

# Austin J. Carter

Scripps Institution of Oceanography  
University of California - San Diego  
ajcarter@ucsd.edu

## EDUCATION

---

### Scripps Institution of Oceanography, UC San Diego - La Jolla, CA

Ph.D., Earth Sciences: Geosciences of the Earth, Oceans, and Planets 2025 (expected)  
M.S., Earth Sciences: Geosciences of the Earth, Oceans, and Planets 2022  
Advisor: Sarah Aarons

### University of Michigan - Ann Arbor, MI

B.S., Earth and Environmental Sciences with Distinction and High Honors 2018  
Thesis: *The oxygen and hydrogen isotope evolution of snow, firn, and ice throughout a melt season on Wolverine Glacier, AK*  
Advisors: Joel Blum, Shad O'Neel, Eric Klein

## AWARDS & RECOGNITION

---

ARCS Foundation Fellowship Award 2023-Present  
UC San Diego Inclusive Excellence Award - Nominee 2022  
U.S. Department of Defense: Antarctic Service Medal 2021  
NSF GRFP Honorable Mention 2021  
NSF GRFP Honorable Mention 2020

## GRANTS & SCHOLARSHIPS

---

Raytheon STEM Scholarship 2023  
COLDEX Short Course Travel Award 2023  
Graduate & Professional Student Association Travel Grant 2023  
U.S. Ice Drilling Program Travel Grant 2022  
NSF/GSA Graduate Student Geoscience Grant 2022  
Antarctic Science Ltd. Grant 2021  
Awards for Geochronology Student Research2 2021  
Scripps Ph.D. Student Research Grant 2021  
AGU Cryosphere Innovation Award - Flash Freeze Competition 2020  
Scripps First-Year Fellowship 2020

## PUBLICATIONS

---

**Carter, A.J.**, Aarons, S.M., Higgins, J.A., Shackleton, S.A., Epifanio, J.A., Morgan, J.D., Koornneef, J.M., Gabrielli, P., Schnaubelt, J.C., Tabor, C.R., Severinghaus, J.P., Brook, E.J., Kurbatov, A.V., Marks Peterson, J.C., Ice core record of mineral dust variability across the MIS 6 to 5e transition at the Allan Hills, East Antarctica, in prep.

Wendt, K.A., Bennett, H.I., **Carter, A.J.**, Marks-Peterson, J.C. (2022). Our frozen past: Ice core insights into Earth's climate history, *Past Global Changes*, <https://doi.org/10.22498/pages.30.2.102>, 2022.

## CONFERENCE PRESENTATIONS

---

**Carter, A.J.**, Aarons, S.M., Higgins, J.A., Shackleton, S.A., Epifanio, J.A., Morgan, J.D., Koornneef, J.M., Gabrielli, P., Schnaubelt, J.C., Tabor, C.R., Severinghaus, J.P., Brook, E.J., Kurbatov, A.V., Marks Peterson, J.C., "Ice core record of mineral dust variability across the MIS 6 to 5e transition at the Allan Hills." *Ice Core Open Science Meeting*. May 2023, Seattle, WA (Oral).

**Carter, A.J.**, Aarons, S.M., Higgins, J.A., Shackleton, S.A., Epifanio, J.A., Morgan, J.D., Koornneef, J.M., Gabrielli, P., Schnaubelt, J.C., Tabor, C.R., Severinghaus, J.P., Brook, E.J., Kurbatov, A.V., Marks Peterson, J.C. Ibid. *International Partnerships in Ice Core Sciences*. October 2022, Crans-Montana, Switzerland (Oral).

**Carter, A.J.**, Aarons, S.M., Higgins, J.A., Shackleton, S.A., Epifanio, J.A., Morgan, J.D., Koornneef, J.M., Gabrielli, P., Schnaubelt, J.C., Tabor, C.R., Severinghaus, J.P., Brook, E.J., Kurbatov, A.V., Marks Peterson, J.C. Ibid. *Ice Core Open Science Meeting*. May 2022, La Jolla, CA (Oral).

**Carter, A.J.**; Chesler, A.; Campbell, S. "A 'New' Polar Earth & Planetary Sciences Proving Ground & Training Program." *Ice Core Open Science Meeting*. May 2022, La Jolla, CA (Oral).

**Carter, A.J.**; Aarons, S.M.; Higgins, J.A.; Shackleton, S.; Epifanio, J.; Morgan, J.D.; Severinghaus, J.P.; Brook, E.J.; Kurbatov, A. "Characterizing the Source of Mineral Dust in Ice from the Allan Hills, East Antarctica during the Last Interglacial Period." *American Geophysical Union Fall Meeting 2021*. December 2021, Virtual (Poster).

Aarons, S.M.; Norris, E.D.; **Carter, A.J.**; Munk, L.A.; Jenckes, J. "Dust-climate archive time machines." *American Geophysical Union Fall Meeting 2021*. December 2021, Virtual (Poster).

**Carter, A.J.**; Aarons, S.M.; Higgins, J.A.; Shackleton, S.; Epifanio, J.; Morgan, J.D.; Severinghaus, J.P.; Brook, E.J.; Kurbatov, A.; Gabrielli, P. "Characterizing the Source of Mineral Dust in Ice from the Allan Hills, East Antarctica during the Last Interglacial Period." *Graduate Climate Conference*. October 2021, Virtual (Poster).

**Carter, A.J.**; Aarons, S.M.; Higgins, J.A.; Shackleton, S.; Epifanio, J.; Morgan, J.D.; Severinghaus, J.P.; Brook, E.J.; Kurbatov, A.; Gabrielli, P. Ibid. *Scripps Student Symposium*. September 2021, Virtual (Poster).

O'Neel, S.; Sass, L.; Koch, J.C.; Littell, J.S.; Klein, E.S.; Marshall, H.P.; LeWinter, A.; Larsen, C.F.; Hill, D.F.; Hood, E.R.; Sawicki, S.; **Carter, A.J.** "From Icefield to Ocean: Investigating Biophysical Linkages at Wolverine Glacier Alaska." *American Geophysical Union Fall Meeting 2016*. December 2016, San Francisco, CA (Oral).

**Carter, A.J.**; Robbins, M.; Aciego, S.M.; Stevenson, E. "Determining the Extent of Subglacial Grinding and Meltwater Routes in Southern Greenland." *Michigan Geophysical Union Symposium 2016*. April 2016, Ann Arbor, MI (Poster).

**Carter, A.J.**; Robbins, M.; Aciego, S.; Stevenson, E. Ibid. *American Geophysical Union 2016 Virtual Poster Showcase*. March 2016, Virtual (Poster).

Dennis, D.; **Carter, A.J.**; Clinger, A.E.; Eads, O.L.; Gotwals, S.; Gunderson, J.D.; Hollyday, A.E.; Klein, E.S.; Markle, B.R.; Timms, J.R. "A Survey of Spatial and Seasonal Water Isotope Variability on the Juneau Icefield, Alaska." *American Geophysical Union Fall Meeting 2015*. December 2015, San Francisco, CA (Poster).

## **INVITED TALKS & SEMINARS**

---

- Center for Oldest Ice Exploration, "Mineral dust insights into Earth surface conditions and atmospheric circulation." July 2022.
- UC San Diego, SIO 90: Undergraduate Seminar, "My Research & Pathway." April 2021.
- Ice Core Working Group Meeting, "The importance of creating a comprehensive list of ice cores drilled around the world." March 2021.
- Royal Oak High School, "Becoming an Earth Scientist." December 2020.

## MENTORSHIP

---

Center for Oldest Ice Exploration REU: Alissa Choi	2023 (forthcoming)
UC Scholars Program: Justin Han	2022
Center for Oldest Ice Exploration REU: Anusha Goswami	2022
Scripps Peer Mentor Program: Richard Kilburn	2021-2022
Grad Pals Program: Hsin-Ting Li	2021-2022
Summer Undergraduate Research Fellowship (REU): Isis Guadalupe	2021

## TEACHING ASSISTANT

---

SIO 75: Geological History of Earth	2023
-------------------------------------	------

**Course Description:** An introduction to geologic time and the history of the Earth. Topics include physical, biological, and climate history of Earth, measurement of geologic time, formation of major Earth features, change in the Earth system, and North American geology.

## COMMITTEES

---

COLDEX Sample Allocation Committee	2023-Present
SIO Graduate Student Council Representative	2021-Present

## WORKSHOPS & TRAINING

---

COLDEX Interdisciplinary Oldest Ice Short Course - Whidbey Island, WA	2023
Ice Core Early Career Researchers Workshop (ICECReW) - Seattle, WA	2023
Paleoclimate Training in Climate Archives, Models, and Proxies - Mammoth Lakes, CA	2022
Ice Core Analysis and Techniques (ICAT) PhD School - Copenhagen, Denmark	2022
NSF Ice Core Facility Processing - Denver, CO	2022
Ice Core Early Career Researchers Workshop (ICECReW) - Salt Lake City, UT	2022

## ANTARCTIC FIELD WORK

---

Allan Hills: TBD (7 weeks planned)	2023 (forthcoming)
Allan Hills: Drilled a 90-meter and 205-meter ice core (5.5 weeks)	2022-2023
Allan Hills: Drilled three 150-meter ice cores (6 weeks)	2019-2020

## OUTREACH

---

Scripps Pier Tour Guide for over 360 visitors including the Scripps Family	2022-Present
South Albany High School, "Upward Bound Student Panel." Panelist	2023
Skyped with 9 <sup>th</sup> Grade ROHS Students from McMurdo Station, Antarctica	2022
The Bishop's School 10 <sup>th</sup> Grade Chemistry & Environmental Science, "Antarctic Research"	2022
COLDEX, "Antarctica Ask Me Anything." Panelist	2022
COLDEX, "Early Career Researchers." Panelist	2022
SIO Open House Student Host	2021-2022
AGU LGBTQ+ Networking Event Facilitator	2020-2021
Letters to a Pre-Scientist Pen Pal for two K-12 students	2020-Present
Skyped with 6 <sup>th</sup> and 9 <sup>th</sup> Grade Students from McMurdo Station, Antarctica	2019

## QUEER@SCRIPPS

---

Queer@Scripps Campus Organization Co-Chair	2020-Present
Secured over \$1400 in funding to promote Scripps campus LGBTQ+ visibility	2020-Present
Invited discussion with Scripps Director Margaret Leinen	2022
SIO Open House: Discussions with prospective students	2020-Present

SIO New Student Orientation: Discussions with incoming students	2020-Present
Master of Advanced Studies Orientation: Organization Tabling	2022
Pride Month Pizza Lunch	2022
Progress Pride flag raised on Scripps campus	2022
UCSD Athletics: Out at the Baseball Game	2022
Growing Up in Science: Wenyan Fan	2022
Anti-racism in the LGBTQ+ Community: Maribel Gomez	2021
Pumpkin Painting at Surfside	2021
Growing Up in Science: Sylvia Newell	2021
Pride Month: Tie dye in the park	2021
LGBTQ+ at UC San Diego: Then & Now Host	2021

## **WORK EXPERIENCE**

---

**Partner Engineering and Science, Inc. - Chicago, IL** 2018-2019

*Staff Assessor*

- Assessed commercial and multi-family real estate for potential environmental liabilities
- Evaluated historical, regulatory, and database records to predict the presence of hazardous materials