

# Transformation Optical Metamaterials

Duke University | Purdue | U. C. Berkeley | N. C. State | Imperial College

## Objective:

- To explore fully Transformation Optics as an electromagnetic design paradigm.
- Develop metamaterial based implementation of TO structures at IR and visible wavelengths.
- Develop new TO device concepts.

## Approach:

- Develop TO theory for extreme devices.
- Develop optimization methods for more realizable transformations.
- Develop micro and nano fabrication methods for implementation.

## Technical Success:

- Extreme devices from extreme materials!
- Demonstrate advanced optical paradigms.
- Demonstrate such concepts as concentrators, cloaks, optical black holes or hyperlenses at IR.

