Hudson – Mohawk Professional Geologists Association

APRIL MEETING

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FIELD TRIP

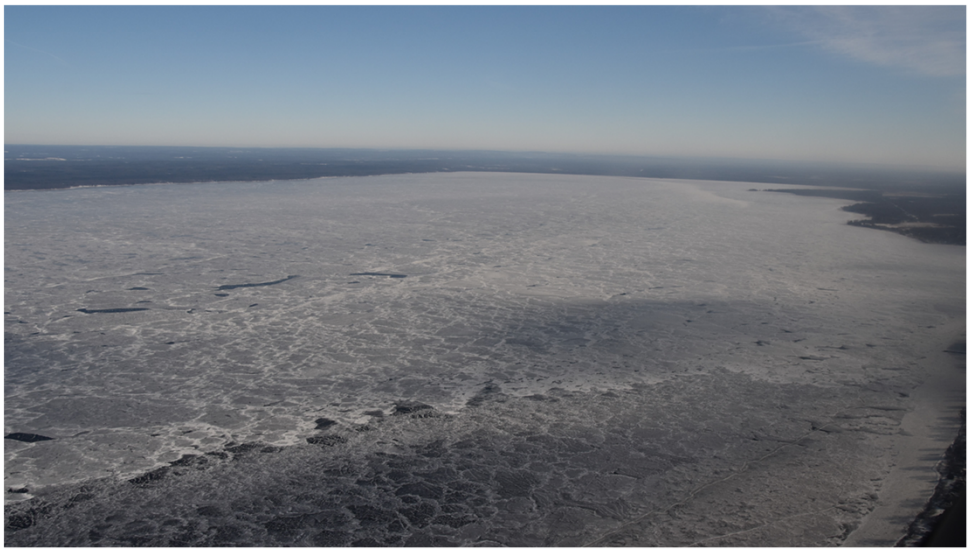
STUDENT POSTER EXPOSITION

With the

American Institute of Professional Geologists - Northeast Section

April 17, 2024

A High-Resolution Paleoclimate Archive of Glacial Lake Iroquois Sediments: Geophysical and Sedimentological Investigations from Oneida Lake



Speaker: Christopher A. Scholz
Professor, Department of Earth & Environmental Sciences
Syracuse University

This course is pending for 1 PDH⁺

Abstract: The deglaciation record of the Ontario Lowland and Mohawk Valley of North America is important for constraining the retreat history of the Laurentide Ice Sheet, end-Pleistocene paleoclimate, and ice-sheet processes. The Mohawk Valley was an important meltwater drainage route during the last deglaciation, with the area around modern Oneida Lake acting as a valve for meltwater discharge into the North Atlantic Ocean. We use marine geophysical methods and sediment core samples to examine the depositional history of Oneida Lake, New York, which is the remnant of Glacial Lake Iroquois, a large proglacial lake that delivered fresh water to the Atlantic Ocean during the last deglaciation. Three geophysical methods were used to constrain the stratigraphic framework of the Oneida/Glacial Lake Iroquois system: 1) High-resolution CHIRP seismic reflection imaging; 2) multichannel seismic reflection imaging, using an air gun array and long seismic hydrophone streamer; 3) refraction tomography from long offset streamer data. The nested seismic surveys provide detailed decimeter scale imaging of the uppermost

HMPGA & NE-AIPG

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Abstract: *(con't)* sediments from the Late-Pleistocene and Holocene, as well as deeper imaging of glacial bedforms and proglacial lake deposits. Seismic tomography analysis reveals the full thickness of the deposits and in particular a thick depocenter (>100m) in the eastern part of modern Oneida Lake. Sediment core analyses are ongoing, and include high-resolution core imaging and CT-scanning, geochemical and geophysical analyses, and geochronological studies. Initial results indicate a dramatic sequence of varved sediments from the deglacial interval spanning more than 350 years. The Oneida Lake/Glacial Lake Iroquois basin provides a rich geological history of ice streaming and deglacial processes that have implications that extend far beyond the lake catchment.

About the Presenter: Christopher Scholz is Professor of Earth & Environmental Sciences at Syracuse University. He uses marine geological and geophysical techniques such as active source seismology, multibeam bathymetry and offshore scientific drilling to study the evolution of extensional basins, the sedimentary architecture of rift basin fills, and large lake systems across the globe. He is currently studying lake systems in North America to understand the dynamics of late-glacial climate. Several other projects are focused on large lakes in the East African Rift Valley, where new sedimentary records document the dynamic interaction of tropical climate variability and active divergent tectonics, and provide the environmental background to human origins.

American Institute of Professional Geologists – Northeast Section

Field Trip to *Holcim Ravena Cement Plant and Quarry*

April 17, 2024 - 12:30 pm to 3:30 pm

Specific day-of details will be shared with those that registered. Registration is closed as of April 3.

FOLLOWED BY

Student Expo & Professional/Career Networking

Century House

April 17, 2024 – 5:00 pm to 6:00 pm

Students from across the Northeast will be presenting their research through posters.

Dinner Reservations are required by

Monday April 15, 2024

Whether attending the dinner or only the in-person presentation, register on-line at www.hmpga.net
Questions? Call or email Jonathan Dippert at (518) 786-7563 • j.dippert@ctmale.com

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Dinner and Program Cost:		**⁺PDH Certificate Available for Additional Cost:**	
$10.00	Student Members*	$10.00	Member attending Dinner
$30.00	Dormant (Ret.) Geologists	$15.00	Member (Program Only)
$40.00	Members	$20.00	Non-Member attending Dinner
$50.00	Non-Members	$35.00	Non-Member (Program Only)

In-person Program Only: Free

* Student dinner sponsorship available for qualifying students - contact Jonathan Dippert • j.dippert@ctmale.com

Location:	**Century House** **997 New Loudon Road** **Latham, NY 12110**	**Time:**	**Social Hour** **Dinner** **Program**	**5:00pm** **6:00pm** **7:00pm**