
- 2015 D.M. Schroeder, C. Grima, M. Haynes, Surface and Basal Roughness in Radar Sounding Data: Obstacle and Opportunity, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup> (invited)
- 2015 C. Grima, D.D. Blankenship, D.M. Schroeder, A. Moussessian, K. Soderlund, Y. Gim, J. Plaut, J. Greenbaum, E.L. Garcia, B. Campbell, N. Putzig, G. Patterson, Understanding Europa's Ice Shell and Subsurface Water Through Terrestrial Analogs for Flyby Radar Sounding, AGU Fall Meeting, San Francisco, Dec. 14<sup>th</sup> – 18<sup>th</sup>

Schroeder C.V. December 2017

- 2015 D.D. Blankenship, C. Grima, D.A. Young, D.M. Schroeder, K. Soderlund, Y. Gim, J. Plaut, G. Patterson, A. Moussessian, Surface and Basal Roughness in Radar Sounding Data: Obstacle and Opportunity, AGU Fall Meeting, San Francisco, December 14<sup>th</sup> – 18<sup>th</sup>
- 2015 D.M. Schroeder, M.S. Haynes, G. Steinbruegge\*, An Initial Assessment of REASON Altimetry for Europa Geodesy, Europa Gravity Science Working Group, Pasadena, CA, December 6<sup>th</sup>
- 2015 G.W. Patterson, D.D. Blankenship, K.M. Soderlund, C. Grima, A. Moussessian, J. Plaut, Y. Gim, D.M. Schroeder, E. Chapin, REASON for Europa, AAAS Div. for Planetary Sciences, Wash. DC, Nov. 8<sup>th</sup> – 13<sup>th</sup>
- 2015 D.M. Schroeder, Characterizing the Attenuation and Temperature Structure of Thwaites Glacier, West Antarctica, International Symposium on Contemporary Ice-Sheet Dynamics: ocean interaction, meltwater and non-linear effects, Cambridge, UK, August 16<sup>th</sup> – 21<sup>st</sup>
- 2015 M.J. Siegert, N. Ross, D.M. Schroeder, et al., Radio Echo Sounding of Active Subglacial Lakes in Institute Ice Stream, West Antarctica, International Symposium on Contemporary Ice-Sheet Dynamics: ocean interaction, meltwater and non-linear effects, Cambridge, UK, August 16<sup>th</sup> – 21<sup>st</sup>
- 2015 J.S. Greenbaum, D.D. Blankenship, D.A. Young, J.L. Roberts, R.C. Warner, D.M. Schroeder, T. Van Ommen, M.J. Siegert, Controls on the Sabrina Coast grounding line, East Antarctica, International Symposium on Contemporary Ice-Sheet Dynamics: ocean interaction, meltwater and non-linear effects, Cambridge, UK, August 16<sup>th</sup> – 21<sup>st</sup>
- 2015 M.G.P. Cavitte, D.D. Blankenship, D.A. Young, D.M. Schroeder, M.J. Siegert, F. Parrenin, E. Le Meur, J. A. MacGregor, Radar Internal Layer Stratigraphic Constraints on the East Antarctic Plateau's Old Ice, International Symposium on Antarctic Earth Sciences, Goa, July 13<sup>th</sup> – 17<sup>th</sup>
- 2015 J.S. Greenbaum, D.D. Blankenship, D.A. Young, T.G. Richter, J.L. Roberts, A.R.A. Aitken, B. Legresy, D.M. Schroeder, R.C. Warner, T.D. van Ommen, M.J. Siegert, Controls on a Costal Marine Ice Sheet Instability Zone Along the Sabrina Coast, East Antarctica, Intl. Sym. on Antarctic Earth Science, Goa, July 13<sup>th</sup> – 17<sup>th</sup>
- 2015 E. Quartini, D.D. Blankenship, D.A. Young, D.M. Schroeder, An Evaluation OF Active Subglacial Volcanism as a Source of Thwaites Glacier Heterogeneous Geothermal Flux, International Symposium on Antarctic Earth Sciences, Goa, July 13<sup>th</sup> – 17<sup>th</sup>
- 2015 D.D. Blankenship, A. Moussessian, K.M. Soderlund, C. Grima, D.A. Young, D.M. Schroeder, Y. Gim, J.J. Plaut, Revealing Secrets of Europa's Ice Shell, Hidden Water and Plume Activity Through Flyby Radar Sounding, Astrobiology Science Conference, Chicago, June 15<sup>th</sup> – 19<sup>th</sup>
- 2015 D.A. Young, D.M. Schroeder, E. Quartini, D.D. Blankenship, The Context for Subglacial Water Systems from Antarctic Airborne Observations, Subglacial Antarctic lake exploration: first results and future plans, The Royal Society, London, March 30<sup>th</sup> – 31<sup>st</sup>
- 2014 D.M. Schroeder, C.Y. Grima, D.D. Blankenship, Characterizing Englacial Attenuation and Grounding Zone Geometry Using Airborne Radar Sounding, AGU Fall Meeting, San Francisco, December 15<sup>th</sup> - 19<sup>th</sup>
- 2014 M.J. Siegert, N. Ross, D.M. Schroeder, Channelised Subglacial Hydrology Modulates West Antarctic Ice Stream Basal Conditions and Flow, AGU Fall Meeting, San Francisco, December 15<sup>th</sup> – 19<sup>th</sup>
- 2014 T.D. Komacek, D.L. Young, D.M. Schroeder, M.A. VanHecke, Star Formation and Exoplanetary Systems in the National Science Olympiad Astronomy Event for High School Students, American Astronomical Society, DPS meeting #46, November 9<sup>th</sup> – 14<sup>th</sup>
- 2014 D.M. Schroeder, Analysis Techniques, Information Content, and Measurement Requirements for Airborne Radar Sounding Data, NASA/NSF Workshop on Instruments for Polar Geology and Geophysics Research, Washington DC, October 9<sup>th</sup> -10<sup>th</sup> (invited)



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- 2014 D.M. Schroeder, C. Grima, D.D. Blankenship, Characterizing the Location and Extent of the Thwaites Glacier Grounding Zone Using Airborne Radar Sounding, West Antarctic Ice Sheet Workshop, Julian, CA, September 24<sup>th</sup> – 27<sup>th</sup>
- 2014 D.A. Young, E. Quartini, E.M. Powell\*, D.M. Schroeder, T.G. Richter, D.D. Blankenship, Structure of the Marie Byrd Land crustal province from GIMBLE aerogeophysics, SCAR Open Science Conference, Auckland, New Zealand, August 25<sup>th</sup> – 28<sup>th</sup>
- 2014 D.A. Young, D.D. Blankenship, D.M. Schroeder, J.S. Greenbaum, The subglacial environment from remote sensing: key questions and paths forward, SCAR mini symposium on innovation on Antarctic science, Auckland, New Zealand, August 25<sup>th</sup> – 28<sup>th</sup>
- 2014 D.M. Schroeder, D.D. Blankenship, D.A. Young, E. Quartini, J.B. Anderson, A.E. Witus, Radar-sounding observations of basal water, sediments and geothermal heat flux, IGS Symposium on the Contribution of Glaciers and Ice Sheets to Sea-Level Change, Chamonix, France, May 26<sup>th</sup> – 30<sup>th</sup>
- 2014 D.D. Blankenship, D.M. Schroeder. Airborne Studies of Subglacial Boundaries in West Antarctica, International Symposium on Polar Sciences, Incheon, South Korea, May 27<sup>th</sup> – 29<sup>th</sup>
- 2014 D.D. Blankenship, A. Moussessian, D.M. Schroeder, K.M. Soderlund, C.Grima, Y. Gim, J.J. Plaut, B.E. Schmidt. Flyby Sounding of Europa's Icy Shell: Radar Investigations, Analogs, and Instruments for the Europa Clipper Mission, Workshop on the Habitability of Icy Worlds, Pasadena, CA, February 5<sup>th</sup> – 7<sup>th</sup>
- 2014 C. Grima, D.M. Schroeder, D.D. Blankenship, D.A. Young. Europa Landing Site Selection Supported by Ice Penetrating Radar, Workshop on the Habitability of Icy Worlds, Pasadena, CA, February 5<sup>th</sup> – 7<sup>th</sup>
- 2014 D.M. Schroeder, C.B. Burch\*, K.M. Soderlund, C. Grima, D.D. Blankenship, T.D. Komacek, T.M. Quinn, M.A. Van Hecke, B.E. Schmidt, G.W. Patterson, J.J. Plaut. Icy World Science and Habitability in the National Science Olympiad for Middle School Students, Workshop on the Habitability of Icy Worlds, Pasadena, CA, February 5<sup>th</sup> – 7<sup>th</sup>
- 2013 D.M. Schroeder, D.D. Blankenship, D.A. Young. Quantifying Bedform Geometry, Water Configuration, and Melt Rate Beneath Thwaites Glacier from Radar Scattering Functions. AGU Fall Meeting, San Francisco, CA, December 9<sup>th</sup> – 13<sup>th</sup>
- 2013 C. Grima, D.M. Schroeder, D.D. Blankenship, D.A. Young. Planetary Surface Roughness Derived from Ice Penetrating Radar Data: Method and Concept Validation in Antarctica. AGU Fall Meeting, San Francisco, CA, December 9<sup>th</sup> – 13<sup>th</sup>
- 2013 C. Cura\*, E. Arnold\*, B. Karwoski\*, C. Grima, D.M. Schroeder, D.A. Young, D.D. Blankenship. Enhancing Europa Surface Characterization with Ice Penetrating Radar: A Comparative Study in Antarctica. AGU Fall Meeting, San Francisco, December 9<sup>th</sup> – 13<sup>th</sup>
- 2013 D.M. Schroeder, D.D. Blankenship, D.A. Young. What Can Radar Scattering Tell Us About Past and Future Retreats in the Amundsen Sea Embayment? WAIS Workshop, Sterling, VA, September 29<sup>th</sup> – October 2<sup>nd</sup>
- 2013 A.E. Kirshner, C.M. Branecky, J.B. Anderson, W. Szczucinski, D.M. Schroeder, D.D. Blankenship, M. Jakobsson. The Sedimentary Record of Meltwater Intensive Glacial Erosion in Pine Island Bay, West Antarctica and Implications for Glacial Dynamics, WAIS Workshop, Sterling, VA, Sept. 29<sup>th</sup> – Oct. 2<sup>nd</sup>
- 2013 D.M. Schroeder, D.D. Blankenship, R.K. Raney, D.A. Young. Buried Information: Constraining Bed Geometry and Material from the Doppler-Dependent Radar-Scattering Function. International Symposium on Radioglaciology, Lawrence, September 9<sup>th</sup> – 13<sup>th</sup>
- 2013 D.D. Blankenship, B.E. Schmidt, D.M. Schroeder, K.M. Soderlund, C. Grima. Flyby Sounding of Europa's Icy Shell: Radar Investigations, Analogs and Instruments for the Europa Clipper Mission, IGS International Symposium on Radioglaciology, Lawrence, KS, September 9<sup>th</sup> – 13<sup>th</sup>

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- 2013 C. Grima, D.M. Schroeder, D.D. Blankenship, D.A. Young. Firn Variability Derived from a Statistical Analysis of Airborne Ice-Penetrating Radar Over the Thwaites Glacier Catchment, West Antarctica, IGS International Symposium on Radioglaciology, Lawrence, KS, September 9<sup>th</sup> – 13<sup>th</sup>
- 2013 M.G.P. Cavitte, D.D. Blankenship, D.A. Young, D.M. Schroeder, M.J. Siegert, E. LeMeur. Extending East Antarctic Ice-Core Chronology with Radar Layer Stratigraphy. IGS International Symposium on Radioglaciology, Lawrence, KS, September 9<sup>th</sup> – 13<sup>th</sup>
- 2013 D.M. Schroeder, D.D. Blankenship, D.A. Young. Beyond Intensity and Depth: Geophysical Glaciology with Higher Order Information from Radio Echo Sounding, Radio Echo Sounding Layer Tracing Workshop, Copenhagen, DK, May 6<sup>th</sup> – 10<sup>th</sup>
- 2013 C. Grima, D.M. Schroeder, D.D. Blankenship. Identifying Surface Characteristics Using an Ice Penetrating Radar Sounder at Europa: Potential for Landing Site Selection, Lunar and Planetary Science Conference, The Woodlands, TX, March 18<sup>th</sup> – 22<sup>nd</sup>
- 2012 D.M. Schroeder, D.D. Blankenship, D.A. Young, E.M. Powell. Configuration of Subglacial Water and Sediments Beneath Thwaites Glacier, West Antarctica: Context for a Potential Basal-Water-Triggered Grounding-Line-Retreat. AGU Fall Meeting, San Francisco, CA, December 3<sup>rd</sup> – 9<sup>th</sup>
- 2012 B.E. Schmidt, D.D. Blankenship, D.M. Schroeder. Europa Subsurface Science from Mutli-Flyby Missions, European Planetary Science Congress, Madrid, September 23<sup>rd</sup> – 28<sup>th</sup>
- 2012 D.M. Schroeder, D.B. Blankenship, D.A. Young. Evidence for Ice-Flow-Coupled Subglacial Water Systems Beneath West Antarctica's Potentially Unstable Thwaites Glacier, West Antarctic Ice Sheet Workshop, Eatonville, WA, September 19<sup>th</sup> – 22<sup>nd</sup>
- 2012 D.A. Young, J.L. Roberts, A.P. Wright, J.S. Greenbaum, S.D. Kempf, G. Ng, T.G. Richter, J.W. Holt, E. Le Meur, D.M. Schroeder, R.C. Warner, N.W. Young, D.D. Blankenship, M.J. Siegert, T. Van Ommen. ICECAP Data Over the Periphery of East Antarctica: A New View of a Crucial Ice Sheet, SCAR Open Science Conference, Portland, OR, July 13<sup>th</sup> – 25<sup>th</sup>
- 2012 D.M. Schroeder, D.D. Blankenship, D.A. Young. Remote Sensing of Subglacial Water Networks with Ice Penetrating Radar, Chapman Conf. on Remote Sensing of Terrestrial Water Cycle, Kona, HI, Feb 19<sup>th</sup> – 22<sup>nd</sup>
- 2011 D.M. Schroeder, D.D. Blankenship, D.A. Young. Interpretation of Sub-resolution Bedform and Subglacial Hydrologic Network Geometries from Radar Echo Specularity: Application to Thwaites Glacier, West Antarctica, AGU Fall Meeting, San Francisco, CA, December 5<sup>th</sup> – 9<sup>th</sup> (invited)
- 2011 A.M. Baker, D.M. Schroeder, M. Van Hecke. Bringing Field Science to a High School Audience: Connecting to the Next Generation of Scientific Minds through Science Olympiad, American Geophysical Union Fall Meeting, San Francisco, December 5<sup>th</sup> – 9<sup>th</sup>
- 2011 D. D. Blankenship, B. E. Schmidt, D. A. Young, D.M. Schroeder, J.S. Greenbaum. The Search for a Habitable Europa: Radar, Water, and an Active Ice Shell, EPSC-DPS Joint Meeting, October 2<sup>nd</sup> – 7<sup>th</sup>
- 2011 D.A. Young, D.M. Schroeder, D.D. Blankenship, C.S. Jackson, M.J. Siegert, A.P. Wright, J.L. Roberts, R.C. Warner, T. van Ommen, N.W. Young. Under the Antarctic Ice: New Data in the East, New Approaches in the West, WAIS Workshop, Loveland, CO, September 21<sup>st</sup> – 23<sup>rd</sup>
- 2011 D.M. Schroeder, D.D. Blankenship, D.A. Young. The Basal Boundary of the Thwaites Glacier Catchment: Characterizing and Anisotropic Hydrological Environment, International Symposium on Antarctic Earth Science, Edinburgh, UK, July 10<sup>th</sup> – 16<sup>th</sup>
- 2010 D.M. Schroeder, D.D. Blankenship, D.A. Young. Basal Specularity of Thwaites Glacier, West Antarctica: Results from a New Tool for Evaluating Subglacial Hydrology, West Antarctic Ice Sheet Workshop, Raystown, PA, September 23<sup>rd</sup> – 25<sup>th</sup>

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- 2010 D.M. Schroeder, D.D. Blankenship, D.A. Young. The Subglacial Hydrology of Thwaites Glacier: Characterization and Interpretation of a Basin-Scale Specularity Map, SCAR Open Science Conference, Buenos Aires, Argentina, August 3<sup>rd</sup> – 6<sup>th</sup>
- 2010 D.A. Young, D.D. Blankenship, M.J. Siegert, T. Van Ommen, A.P. Wright, J.L. Roberts, J.S. Greenbaum, B.C. Frederick, D.M. Schroeder, J.W. Holt, R.C. Warner, N.W. Young. Extent, geomorphology and geophysics of the Aurora and Wilkes Subglacial Basins, East Antarctica: Influences on ice sheet architecture, SCAR Open Science Conference, Buenos Aires, Argentina, August 3<sup>rd</sup> – 6<sup>th</sup>
- 2010 A.P. Wright, M.J. Siegert, D.A. Young, D.D. Blankenship, T. Van Ommen, J.L. Roberts, J.S. Greenbaum, B.C. Fredrick, D.M. Schroeder, J.W. Holt, R.C. Warner, N.W. Young. Subglacial hydrology of the Aurora Basin, East Antarctica, from the geophysical investigations of the ICECAP project, SCAR Open Science Conference, Buenos Aires, Argentina, August 3<sup>rd</sup> – 6<sup>th</sup>
- 2010 J.W. Holt, D.A. Young, D.D. Blankenship, J.S. Greenbaum, D.M. Schroeder, T.G. Richter, A.P. Wright, T. Van Ommen, M.J. Siegert, J.L. Roberts, R.C. Warner. Bed topography of the Byrd Glacier trunk from radar soundings of the ICECAP project, SCAR Open Science Conf., Buenos Aires, Argentina, August 3<sup>rd</sup> – 6<sup>th</sup>
- 2010 D.M. Schroeder, D.D. Blankenship, D.A. Young. Comparative Subglacial Hydrology of Thwaites Glacier, Using Basal Specularity, Chapman Conference, Exploration and Study of Antarctic Subglacial Aquatic Systems, Baltimore, MD, March 15<sup>th</sup> – 17<sup>th</sup>
- 2009 D.M. Schroeder, D.D. Blankenship, D.A. Young. Improved Characterization of Subglacial Hydrology Using Multiple Radar Focusing Windows: Examples from Thwaites Glacier, West Antarctica, First Antarctic Climate Evolution Symposium, Granada, Spain, September 7<sup>th</sup> – 11<sup>th</sup>

#### **SPACECRAFT MISSION PARTICIPATION**

- 2016 – present Science Team Member, Mini-RF Radar, Lunar Reconnaissance Orbiter, NASA
- 2015 - present Science Team Member, REASON Radar Sounder, Europa Mission, NASA
- 2015 – present Member, Interiors Working Group, Europa Project Science Group, NASA
- 2015 - present Lead, Passive Sounding Working Group, RIME Radar Sounder, JUICE mission, ESA
- 2013 – 2014 Technical Assistant, Europa Assessment Group, NASA
- 2010 – 2012 Technical Assistant, Europa Science Definition Team, NASA

#### **FIELD CAMPAIGNS**

- 2010 – 2011 RF Engineer and Radar Operator, ICECAP and Operation Ice Bridge, East Antarctica (2 Months)
- 2009 – 2010 RF Engineer and Radar Operator, The ICECAP Project, East Antarctica (3 Months)
- 2008 – 2009 RF Engineer and Radar Operator, The ICECAP Project, East Antarctica (3 Months)

#### **INSTRUMENT DEVELOPMENT**

- 2016 – present Stanford Low-resource Ice Penetrating Radar (SLIPR)
- 2014 – present REASON Radar Sounder, NASA Europa Clipper Mission
- 2013 – present RIME Radar Sounder, ESA JUICE Mission
- 2010 – 2014 University of Texas MARFA Ice Penetrating Radar
- 2008 – 2011 University of Texas HiCARS II Ice Penetrating Radar

## **GRANTS**

- 2015 – 2033 Co-I, Science Team Member, Radar for Europa Assessment and Sounding: Ocean to Near Surface (REASON), Europa Clipper Mission, NASA
- 2017 – 2022 Collaborator, REsolving Subglacial Properties, hydrOlogical Networks and Dynamic Evolution of ice flow on the gReenland ice sheet (RESPONDER), European Commission
- 2018 – 2021 Co-I, TIME (Thwaites Interdisciplinary Margin Evolution) - The Role of Shear Margin Dynamics in the Future Evolution of Thwaites Drainage Basin, NSF-NERC
- 2016 – 2019 PI, Joint Radar and Model Investigations of Greenland Basal Water Conditions, NASA
- 2016 – 2019 Co-I, Mini-RF Radar, Lunar Reconnaissance Orbiter, NASA
- 2017 Co-I, Passive Sounding using Astronomical Radio Sources for Earth and Planetary Science, JPL
- 2017 Co-I, Glacier Velocity on Mt. Baker, Washington, MUIR Award, Stanford Woods Institute
- 2015 – 2016 Co-I, Radar Sounding and Propagation through Heterogeneous Media, JPL
- 2014 – 2015 PI, Technique Development for Grounding Zone Characterization Using Radar Sounding, NASA
- 2013 – 2014 Key Personnel, Ice Penetrating Radar, NASA Instrument Concepts for Europa Exploration
- 2009 - 2014 PI, NSF Graduate Research Fellowship Program

## **PROFESSIONAL SERVICE**

### **Leadership**

- 2019 Chair, IGS Symposium Scientific, Editorial, and Organizing Committee
- 2018 Convener, Invited Session, IEEE Geoscience and Remote Sensing Symposium
- 2016 – present Steering Committee, Solid Earth Response and Influence on Cryosphere Evolution, SCAR
- 2015 – present AGU Session Convener and Chair
- 2015 - present AGU Outstanding Student Paper Judge
- 2017 EGU Outstanding Student Paper Judge
- 2016 AGU Fall Meeting Mentor

### **Panel Participation**

NSF Science and Technology Center (external), NASA Planetary Fellowship Program (external), NASA Earth Science Fellowship Program, NASA Planetary Instrument Concepts for Advancement of Solar System Observations (external), NASA Cassini Data Analysis and Participating Scientist (external), NASA Operation Ice Bridge, University of Missouri Research Board (external), Australian Antarctic Science Program (external), NASA Maturation of Instruments for Solar System Exploration(external), NASA Solar System Workings (external)

### **Reviewer**

Annals of Glaciology, Earth and Planetary Science Letters, Earth System Science Data, Geological Society of London, Geophysical Research Letters, Geophysics, Icarus, IEEE Geoscience and Remote Sensing Letters, IEEE Geoscience and Remote Sensing Magazine, Journal of Geophysical Research, Journal of Glaciology, Nature, Nature Geoscience, Philosophical Transactions of the Royal Society, Planetary and Space Science, Radio Science, Remote Sensing, Science, The Cryosphere

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### **Professional Affiliations**

Member, American Geophysical Union  
Member, European Geosciences Union  
Member, IEEE Geoscience and Remote Sensing Society  
Member, IEEE Antennas and Propagation Society  
Member, International Association of Cryospheric Scientists  
Member, International Glaciological Society  
Member, Society of Exploration Geophysicists

### **INSTITUTIONAL SERVICE**

2017 – present Academic Affairs Committee Chair, Department of Geophysics, Stanford University  
2017 – present Director of Undergraduate Studies, Department of Geophysics, Stanford University  
2017 – present Graduate Admissions Committee, Department of Geophysics, Stanford University  
2016 – present Pre-Major Advisor, Stanford University  
2016 – present Long Term Planning Committee, Department of Geophysics, Stanford University  
2016 – 2017 Undergraduate Coordinator, Department of Geophysics, Stanford University  
2017 Undergraduate Program Team, Stanford School of Earth, Energy, and Environmental Sciences  
2017 Reviewer, Stanford Interdisciplinary Graduate Fellowship  
2016 – 2017 Atmospheric Dynamics Search Committee, Earth Systems Science Department, Stanford University  
2014 – 2015 Member, JPL Advisory Council for Women  
2014 – 2015 Division Representative, JPL Early Career Core Committee

### **TEACHING**

2017 Mission to Europa, Stanford University  
2017 Near Surface Geophysics and Hydrogeophysics, Stanford University  
2017 Know Your Planet: Big Earth, Stanford University (Guest Lecturer)  
2016 Introduction to the Foundations of Contemporary Geophysics, Stanford University  
2016 Digital Image Processing, Stanford University (Guest Lecturer)  
2016 Climate Physics, Bucknell University (Guest Lecturer)  
2015 Remote Sensing, University of California, Los Angeles (Guest Lecturer)  
2013 The Cryosphere, Rice University (Guest Lecturer)  
2013 Geophysical Glaciology: Ice Penetrating Radar, University of Texas Institute for Geophysics  
2010 Radar Principles Short Course, University of Texas Institute for Geophysics

### **Postdoctoral Scholar Advising**

2017 – present Davide Castelletti, Stanford University, Geophysics  
2017 – present Winnie Chu, Stanford University, Geophysics  
2017 – present Tom Jordan, Stanford University, Geophysics  
2017 – present Matthew Siegfried, Stanford University, Geophysics  
2017 – present Elisa Mantelli, Stanford University, Geophysics  
2015 – 2016 Klara Kalousova, Jet Propulsion Laboratory, Planetary Science

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### **Graduate Student Advising**

2016 – present Andrew Hilger, Stanford University, Electrical Engineering  
2017 – present Emma (Mickey) MacKie, Stanford University, Geophysics  
2016 – present Sean Peters, Stanford University, Electrical Engineering

### **Graduate Student “Second-Project” and Rotation Advising**

2016 – present Cansu Culha, Stanford University, Geophysics  
2017 – present Noah Dewar, Stanford University, Geophysics  
2016 – present Cooper Elsworth, Stanford University, Geophysics  
2016 – present Alexander Kendrick, Stanford University, Geophysics  
2016 – present Roger Michaelides, Stanford University, Geophysics

### **Visiting Graduate Student Mentorship**

2017 – present Michael Cooper, University of Bristol, Geography  
2017 – present Leonardo Carrer, University of Trento, Electrical Engineering  
2017 Corinne Benedek, University of Cambridge, Geography  
2016 – 2017 T.J. Young, University of Cambridge, Geography  
2015 – 2017 Gregor Steinbruegge, Technical University of Berlin, Planetary Science  
2015 – 2017 Winnie Chu, Columbia University, Geophysics  
2014 – 2017 Davide Castelletti, University of Trento, Electrical Engineering

### **Undergraduate and Co-Term Student Mentorship**

2016 – present Nikita Darbar, Stanford University, Chemical Engineering  
2016 – present Theo Diamandis, Stanford University, Electrical Engineering  
2016 – present Logan Herrera, Stanford University, Electrical Engineering  
2017 – present Kai Marshland, Stanford University, Electrical Engineering  
2016 – present Aria Tedjarati, Stanford University, Electrical Engineering  
2016 – present Thomas Teisberg, Stanford University, Electrical Engineering  
2017 – present Meera Radhakrishnan, Stanford University, Electrical Engineering  
2017 – present Kathy Vega, Fullerton Community College, Engineering Physics  
2016 – 2017 Paige Brown, Stanford University, Undeclared  
2016 - 2017 Joan Creus-Costa, Stanford University, Electrical Engineering  
2016 – 2017 Jake Hillard, Stanford University, Electrical Engineering  
2016 – 2017 Iskender Kushan, Stanford University, Electrical Engineering, Now: Microsoft  
2016 – 2017 Sasha Maldonado, Stanford University, Electrical Engineering  
2017 Allen Holster, Stanford University, Electrical Engineering  
2017 Ryan Kirk, Stanford University, Mechanical Engineering  
2017 Kat McNeill, Stanford University, Undeclared  
2017 Kirill Safin, Stanford University, Electrical Engineering  
2017 Adam Stanford-Moore, Stanford University, Physics  
2017 Stephen Spears, Stanford University, Electrical Engineering  
2016 Valarie Sarge, Massachusetts Institute of Technology, Electrical Engineering  
2016 Kelyn Wood, Stanford University, Mechanical and Environmental Engineering

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- 2013 – 2016 Youry Agylamov, CalTech, Now: Ph.D. Student in Astronomy at Cornell
- 2013 – 2014 Ben Ayton, University of Texas, Now: Ph.D. Student in Aerospace Engineering at MIT
- 2012 Leo Breston, University of Illinois, Now: Ph.D. Student in Neuroscience at UCSD
- 2012 Harris Davidson, Olin College, Mechanical Engineering
- 2010 – 2014 Evelyn Powell, University of Texas, Now: Ph.D. Student in Geophysics at Harvard
- 2011 – 2014 Arami Rosales, University of Texas, Physics
- 2008 – 2013 John DeSanto, University of Texas, Now: Ph.D. Student in Geophysics at UCSD

### Dissertation Committee Membership

- 2016 – present Cansu Culha, Stanford University, Geophysics
- 2017 – present Noah Dewar, Stanford University, Geophysics
- 2016 – present Cooper Elsworth, Stanford University, Geophysics
- 2016 – present Alex Kendrick, Stanford University, Geophysics
- 2016 – present Roger Michaelides, Stanford University, Geophysics
- 2016 – present Yujie Zheng, Stanford University, Geophysics
- 2016 Emily Fay, Stanford University, Geophysics
- 2016 Sam Johnstone, Stanford University, Geology
- 2016 Michael Tsiang, Stanford University, Earth System Science

### High School Student Mentorship

- 2007 – 2016 Coached and mentored over 40 high school students in science competitions and/or research

### OUTREACH

- 2003 – present 6<sup>th</sup>-12<sup>th</sup> Grade Astronomy and Planetary Science National Event Supervisor, Science Olympiad
- 2014 – present Chair, Earth and Space Science Committee, National Science Olympiad
- 2016 – present Faculty Advisor, Stanford-Berkeley Science Olympiad Invitational
- 2017 Panelist, Uncommon Dialogues: Coastal Resilience, Woods Institute for the Environment
- 2017 Speaker, Classes Without Quizzes, Stanford Homecoming
- 2017 Speaker, Stanford Summer Research Program for Teachers Seminar
- 2017 Speaker, Stanford Summer Undergraduate Research Program Seminar
- 2017 Presenter, TEDx, Stanford University
- 2017 Speaker, Golden Gate Science Olympiad Invitational, Berkeley, CA
- 2017 Presenter, Stanford Continuing Studies, Public Seminar
- 2017 Panelist, The Frontiers of Earth Science, Stanford University Parents Weekend
- 2017 Speaker, Stanford Earth Matters San Francisco
- 2016 Speaker, STEM Career Day, Mountain View High School, Mountain View, CA
- 2016 Speaker, Society of Physics Students Seminar, Massachusetts Institute of Technology
- 2016 Engaging with Faculty Speaker, New Student Orientation, Stanford University
- 2016 Presenter, Northern California Science Olympiad Coaches Clinic
- 2015 Keynote Speaker, MIT Science Olympiad Invitational
- 2015 Presenter, Caltech Science Olympiad Coaches Clinic
- 2015 Interviewee, The Blue Dot Report, North State Public Radio
- 2015 High School Astronomy State Event Supervisor, Southern California Science Olympiad
- 2003 – 2014 Member, Earth and Space Science Committee, National Science Olympiad

## Schroeder C.V. December 2017

2014            Guest Speaker, Lakeway Men's Breakfast, Lakeway, TX  
2007 – 2014    Volunteer Science Coach, Liberal Arts and Sciences Academy, Austin, TX  
2011            Onboard Science Lecture, Aurora Australis AAD Voyage: Casey to Hobart  
2010            Guest Speaker, University United Methodist Church, Austin, TX  
2010            Guest Speaker, Solon High School, Solon, OH  
2010            Tejas Club Life Raft Debate, Austin, TX  
2003 – 2010    Educational Resource Agent, Chandra X-Ray Observatory