

## The Helios 5 Hydra Multi-Ion Species Plasma Focused Ion Beam

Since the arrival of commercially available DualBeam technology in the early 1990's, the combined technology of scanning electron microscopy (SEM) and focused ion beam (FIB) milling has evolved from a niche technology, usable only by experts, to an everyday technology commonly found throughout industry and on every major university campus in the world.

Advances in the beam technologies have greatly increased imaging resolution and milling control, allowing users to easily create, image, and analyze complex structures in multiple dimensions. Software advances have allowed the automation of many functions, increased the system's ease of use, and allowed users to develop many new applications.

The latest advancement is the multi-ion species plasma FIB, the Helios 5 Hydra. With beam currents up to 37 times greater than gallium FIB and access to four plasma species (xenon, oxygen, argon, and nitrogen), the Helios 5 Hydra provides unprecedented versatility in a DualBeam platform.

Please join us Wednesday, May 25, 2022 for two presentations which will discuss the current state-of-the-art Plasma DualBeam technologies and associated applications for both material science and life science arenas.



**Natalia de Val**, PhD, Senior Scientist and Product Specialist  
Life Science Business Unit  
Thermo Fisher Scientific

**1:00 – 2:00 pm:** In order to fully understand biological processes, and how they fail in disease, it is vital to obtain structural information for the relevant biological machinery. We will introduce the Helios 5 Hydra DualBeam for unprecedented room temperature and cryo capabilities in biological FIB-SEM tomography applications.

**2:00 – 2:30 pm:** Life Science/Biological Applications Q&A – Open Discussion



**Rick Passey**, Senior SEM/DualBeam Application and Product Specialist  
Material Science Business Unit  
Thermo Fisher Scientific

**2:30 – 3:30 pm:** In depth review of the Helios 5 Hydra DualBeam plasma FIB capabilities for a variety of materials applications including in-situ, TEM sample preparation and high-resolution imaging.

**3:30 – 4:00 pm:** Materials Science Applications Q&A – Open Discussion

**Room Location: 105 White Hall**

**Virtual Link:** [https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_N2E1ZjiODQtNzg3Mi00NTBILTgzZGQtMmQ4YmRkNDY5Mjdh%40thread.v2/0?context=%7b%22Tid%22%3a%22a7531e18-3e5d-4145-ae4c-336d320ca7e4%22%2c%22Oid%22%3a%2228699bc4-5e5b-415b-8529-79652c9550d7%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_N2E1ZjiODQtNzg3Mi00NTBILTgzZGQtMmQ4YmRkNDY5Mjdh%40thread.v2/0?context=%7b%22Tid%22%3a%22a7531e18-3e5d-4145-ae4c-336d320ca7e4%22%2c%22Oid%22%3a%2228699bc4-5e5b-415b-8529-79652c9550d7%22%7d)