

## **Introduction to Femtosecond magnetism**

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**Abstract:** In the last decade, there has been a great revolution in computer technology, particularly in the magnetic storage community. The idea is to use an ultrafast laser pulse to store/retrieve information within a quadrillionth of a second on magneto-optical hard drives. This discovery was first reported in Strasbourg, France, and has now attracted an enormous attention around the world, given its potential for ultrafast computing. As one of the earliest researchers in this field, I will first give a detailed historical view how this happened, and then move on to my own contribution. Some of the major achievements will be highlighted, particularly studies of spin-excitation effects in response to laser pulses. Finally, I will conclude the talk, with a note on the importance of support from the U. S. Department of Energy, National Energy Research Scientific computing Center (NERSC), Argonne Leadership Computing Facility (ALCF), and ISU High Performance Computing (HPC).