

Dustin M. Schroeder

Department of Geophysics, School of Earth, Energy, and Environmental Sciences
397 Panama Mall, Mitchell Building 361, Stanford University, Stanford, CA 94305
Dustin.M.Schroeder@Stanford.edu, (440) 567 – 8343

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**
- 2014 – 2015 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**
- 2002 Undergraduate Researcher, **Case Western Reserve University Department of Physics**

HONORS AND AWARDS

- 2015 Science Team Member, REASON Radar Sounder, Europa Mission, NASA
- 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, 1st 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

GRANTS

- 2016 – 2019 PI, Investigating Bed Conditions and Control at the Boundary Between Thwaites and Pine Island Glaciers, West Antarctica. NASA New Investigators Program (**in review**)
- 2016 – 2019 PI, Joint Radar and Model Investigations of Greenland Basal Water Conditions. NASA Cryospheric Science, with T. Creyts, C. Grima (**in review**)
- 2016 – 2019 Co-I, Observing land ice processes using SWOT: an integrated assessment for monitoring and modeling. NASA SWOT Science Team, with H. Seroussi (PI) (**in review**)
- 2016 – 2019 Collaborator, East Antarctic Grounding Line Experiment. NSF, with D. Blankenship (PI), D. Young, J. Greenbaum (**in review**)
- 2015 – 2017 Co-I, Radar Sounding and Propagation through Heterogeneous Media. JPL Research and Technology Development, with M. Haynes (PI), X. Duan, D. Arumugam, S. Hensley
- 2015 – 2033 Co-I, Science Team Member, Radar for Europa Assessment and Sounding: Ocean to Near Surface (REASON). NASA's Europa Mission, with PI: D. Blankenship (PI), A. Moussessian, J. Plaut, G. Patterson, L. Bruzzone, B. Campbell, L. Carter, C. Elachi, Y. Gim, C. Grima, A. Henrique, H. Hussma, W. Kofman, W. Kurth, M. Mastrogiuseppe, W. McKinnon, A. Mlinar, J. Moore, F. Nimmo, C. Paty, D. Plettemeier, B. Schmidt, K. Soderlund, D. Young, M. Zolotov
- 2014 – 2015 PI, Technique Development for Improved Grounding Zone Characterization Using Airborne Radar sounding. NASA Cryospheric Science.
- 2013 – 2014 Key Personnel, Ice Penetrating Radar for Europa Exploration. NASA Instrument Concepts for Europa Exploration, with A. Moussessian (PI), D. Blankenship, Y. Gim, L. Harcke, S. Hensley, D. Kirchner, M. McEachen, J. Plaut, C. Grima, K. Soderlund.
- 2009 - 2014 PI, NSF Graduate Research Fellowship Program

PUBLICATIONS

- 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 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** (in press)
- 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. Increasing Ocean Access to Totten Glacier, East Antarctica, **Nature Geoscience**
- 2015 D.M. Schroeder, R.K. Raney, D.D. Blankenship. 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. 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***

PUBLISHED DATA

- 2011 D.D. Blankenship, D.A. Young, S.D. Kempf, T.G. Richter, D.M. Schroeder, G. Ng, J.S. Greenbaum, T. van Ommen, R.C. Warner, J.L. Roberts, N.W. Young, E. LeMeur, M.J. Siegert. Updated 2013, 2015. *IceBridge HiCARS 2 L2 Geolocated Ice Thickness*, Boulder, CO USA: NASA DAAC at National Snow and Ice Data Center

INVITED TALKS

- 2015 AGU Fall Meeting, Session on Processes at the Beds of Glaciers and Ice Sheets, December 14th
- 2015 AGU Fall Meeting, Geophysical Exploration of the Cryosphere, December 14th
- 2015 Scripps Institute of Oceanography, University of California San Diego, December 1st
- 2015 Climate Center Seminar, Jet Propulsion Laboratory, July 17th
- 2015 Department of Geophysics, Stanford University, April 23rd
- 2015 Radar Science and Engineering Section, Jet Propulsion Laboratory, Caltech, March 27th
- 2015 Department of Electrical Engineering, University of Colorado, Boulder, February 13th
- 2014 Department of Geophysics, Stanford University, November 13th
- 2014 Workshop on Instruments for Polar Geology and Geophysics Research, NASA/NSF, October 9th
- 2014 Norwegian Polar Research Institute, Tromsø, Norway, June 4th
- 2014 Department of Geology, University of Kansas, April 9th

- 2013 Bromery Seminar, Earth and Planetary Science, Johns Hopkins University, November 7th
- 2013 Radar Science and Engineering Section, Jet Propulsion Laboratory, Caltech, September 19th
- 2012 Institute for Geophysics, University of Texas at Austin, September 7th
- 2012 Space Research Group, Applied Physics Lab, Johns Hopkins University, May 3rd
- 2011 AGU Fall Meeting, Session on Interpretation Techniques in Radio Glaciology, December 5th

CONFERENCE PARTICIPATION (* indicates student author)

- 2015 **D.M. Schroeder**, H. Seroussi, *Characterizing Englacial and Subglacial Temperature Structure Using Airborne Radar Sounding*, AGU Fall Meeting, San Francisco, December 14th – 18th
- 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 14th – 18th
- 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 14th – 18th
- 2015 M. Haynes, **D.M. Schroeder**, G. Steinbruegge*, B. Bills, *Europa Tide Inversion from REASON Altimetry*, AGU Fall Meeting, San Francisco, December 14th – 18th
- 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 14th – 18th
- 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 14th – 18th
- 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 14th – 18th
- 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, December 14th – 18th
- 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 14th – 18th
- 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 6th
- 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 Division for Planetary Sciences Meeting 47, Washington DC, November 8th – 13th
- 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 16th – 21st
- 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 16th – 21st

- 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 16th – 21st
- 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*, International Symposium on International Earth Sciences, Goa, July 13th – 17th
- 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 International Earth Sciences, Goa, July 13th – 17th
- 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 International Earth Sciences, Goa, July 13th – 17th
- 2015 D. Castelletti*, **D.M. Schroeder**, S. Hensley, C. Grima, G. Ng, D. Young, Yonggyu Gim, L. Bruzzzone, A. Mousseian, D. D. Blankenship, *Clutter Detection Using Two-Channel Radar Sounder Data*, IEEE Geoscience and Remote Sensing Society, Milan, July 26th – 31st
- 2015 D.D. Blankenship, A. Mousseian, 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 15th – 19th
- 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 30th – 31st
- 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 15th - 19th
- 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 15th – 19th
- 2014 T.D. Komacek, D.L. Young, **D.M. Schroeder**, M.A. VanHeckem, *Star Formation and Exoplanetary Systems in the National Science Olympiad Astronomy Event for High School Students*, American Astronomical Society, DPS meeting #46, November 9th – 14th
- 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 9th -10th (invited)
- 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 24th – 27th
- 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 25th – 28th
- 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 25th – 28th

- 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 26th – 30th
- 2014 D.D. Blankenship, **D.M. Schroeder**. Airborne Studies of Subglacial Boundaries in West Antarctica, International Symposium on Polar Sciences, Incheon, South Korea, May 27th – 29th
- 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 5th – 7th
- 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 5th – 7th
- 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 5th – 7th
- 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 9th – 13th
- 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 9th – 13th
- 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 9th – 13th
- 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 29th – October 2nd
- 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, September September 29th – October 2nd
- 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 9th – 13th
- 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 9th – 13th
- 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 9th – 13th
- 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 9th – 13th
- 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 6th – 10th

- 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 18th – 22nd
- 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 3rd – 9th
- 2012 B.E. Schmidt, D.D. Blankenship, **D.M. Schroeder**. Europa Subsurface Science from Mutli-Flyby Missions, European Planetary Science Congress, Madrid, September 23rd – 28th
- 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, WAIS Workshop, Eatonville, WA, September 19th – 22nd
- 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 13th – 25th
- 2012 **D.M. Schroeder**, D.D. Blankenship, D.A. Young. Remote Sensing of Subglacial Water Networks with Ice Penetrating Radar, Chapman Conference on Remote Sensing of Terrestrial Water Cycle, Kona, HI, February 19th – 22nd
- 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 5th – 9th (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, AGU Fall Meeting, San Francisco, December 5th – 9th
- 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 2nd – 7th
- 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 21st – 23rd
- 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 10th – 16th
- 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 23rd – 25th
- 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 3rd – 6th
- 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 3rd – 6th

- 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 3rd – 6th
- 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 Conference, Buenos Aires, Argentina, August 3rd – 6th
- 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 15th – 17th
- 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 7th – 11th

FIELD WORK

- 2010 – 2011 The ICECAP Project and Operation Ice Bridge, East Antarctica (2 Months)
- 2009 – 2010 The ICECAP Project, East Antarctica (3 Months)
- 2008 – 2009 The ICECAP Project, East Antarctica (3 Months)
- Agencies: NSF (US), NASA (US), NERC (UK), AAD (AUS), IPEV (FR), PNRA (IT)
- Bases: McMurdo (US), Casey (AUS), Terra Nova (IT), Cap Prud'homme (FR)
- Targets: Aurora Subglacial Basin, Astrolabe, Byrd, Totten, and Wilkes Glaciers
- Instruments: VHF Radar, HF Radar, GPS, Gravimeter, Magnetometer, Lidar
- Role: Lead RF Engineer and Radar Operator

INSTRUMENT DEVELOPMENT

- 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

PROFESSIONAL AFFILIATIONS

- Member, International Glaciological Society
- Member, American Geophysical Union
- Member, IEEE Geoscience and Remote Sensing Society
- Member, IEEE Antennas and Propagation Society
- Member, Society of Exploration Geophysicists

PROFESSIONAL SERVICE

2015 – present Member, Interiors Working Group, Europa Project Science Group, NASA
 2013 – present Collaborator, RIME Radar Sounder, JUICE mission, ESA
 2015 AGU Session Convener and Chair, Radar Investigations of Planetary Surfaces and Subsurfaces
 2015 AGU Outstanding Student Paper Award Judge
 2015 Division Representative, JPL Early Career Core Committee
 2015 Lead, RIME Passive Sounding Working Group
 2015 Member, JPL Advisory Council for Women
 2013 – 2014 Technical Assistant, Europa Assessment Group, NASA
 2010 – 2012 Technical Assistant, Europa Science Definition Team, NASA

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)

Reviewer

Journal of Glaciology, Geophysics, Geophysical Research Letters, Journal of Geophysical Research
 Earth and Planetary Science Letters, IEEE Geoscience and Remote Sensing Letters, IEEE Geoscience and Remote Sensing Magazine, Philosophical Transactions of the Royal Society, Radio Science

TEACHING EXPERIENCE

2015 Guest Lecturer, Remote Sensing, UCLA, 1 Lecture
 2013 Guest Lecturer, The Cryosphere, Rice University, 1 Lecture
 2013 Geophysical Glaciology: Ice Penetrating Radar, UT Institute for Geophysics, 10 Weeks
 2010 Radar Principles Short Course, UT Institute for Geophysics, 4 Weeks

Postdoctoral Scholar Mentorship

2015 – present Klara Kalousova, Jet Propulsion Laboratory (advisors: C. Sotin and S. Vance)

Graduate Student Mentorship (* indicates dissertation committee membership)

2015 – present Gregor Steinbruegge, DLR, Berlin, Ph.D. Candidate in Planetary Geodesy (advisor: H. Hussmann)
 2015 – present Winnie Chu, Columbia University, Ph.D. Candidate in Geophysics (advisor: R. Bell)
 2014 – present Davide Castelletti, University of Trento, Ph.D. Candidate in Electrical Eng. (advisor: L. Bruzzzone)
 2014 – present Enrica Quartini*, University of Texas, Ph.D. Candidate in Geophysics (advisor: D. Blankenship)

Undergraduate Student Mentorship

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

High School Student Mentorship

2007 – 2014 Coached and mentored over 40 high school students in science competitions and/or research
OUTREACH

2014 – present Co-Chair, Earth and Space Science Committee, National Science Olympiad
 2015 – present Middle School Astronomy National Event Supervisor, National Science Olympiad
 2015 Guest Speaker, Caltech Science Olympiad Coaches Clinic
 2015 Keynote Speaker, MIT Science Olympiad Invitational
 2015 High School Astronomy State Event Supervisor, Southern California Science Olympiad
 2013 – 2015 Planetary Science National Event Supervisor, National Science Olympiad
 2003 – 2014 Member, Earth and Space Science Committee, National Science Olympiad
 2014 Guest Speaker, Lakeway Men's Breakfast, Lakeway, TX
 2007 – 2014 Volunteer Science Coach, Liberal Arts and Sciences Academy, Austin, TX
 2011 – 2013 Middle School Astronomy National Event Supervisor, National Science Olympiad
 2003 – 2011 High School Astronomy National Event Co-Supervisor, National Science Olympiad
 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
 2009 Energy and Climate Facilitator, Clinton Global Initiative University, Austin, TX
 2008 Guest Speaker, Science Olympiad Coaches Clinic, Dearborn, MI
 2004 Guest Speaker, Wright Center for Innovative Science Education, Tufts University
 2003 – 2010 Educational Resource Agent, Chandra X-Ray Observatory