

GOKUL G. NAIR

Center For Applied Mathematics
Cornell University, NY
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EDUCATION	Ph.D. in Applied Mathematics 2018 - present Cornell University, Ithaca, NY, United States Advisor: Timothy Healey, Department of Mathematics Expected completion: 2024
	Masters in Applied Mathematics 2018-2021 Cornell University, Ithaca, NY, United States Minors: Mathematics, Theoretical Physics
	Bachelor of Science (First Class with Distinction) 2014 - 2018 Indian Institute of Science, Bangalore, India Major: Physics
RESEARCH INTERESTS	Calculus of Variations, Nonlinear Elasticity, Geometric Analysis, Minimal Surfaces, Complex systems
HONOURS	First Class with Distinction , Indian Institute of Science 2018
	S.N. Bose Fellowship , Indo-U.S. Science and Technology Forum 2017
	KVPY Fellowship , Government of India 2014
RESEARCH PUBLICATIONS	<ol style="list-style-type: none">1. <i>Existence Theorems for Nonlinearly Elastic Single-Director Cosserat Surfaces</i> (with T. Healey), working manuscript (2022)2. <i>Energy-Minimizing States for Nonlinearly Elastic Membranes on Prescribed Surfaces</i> (with T. Healey), working manuscript (2022)3. <i>Designing for Robustness in Electric Grids via a General Effective Resistance Measure</i>, Nagpal, Shriya V., Gokul G. Nair, Francesca Parise, and C. Lindsay Anderson. (submitted to IEEE) arXiv:2201.00929 (2022).4. <i>Fission-fusion dynamics and group-size-dependent composition in heterogeneous populations</i>, Nair, Gokul G., Athmanathan Senthilnathan, Srikanth K. Iyer, and Vishvesha Guttal. Physical Review E (2019)
TEACHING EXPERIENCE	<ul style="list-style-type: none">• Partial Differential Equations, TA (Spring 2022)• Differential Equations for Engineers, TA (Fall 2021)• Honours Introduction to Analysis I, TA (Fall 2020)• Multivariable Calculus, TA (Spring 2020)• Differential Equations for Engineers, TA (Fall 2019)• Multivariable calculus for Engineers, TA (Fall 2018 - Spring 2019)

TALKS

- Proving the Uniformization theorem using Ricci flow, Dynamics Seminar, Cornell University (2020)
- Introduction to Curvature, Applied Mathematics Student Seminar, Cornell University (2020)
- Schoen and Yau's proof of the Positive Mass theorem, Applied Dynamics Seminar, Cornell University (2021)
- On the Dynamics of Power Grids, Applied Dynamics Seminar, Cornell University (2022)

SERVICE

- President, Cornell SIAM chapter (2021-present)
- Organizer, Applied Mathematics Student Seminar (2020-2022)
- Mentor, Directed Reading Programme, Cornell Department of Mathematics (2020-2022)

**COMPUTER
LANGUAGES**

C, C++, Python (Numpy, Scipy), Mathematica, \LaTeX