

# Dr. Olle Heinonen

*Recording Head Operations Seagate Technology*

**Friday Nov. 8, 11:00 am. Osborne A204**

## **Heat-Assisted Magnetic Recording**



Magnetic hard-disk drives (HDDs) are the working horses of data centers. The roughly 70 years of research and development that has gone into today's – and tomorrow's – HDDs is remarkable and multi-disciplinary, spanning physics, chemistry, materials sciences, electrical engineering (and more), and has led to some truly astonishing increases in storage density. In this talk, I will give an overview of this development and its results, and then spend some time on today's and tomorrow's technologies.

### **Short Bio**

Dr. Olle Heinonen received his Ph.D. in physics from Case Western Reserve University. After two post-doc stints he joined the Department of Physics, University of Central Florida in 1989. In 1998 he moved to Seagate Technology where he worked on magnetic read and write heads until 2010, when he took a position at Argonne National Laboratory. At Argonne, he had leadership positions in a number of different efforts and research centers, including the Center for Predictive Simulations of Functional Materials, the Center for Advancement of Topological Semimetals, and the Center for Hierarchical Materials Design. In 2022 he left Argonne to return to Seagate, where he works on various aspects of magnetic writer design and recording physics. He has published close to 200 papers and co-authored a couple of graduate textbooks on condensed matter theory. He is a Fellow of the American Physical Society and received a 2022 Distinguished Associate Accolade from the Materials Measurement Laboratory at NIST.