INDRANIL GHOSH

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EDUCATION

Ph.D., Applied Mathematics 2021-Present
Massey University Palmerston North, 4472

M.Sc., Physics 2018-2020
Jadavpur University Kolkata-700032

B.Sc., Physics 2015-2018
Jadavpur University Kolkata-700032

JOURNALS

Indranil Ghosh, and David J. W. Simpson, **Robust Devaney chaos in the two-dimensional border-collision normal form.** *Chaos 32, 043120 (2022).* https://aip.scitation.org/doi/10.1063/5.0079807

Indranil Ghosh, "Quantum Game Theory: A comprehensive study." {Part I https://link.springer.com/article/10.1007/s12045-021-1168-2} {Part II https://link.springer.com/article/10.1007/s12045-021-1180-6} {Part III https://link.springer.com/article/10.1007/s12045-021-1193-1} *Resonance (2021).*

CONFERENCE PROCEEDINGS

Hammed Olawale Fatoyinbo, Sishu Shankar Muni, *Indranil Ghosh*, Ibrahim Olatunji Sarumi, and Afeez Abidemi, **Numerical bifurcation analysis of improved denatured Morris-Lecar neuron model.** *2022 International Conference on Decision Aid Sciences and Applications (DASA).* https://ieeexplore.ieee.org/document/9765094

Sarath Babu, *Indranil Ghosh*, and B. S. Manoj, **Effort: A New Metric for Roadside Unit Placement in 5G Enabled Vehicular Networks.** *5GWF'2020 Proceedings.* https://ieeexplore.ieee.org/document/9221228

PREPRINTS

Costas J. Efthimiou, Gregory DeCamillis, and *Indranil Ghosh*, **A physics-driven study of dominance space in soccer.** https://arxiv.org/abs/2202.00414

Sishu Shankar Muni, Hammed Olawale Fatoyinbo, and *Indranil Ghosh*, **Dynamical effects of electromagnetic flux on Chialvo neuron map: nodal and network behaviors.** https://arxiv.org/abs/2201.03219

Indranil Ghosh and David J. W. Simpson, **Renormalisation of the two-dimensional border-collision normal form.** *Preprint.* https://arxiv.org/abs/2109.09242

SOFTWARES

Indranil Ghosh, **QGameTheory: Quantum Game Theory Simulator (v0.1.2).** *CRAN Repository, 2020.* https://cran.r-project.org/web/packages/QGameTheory/index.html

BLOGS

Indranil Ghosh, **Introduction to Mathematical Optimiztion (with Python).** `https://indrag49.github.io/Numerical-Optimization/`

Indranil Ghosh, **Introductory Football Data Analysis.** `https://realsoccerexpand.netlify.app/`

RESEARCH AND WORK EXPERIENCE

Sirpi Products and Services Pvt. Ltd., Bangalore, India August 2020-December 2020.
Research Lead and SHEAR Project Lead (Remote)

Indian Institute of Space Science and Technology, Kerala, India. May 2019-June 2019.
Computer Science Intern

CONFERENCE PRESENTATIONS

Renormalisation of the Two-Dimensional Border-Collision Normal Form July 2022
NSW ANZIAM 2022 Mid-Year Conference, 2022 *Talk*

Dynamical effects of electromagnetic flux on Chialvo neuron map: nodal and network behaviors April 2022
BAMC, 2022 *Talk*

Renormalisation of the Two-Dimensional Border-Collision Normal Form February 2022
ANZIAM Annual Conference, 2022 *Talk*

Learn Football Data Analysis with Python December 2021
PyCode Conference, 2021 *Talk*

Football (soccer) data analysis: A Pedagogic introduction October 2021
PyCon Taiwan, 2021 *Talk*

An introduction to hands-on football data analysis in Python October 2021
PyCon Espana, 2021 *Talk*

Football (soccer) data analysis: A pedagogic introduction September 2021
PyConline AU, 2021 *Talk*

Introduction to Soccer Pass Network Analysis with Python July 2021
PyOhio, 2021 *Thunder Talk*

Introducing a blog: Introductory Football Data Analysis July 2021
EuroPython Conference, 2021 *Lightning Talk*

Using Python to start learning Unconstrained Numerical Optimization Algorithms June 2021
Pycon Colombia, 2021 *Talk*

QGameTheory: An R package for teaching quantum computing and quantum game theory to students April 2021
International Series of Online Research Software Events (SORSE) *Poster Presentation + Talk*

QGameTheory: A Quantum Game Theory Simulator written in R for teaching quantum computing and game theory to starting programmers and undergraduate students March 2021

APS March Meeting 2021 *Poster Presentation*

Develop and Document Your First R Package December 2020

Sirpi Products and Services Pvt. Ltd. *Talk*

Learn Lambda Calculus with Python December 2020

Pycode Conference 2020 *Talk*

Teaching quantum computing and game theory with QGameTheory package September 2020

Why R? 2020 Conference *Talk*

Introducing Lambda Calculus with Python September 2020

Pycon Australia *Talk*

Quantum Game Theory with Julia: A computational analysis July 2020

JuliaCon *Poster presentation*

Build Your Own Quantum Simulator With R June 2020

The European R Users Meeting *Lightning talk*

A Computational Study of Sequential Deposition: A Dynamic Monte Carlo Process in Statistical Physics September 2019

Flatlands and beyond (2019) – A meet on 2D materials *SNBNCBS, Kolkata, India*

A Python implementation of Quantum Evolutionarily Stable Strategy Game, an interdisciplinary study of Quantum Computation and Game Theory in population biology February 2019

SLAS Conference *Washington D. C, USA*

Analysis of Quantum Game Theoretic Models with a Python Simulator December 2018

SciPy India *IIT-B, Mumbai*

Analysis of Chaos Game Simulator in Pygame October 2018

International Conference on Complex Dynamical Networks, 2018 *ISI, Kolkata*

Computation of Analytic Structure Factor for Macromolecules June 2018

Research Topic of Statistical Physics to young Physicists, 2018 *SNBNCBS, Kolkata, India*

TEACHING

Teaching assistant for 160.102 (Linear Algebra).

SKILLS

Softwares Expert: R, Python, Fortran, git, LaTeX, HTML, Markdown
Social Twitter: **@indraghosh314**,
Github: `https://github.com/indrag49`,