

President Obama to be presented with nano-sized Declarations of Independence

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Chip containing U.S. and Israeli Declarations of Independence, on Jerusalem stone.

In a ceremony to be held on Wednesday, March 20, in Jerusalem, Israeli Prime Minister Benjamin Netanyahu will present U.S. President Barack Obama with nano-sized inscribed replicas of the Declarations of Independence of the United States and the State of Israel. Created by scientists at the Technion's Russell Berrie Nanotechnology Institute

(RBNI), at the request of PM Netanyahu, the Declarations appear side-by-side on a gold-coated silicon chip smaller than a pinhead. The juxtaposition symbolizes the shared values of both countries.

The area of the etched inscriptions is 0.04 square millimeters, and 0.00002 millimeters (20 nanometers) deep. The chip is affixed to a Jerusalem Stone dating to the Second Temple Period (1st Century BCE to 1st Century CE).

"This unique application of cutting-edge technology is just one example of Israel's remarkable leadership in high-tech," said Technion President Peretz Lavie.

The text was written using a focused ion beam (FIB) generator that shot tiny particles called Gallium ions onto a gold surface covering a base layer of silicon. In a process that can be likened to digging a hole in the earth using a water jet, the ion beam etched the surface of the gold layer, making the underlying silicon layer visible.

This is not the first time the Technion has been called upon to create an important gift for a visiting dignitary. In May of 2009, [Pope Benedict XVI](#) received a Technion-created "Nano Bible" from Israeli President Shimon Peres.

Provided by American Technion Society

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