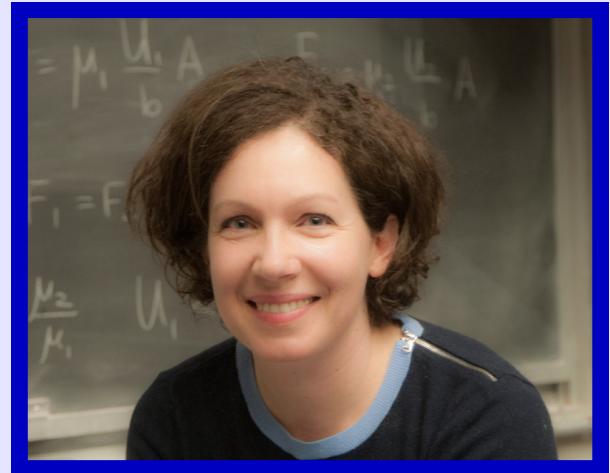


**Engineering Sciences and Applied Mathematics  
ESAM Seminar Series Presents:****Complex fluid interfaces in electric fields: belted drops, patchy membranes, and vesicle drums**

**Presented by:**

**Professor Petia Vlahovska**  
**Brown University**



I will present some of our recent experimental observations on “complex” fluid-fluid interfaces - surfactant-laden and particle-covered drops, and vesicles (drops encapsulated with lipid bilayer membranes) - in uniform DC and AC electric fields. The coupling of the electric field induced flow and complex mechanics of the interface drives peculiar (and still to be explained) behaviors: drum-like or asymmetric dumbbell shapes of a vesicle; domain nucleation and dissolution in multicomponent membranes; particle assembly in dynamic vortices; drop wobbling. Implications to the design of patchy particles and electrorheology of emulsions will be discussed.

**Monday, April 6, 4:00 PM  
Technological Institute M416**

For further information see <http://www.esam.northwestern.edu>

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