Magnetic Materials for Nanoelectronics Research Group (MMNRC) Center for Computational Sciences (CCS) will host a 2011 Spring Special COLLOQUIUM

MAGNETIZATION PROCESS IN ELEMENT AND SPIN-VALVE OF VARIOUS SHAPES FOR SPINTRONICS

May 5 • 3:30–4:30pm • HPC Room 20
(refreshments will be served 3:00 – 3:30pm)

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This talk focuses on magnetic spin configuration and spin-dynamics in element and spin-valve of various shapes for spin-torque transfer magnetic random access memory (STT-MRAM) applications. Magnetization mode of various shapes will be briefly reviewed. The shape includes Pac-man, ring, square, and disk. We will discuss magnetic domain wall structure of submicron permalloy ring, magnetic spin configuration in Pac-man and square elements, magnetization reversal in Pac-man spin-valve and square permalloy element, and magnetic vortex chirality in nanodisk spin-valve. The second part will introduce an S-shaped permalloy element for magnetic logic element and novel hexaferrites for future voltage (electric) switching of spin-valve (MTJ).

For more information, please contact Dr. Seong-Gon Kim at: kimg@ccs.msstate.edu.