Chad A. Greene, Ph.D.

NASA / Jet Propulsion Laboratory

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Education

Ph.D. 2017, Geological Sciences, *The University of Texas at Austin*

M.S. 2010, Mechanical Engineering, *The University of Texas at Austin*

B.S. 2007, Mechanical Engineering with honors, *Virginia Commonwealth University*

Professional Experience

Dr. Greene is a remote sensing and machine learning specialist in the Sea Level and Ice group under the Earth Science Section at JPL/Caltech, where he is a member of the NASA MEaSUREs ITS_LIVE Earth data development team. He has conducted multiple seasons of airborne geophysical surveys in Antarctica and has carried out ship-based science in the Arctic, the Gulf of Mexico, and the Baltic Sea. Chad is a prolific coder with a passion for thorough documentation, creator of many MATLAB toolboxes, and he serves on the Mathworks Community Advisory Board. He has also served as editor of the *Proceedings of the National Academy of Sciences*.

Employment History

NASA Jet Propulsion Laboratory Pasadena, CA
Postdoctoral Research Fellow: Feb. 2019 to present

Institute for Geophysics Austin, TX
Research Engineering/Scientist: Sept. 2015 to Feb. 2019
Graduate Research & Teaching Assistant: Aug. 2011 to Sept. 2015

Applied Research Laboratories Austin, TX
Graduate Research Assistant: Jun. 2007 to Aug. 2011

Virginia Commonwealth University Richmond, VA
Teaching Assistant: Jan. 2007 to May 2007

Federal Reserve Bank Richmond, VA
Currency Systems Engineer Intern: May 2006 to Aug. 2006

Awards, Accreditations, & Accomplishments

NASA Postdoctoral Program Fellowship 2019–present

National Science Foundation Early Career Scientist Award June 2018

NASA Young Investigator Award July 2016

Univ. of Texas Institute for Geophysics Outstanding Graduate Student Award May 2016

Mathworks (MATLAB) Award for Outstanding Contributions 2015

Mathworks File Exchange Pick-of-the-Week July 2012, July 2013, July 2014

United States Congressional Antarctic Service Medal 2013

Univ. of Texas College of Engineering Fellowship 2007–2008.

NCEES Fundamentals of Engineering Exam passed 2007

Wright Merit Scholarship 2002–2007

Virginia Commonwealth University Dean's List 2003–2005

Virginia Commonwealth University Honors Program 2002–2005

Bicycled self-supported over 4200 miles from Oregon to North Carolina 2005

Eagle Scout 2002

Virginia State Certified Emergency Medical Technician 2002

In the News

Scientific American 2018: Why Are Glaciers Melting from the Bottom? It's Complicated.

Scientific American 2017: How Wind Might Nudge a Sleeping Giant in Antarctica.

Wired 2017: For Scientists Predicting Sea Level Rise, Wind is the Biggest Unknown.

Peer-Reviewed Publications

C.A. Greene, A.S. Gardner, N-J Schlegel, A.D. Fraser. Antarctic calving loss rivals ice shelf thinning, *in review*.

F. Paolo, A.S. Gardner, **C.A. Greene**, J.N. Nilsson, M.P. Schodlok, N. Schlegel. Recent slowdown in rates of West Antarctic ice shelf thinning, *in review*.

Y. Nakayama, **C.A. Greene,** F.S. Paolo, V. Mensah, H. Zhang, H. Kashiwase, D. Simizu, J.S. Greenbaum, D.D. Blankenship, A. Abe-Ouchi, S Aoki. Antarctic Slope Current modulates ocean heat intrusions towards Totten Glacier. *Geophysical Research Letters*, 2021.

C.A. Greene, A.S. Gardner, L.C. Andrews. Detecting seasonal ice dynamics in satellite images. *The Cryosphere*, 2020.

W. Wei, D.D. Blankenship, J.S. Greenbaum, N. Gourmelen, C.F. Dow, T.G. Richter, **C.A. Greene**, D.A. Young, S.-H. Lee, T.-W. Kim, W.S. Lee, K.M. Assmann. Getz Ice Shelf melt enhanced by freshwater discharge from beneath the West Antarctic Ice Sheet. *The Cryosphere*, 2020.

C.A. Greene, K. Thirumalai, K.A. Kearney, J.M. Delgado, W. Schwanghart, N.S. Wolfenbarger, K.M. Thyng, D.E. Gwyther, A.S. Gardner, D.D. Blankenship. The Climate Data Toolbox for MATLAB. *Geochemistry, Geophysics, Geosystems*, 2019.

C.A. Greene & K. Thirumalai. It's time to shift emphasis away from code sharing. *Eos*, 2019.

C.A. Greene, D.A. Young, D.E. Gwyther, B.K. Galton-Fenzi, and D.D. Blankenship. Seasonal dynamics of Totten Ice Shelf controlled by sea ice buttressing. *The Cryosphere*, 2018.

C.F. Dow, W.S. Lee, J.S. Greenbaum, **C.A. Greene**, D.D. Blankenship, K. Poinar, A.L. Forrest, D.A. Young, and C.J. Zappa. Basal channels drive active surface hydrology and transverse ice-shelf fracture. *Science Advances*, 2018.

C.A. Greene & D.D. Blankenship. A Method of Repeat Photoclinometry for Detecting Kilometer-Scale Ice Sheet Surface Evolution. *IEEE Transactions on Geoscience and Remote Sensing*, 2018.

C.A. Greene, D.D. Blankenship, D.E. Gwyther, A. Silvano, E. van Wijk. Wind causes Totten Ice Shelf melt and acceleration. *Science Advances*, 2017.

C.A. Greene, D.E. Gwyther, D.D. Blankenship. Antarctic Mapping Tools for Matlab. *Computers & Geosciences*, 2017.

K.M. Thyng, **C.A. Greene**, R.D. Hetland, H.M. Zimmerle, S.F. DiMarco. True colors of oceanography: Guidelines for effective and accurate colormap selection. *Oceanography*, 2016.

C.J. Wilson, P.S. Wilson, **C.A. Greene**, K.H. Dunton. Seagrass meadows provide an acoustic refuge for estuarine fish. *Marine Ecology Progress Series*, 2013.

C.A. Greene & P.S. Wilson. Laboratory investigation of a passive acoustic method for measurement of underwater gas seep ebullition. *Journal of the Acoustical Society of America*, 2011.

C.J. Wilson, P.S. Wilson, **C.A. Greene**, K.H. Dunton. Seagrass leaves in 3-D: Using computed tomography and low-frequency acoustics to investigate the material properties of seagrass tissue. *Journal of Experimental Marine Biology and Ecology*, 2010.

Field Work

Casey Station Wilkes Land, Antarctica
Airborne surveys: Dec. 2017 to Feb 2018

Byrd Field Camp Marie Byrd Land, Antarctica
Airborne surveys: Dec. 2012 to Feb 2013

Gulf of Mexico Port Aransas, TX
Marine acoustic habitat measurements: 2009 to 2011

Lake Travis Austin, TX
Underwater sound abatement tests: 2009 to 2010

Eckernförde Bay Kiel, Germany
Sediment acoustics survey: Jun 2010 to Jul 2020

Stennis Space Center Hancock, MS
Sediment acoustics experiments: Jun 2008 & May 2010

Beaufort Sea Arctic Ocean
USCG Polar Sea expedition Sept 2009 to Oct 2009