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PHYSICS AND ASTRONOMY

Presents

## Functional Highly Anisotropic Nanostructures



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**11:00 AM**

**F.W. Olin Hall Room 205**

**2190 E. Iliff Avenue**

*Presented by*

**Dr. Xing Chen**

Argonne National Laboratory

High aspect ratio nano materials have unique advantages in many areas such as high performance permanent magnets, microwave devices, photonics and separation technologies. Electrospinning has been a popular method of producing nanostructures with very high aspect ratio. Recent works in our group have expanded the fabrication capabilities beyond conventional boundaries of this technique through innovations in several aspects of the process. In-house developed atomic layered deposition (ALD) system specialized in nanoparticle coating enables additional dimensions of such functional structures such as the introduction of multiferroic coupling at nano-scale. Current applications of such materials include exchange-coupled permanent magnets, high performance membranes, tunable microwave substrate materials and thermoelectric materials. In this talk, I will focus on our scientific and engineering effort in developing those fabrication capabilities as well as some applications of our novel materials.

**HOST: Dr. Xin Fan, (303) 871-2783, [Xin.Fan@du.edu](mailto:Xin.Fan@du.edu)**