CURRENT RESEARCH AND SCHOLARLY INTERESTS

Currently, I am working on an on-chip platform to simultaneously trap and manipulate micron scale beads and droplets with an intention to implement chemical reactions on a chip at ultrasmall volumes.

Publications

PUBLICATIONS

- On the substrate contribution to the back action trapping of plasmonic nanoparticles on resonant near-field traps in plasmonic films  *OPTICS EXPRESS*  
  Padhy, P., Zaman, M., Hansen, P., Hesselink, L.  
  2017; 25 (21): 26198–214

- Dielectrophoresis-assisted plasmonic trapping of dielectric nanoparticles *PHYSICAL REVIEW A*  
  Zaman, M. A., Padhy, P., Hansen, P. C., Hesselink, L.  
  2017; 95 (2)

- Adjoint method for estimating Jiles-Atherton hysteresis model parameters  *JOURNAL OF APPLIED PHYSICS*  
  2016; 120 (9)

- Metal wire waveguide based all plasmonic refractive index sensor for terahertz frequencies  *SENSORS AND ACTUATORS B-CHEMICAL*  
  Padhy, P., Sahu, P. K., Jha, R.  
  2016; 225: 115-120