

Indraneel Kasmalkar

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Education

Stanford University - (Expected) Ph.D. in Computational and Mathematical Engineering	2015-2021
University of California, Berkeley - B.A in Mathematics. GPA: 3.96.	2011-2015

Achievements

Valedictorian at the UC Berkeley Mathematics Department Commencement.	2015
Won Honorable Mention at the William Lowell Putnam Competition.	2012, 2013
Represented India and won Honorable Mention at the International Mathematical Olympiad.	2011

Experience

Computational Glaciology	Ph.D. Research: Understanding Basal Processes for Fast Ice Flow in Antarctica. <ul style="list-style-type: none">Developing a physics-based mathematical model to analyze subglacial water systems and their coupled behavior with fast-flowing ice streams.	2016 - current
Sustainable Urban Systems (SUS)	Stanford SUS Project: Rising Sea Levels in the Bay Area. <ul style="list-style-type: none">Utilized the Urban Risk Framework to conduct a baseline risk assessment of flooding and sea level rise for the San Francisco Bay Area over the period 2020-2100.Developed a dynamic traffic simulation model to analyze how daily commute patterns in the SF Bay Area would change in a flooding event.	2017 - current
Teaching	Teaching Assistant at University of California Berkeley. <ul style="list-style-type: none">Math 10B: Mathematics for Biology Students.Math 32B: Precalculus.	Spring, 2015 Spring, 2014

Programming

Python	Developed (with collaboration) a traffic simulation model for the San Francisco Bay Area to understand the impacts of coastal flooding on daily commute patterns.	2018
R	Developed scripts for data analysis and visualization of traffic simulation results.	2018

Matlab Repurposed existing code on spectral solvers for fluid flow to analyze the stability of subglacial thin meltwater films. 2017

Conferences

American Geophysical Union (AGU) Presented a poster on my Ph.D. research: **Can Subglacial Meltwater films carve into the Sediment Beneath? Insights from a Coupled Till-Water Model.** Nov, 2017
- I. Kasmalkar, E. Mantelli, J. Suckale

Biot Conference Presented a talk on my Ph.D. research: **The Coupled Dynamics of Meltwater Percolation and Granular Deformation in the Sediment Layer Underlying Parts of the Big Ice Sheets.** July, 2017
- I. Kasmalkar, A. Cabrales-Vargas, A. Damsgaard, J. Suckale, L. Goren.

Publications

I. Kasmalkar. On The Sendov Conjecture for a Root Close to the Unit Circle. Australian Journal of Mathematical Analysis and Applications. Volume 11, Issue 1, Article 4, pp. 1-34, 2014. <http://ajmaa.org/searchroot/files/pdf/v11n1/v11i1p4.pdf>

J. Clancy, R. Friedberg, I. Kasmalkar, I. Loh, T. Padurariu, C. Silva, S. Vasudevan. Ergodicity and Conservativity of Products of Infinite Transformations and their Inverses. *Colloquium Mathematicae*. 2016. <https://eudml.org/doc/284016>