

EDUCATION

- Ph.D.** 2017, Geological Sciences, *The University of Texas at Austin*
Thesis: Drivers of change in East Antarctic ice shelves
- M.S.** 2010, Mechanical Engineering, *The University of Texas at Austin*
Thesis: Low-frequency acoustics of methane hydrates
- B.S.** 2007, Mechanical Engineering with honors, *Virginia Commonwealth University*

PROFESSIONAL EXPERIENCE

Dr. Greene is a satellite 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. Dr. Greene is a prolific coder, creator of many open-source MATLAB and Julia toolboxes, and has a passion for thorough documentation. He has served on the MathWorks Community Advisory Board and as editor of the *Proceedings of the National Academy of Sciences*.

PEER-REVIEWED PUBLICATIONS

- F. Paolo, A.S. Gardner, **C.A. Greene**, and others. [Widespread slowdown in thinning rates of West Antarctic ice shelves](#), *EGUSphere*, in review.
- Y. Nakayama, T. Hirata, D. Goldberg, **C.A. Greene**. [What determines the shape of a Pine-Island-like ice shelf?](#) *Geophysical Research Letters*, 2022.
- C.A. Greene**, A.S. Gardner, N-J Schlegel, A.D. Fraser. [Antarctic calving loss rivals ice-shelf thinning](#), *Nature*, 2022.
- Y. Nakayama, **C.A. Greene**, and others. [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, ..., **C.A. Greene**, and others [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, and others. [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** and others. [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**, and others. [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** and others. [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**, and others. [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.

EMPLOYMENT HISTORY

NASA Jet Propulsion Laboratory Pasadena, CA

Ice Sheet and Glacier Remote Sensing Research Scientist: Jan 2023 to present

Postdoctoral Research Fellow: Feb 2019 to Jan 2023

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

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

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

AWARDS, ACCREDITATIONS, & ACCOMPLISHMENTS

NASA Postdoctoral Program Fellowship 2019–2023

MathWorks (MATLAB) Community Advisory Board 2016–2022

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 Award for Outstanding Contributions 2015

MATLAB 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

CNN 2022: [World's largest ice sheet crumbling faster than previously thought, satellite imagery shows.](#)

Time 2022: [NASA Satellites Paint Grim Picture For The Future of Antarctica's Ice Shelves.](#)

Forbes 2022: [Antarctica's Coastal Glaciers Crumbling At Faster Rate Than Previously Believed.](#)

Washington Post 2022: [Climate change's impact intensifies as U.S. prepares to take action.](#)

Washington Post 2022: [Foreboding new studies show the climate battle is not over.](#)

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.](#)