Curriculum Vitae

Angelica Pasqualini

EDUCATION

Ph.D., Earth and Environmental Engineering, Columbia University, New York, NY *(April 2021)*

M.A., Climate and Society, Columbia University, New York, NY *(October 2011)*

Laurea Magistrale (equivalent to M.S.), Industrial Engineering and Management Studies, Polytechnic of Turin, *Italy (July 2006)*

EMPLOYMENT

Arizona State University, Tempe, AZ
Assistant Research Scientist, Julie Ann Wrigley Global Futures Laboratory (July 2022 – Present)
Promoted from Postdoctoral Research Scholar *(July 2022 – June 2025)*

Analyze geochemical and oceanographic data and lead or contribute to the integration of results into peer-reviewed publications. Present findings at scientific conferences and collaborate across disciplines to advance understanding of Arctic Ocean processes. Support science communication by working with colleagues to effectively convey research outcomes to diverse audiences.

Columbia University, New York, NY
Graduate Research Assistant, Department of Earth and Environmental Engineering
(January 2013 – February 2021)

Focused on Arctic Ocean water mass composition, circulation, and mean residence times using stable and transient tracers. Conducted fieldwork during oceanographic expeditions, performed laboratory analysis (mass spectrometry), and carried out data interpretation.
Teaching Assistant, Industrial Ecology (Spring 2017, Prof. Christoph Meinrenken)
Supervisor: Prof. Peter Schlosser

Center for Climate Systems Research, Columbia University, New York, NY
Research Assistant *(October 2011 – December 2012)*

Worked on urban heat island mitigation, stormwater retention, and green infrastructure in New York City. Conducted environmental fieldwork and data analysis.
Supervisor: Dr. Stuart R. Gaffin

C.O.I.M. Italia S.p.A., Turin, Italy
Assistant Engineer *(September 2006 – December 2009)*

Managed permitting processes at municipal and regional levels and conducted Environmental Impact Assessments. Project sites included Turin (TO), Porto San Maurizio (Imperia), and Andora, Italy.

FIELD EXPERIENCE

Oceanography

Switchyard Project (SY13)
Arctic Ocean between northern Ellesmere Island (Alert) and the North Pole
Oceanographic campaign by aircraft.
Principal Investigators: W. Smethie Jr., P. Schlosser, R. Newton
Apr – May 2013

Line W Finale (KN218)
West Atlantic: Woods Hole to Bermuda (40º 18.0'N, 70º 6.0'W)
Oceanographic campaign aboard R/V Knorr.
Chief Scientist: J. Toole
May 2014

GN01 (HLY1502)
Bering Sea and Arctic Ocean, including the Canada Basin and Makarov Basin
Oceanographic campaign aboard USCGC Healy.
Chief Scientists: D. Kadko, W. M. Landing
Aug 9 – Oct 11, 2015

Urban Mitigation

Green and Cool Roof Monitoring
New York City, NY *(Oct 2011 – Dec 2012)*

Environmental data collection and sensor maintenance at six experimental rooftop sites across New York City. Assessed thermal and hydrological performance of urban surfaces, including surface temperature, albedo, emissivity, and stormwater retention.

High-albedo roof: Museum of Modern Art PS1, Queens, NY;
Green roofs: Queens Botanical Garden; Con Edison's The Learning Center (TLC), Queens; Jackie Robinson Recreation Center, Bronx; Ethical Culture Fieldston School, Bronx; Columbia University, 423 W 118th Street, Manhattan

Principal Investigator: Dr. Stuart R. Gaffin

Volunteer Experience

Consolata Hospital Ikonda
Njombe Region, Tanzania *(Nov 2021 – Mar 2022)*

Assisted with basic, non-clinical hospital operations and outreach, including organizing medical supplies, assembling surgical kits, and supporting translation and presentations. Designed and currently maintain the hospital's multilingual website, including original photography for public communication.

TECHNICAL SKILLS AND LANGUAGES

Instruments and Training

- Picarro L2130-i Cavity Ring-Down Spectroscopy (C.R.D.S.) Analyzer (stable isotopic analysis)
- Campbell Scientific CR1000 Data Logger Training Course, May 2012, Logan, UT
- Edward Tufte's Presenting Data and Information Course, June 2018, New York, NY

Software

- Advanced Computer Skills: Proficient in Microsoft Office Suite (Outlook, Word, Excel, PowerPoint), MATLAB, Keynote, Adobe Photoshop, Java OceanAtlas, GeoMapApp, and WordPress

Languages

- Italian: Native proficiency
- English: Full professional proficiency
- Swahili: Basic familiarity (used in multilingual website development)

RESEARCH TALKS

Smethie, W. M. Jr., **A. Pasqualini**, P. Schlosser, and R. Newton (2024) Renewal of Deep and Bottom Water in the Arctic Ocean: Insights from Natural and Anthropogenic tracers. Presented at the Ocean Sciences Meeting 18–23 February 2024, New Orleans, LA.

Goldberg, D., **A. Pasqualini** (2023) Large Scale CO_2 Storage and Basalt Mineralization in the Gulf of Aden. Presented at the AGU Fall Meeting, GC43E-14, 11–15 December 2023, San Francisco, CA.

Goldberg, D., **A. Pasqualini** (2023) Deep-sea Basalt Mineralization in the Gulf of Aden: a pre-feasibility study for cross-border CO2 capture and storage networks. Presented at the Gordon Research Conference, Carbon Capture, Utilization, and Storage: May 28–June 2, 2023, Les Diablerets, Switzerland.

Pasqualini, A., P. Schlosser, R. Newton, W. M. Smethie Jr. (2023) Freshwater sources, distribution, and variability in the Arctic Ocean's Beaufort Gyre: Results from US Arctic GEOTRACES 2015 (GN01) and comparison with 1994 and 2005 sections. Presented atThe Changing Beaufort Gyre Workshop, 22–24 March 2023, Woods Hole, MA.

Whitmore, L., **A. Pasqualin**i, M. Hatta, C. Measures, R. Newton, and A. Shiller. (2019). Dissolved Ga distribution in the 2015 U.S. Arctic GEOTRACES section. Presented at the Goldschmidt Conference 2019, 18–23 August 2019, Barcelona, Spain.

Smethie, W. M. Jr., R. Newton, P. Schlosser, and **A. Pasqualini**. (2019). A relic water in the deep Arctic Ocean. Presented at the Goldschmidt Conference 2019, 18–23 August 2019, Barcelona, Spain.

Pasqualini, A., P. Schlosser, R. Newton, W. M. Smethie Jr., T. N. Koffman, and R. Friedrich. (2018). Variability of circulation pathways, spreading rates, and freshwater inventories and components in the upper Arctic Ocean: Results from three decades of tracer observations. Presented at the AGU Fall Meeting 2018, Session PP41B-05, 10–14 December 2018, Washington, D.C.

Pasqualini, A., P. Schlosser, R. Newton, T. N. Koffman, and R. Friedrich. (2018). Flow paths of the Arctic Halocline and Atlantic Layer derived from tracer data. Presented at the POLAR2018 Open Science Conference, 19–23 June 2018, Davos, Switzerland.

Pasqualini, A., P. Schlosser, R. Newton, and W. M. Smethie Jr. (2018). Circulation pathways and time scales of waters in the Arctic halocline derived from Tritium/He-3 ages. Presented at the Ocean Sciences Meeting 2018, Session HE44B-2982, 11–16 February 2018, Portland, OR.

Schlosser, P., R. Newton, **A. Pasqualini**, D. Song, L. Herraiz-Borreguero, and G. Winckler. (2018). Noble gases as tracers of ocean/ice interaction around Antarctica and in the Arctic Ocean. Presented at the Ocean Sciences Meeting 2018, Session AI33C-04, 11–16 February 2018, Portland, OR.

Song, D., P. Schlosser, R. Newton, and **A. Pasqualini**. (2018). Excess dissolved neon as a tracer of sea ice formation in the Arctic Ocean. Presented at the AGU Fall Meeting 2018, Session C21D-1368, 10–14 December 2018, Washington, D.C.

Pasqualini, A., P. Schlosser, R. Newton, T. N. Koffman, and W. M. Smethie Jr. (2017). Freshwater sources, distribution, and temporal variability in the Canadian Basin of the Arctic Ocean: Results from US Arctic GEOTRACES 2015 and comparison with 1994 and 2005 sections. Presented at EGU General Assembly 2017, Session OS1.4/CR6.8, 23–28 April 2017, Vienna, Austria.

PUBLICATIONS

Oceanography

Whitmore, L. M., Jensen, L., Granger, J., Xiang, Y., Kipp, L., Pasqualini, A., et al. (2025). Multi-Elemental Tracers in the Amerasian Basin Reveal Interlinked Biogeochemical and Physical Processes in the Arctic Ocean Upper Halocline. Global Biogeochemical Cycles, 39(4), e2024GB008342. https://doi.org/10.1029/2024GB008342

Pasqualini, A., Schlosser, P., Newton, R., Smethie Jr., W. M., & Friedrich, R. (2024). A Multi-Decade Tracer Study of the Circulation and Spreading Rates of Atlantic Water in the Arctic Ocean. Journal of Geophysical Research: Oceans, 129(12), e2023JC020738. https://doi.org/10.1029/2023JC020738

Schlosser, P., Koffman, T., Newton, R., **Pasqualini, A.** (2023). Data Report Tritium and Helium Isotopes: 2015 U.S. GEOTRACES Arctic Cruise GN01 (HLY1502), Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). https://doi.org/10.26022/IEDA/112990

Whitmore, L. M., Shiller, A. M., Horner, T. J., Xiang, Y., Auro, M. E., Bauch, D., Dehairs, F., Lam, P. J., Li, J., Maldonado, M. T., Mears, C., Newton, R., **Pasqualini, A**., Planquette, H., Rember, R., & Thomas, H. (2022). Strong Margin Influence on the Arctic Ocean Barium Cycle Revealed by Pan-Arctic Synthesis. Journal of Geophysical Research: Oceans, 127, e2021JC01741. https://doi.org/10.1029/2021JC017417

Pasqualini, A. (2021). Circulation pathways, time scales, and water mass composition in the Arctic Ocean: Results from 25 years of tracer observations (Ph.D. dissertation, Columbia University). https://doi.org/10.13140/RG.2.2.30800.21769

Whitmore, Laura M., **Pasqualini, A.**, Newton, R., & Shiller, A. M. (2020). Gallium: A New Tracer of Pacific Water in the Arctic Ocean. Journal of Geophysical Research: Oceans, 125(7), e2019JC015842. https://doi.org/10.1029/2019JC015842

Charette M.A., L. E. Kipp, L.aJensen4, J. S. Dabrowski, L. M. Whitmore, J. N. Fitzsimmons, T. Williford, A. Ulfsbo, E. Jones, R. M. Bundy, S. M. Vivancos, K. Pahnke, S. G. John, Y. Xiang, M. Hatta, M. V. Petrova, L-E. Heimbürger-Boavida, D. Bauch, R. Newton, **Pasqualini, A.**, et al. (2019). The Transpolar Drift as a Source of Riverine and Shelf-Derived Trace Elements to the Central Arctic Ocean. Journal of Geophysical Research: Oceans, 125, e2019JC015920. https://doi.org/10.1029/2019JC015920

Marsay, C. M., Aguilar-Islas, A., Fitzsimmons, J. N., Hatta, M., Jensen, L. T., John, S. G., Kadko, D., Landing, W. M., Lanning, N. T., Morton, P. L., **Pasqualini, A**., et al. (2018). Dissolved and particulate trace elements in late summer Arctic melt ponds. Marine Chemistry, 204, 70–85. https://doi.org/10.1016/j.marchem.2018.06.002

Pasqualini, A., Schlosser, P., Newton, R., Koffman, T. N., 2017. U.S. GEOTRACES Arctic Section Ocean Water Hydrogen and Oxygen Stable Isotope Analyses, Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). https://doi.org/10.1594/IEDA/100633

Urban Mitigation

Gaffin, S. R., Imhoff, M., Rosenzweig, C., Khanbilvardi, R., **Pasqualini, A.**, Kong, A. Y. Y., et al. (2012). Bright is the new black—multi-year performance of high-albedo roofs in an urban climate. Environmental Research Letters, 7(1), 014029. https://doi.org/10.1088/1748-9326/7/1/014029