

# CNMS DISCOVERY SEMINAR SERIES

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11:00 am  
Iran Thomas Auditorium, 8600

## *Charged Domain Walls in Ferroelectrics*

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### **Abstract:**

A ferroelectric domain wall can carry net bound charge depending on its orientation with respect to the direction of polarization in the adjacent domains. Many features of such walls, called charged walls, can substantially differ from those of walls which carry no bound charge. An essential feature of this kind of walls in proper ferroelectrics is that, practically, these can exist only when their bound charge is nearly fully screened by free carriers. Presence of charged domain walls in a material can essentially affect its dielectric, ferroelectric, and piezoelectric properties. This presentation gives an outlook on the current understanding of properties of these objects, as well as on the impact of charged domain walls on macroscopic properties of materials.

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