OSHER LIFELONG LEARNING INSTITUTE

STONY BROOK UNIVERSITY

OLLI Lecture Series Presents:

Gil Hanson, PhD, *Distinguished Emeritus*

Wednesday, June 17, 2020
Virtual via Zoom*
2:00 - 3:00pm

Topic to be discussed:

Geology of Three Village area and Port Jefferson Village

The Harbor Hill Moraine, on which this area lies, formed by the ice sheet acting like a bulldozer pushing sediment in front of it. These transported unconsolidated glacial and Cretaceous sediments were in sheets 10's of feet thick and 1000's of feet in width. The removal of this sediment resulted in a trench up to 800 feet deep in what is now Long Island Sound. This trench has since filled with post glacial sediment.

Melt water from the glacier drained to the base of the glacier where under high water pressure it traveled in tunnels to the front of the glacier. These streams of water traveling uphill at high velocities eroded the underlying sediments. The sediments were carried to the front of the glacier where they formed the outwash plain. This erosion left relatively large valleys known as tunnel valleys. Port Jefferson Harbor is in one of these valleys.

After the glacier left, about 20,000 years ago, the area was a desert tundra with a mean annual temperature of about 15° F. The mean annual temperature warmed slowly with intermittent periods of cooling until about 11,000 years ago when it reached that of the present, stable, interglacial warm period.

Click below to Read Reports describing this Geology prior to the lecture:

Evaluation of Geomorphology of the Stony Brook-Setauket-Port Jefferson Area Based on Digital Elevation Models

Geology of the Port Jefferson tunnel valley

Gil Hanson, PhD

Gilbert N. Hanson, Emeritus Distinguished Service Professor at Stony Brook University. PhD. in Geology from the University of Minnesota. His main research has been using isotopes and trace elements in rocks to determine the sources and histories of rocks. In the mid-nineties he became interested in the geology and hydrology of Long Island. Much of the research on the geology of Long Island that he has advised has been undertaken by pre-service and in-service science teachers.