Analysis of Electromagnetic Composites
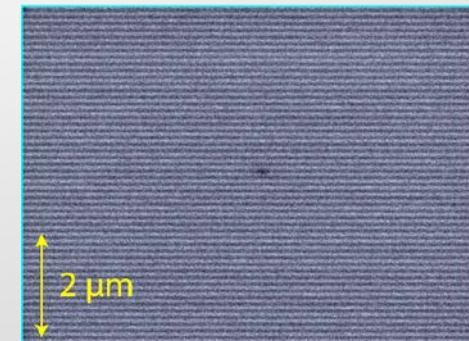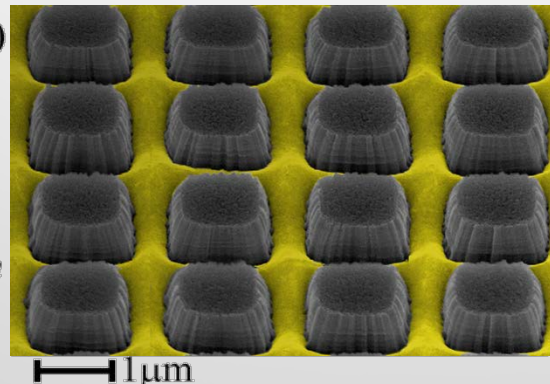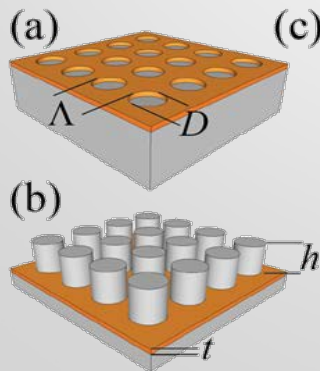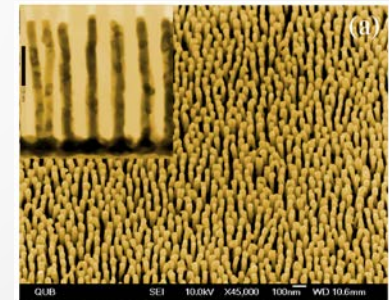
Viktor Podolskiy

Department of Physics and Applied Physics

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- New Materials + EM waves (light, RF, THz,...) = new energy applications

- New Materials are increasingly complex, multi-scale

  - Wavelength

  - Periodicity

  - ...

- Shapes/arrangements/composition – <u>all</u> matter

- Developed a set of tools that can be used by researchers/engineers to
  - Predict transmission/ reflection/ absorption of the composite
  - Understand the science behind the observed phenomena
  - Reveal the structure of the composite based on optical measurements
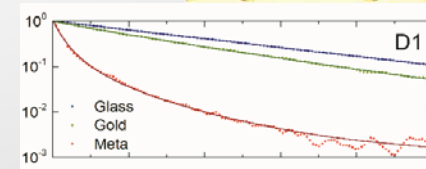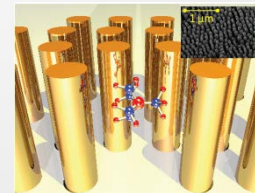 - Optimize the structure for a particular task

Emission

Absorption

Transparency+conductivity

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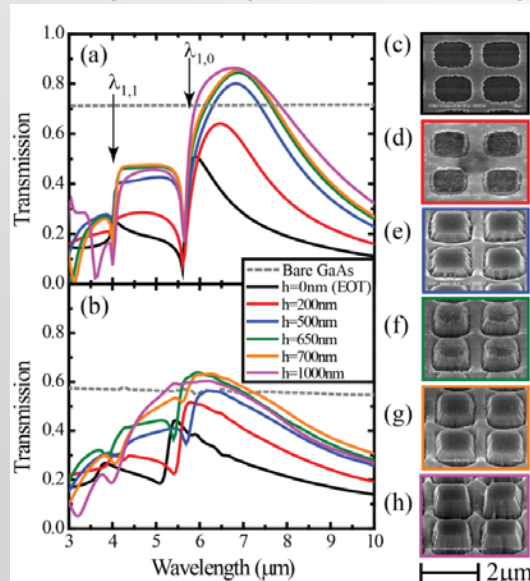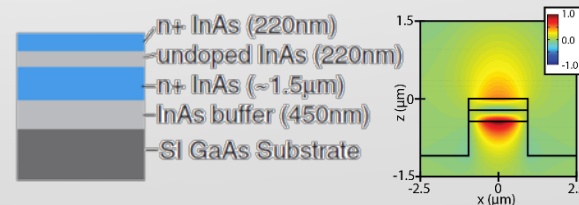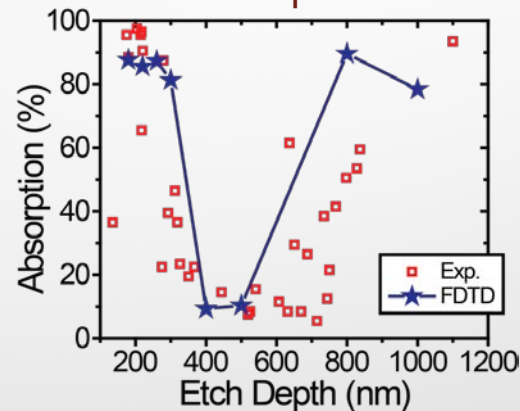
- Currently: research tool, used by us as well as our collaborators in

    - UT Austin, King's College London, Princeton, …

- Looking for partners with needs in analysis/optimization of composite materials/surfaces

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