

Physics

Nayak

Chitra R Nayak, Ph.D.

Assistant Professor Physics
College of Arts and Sciences
Email: cnayak@mytu.tuskegee.edu
Office Phone: 334-27-8996
Office Address: Tuskegee University
Tuskegee, AL 36088

Biographical Sketch:

Dr. Nayak completed her Ph.D (2009) in the area of nonlinear dynamics from Cochin University, India. She worked as postdoctoral fellow in the interdisciplinary field of bacterial biophysics and immunology at Dalhousie University and University of Toronto, Canada. Dr. Nayak joined as an assistant professor at Tuskegee University in 2014. Her current area of research work includes nonlinear analysis of biological signals and fluid dynamics. Dr. Nayak is also involved in education research at Tuskegee University. She has published her works in well reputed international journals and is cited more than 50 times by independent authors.

Research Fields:

- x Bacterial Biophysics
- x Immunology
- x Nonlinear dynamics
- x Fluid dynamics
- x Spatiotemporal patterns

Collaborations:

- x Arnold Mandell, UCSD
- x Visarath In, SPAWAR
- x Antonio Palacios, SDSU
- x John T Solomon, TU
- x Eric Hamiltom, Pepperdine U
- x Mariya Calhoun, TU
- x Vimal Vishwanathan, SJSU
- x Andrew Rutenberg, Dal
- x Anton Zilman, UofT

Representative Publications:

1. "Absolute Ligand discrimination by dimeric signal receptors" S. Fathi, C R Nayak, J. Feld, and A Zilman, Biophysical Letter, 111, p917, 2016.
2. "Non-specific quality control and optimization of protein translocation by bacterial Translocon" C R Nayak, Aidan I Brown, and Andrew D Rutenberg, Physical Biology, 11, 056005, 2014
3. "High speed flow mixing using high frequency pulsed microactuators", J T. Solomon, C R Nayak, D Alexander, K Caines. F Higgins, M Jones, AiAASciTech Forum, 2017.
4. "Quantification of fluorophore copy number from intrinsic fluctuations during fluorescence photobleaching" C R Nayak and Andrew D Rutenberg, Biophysical Journal, 101, 2284, 2011.