

NICOLÁS ESPINOSA YOUNG

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Lamont-Doherty Earth Observatory of Columbia University
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PROFESSIONAL EXPERIENCE

Lamont Assistant Research Professor Lamont-Doherty Earth Observatory of Columbia University	Nov. 2015 - present
Lamont-Doherty Earth Observatory of Columbia University Lamont-Doherty Postdoctoral Fellow Mentor: Joerg Schaefer	September 2012 – 2015
Staff Geologist ARCADIS USA Cleveland, Ohio	June 2005 – July 2006

EDUCATION

UNIVERSITY AT BUFFALO (Buffalo, New York) <i>Ph.D. Geology</i> Dissertation: “Early Holocene evolution of the western Greenland Ice Sheet and Baffin Island mountain glaciers” Advisor: Jason Briner	2008 – 2012
UNIVERSITY AT BUFFALO (Buffalo, New York) <i>M.S. Geology</i> Thesis: “Improving the Lateglacial and Holocene glacial chronology in the central Alaska Range” Advisor: Jason Briner	2006 – 2008
THE COLLEGE OF WOOSTER (Wooster, Ohio) <i>B.A. Geology</i>	2001 – 2005

GRANTS AND FELLOWSHIPS

NSF-P2C2 Program, <i>submitted</i> , PI , Co-PI Joerg Schaefer “ <i>Collaborative Research: Testing interhemispheric drivers of climate change with a benchmark high-latitude glacier chronology</i> ” (Columbia portion - \$ 340,937; Total Requested – \$847, 587	Pending
NSF-ARCSS #1503959, (09/15 – 08/19), PI , Co-PI – Joerg Schaefer “ <i>Collaborative Research: Ice sheet sensitivity in a changing Arctic system – using geological data and modeling to test the stable Greenland Ice Sheet hypothesis</i> ” (Columbia portion – \$751,359; Total Award – \$2.8 million)	2015
NSF-PLR #1417645, (09/14 – 08/17), PI , Co-PI – Joerg Schaefer “ <i>Collaborative Research: Testing Arctic ice-sheet sensitivity to abrupt climate change</i> ” (Columbia portion – \$367,658; Total Award - \$806,237)	2014
Lamont Climate Center, “ <i>Minimizing geological uncertainty in chronologies of glacier Change: A novel approach using cosmogenic in situ ¹⁴C</i> ” (\$10,000)	2015

Lamont Climate Center, <i>"The glacial to Holocene transition in the western Arctic"</i> (\$10,000)	2013
Lamont Climate Center, <i>"The dimensions of the Greenland Ice Sheet during the warmer-than-present middle Holocene"</i> (\$10,000)	2013
Lamont-Doherty Postdoctoral Fellowship (\$123,000)	2012 – 2014
NSF-BCS #1002597, Doctoral Dissertation Research Improvement, <i>"Holocene fluctuations of Jakobshavn Isbræ ice stream, West Greenland"</i> : (\$12,000)	2010
Geological Society of America, Student Research Award, (\$3,000)	2009
Geological Society of America, Student Research Award, (\$3,200)	2007

AWARDS AND HONORS

Blavatnik Postdoctoral Award Winner – Physical Sciences*	2015
*Public announcement of award will be on 10/14/15 (http://blavatnikawards.org/)	
Selectee for New Generation of Polar Researchers Leadership Symposium (NSF-sponsored)	2015
Lamont-Doherty Postdoctoral Fellowship	2012
Colorado Scientific Society – Ogden Tweto Award	2010
Graduate Pegrum Award, Univ. at Buffalo: Top graduate student researcher	2010

PROFESSIONAL SERVICE

Session Convener: "Reconstructing Arctic Glaciers and Ice Sheets: Chronology, Geomorphology, and Climate Records" 2015 GSA Annual Meeting, Nov. 1-4	2015
Reviewer – National Science Foundation: Paleo-Perspectives on Climate Change, Arctic Natural Sciences, and Antarctic Glaciology programs	2012-Present
Manuscript Reviewer: <i>Boreas</i> (1), <i>Climate of the Past</i> (1), <i>Earth & Planetary Science Lett.</i> (1), <i>Earth-Science Reviews</i> (1), <i>Geology</i> (3), <i>Geophysical Research Letters</i> (4), <i>Journal of Quaternary Science</i> (5), <i>Quaternary Research</i> (2), <i>Quaternary Science Reviews</i> (6)	2012-Present
Co-organizer and fieldtrip leader, Quaternary geology and geochronology of the Uppermost Arkansas River Valley: Ice dams, landslides, floods. Geological Society of America, Annual Meeting, Denver CO, 2010.	2010

TEACHING AND MENTORING

Guest Lecturer for GLY 101-Global Environmental Science, GLY 453-Quaternary Dating and Paleoclimate & GLY 445-Glacial Geology, Univ. at Buffalo	2009-2012
Undergraduate Student Mentor: Guided undergraduate student through year-long research project culminating in presentation at 41 st Annual Arctic Workshop, Univ. at Buffalo	2010-2011
Teaching Assistant: GLY 445- Glacial Geology, Univ. at Buffalo	2009-2010
Teaching Assistant: GLY 101 and 102- Global Environmental Science, Univ. at Buffalo	2008-2010
Teaching Assistant: GLY 465-Environemntal and Geological Remote Sensing, Univ. at Buffalo	2008
Teaching Assistant: GLY 414-Hydrogeology	2007
Teaching Assistant: GLY 101 and 102- Global Environmental Science, Univ. at Buffalo	2006-2007

INVITED LECTURES

St. Louis University – Department of Earth and Atmospheric Sciences. March 2015
 College of William and Mary – Department of Geology. February 2015

Lamont-Doherty Earth Observatory of Columbia University – Geochemistry. April 2012

PUBLICATIONS

IN REVIEW and SUBMITTED

PUBLISHED and IN PRESS

- (21) **Young, N.E.**, A.D. Schweinsberg, J.P. Briner, J.M. Schaefer. *In Press*. Glacier maxima coeval with Norse settlement in Greenland during the Medieval Warm Period. ***Science Advances***.
- (20) **Young, N.E.** and J.P. Briner, 2015. Holocene evolution of the western Greenland Ice Sheet: Assessing geophysical ice-sheet models with geological reconstructions of ice-margin change. ***Quaternary Science Reviews* 114**, 1-17 *INVITED REVIEW*
- (19) Solomina, O., R. Bradley, D. Hodgson, S. Ivy-Ochs, V. Jomelli, A. Mackintosh, A. Nesje, L. Owen, H. Wanner, G. Wiles and **N. Young**, 2015. Holocene glacier fluctuations. ***Quaternary Science Reviews* 111**, 9-34. *INVITED REVIEW*
- (18) Svendsen, J.I., J.P. Briner, J. Mangerud, **N.E. Young**, 2015. Early break-up of the Norwegian Channel Ice Stream during the Last Glacial Maximum. ***Quaternary Science Reviews* 107**: 231-242.
- (17) Briner, J.P., J.I. Svendsen, J. Mangerud, O.S. Lohne and **N.E. Young**, 2014. A ^{10}Be chronology of southwestern Scandinavian Ice Sheet history during the Lateglacial period. ***Journal of Quaternary Science* 29**: 370-380.
- (16) **Young, N.E.**, J.M. Schaefer, B. Goehring, N. Lifton, I. Schimmelpfennig and J.P. Briner, 2014. West Greenland and global *in situ* ^{14}C production-rate calibrations. ***Journal of Quaternary Science* 29**: 401-406.
- (15) Kelley, S.E., J.P. Briner and **N.E. Young**, 2013. Rapid ice retreat in Disko Bugt supported by ^{10}Be dating of the last recession of the western Greenland Ice Sheet. ***Quaternary Science Reviews* 82**: 13-22.
- (14) **Young, N.E.**, J.M. Schaefer, J.P. Briner and B.M. Goehring, 2013. A ^{10}Be production-rate calibration for the Arctic. ***Journal of Quaternary Science* 28**: 515-526.
- (13) **Young, N.E.**, J.P. Briner, D.H. Rood, R.C. Finkel, L.B. Corbett and P.R. Bierman, 2013. Age of the Fjord Stade moraines in the Disko Bugt region, western Greenland, and the 9.3 and 8.2 ka cooling events. ***Quaternary Science Reviews* 60**: 76-90.
- (12) **Young, N.E.**, J.P. Briner, D.H. Rood and R.C. Finkel, 2012. Glacier Extent during the Younger Dryas and 8.2-ka event on Baffin Island, Arctic Canada. ***Science* 337**: 1330-1333. *HIGHLIGHTED BY VARIOUS NEWS OUTLETS (see below)*
- (11) Kelley, S.E., J.P. Briner, **N.E. Young**, G.S. Babonis and B. Csatho, 2012. Maximum late Holocene extent of the western Greenland Ice Sheet during the late 20th century. ***Quaternary Science Reviews* 56**: 89-98
- (10) Briner, J.P., **N.E. Young**, B.M. Goehring and J.M. Schaefer, 2012. Constraining ^{10}Be production rates in Greenland. ***Journal of Quaternary Science* 27**: 2-6.

PUBLICATIONS continued

- (9) **Young, N.E.**, J.P. Briner, Y. Axford, B. Csatho, G.S. Babonis, D.H. Rood and R.C. Finkel, 2011. Response of a marine-terminating Greenland outlet glacier to abrupt cooling 8200 and 9300 years ago. *Geophysical Research Letters* **38**, L24701. *EDITOR'S HIGHLIGHT + EOS RESEARCH SPOTLIGHT*
- (8) Corbett, L.B., **N.E. Young**, P.R. Bierman, J.P. Briner, T.A. Neumann, D.H. Rood and J.A. Graly, 2011. Paired bedrock and boulder ¹⁰Be concentrations resulting from early Holocene ice retreat near Jakobshavn Isfjord, western Greenland. *Quaternary Science Reviews* **30**: 1739-1749.
- (7) **Young, N.E.**, J.P. Briner, H.A.M. Stewart, Y. Axford, B. Csatho, D.H. Rood and R.C. Finkel, 2011. Response of Jakobshavn Isbræ, Greenland, to Holocene climate change. *Geology* **39**: 131-134.
- (6) **Young, N.E.**, J.P. Briner, E.M. Leonard, J.M. Licciardi and K. Lee, 2011. Assessing climatic and nonclimatic forcing of Pinedale glaciation and deglaciation in the western United States. *Geology* **39**: 171-174.
- (5) Briner, J.P., **N.E. Young**, E.K. Thomas, H.A.M. Stewart, S. Losee and S. Truex, 2011. Varve and radiocarbon dating support the rapid advance of Jakobshavn Isbræ during the Little Ice Age. *Quaternary Science Reviews* **30**: 2476-2486.
- (4) Kaufman, D.S., **N.E. Young**, J.P. Briner and W.F. Manley, 2011. Alaska PaleoGlacier Atlas version 2. In Ehlers, J. and Gibbard, P.L. eds. Quaternary Glaciations – Extent and Chronology: North America. *Developments in Quaternary Science*.
- (3) Briner, J.P., H.A.M. Stewart, **N.E. Young**, W. Philipps and S. Losee, 2010. Using proglacial-threshold lakes to constrain fluctuations of the Jakobshavn Isbræ ice margin, western Greenland, during the Holocene. *Quaternary Science Reviews* **29**, 3861-3874.
- (2) Wiles, G.C., D.J. Barclay and **N.E. Young**, 2010. A review of lichenometric dating of glacial moraines in Alaska. *Geografiska Annaler* **92**: 101-109.
- (1) **Young, N.E.**, J.P. Briner and D.K. Kaufman, 2009. Late Pleistocene and Holocene glaciation of the Fish Lake valley, northeastern Alaska Range, Alaska. *Journal of Quaternary Science* **24**: 677-689.

MEDIA COVERAGE

Coverage of Young et al., 2012, *SCIENCE*, by various media outlets:

<http://news.discovery.com/earth/global-warming/how-rapidly-can-glaciers-react-to-climate-change-120914.html>

<http://www.redorbit.com/news/science/1112694125/baffin-island-glaciers-climate-change-younger-dryas-091412/>

<http://phys.org/news/2012-01-greenland-pronounced-glacier-retreat-irreversible.html>

ABSTRACTS

*Indicates supervised undergraduate student abstract

- (24) **Young, N.E.**, J.P. Briner and J.M. Schaefer, 2014. Alpine glaciation on Baffin Island over the last millennium. 2014 American Geophysical Union, Fall Meeting Supplemental, abstract C52B-03.
- (23) Briner, J., **Young, N.**, Schweinsberg, A., Pendleton, S., 2014. The Holocene record of alpine glaciation in the Arctic. 2014 American Geophysical Union, Fall Meeting Supplemental, abstract C52B-02.
- (22) *Nothaft, D., Koffman, T., Schaefer, J., **Young, N.**, Hormes, A., Briner, J., 2014. The Svalbard Barents Sea

- deglaciation and its contribution to meltwater pulse 1a: Constraining ice sheet history with geomorphological mapping and ^{10}Be exposure dating on Svalbard's southern cape. 2014 American Geophysical Union, Fall Meeting Supplemental, abstract PP21B-1320.
- (21) **Young, N.E.**, J.P. Briner and J.M. Schaefer, 2014. Alpine glaciation on Baffin Island over the last millennium. 2014 Comer Abrupt Climate Change Conference, Comer Farm, Wisconsin. October 13-14.
- (20) Svendsen, J.I., Mangerud, J., Briner, J.P., and **Young, N.**, 2014, Rapid break-up of the Norwegian Channel Ice Stream of the Scandinavian Ice Sheet during the Last Glacial Maximum. 31st Nordic Geological Winter Meeting, Lund, Sweden, January 8-10.
- (19) **Young, N.E.**, J.P. Briner and J.M. Schaefer, 2013. Holocene evolution of the western Greenland Ice Sheet: Assessing geophysical ice-sheet models with geological reconstructions of ice-margin change. 2013 American Geophysical Union, Fall Meeting Supplemental, abstract C31C-06.
- (18) **Young, N.E.**, J.P. Briner, D. Rood and R. Finkel, 2011. The response of the western Greenland Ice Sheet to early Holocene abrupt climate change. INQUA XVIII Meeting, Bern, Switzerland. July
- (17) **Young, N.E.** and Briner, J.P., 2013. Holocene evolution of the western Greenland Ice Sheet: Assessing geophysical ice-sheet models with geological reconstructions of ice-margin change. 43rd International Arctic Workshop, UMASS, Amherst, Massachusetts.
- (16) **Young, N.E.**, Schaefer, J.S., and Briner, J.P., 2012. A precise ^{10}Be production-rate calibration for the Arctic, 2012 American Geophysical Union, Fall Meeting Supplemental, abstract PP23B-2043.
- (15) Briner, J.P., Svendsen, J.I., Mangerud, J., Lohne, O.S., and **Young, N.E.**, 2012, A preliminary ^{10}Be chronology of Scandinavian Ice Sheet retreat from southwestern Norway. AGU, Fall Meet. Suppl., abstract C51C-0788.
- (14) Kelley, S.E., Briner, J.P., **Young, N.E.**, 2012, Rapid ice collapse in Disko Bugt: A new ^{10}Be chronology of the last recession of the western Greenland Ice Sheet. AGU, Fall Meet. Suppl., abstract PP23B-2044.
- (13) **Young, N.E.**, and Briner, J.P., 2012, The Younger Dryas interval was not that cold: Insights from Baffin Island, Arctic Canada. 42nd Arctic Workshop, Colorado, USA.
- (12) Briner, J.P., and **Young, N.E.**, 2011, ^{10}Be dating glaciation: The role of multiple sample types with examples from Colorado and Greenland. INQUA XVIII Meeting, Bern, Switzerland. INVITED.
- (11) *Truex, S., **Young, N.E.**, and Briner, J.P., 2011, Using proglacial lake sediments to constrain the Holocene history of the western Greenland Ice Sheet near Kangerlussuaq. 41st Arctic Workshop, Montreal, Canada
- (10) **Young, N.E.**, Briner, J.P., Rood, D., and Finkel, R., 2011. The response of the western Greenland Ice Sheet to early Holocene abrupt climate change. INQUA XVIII Meeting, Bern, Switzerland.
- (9) **Young, N.E.**, Briner, J.P., Rood, D., and Finkel, R., 2010. Response of Jakobshavn Isbrae to early Holocene abrupt climate events. EOS Trans. American Geophysical Union, Fall Meeting Supplemental, abstract C32A-0596.
- (8) **Young, N.E.**, Briner, J.P., Leonard, E.M., Licciardi J.M., and Lee, K., 2010. Assessing climatic and non-climatic forcing of Pinedale glaciation and deglaciation in the western US. Geological Society of America Abstract with Programs Annual Meeting.
- (7) Briner, J.P., **Young, N.E.**, Leonard, E.M., and Lee, K., 2010, A new ^{10}Be chronology of late Pleistocene moraines and glacial outburst flood terraces in the upper Arkansas River valley, Colorado. Geological Society of America Abstracts with Programs, Annual Meeting.
- (6) Axford, Y., Briner, J., **Young, N.**, Francis, D., and Darko, O. 2010. New Constraints On Greenland's Holocene Climate History: Chironomid-Based Temperature Reconstructions From Two West Greenland Lakes. 40th International Arctic Workshop.
- (5) **Young, N.**, Briner, J., Axford, Y., Rood, D., Finkel, R., and Csatho, B., 2010. The Holocene history of Jakobshavn Isbræ inferred from ^{10}Be surface exposure ages and lake sediments. 40th International Arctic Workshop.
- (4) **Young, N.E.**, Briner, J.P., Axford, Y., 2009. Response of Jakobshavn Isbrae, west Greenland, to Holocene climate forcing. EOS Trans. AGU, Fall Meet. Suppl., abstract PP23D-08.
- (3) Briner, J.P., Miller, G.H., Stewart, H.A.M., **Young, N.**, and Anderson, R., 2009. New records of Neoglaciation in the northeastern North American Arctic. EOS Trans. AGU, Fall Meet. Suppl., abstract PP34A-02.
- (2) **Young, N.E.**, and Briner, J.P., 2008. Late-glacial and Neoglacial ice advance inferred from a small valley glacier in the Alaska Range, Alaska. 38th International Arctic Workshop, Boulder, CO. March 5-7.
- (1) **Young, N.E.**, Briner, J.P., Kaufman, D.S., and Finkel, R.C., 2007. ^{10}Be ages from northern Alaska Range moraines help constrain the timing of the penultimate glaciation in eastern Beringia. AGU annual meeting, San Francisco.

MEMBERSHIPS

American Geophysical Union
Geological Society of America

FIELD WORK

2016: West Greenland (confirmed)
2015: Baffin Island – Cumberland Peninsula
2014: Southwest Alaska (Ahklun Mtns) + Bhutan
2013: West Greenland + Baffin Island
2010-2012: West Greenland
2009: West Greenland, Baffin Island, Svalbard, Sawatch Range – Colorado
2008: West Greenland, Baffin Island, Sawatch Range – Colorado
2006+2007: Central Alaska Range, Alaska