Dr. Dheeraj Pratap

Nehru Science Postdoctoral Fellow
Biomedical and Instrumentation Division
CSIR-Central Scientific Instruments Organisation (CSIO)
Sector-30C, Chandigarh-160030, India
Ph: +91-1722672332
Email: dheeraj.pratap@csio.res.in
Skype: dhepratap@gmail.com
https://scholar.google.co.in/citations?user=bgfftWEAAAAJ&hl=en
https://www.researchgate.net/profile/Dheeraj_Pratap2

Research interests: Metamaterials, plasmonics, nanophotonics, transformation optics, nanoscale heat transfer.

Publications:

Journal articles

[9] Jitendra Kumar Pradhan, Dheeraj Pratap, S. Anantha Ramakrishna, "Nanoporous anodic alumina on aluminium for radiative cooling", accepted.

[8] Abhinav Bhardwaj, Dheeraj Pratap, Mitchell Semple, Ashwin K. Iyer, Arun M Jayannavar, S. Anantha Ramakrishna, "Properties of waveguides filled with anisotropic metamaterials", French Academy of Science (invited review), in press.

[7] Dheeraj Pratap, Rakibul Islam, Patricia Al-Alam, Jaona Randrianalisoa and Nathalie Trannoy, "Effect of air confinement on thermal contact resistance in nanoscale heat transfer", J. Phys. D: Appl. Phys., vol. 51, pp. 125301, (2018).

[6] D. Pratap, Abhinav Bhardwaj, and S. A. Ramakrishna, "Inhomogeneously filled, cylindrically anisotropic metamaterial optical fiber", Journal of Nanophotonics, vol. 12, pp. 033002, (2018).

[5] J. G. Pollock, A. K. Iyer, D. Pratap, and S. A. Ramakrishna, "A class of circular waveguiding structures containing cylindrically anisotropic materials: applications from RF/microwave to optical frequencies", Journal of Applied Physics, vol. 119, pp. 083103-8, (2016).

[4] M. Arya, S. Khandekar, D. Pratap, and S. A. Ramakrishna, "Pool Boiling of Water on Nano-structured Micro-wires at Sub-atmospheric Conditions", Heat and Mass Transfer, vol. 52, pp. 1725-1737, (2016).

[3] D. Pratap, S. A. Ramakrishna, J. G. Pollock and A. K. Iyer, "Anisotropic Metamaterial Optical Fibers", Optics Express, vol. 23, pp. 9074-9085 (2015).

[2] D. Pratap, P. Mandal , and S. A. Ramakrishna, "Plasmonic properties of gold coated nano-porous anodic alumina with linearly organized pores", Pramana-Journal of Physics, vol. 83, pp. 1025-1033 (2014).

[1] S. K. Singh, S. Khandekar, D. Pratap and S. A. Ramakrishna, "Wetting dynamics and evaporation of sessile droplets on nano-porous alumina surfaces", Colloids and Surfaces A: Physicochemical and Engineering Aspects, vol. 432, pp. 71-81 (2013).

Patents

[3] S. Khandekar, S. A. Ramakrishna, D. Pratap, A. Panwar, P. Pavecha and S. Yadav, "Compact Air Cooler with Nano-Structured Surfaces", SIDBI Innovation & Incubation Centre, IIT Kanpur, Ref: 3246/DEL/2014 (filed).

[2] S. A. Ramakrishna and D. Pratap, Nanoporous Microtubes for Anisotropic Optical Fibers", SIDBI Innovation & Incubation Centre, IIT Kanpur, Ref: 850/DEL/2014 (filed).

[1] S. A. Ramakrishna, D. Pratap, S. Khandekar and J. Ramkumar, "Nanoporous Microfluidic Devices and Methods for their Preparation and Use in Heat Exchange Applications", Intellectual Ventures, US20160040940 A1 (2016).

Conference proceedings

[3] D. Pratap, and S. A. Ramakrishna, "Radially Inhomogeneous and Anisotropic Nanoporous Anodic Alumina Microtubes as Metamaterial Optical Fibers", META 2015, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics, City College of New York, New York City, NY, USA, August 4-7, 2015, pp. 1231.

[2] S. A. Ramakrishna, D. Pratap, J. G. Pollock, and A. K. Iyer, "Anisotropic Metamaterial optical fibers: Bessel modes with imaginary orders and nanoporous alumina microtubes", Photonics 2014: 12th International Conference on Fiber Optics and Photonics © OSA 2014 , Page no. M2D.3.

[1] S. K. Singh, D. Pratap, S. A. Ramakrishna and S. Khandekar, "Evaporation of Sessile Droplets on Nano-porous Alumina Surfaces", Proc. 7th International Symposium on Multiphase Flow, Heat Mass Transfer and Energy Conversion (Paper No. FG-45), AIP Proceedings-Conference Collection, Xian, China, October 26-30, Vol. 1547, pp. 156-163, 2013.