

Faculty Profile

Name : Neelam Barak
Designation : Assistant Professor
Qualifications : B.Tech., M.Tech., Ph.D. (pursuing)
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Area of Interest/Specialization: Electronics & Communication,
Optical microscopy, Digital Holography



Experience : 8 months

Key Publications:

1. **N. Barak**, V. Kumari, and G. Sheoran, "Simulation and analysis of variable numerical aperture wide-field microscopy for telecentricity with constant resolution," *Micron* 145, 103064 (2021).
2. Kumari, V, **Barak, N**, Sheoran, G., "Numerical four phase shifting microwave holography with phase step error analysis", *International Journal of RF & Microwave Computer Aided Engineering* (2021).
3. Kumari, V., Sheoran, G., Kanumuri, T., **Barak, N.**, et al. Statistical Modelling and Mapping of Intensity Spectrum in Breast MR Images. *MAPAN* (2021).
4. **N. Barak**, V. Kumari, & G. Sheoran "Automated Extended Depth of Focus Digital Holographic Microscopy using Electrically Tunable Lens", *Journal of Optics* 22(12), 125602 (2020).
5. V. Kumari, **N. Barak**, and G. Sheoran "Numerical three-step phase-shifting microwave holography," *Optical Engineering* 58(11), 114107 (2019).
6. **N. Barak**, N. Gaba and S. Aggarwal, "Two Dimensional Mapping by Using Single Ultrasonic Sensor" *International Journal of Advanced Research in Computer Science (IJARCS)* 7(3), 254-257 (2016).

Papers presented in Conferences:

1. **N. Barak**, V. Kumari and G. Sheoran, "Dual Wavelength Lensless Fourier Transform Digital Holographic Microscopy for Quantitative Phase Imaging," 2018 15th IEEE India Council International Conference (INDICON), Coimbatore, India, 2018, pp. 1-4.
2. **N. Barak**, V. Kumari, G. Sheoran, "Two Wavelength Lensless Fourier Transform Digital Holographic Microscopy for Quantitative Phase Imaging with improved resolution", PHOTONICS 2018, Delhi, December 2018 (Poster).
3. **N. Barak**, V. Kumari, G. Sheoran, "Lens Less Fourier Transform Digital Holographic Microscopy for Quantitative Phase Imaging with Improved Resolution," Indo-US Colloquium on Recent Developments in Interdisciplinary Research, Delhi, July 2018 (Poster).
4. **N. Barak**, N. Gaba and S. Aggarwal, "Localization of sensor nodes using modified particle swarm optimization in wireless sensor networks," 2016 International Conference on Advances in Computing, Communications and Informatics (ICACCI), Jaipur, 2016, pp. 2608-2613.
5. N. Gaba, **N. Barak** and S. Aggarwal, "Motion detection, tracking and classification for automated Video Surveillance," 2016 IEEE 1st International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), Delhi, 2016, pp. 1-5.

Awards and Recognitions: N/A

Patent/Copyright: N/A

Sponsored Project/Consultancy: N/A

Book Chapter/Books published:

1. N. Barak, V. Kumari, and G. Sheoran, "Common Path Digital Holographic Microscopy Using Electrically Tunable Lens," in ICOL-2019, K. Singh, A. K. Gupta, S. Khare, N. Dixit, and K. Pant, eds. (Springer Singapore, 2021), pp. 655–658.

Ph.D Supervised: N/A

Memberships of Professional bodies: N/A

Other Contributions: N/A