Karuna SANGAM

PhD Candidate in Mathematics

PERSONAL DATA

EMAIL: karuna.sangam@rutgers.edu
OFFICE: Hill 608

RESEARCH EXPERIENCE

Jan 2017-Mar 2018	**Undergraduate Senior Project at BARD COLLEGE, Annandale-on-Hudson, NY** Identified all finite subgroups of the homeomorphism group of the Sierpiński Carpet. Presented research at the Graduate Student Topology and Geometry Conference 2019 and the LBG&TQ Conference 2019.
May-Aug 2017	**Mathematics Research Assistant at UNIVERSITY OF CONNECTICUT, Storrs, CT** Conducted research on the existence and continuity of gradients on generalizations of the Sierpiński Gasket. Presented research in a talk at the Young Mathematicians Conference 2017 at Ohio State University.
Jun-Jul 2016	**Mathematics Research Assistant at BARD COLLEGE, Annandale-on-Hudson, NY** Assisted in research on finding module bases for integer generalized splines. Presented research in a poster session at Summer Combo in Vermont, hosted by Saint Michael's College.

WORK EXPERIENCE

Sep 2018-*Current*	**Graduate Teaching Assistant at RUTGERS UNIVERSITY, New Brunswick, NJ** Led recitation sections for various undergraduate courses, including single- and multi-variable calculus, linear algebra, and real analysis. Held weekly office hours for students to seek help. Graded student work. Have experience both online and in-person
Jun-Aug 2020	**Instructor of Record at RUTGERS UNIVERSITY, New Brunswick, NJ** Served as instructor of record for Math 251 (multi-variable calculus) online. Conducted lectures and recitation sections, wrote quizzes and exams, held oral exams in order to gauge understanding of material in the online format.
Sep 2015-Dec 2017	**Math Tutor at BARD COLLEGE, Annandale-on-Hudson, NY** Monitored the math study room, which is a space available for students to study math on weeknights. Assisted students who requested help. Worked as the dedicated tutor for an Abstract Algebra class, offering weekly office hours as well as one-on-one tutoring sessions for students who requested it.
Jan-Jun 2014	**Math Tutor at DE ANZA COLLEGE, Cupertino, CA** Helped students in need of additional help in beginning algebra through pre-calculus. Tutored on both a weekly individual and a drop-in basis. Guided one-on-one students through areas of challenge.

Teaching

Term	Institution	Course #	Course Name	Role
Spring 2022	Rutgers	Math 151	Calculus I for Math/Physics	TA
Fall 2021	Rutgers	Math 311	Intro to Real Analysis	TA
Fall 2021	Rutgers	Math 250	Intro to Linear Algebra	TA
Spring 2021	Rutgers	Math 250	Intro to Linear Algebra	TA
Fall 2020	Rutgers	Math 152	Calculus II for Math/Physics	TA
Summer 2020	Rutgers	Math 251	Multivariable Calculus	Instructor
Spring 2020	Rutgers	Math 251	Multivariable Calculus	TA
Fall 2019	Rutgers	Math 135	Calculus I for Life/Social Sciences	TA

Education

Current Doctorate of Philosophy in Mathematics, **Rutgers University**, New Brunswick, NJ
ACTIVITIES: Treasurer for AMS Graduate Chapter 2018-19

MAY 2018 Bachelor of Arts in Mathematics, **Bard College**, Annandale-on-Hudson, NY
Thesis: "Homeomorphisms of the Sierpinski Carpet" | Advisor: James BELK
ACTIVITIES: Student Government, Swim & Dive

FALL 2016 Semester Abroad with **Budapest Semesters in Mathematics**, Budapest, Hungary

JUNE 2014 **De Anza College**, Cupertino, CA
ACTIVITIES: Biology Teaching Assistantship

Honors

MAY 2017 KENNETH BUSH MEMORIAL SCHOLARSHIP IN MATHEMATICS,
A scholarship given annually in memory of distinguished mathematician Kenneth A. Bush '36 to a junior who has demonstrated excellence in mathematics.

Languages

ENGLISH: Native
TAMIL: Conversational
FRENCH: Rudimentary
HUNGARIAN: Rudimentary

Interests and Activities

MATHEMATICS: Low-dimensional topology, 3- and 4-manifolds, algebraic topology, knot theory, functional analysis, dynamical systems, fractal geometry.
OTHER: music, knitting, hiking/camping.