ONI’s Grace Hopper Birthday Observation Includes Visit from White House Chief Technology Officer

Grace Hopper continues to inspire two decades after her death and Megan Smith believes this is important to remember when commemorating the namesake of Hopper Information Services Center.

Smith, the Chief Technology Officer for the White House, was one of several leaders in technology who came to ONI for Hopper’s birthday observation Dec 11.

Those who attended the event saw the 16-minute video “Queen of Code” which covered many of Hopper’s most important accomplishments. Smith was featured in the film, discussing the importance of Hopper’s work and how she impacted computer science.

Hopper was one of the first programmers of the Harvard Mark I computer. In 1944, she invented the first compiler for a computer programming language and popularized the idea of machine-independent programming languages. This led to the development of COBOL, one of the first high-level programming languages.

Hopper is credited with popularizing the term “debugging” for fixing computer glitches, after she fixed a computer “bug” by removing an infiltrating moth. Cynthia Irvine, a professor of computer science at Naval Postgraduate School, recalled that Hopper’s influence was so strong that Irvine once attended a Halloween party where a computer scientist came dressed as an exterminator and his wife came dressed as a bug, as a tribute to Hopper.

Sometimes referred to as “Amazing Grace,” the USS Hopper (DDG 70) is named for Grace Hopper, as is the Cray XE6 Hopper supercomputer at National Energy Research Scientific Computing Center.

Speaker Justine Cassell, associate vice-provost for technology strategy and Impact at Carnegie Mellon University, described the alienation women once felt, and continue to feel, in a field dominated by men.

Despite the considerable historical contributions Hopper and other women have made in technical fields, Smith said those contributions have been largely ignored. According to Smith, until Katherine Johnson was awarded the Presidential Medal of Freedom last November, few people knew the role she played in the Apollo 11 flight to the Moon and other space missions.

Johnson, a NASA mathematician, provided computations that influenced major space programs from Mercury, and she calculated the flight path for the first American space mission. Known for accuracy in computerized celestial navigation, she calculated the trajectory for Project Mercury and the 1969 Apollo 11 flight to the Moon.

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“I’ve never seen a movie about Apollo with an African-American woman—a lead mathematician—getting the team of Neal Armstrong and Buzz Aldrin to space and back, which she did,” said Smith. She also noted that a 1984 issue of Rolling Stone magazine showed a photo of the software team that developed Macintosh; there were three women in the photo of 11 people. In a movie about Steve Jobs, whose company designed, developed, and marketed the Macintosh series of personal computers, the men were portrayed. The women were not.

Smith brought along a nanosecond—a visual aid that represents how fast electricity can travel in one billionth of a second—that Hopper took with her when she appeared on The David Letterman Show. The name nanosecond comes from the foot-long lengths of telephone wire that she used to give out at lectures to illustrate how, in a nanosecond—one billionth of a second—an electronic signal can travel almost twelve inches. Irvine recalled that Hopper once spoke at Naval Postgraduate School and threw nanoseconds out to the audience.

Smith ended her presentation by presenting Hopper Commanding Officer Capt. Darryl Jackson with a portrait of Hopper drawn by famed artist Jack Kamen, known for his work in story illustration and advertising.