

Last name	First name	How many graduate students are you currently advising as the research advisor?	Are you accepting new graduate students <u>this</u> year (23-24)?	Will you be accepting new graduate students <u>next</u> year (24-25)?	What is your field(s) of research? What fields of research do you advise graduate students in?	What would you like a student to have completed before they start reading with you or working with you?	(Optional) Comments about your advising style or how students should approach you or prepare to work with you:
Arsuaga	Javier	4.5	No	Maybe	Applied mathematics: DNA topology, Topological data analysis, Machine learning	no preference	Advising is very open and friendly. I expect positive attitude and good camaraderie with other students in the group
Babson	Eric	1	Yes	Yes	fairly open	fairly open	I prefer to meet students through a reading course.
Biello	Joseph	3	Yes	Yes	Fluid dynamics/PDE/Atmospheric Sciences	207 series, some fluid dynamics course, physics.	Students will begin by doing a reading class with me for one quarter and writing weekly reports. This will determine if they can continue research. Weekly reports will be expected during the whole period of research.
Carlsson	Erik	2	Yes	Yes	Representation theory, combinatorics, computational topology	it depends on the subject	
Casals Gutierrez	Roger	2	Yes	Yes	Geometry & Topology, Algebra & Algebraic Geometry	Nothing. If they are willing to work, they can start the moment they arrive. (If they have time allocated to work exclusively on the reading course.)	Students can just inquire anytime about reading with me. I am open to the style of advising and type of project. The only measure that I take particularly seriously is the amount of time devoted to working on the reading course: if the student consistently works a bit every week (e.g. 1h or 2h every day), whether there is a bit of progress or a lot, it should be good.
Chaudhuri	Rishidev	1.5	Yes	Yes	Computational neuroscience, theory of neural networks, data analysis tools for neural data	Ability to program (ideally Python) and interest in learning some neuroscience. Math background at the level of first year grad school is enough.	I usually do the biology model of a rotation period (typically 1 quarter) where we can both try out working together and see how it goes. And then commit to working together more long term if we both feel it's a good fit.

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De Loera	Jesus	6	Yes	Yes	Optimization, Data Science, Statistics, Algorithm design, Algebraic-Symbolic and Numerical Computing, Combinatorics (algebraic, geometric, topological, extremal), Commutative Algebra and Algebraic Geometry (toric varieties, graded algebras, combinatorial varieties). Convex and Discrete Geometry and Combinatorial Aspects of Number Theory	I only accept working with students who have passed all their prelim exams no later the beginning of Spring of their second year. All my projects require at least a willingness to compute and experiment. Liking computers is a plus.	See appendix
Fraas	Martin	4	Yes	Maybe	Mathematical Physics, Quantum Mechanics	N/A	
Gorsky	Eugene	5	No	No	Algebraic geometry (with connections to topology and combinatorics)	Algebra (250ABC) and Topology (239,215AB) graduate sequences	
Guy	Robert	3	Yes	Yes	biofluids, math biology, numerical PDE	Show interest in fluid dynamics, biology, or numerical methods.	
Hass	Joel	2	Yes	Maybe	Geometry, topology and their applications	215 and 240 series, 239	
Hunter	John	1	No	No	PDEs, Fluid Dynamics, Wave Propagation	Depends on student	
Iyer	Sameer	0	Yes	Yes	nonlinear PDE	Analysis sequence + PDE sequence	

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Jacob	Adam	1	Yes	Yes	Differential geometry, mostly focused on complex geometry and geometric evolution equations.	I would like students to have passed all their Prelim Exams to start working with me (a reading course is different and for that I have no prerequisites)	
Kapovich	Michael	1	No	No	Geometry	215ABC, 239, 240AB	
Koepp	Matthias	1	Yes	Yes	Discrete optimization (theory), computational discrete mathematics, mathematical software	At least upper-division classes on algorithms & complexity, optimization, polyhedral geometry, combinatorics.	
Kuperberg	Greg	3	Yes	Yes	Principally quantum computing, 3-dimensional topology, and quantum algebra. But algebraic combinatorics is also possible, as well as other selected topics in convex geometry, manifold geometry, computational complexity, and some other topics.	Principally, they should make an informed case for why they want to work with me, i.e., what part of my research interests them and why they feel ready for it. A lot of my research depends on the modes of reasoning in the MAT 250 sequence, and/or MAT 215, and/or MAT 216, and/or the new MAT 267. ECS 220, MAT 246, MAT 239, MAT 240a, and MAT 201ab also sometimes matter. However, I wouldn't make any graduate class an outright prerequisite before offering a reading course.	I always enjoy discussing mathematics that I understand with my graduate students, or with anyone for that matter. However, I don't do much to organize collaborations that lead to joint papers, in advance of any results. My students are more than welcome to form collaborations (including with me), or work on their own, as they prefer.
Lewis	Tim	5	No	Maybe	Mathematical Physiology/Neurobiology; Applied Dynamical Systems	207ABC and some numerical analysis	
Li	Junxian	0	Yes	Yes	Number theory (more on the analytic side)	Knowledge on basic analytic number theory and complex analysis	

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Liu	Fu	1	No	Maybe	Combinatorics, particularly in geometric combinatorics.	I prefer them to have taken Math 245 with me before doing reading with me, and have learned basics related to polytopes before working with me.	
Luli	Kevin	0	Yes	Yes	Analysis	Done with the 201 series and the prelims.	
Luu	Martin	1	Yes	Yes	Several areas of algebraic flavor (e.g. integrable systems attached to Lie algebras, representation theory of Lie algebras, algebraic number theory, ...)	250 ABC	
Morris	Ben	1	Yes	Yes	Probability	MAT 235AB	
Motohico	Mulase	1	Yes	Maybe	Complex Geometry, Mathematical Physics, Integrable Systems	205 series, 239, 240 series, 248 series, 250 series (Possible for concurrent plans)	I just let the students do whatever she/he wants to work on. When their interests are close to my current research projects, we will produce joint papers. This can be, but does not have to be, related to the student's final dissertation research. If anybody who wants to work with me, then it is the best to start talking to me at an early stage.
Nachtergaele	Bruno	4, with 2 of them graduating this academic year.	Yes	Yes	Mathematical physics: quantum statistical mechanics; currently concentrating on analytic problems in topological phases of matter and the fractional quantum Hall effect.	201AB	A prospective student and I usually start exploring mutual interests by reading, 1 on 1 meetings and group meeting participation.

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Rademacher	Luis	0	Yes	Maybe	Discrete and convex geometry, foundations of data science, theoretical computer science, high dimensional probability, tensor methods.	Helpful courses but not required: measure theory/rigorous probability, optimization, algorithms.	
Romik	Dan	1	No	Maybe	I work on many topics in combinatorics, analytic number theory, and computer-assisted mathematics	Read some of my papers and/or books	
Saito	Naoki	2	No	Maybe	Applied & Computational Harmonic Analysis, Mathematics of Data Science	MAT 201AB/207AB; Knowledge of MAT 167; Some programming experience	
Schilling	Anne	4 or 5	No	Maybe	combinatorics, representation theory, mathematical physics	The students should have passed their prelims and completed all required classes. They should also attend my weekly informal seminar and start presenting in the seminar.	
Schultens	Jennifer	5	Yes	Maybe	Low-dimensional topology	Preliminary exams, MAT 147, MAT 215ABC, MAT 239, MAT 250AB	
Shi	Yunpeng	0	Yes	Yes	Mathematics of data science, computational imaging, computer vision, machine learning	students are highly recommended (not required) to take graduate level courses in probability theory and optimization	
Shkoller	Steve	4	No	Maybe	PDE and applied math		
Soshnikov	Alexander	1	Yes	Yes	Random Matrix Theory	MAT 201AB, MAT 235A	

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Starkston	Laura	4	No	No	Low-dimensional topology, 4-manifolds, symplectic topology	MAT 239, 215A, 215B before reading, 2 quarters of reading courses before finalizing advising	
Strohmer	Thomas	5	Yes	Yes	Data science, machine learning, optimization	Solid background in probability	
Teran	Joseph	5	Yes	Yes	scientific computing/computer graphics	undergrad analysis and physics	
Thompson	Abigail	1	No	No	Low-dimensional topology	N/A	
Vazirani	Monica	3	No	Yes	Combinatorics, representation theory	Mat 250ABC with good grades. Passed Algebra Prelim. Reading course together before starting working together.	
Waldron	Andrew	3	Yes	Yes	Geometry and Physics	I try to meet incoming students at their level, rather than ask them first to jump some sort of bar. A good understanding of what a manifold is and basic operations of differential geometry will make it easier to get started.	We have a weekly group meeting, Fridays at 4:15 in the QMAP 3rd floor seminar room. Anybody is welcome to come along and get involved.
Wein	Alex	2	Yes	Yes	Theory of computing, mathematical foundations of data science	A strong foundation in probability and linear algebra is important (undergrad level is fine). It also helps to have some experience with one or more of these areas: analysis of algorithms, random matrix theory, convex optimization, mathematical statistics.	Feel free to set up a meeting with me to discuss your interests.
Xia	Qinglan	2	No	Yes	Geometric measure theory, and optimal transportation	MAT 206	Contact me directly