1145-30-1432 **Bonita V Saunders*** (`bonita.saunders@nist.gov`), 131 Goucher Terrace, Gaithersburg, MD 20877. *Complex Variables, Mesh Generation, and 3D Web Graphics: Research and Technology Behind the Dynamic Visualizations in the NIST Digital Library of Mathematical Functions.*

In 2010, the National Institute of Standards and Technology (NIST) launched the Digital Library of Mathematical Functions (DLMF) (https://dlmf.nist.gov), a free online resource containing definitions, recurrence relations, differential equations and other crucial information about mathematical functions useful to researchers working in various application areas in the mathematical and physical sciences. Although the DLMF was designed to replace the widely cited NBS Handbook of Mathematical Functions (Abramowitz & Stegun), the goal was to go far beyond a book on the web, incorporating web tools and technologies for accessing, rendering and searching math and graphics content [1]. This talk will focus on the research and implementation challenges in developing the graphs and surface visualizations for the DLMF and take a brief look at ongoing and future research.

Reference

[1] B. Schneider, B. Miller, B. Saunders. NIST's Digital Library of Mathematical Functions. Physics Today, 71(2):48-53, 2018, https://doi.org/10.1063/PT.3.3846. (Received September 21, 2018)

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