

# Special Course Offering Spring 2010

## Advanced Finite Element Methods CEE 598 AC

CRN # 52668

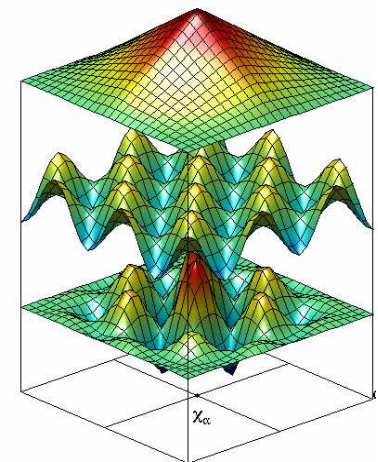
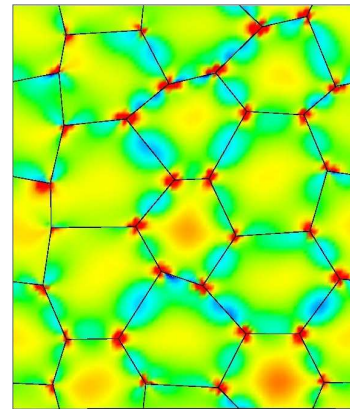
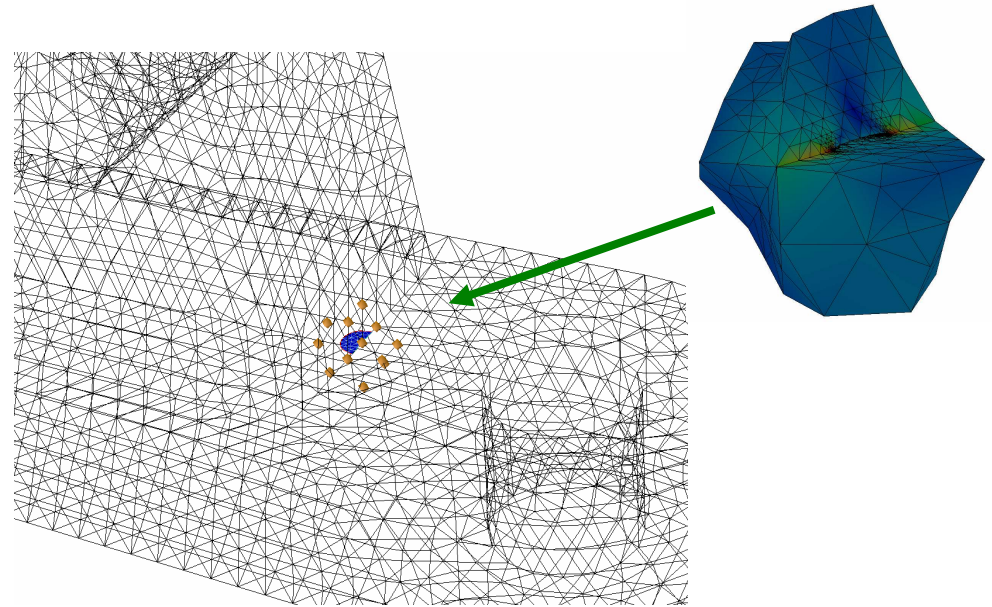
Prof. Armando Duarte

Faculty: CEE and CSE

12:30-1:50pm Tuesdays and Thursdays

### Topics:

- h, p and hp Finite Element methods
- Partition of unity approximations
- Generalized/Extended finite element methods
- A-priori error estimates
- Implementation of generalized FEMs
- Applications of generalized FEMs
  - Boundary and internal layers in thin plates and shells
  - 3-D crack propagation
  - Branched cracks
  - Multiscale problems



For further information, contact: [caduarte@illinois.edu](mailto:caduarte@illinois.edu)