30 April 2009

Dr. Linda Noble
Assistant Vice Chancellor for Faculty Affairs
University System of Georgia Institute of Technology
270 Washington Street, SW
Atlanta, GA 30334-1450

Dear Dr. Noble:

It is my distinct honor to nominate Dr. Matthew Baker for the FY 2010 Regents' Teaching Excellence Award. As the following documents will demonstrate, Matt Baker inspires and connects with students as few are able to do in one of higher education's most challenging fields.

Matthew Baker's vision of teaching is highly people-oriented. What he finds most exciting about mathematics is sharing it with others—and share it he does. Matt has done high school outreach, used math in his magic shows with community groups, and teaches a wide range of courses for undergraduates and graduate students alike. Whether the department asks Matt Baker to teach introductory courses to freshmen or, as is often the case, invites him to use his particular expertise in number theory and algebraic theory to teach upper division and graduate-level courses, students value that "Dr. Baker can teach an intimidating subject without being intimidating himself…His passion for the subject matter is contagious, and his enjoyment for teaching sparks an enjoyment for learning." Students appreciate that Dr. Baker meets them where they are, teaches them in a way that they can learn, and then facilitates their moving on to the next level.

Dr. Baker's colleagues also find the impact that he has on his students quite extraordinary. In 2007, a campus-wide committee of award-winning teachers at Georgia Tech selected Matt Baker for the CETL/BP Junior Faculty Teaching Excellence Award. Among the people nominating him for this award was the Chair of the School of Mathematics, Dr. Tom Trotter, who praised Matt as one of the most effective and inspiring teachers that he has ever known.

Matthew Baker is a gifted teacher, mentor, and researcher who has had incredible impact on the students of Georgia Tech. We are truly fortunate to have him as a faculty member here; we value the many contributions that he makes to our students and to the University System of Georgia. Please give him your highest consideration for this award.

Sincerely,

Georgia Institute of Technology

School of Mathematics
Atlanta, GA 30332-0160 U.S.A.
PHONE 404·894·9202
FAX 404·894·1832

April 27, 2009

Dr. Donna C. Llewellyn, Director
Center for the Enhancement of Teaching and Learning
Georgia Institute of Technology
Atlanta, GA 30332-0383

Dear Donna,

I am very pleased to write in *strong* support of Dr. Matt Baker, who has been nominated for the 2009 Board of Regents Teaching Excellence Award. I've been a mathematics professor for more than 40 years and have served as a Department Chair five times at three different universities. Matt Baker is hands-down the absolute best, most effective and most inspiring teacher of undergraduates I've ever seen. Also, he is the most versatile and gifted expositor/motivator I've ever known, bar none.

I've now seen Matt work with mathematics students from high school through advanced Ph.D. levels. He just seems to have the right touch, inserting insightful comments when minds are open, demanding excellence when discipline is needed, engaging students when involvement needs reinforcing, and asking penetrating questions when deeper undertanding might follow. I've also observed him serve as a mentor for postdocs, which is teaching at a very high level.

This coming year, Matt will serve as the sponsoring senior scientist for a young researcher, Dr. Josephine Yu, who is supported by an NSF Postdoctoral Fellwowship. Dr. Yu is transferring her fellowship from M.I.T. to Georgia Tech. This is clear evidence of Matt's research strength coupled with his proven value as a teacher/mentor.

I've even seen Matt teach faculty colleagues! Yes, even faculty can teach and learn from each other. In every phase of teaching and with every level of students, Matt stands out.

Matt joined our faculty in 2004, after receiving his Ph.D. from U.C. Berkeley in 1999 and spending three years at Harvard as a Benjamin Pierce Assistant Professor. As a graduate student at Berkeley, Matt was highly successful in working with high school students from under-represented groups, getting them excited about studies in math and science and helping them to succeed with the transition to university level studies.

As a young faculty member at Harvard, then the University of Georgia and for the past five years here at Georgia Tech, Matt has demonstrated a remarkable talent for teaching. Here are a few highlights of his record, taken primarily from his accomplishments on our campus. In his second year of service at Georgia Tech, Matt was asked to take on the core graduate algebra sequence (Math 6121/22). Matt was an Assistant Professor at that time (since promoted to Associate Professor), and such critical assignments are not typical for junior faculty. We had problems with the algebra sequence and talented students were not successfully navigating early hurdles in their graduate studies. With Matt's efforts leading the way, considerable progress has been made and the core algebra courses are now serving more as a launchpad than a stumbling block.

Matt has taught a wide range of important courses in algebra, number theory and combinatorics, at both the graduate and undergraduate levels. But whenever a critical assignment must be made, Matt's name is at the top of everyone's list. The respect and appreciation of his colleagues is universal.

Matt's success in teaching extends far beyond classroom boundaries. For the past four years, he has coordinated the School of Mathematics Research Experiences for Undergraduates (REU) program, and he has played a key leadership role in mentoring students in undergraduate research projects. Mentoring advanced students in research projects is another form of advanced level teaching. It is difficult to do well in almost all disciplines, but it is particularly difficult to do well in mathematics, due in part to the archival nature of the subject. But again, Matt's efforts stand out. In 2007, Ander Steel received a campus-wide award for undergraduate research based on work done under Matt's guidance in two consecutive summer projects in our REU program. This work was published in the prestigious *Journal of Number Theory*.

Matt has provided outstanding leadership for our highly competitive Putnam team. This team consists of undergraduates who take part in a national mathematics competition, which can only be described as daunting and perhaps even intimidating. Students in this competition are frequently faced with challenges beyond any of their experiences to date. Our team's record is quite strong, and Matt deserves a lot of the credit for their success. This is another form of teaching, as Matt must help talented students gain knowledge, experience and confidence in preparation for the nationally administered and graded exam.

Matt has been exceptionally generous with his time in other ways that bring immediate benefit to our programs. For example, Matt his a highly skilled magician, and has entertained students at all levels, including the several hundred high school students participatinng each year in our annual competition during each of the last four years, 2006 though 2009. Many, but not all, of Matt's tricks have with a mathematical basis, and I must confess that he has several tricks that have me completely stumped.

It should also be noted that Matt has helped with fund raising efforts at Corralwood Elementary School, a local school focusing on special needs students.

Most of this letter has focused on Matt's extraordinary record as a teacher. and as a citizen of Georgia Tech, but I should also point out that Matt is an outstanding researcher as well, with an NSF Postdoctoral Fellowship, a continuing series of research grants from the Division of Mathematical Sciences of the NSF, a strong publication record in leading journals in algebra and number theory (including *Inventiones* and the *American Journal of Mathematics*, an extensive list of invitations (often as a plenary speaker) to major international conferences and at top ranked universities in the United States and abroad. Matt doesn't sacrifice his research career to be a great teacher. He is doing a great job at both.

I hope the extent of my enthusiasm for Matt Baker is clear. He is a very special person and a very special member of our community, and I cannot overstate just how strongly I support his nomination for the 2009 Board of Regents Teaching Award.

Sincerely,

William T. Trotter

William T. Trotter, Chair

MICHIGAN STATE
UNIVERSITY

April 15, 2009

Dr. Linda Noble
Assistant Vice Chancellor for Faculty Affairs
Board of Regents
University System of Georgia
Atlanta, GA 30334-1450

Dear Dr. Nobel:

It is my greatest pleasure to support Matt Baker for the Board of Regents Teaching Excellence Award. It is hard for me to believe that, based on the criteria stated for this award, there is anyone more qualified than Prof. Baker for this award.

My assessment of Prof. Baker's teaching is based on several evidences. These include his in-class performances, his course preparations, his teaching evaluations, his supervising of undergraduate students for mathematical research, and his outreach activities. Although I have already left Georgia Tech I have kept in close contact with my former colleagues there. Based on my knowledge my impression of Prof. Baker's teaching remains true today.

I was on Prof. Baker's 3rd Year Review committee for his teaching. To evaluate his teaching I sat through a class of his (Math 6162 Abstract Algebra, a core course in our graduate program). Prof. Michael Lacey and I also reviewed his statement of teaching philosophy, the course materials posted on his website and the results from student evaluations from the past. In addition, I invited Prof. Baker to give a guest lecture in one of my classes, in which Prof. Baker discussed mathematical magic tricks and mesmerized the students with his performance of the these magic tricks and his colorful and informative commentaries.

It does not take a genius to figure out, after gathering the evidences, that
Prof. Baker is one of the best teachers, with or without these magic tricks, as I witnessed in the class I visited. Prof. Baker walked in his class right on time.
He began his class by handing out a neatly typed proof of Bernstein's Theorem concerning the irreducibility of polynomials (the one in the textbook has a bug). He then gave several examples applying the theorem to show irreducibility of some polynomials. The examples were very clearly presented, and some rather nontrivial. One thing that really impressed us was how concise yet precise his explanations were. In the second half of the class, he introduced the concept of a module. In 25 minutes or so he drew analogy to vector spaces and managed to go over some of the most important differences between a module and a vector space. Throughout the lecture, Prof. Baker tried to ask questions to the students, and almost always someone would answer his questions. It was clear that the students had no difficulty understanding his teaching. This is actually more remarkable than it looks. This course is one of the core courses in our graduate program, needed for the Comprehensive Exam. I noticed that a majority of the students are not in mathematics. So it is a challenge to make the course material accessible to engineering students while not compromising its integrity. I had a chance also to interview some of the students in the class about Prof. Baker's teaching, including one sophomore. Prof. Baker had received universal praise for his teaching.

Of course I did not come to the conclusion that Prof. Baker is one of the top teachers by simply sitting in one of his classes. He had shown willingness to go extra miles in his teaching by providing extra materials for the students. These were often typed up by himself. Being an excellent lecturer and a very skilled magician, he was a sought after speaker to college and high

DEPARTMENT OF
MATHEMATICS
Michigan State University
Wells Hall
East Lansing, MI
48824-1027
Fax: 517/432-1562

school students. Prof. Baker used these opportunities often for educational purposes, to showcase the importance of mathematics. The lecture he gave in my class was a classical example. The class was on mathematical problem solving. So I asked him to show some mathematical magic tricks. This was no easy feat since the tricks must be mathematical and challenging but not impossibly difficult to figure out. For this one lecture he dug deep into his repertoire of tricks. The students were mesmerized, and lively discussions followed every trick he performed. They were trying to figure out the mathematical principles behind his magic tricks days after the class.

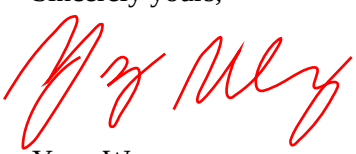
Prof. Baker's lecturing style makes him extremely approachable for the students.
I was not the only ones impressed with his teaching. The students had consistently given him marks high in the range we rarely saw. In all his evaluations, in the most important categories he gets marks in the range of 4.7-4.9 out of 5! The students showered him with admiration and praises, this despite his exams being deemed very hard. I believe this shows strongly that his high marks were not a result of dilution of standards and being ``easy'' on the students. It also showed his willingness to challenge the students with nontrivial problems, as he should.

Given the current emphasis on undergraduate research at Tech, it was hard to ignore Prof. Baker's commitment and accomplishment here. He had served as the coordinator of our summer REU program in 2005 and 2006, and will continue to do so in the future. This program, a key part of the VIGRE program, recruits students to do research over a 6-8 week period in the summer. Students were paired up with professors, to work on projects that in many instances are incremental to the research objectives of the supervising professors; Prof. Baker himself supervised two of these students. One of them had already completed a research paper and had resulted in a publication. This paper was also nominated by the School of Mathematics for the Sigma-Xi Award for undergraduate research. I had not followed the REU in the last three years so I do not know whether he had other projects with students. Prof. Baker oversaw the recruitment of the REU students, leading to the largest program in the five year history of the project. In addition, he organized a two day undergraduate research symposium to end the session. This was attended by the students, and supervising professors.

As the former Undergraduate Coordinator in Mathematics I felt fortunate to have some one like Prof. Baker in the school. Being a talented magician and a keen student of mathematical magic he is a sought-after speaker. Using mathematical magic as a motivation tool he talks to high school and college students about the beauty of importance of mathematics. He is one of the great ambassadors in the school for our outreach programs.

I have also examined materials related to his teaching at Harvard and University of Georgia. These materials only reinforce the same conclusion I had reached from his record at Georgia Tech: *Prof. Baker is without any question one of the most committed and effective teachers in the School of Mathematics or anywhere.* He is richly deserving of this award.

Sincerely yours,



Yang Wang
Chair, Department of Mathematics
Michigan State University

REFLECTIVE STATEMENT ON TEACHING

MATTHEW BAKER

I don't think of myself as having a "philosophy" of teaching so much as a collection of ideals that I am constantly striving for, a set of "golden rules" that I try to follow. My overall goal is to *inspire* students to love math, and to appreciate its beauty and importance. I know from first-hand experience that an inspiring teacher can make a huge difference in a student's life, and I want to make that difference for as many of my own students as I can. The U.S. has a critical need for a new generation of scientists and engineers trained in the rigors of modern mathematics. My goal is to pass along my own expertise and enthusiasm to the next generation, and to do it in a way that both challenges students and creates lasting positive memories. To accomplish such lofty goals, however, one needs concrete methods and specific guiding principles. Here, then, are my top six golden rules of teaching:

1. *Be memorable.*

A student from my Fall 2007 Calculus II class recently emailed me saying: "I just want to say that I will never forget your lecture on Google's PageRank algorithm." I also had a student tell me recently that he will always remember how I solved a Rubik's cube in mid-air as part of an in-class magic demonstration. I think it's important for a teacher to do and say memorable things in class – first of all, it helps make learning stick, and second of all, life is too short to be boring! I find that students are much more attentive when the mathematical ideas I'm trying to get across are sprinkled with a bit of humor and offbeat references. One of my favorite math jokes is:

Why don't mathematicians have a name for a two-sided figure?
Because they can't let bi-gons be bi-gons.

I also sometimes talk about my kids in class, showing off my five-year-old daughter's latest artwork or telling the students about my two-year-old son's latest adorable turn of phrase. I think that students *want* to see a glimpse of their professors as human beings. On the other hand, I manage my time in class quite scrupulously and make sure that my occasional antics enhance, rather than substitute for, the learning of core course material.

2. *Balance the casual and the formal.* When teaching, I try to maintain a delicate balance between a sense of casualness and a sense of authority, which is not always easy to do. As an example, several years ago my student Phil Zeyliger designed a class T-shirt featuring "a Baker's dozen" quotes from me on the back. Here are a few of the quotes:

- "This is pretty hard stuff, but I'm making it look easy, so don't be fooled."
- "I sometimes think so abstractly that I say really absurd things."
- "Try copying this in your notes without colored chalk!"

Doing magic tricks is also a good way to shake off some of the stiffness in a classroom. Magic has been a passionate hobby of mine for many years, and in my classes I have performed card tricks based on modular arithmetic, rope and rubber band tricks based on

principles from topology, and a "mindreading" trick using colored gloves (whose explanation is based on a famous theorem of Euler from graph theory).

3. *Understand where students are coming from.*

Connecting with students means understanding what questions are meaningful to them in the context of their own lives. Here is an illustrative anecdote from my own experience. As a graduate student at UC Berkeley, I designed and taught a course in business mathematics for inner-city high-school students from San Francisco through Berkeley's Academic Talent Development Program. We began by covering basic concepts about linear equations and graphing, and I struggled at first to connect with some of the students. For example, when I tried to illustrate the idea of a linear relationship using Celsius to Fahrenheit temperature conversions, one of the students said to me: *I'm never going to go to Europe, so why should I care about Celsius?* That incident made a deep impression on me, because it had not even occurred to me that the "wonderful" example that I had come up with in my own mind was not particularly relevant to the students. Later on in the course, when I had the students create their own fictional businesses (graphing profits and expenditures, analyzing strategies for growth, etc.), the class went more smoothly and ultimately was quite successful, because the idea of owning a business was something truly meaningful for them. I have never forgotten this experience, or the lessons it implies.

4. *Think outside the box.*

In addition to peppering my lectures with jokes and magic, I also try to get students to think outside the box by engaging them in creative ways. For example, when I teach undergraduate Number Theory, I will often introduce modular arithmetic (also known as clock arithmetic) through the circle of fifths in music theory, and then try to impress the students with some lightning mental calendar calculations (e.g. what day of the week was June 8, 1723?), which I later teach them how to do themselves. I also spend a lot of time in the course on applications of modular arithmetic to cryptography (making and breaking secret codes). In certain classes, I sometimes have students work collaboratively in small groups on a series of challenging worksheets, with lectures given only as needed. This allows the students to discover much of the material for themselves, rather than being told the results up front.

I also spend a lot of time working out illustrative examples, simplifying textbook proofs, and creating interesting and original homework assignments. For example, several years ago I taught an advanced calculus course for freshmen math majors and while creating one of the assignments, I came up with a new proof of Georg Cantor's famous result that the real numbers are "uncountable" (this is a technical math term). My proof involved a game played on the real number line between two fictional adversaries named Alice and Bob, who take turns choosing a real number subject to certain constraints. The homework assignment outlined the argument, and the students had to fill in the details. A couple of students told me that they will always remember my homework assignments from that class, and in particular the real number game. In 2007, I wrote a short article about my proof which was published in "Mathematics Magazine", and shortly thereafter Julie Rehmeyer wrote a Science News column about it. What began as an effort to make a homework assignment more fun turned into lasting memories for the students, a journal publication, and coverage in the national media!

5. *Get students involved.*

Learning is an inherently active activity, and mathematics is a living and vibrant subject. So I believe in getting undergraduate students involved in research as early as possible. I often refer to unsolved problems in my lectures, and more importantly I am constantly thinking of ways to get undergraduates involved in my own research. I have coordinated the Georgia Tech School of Math's REU (Research Experience for Undergraduates) program for four years now, and have supervised five undergraduate research students while at Georgia Tech. One of my students, Ander Steele, published his undergraduate research in the prestigious Journal of Number Theory and won Georgia Tech's Sigma Xi Undergraduate Research Award in 2007. (I know that this is a very competitive award, because I chaired the selection committee the following year!) I am constantly amazed and delighted by what Georgia Tech undergraduates are capable of accomplishing with the right kind of mentoring.

I have also found that figuring out how to explain one's research to undergraduates can have rich and unexpected payoffs. For example, in the summer of 2006 I supervised a research project with Dragos Ilas, a bright undergraduate at Georgia Tech. I wanted him to experimentally test a rather abstract mathematical conjecture which I had made about Laplacian matrices of graphs. In order to explain the problem to Dragos and make it seem well-motivated, I came up with an interpretation of my conjecture in terms of a game of solitaire played by moving money around on a graph. Dragos tested out my conjecture by computer on many examples and amassed convincing evidence that it must be right. When he gave an oral presentation on his work at an REU mini-conference which I had organized, a postdoc named Serguei Norine got interested in the problem and eventually solved it. Serguei and I have now co-authored two papers on the subject which have been published in highly regarded math journals. This very fruitful collaboration would probably never have happened if it weren't for my reformulation of the problem in terms of a game, which in turn wouldn't have happened if it wasn't wasn't for the summer REU. Sometimes if you can't explain something to an undergraduate, it means that you don't yet completely understand it yourself!

6. *Go the extra mile.*

I pride myself on being a good listener and offering close mentoring to students. Sometimes I will take a very tough stance and encourage students who don't seem committed enough to drop my class, because I don't believe in half-hearted efforts. But I always leave a window of opportunity for students to prove me wrong and convince me that they are serious about learning mathematics. Other times I will sense that a student is really dedicated, but either lacks the proper background or has not yet developed the right study habits. In those cases, I try to be very encouraging, and will go out of my way to help the student outside of class. I am particularly proud of two of my Calculus II students from Fall 2007, one of whom got an F on the first midterm but rallied to get a (genuinely deserved) A in the course after a marathon pep talk session, the other of whom got an $A+$, including the only 100% score on the final exam, despite serious health problems which almost forced her to drop out of school. The time I spent working with those students was clearly a terrific investment. In the midst of my often frenetic life juggling teaching, research, service, and family commitments, such experiences are a welcome reminder that teachers can indeed make a real difference in the world.

CURRICULUM VITAE

MATTHEW BAKER

APRIL 2009

Associate Professor
School of Mathematics
Georgia Institute of Technology
Atlanta, Georgia 30332-0160

EDUCATION:
Ph.D., Mathematics, University of California at Berkeley, 1999
B.S., Mathematics, University of Maryland at College Park, 1994, summa cum laude with highest honors

EMPLOYMENT HISTORY:
Georgia Institute of Technology
Fall 2007-Present, Associate Professor
Summer 2004-Summer 2007, Assistant Professor
University of Georgia (Fall 2002-Summer 2004), Assistant Professor
University of Paris 7 (Summer 2003), Visiting Professor
Harvard University
Fall 2000-Summer 2002, Benjamin Peirce Assistant Professor
Fall 1999-Summer 2000, NSF Postdoctoral Fellow

CURRENT FIELDS OF INTEREST:
Number theory, arithmetic algebraic geometry, algebraic combinatorics

TEACHING EXPERIENCE AT GEORGIA INSTITUTE OF TECHNOLOGY:

Spring 2009	Math 4150	Number Theory	31 students
	Math 6122	Algebra II	12 students
Fall 2008	Math 6121	Algebra I	28 students
	Math 4802	Math. Prob. Solving	17 students
Spring 2008	Math 4150	Number Theory	22 students
Fall 2007	Math 1512HP	Honors Calculus II	29 students
	Math 4802	Math. Prob. Solving	9 students
Spring 2007	Math 4150	Number Theory	24 students
Fall 2006	Math 8803	Alg. Number Theory	11 students
	Math 4802	Math. Prob. Solving	14 students
Spring 2006	Math 6122	Algebra II	9 students
	Math 4150	Number Theory	32 students
Fall 2005	Math 6121	Algebra I	25 students
Spring 2005	Math 4150	Number Theory	20 students
Fall 2004	Math 3012	Applied Combin.	17 students

SELECTED REFEREED PUBLICATIONS (last three years):
(a) Already Published:
Specialization of Linear Systems from Curves to Graphs, Algebra and Number Theory 2, no. 6 (2008), pp. 613-653.

A Finiteness Property of Torsion Points, with Su-ion Ih and Robert Rumely, Algebra and Number Theory 2, no. 2 (2008), pp. 217-248.

An Introduction to Berkovich Analytic Spaces and Non-Archimedean Potential Theory on Curves, in p-adic Geometry (Lectures from the 2007 Arizona Winter School), AMS University Lecture Series, 2008.

Uncountable Sets and an Infinite Real Number Game, Mathematics Magazine 80, no.5 (December 2007), 377-380.

Riemann-Roch and Abel-Jacobi Theory on a Finite Graph, with Serguei Norine, Advances in Mathematics 215 (2007), pp. 766-788.

Harmonic Analysis on Metrized Graphs, with Robert Rumely, Canad. J. Math. 59, no. 2 (2007), pp. 225-275.

A Lower Bound for Average Values of Dynamical Green's Functions, Mathematical Research Letters 13, no. 2-3 (2006), pp. 245-257.

Equidistribution of Small Points, Rational Dynamics, and Potential Theory, with Robert Rumely, Ann. Inst. Fourier (Grenoble) 56, no. 3 (2006), pp. 625-688.

Metrized Graphs, Laplacian Operators, and Electrical Networks, with Xander Faber, Contemporary Mathematics 415, Proceedings of the Joint Summer Research Conference on Quantum Graphs and Their Applications, Snowbird, Utah, 2006.

(b) Accepted for Publication:
A Finiteness Theorem for Canonical Heights Attached to Rational Maps over Function Fields, to appear in Crelle's Journal.

Harmonic Morphisms and Hyperelliptic Graphs, with Serguei Norine, to appear in International Math. Research Notices.

Potential Theory on the Berkovich Projective Line, with Robert Rumely, to appear in the AMS Surveys and Monograph Series, 2009 (book, 390 pages).

RESEARCH GRANTS AND CONTRACTS:
NSF Research Grants:
DMS-0600027 (2006-2009), "Analysis on Berkovich spaces and applications", $235,543.00, PI.
DMS-0300784 (2003-2006), "Heights, Capacity, and Dynamics" $518,800.00, PI Robert Rumely, co-PI.
DMS-0901487, "Connections Between Number Theory, Algebraic Geometry,
and Combinatorics", (Pending) $300,742.00, PI

NSF Infrastructure grant:
DMS-0739343 "EMSW21-MCTP: A Georgia Tech Plan for Recruiting and Mentoring Undergraduates in Mathematics" 2008-2013, $731,908.00 PI: Michael Lacey,
Co-PI(s): Matthew Baker, Enid Steinbart, Michael Loss, Thomas Morley

PLENARY TALKS:
Summer 2009 (forthcoming), XXVI^{èmes} Journées Arithmétiques (Saint-Etienne, France)
Spring 2007, Arizona Winter School, Tuscon, AZ (five hour-long talks)
Spring 2006, MSRI Introductory workshop on Rational Points on Higher-Dimensional Varieties, Berkeley, CA (two hour-long talks)
Summer 2001, XXII^{èmes} Journées Arithmétiques (Lille, France)

GEORGIA TECH COMMITTEES:
School of Mathematics:
Graduate Committee (2006-2009)
School of Math Chair Search Committee (2007-2008)
Coordinator for School of Math REU program (2005-2006, 2008-2009)
Putnam Examination coordinator (2006-2009)
Elections and Nominations Committee (2005-2007)
Graduate Comprehensive Exam Committee (2005-2006, 2008-2009)
Campus-wide:
Algorithms, Combinatorics, and Optimization Comprehensive Exam Committee (2005-2006, 2008-2009)
CETL/BP Junior Faculty Teaching Award Selection Committee (2008)
Chair of the Sigma Xi Undergraduate Research Award Selection Committee (2008)

AWARDS at GEORGIA TECH:
Georgia Tech CETL/BP Junior Faculty Teaching Excellence Award (2007)
Georgia Tech Class of 1969 CETL Teaching Fellowship (2004-2005)

PRIOR AWARDS:
NSF Postdoctoral Research Fellowship (1999-2003)
Alfred P. Sloan Dissertation Fellowship (1998-1999)
Department of Defense NDSEG Graduate Fellowship (1995-1998)

MEMBERSHIP IN PROFESSIONAL AND HONOR SOCIETIES:
American Mathematical Society (1995–Present)
Mathematical Association of America (1995-Present)

PROFESSIONAL SERVICE:
Co-organizer of AIM workshop on the Uniform Boundedness Conjecture in Arithmetic Dynamics (January 2008)
Served on NSF grant panel (Fall 2007, Fall 2003)
Organizer (with Bjorn Poonen) of special session in Arithmetic Geometry at the AMS/MAA Joint Meetings in New Orleans (January 2007)
Organizer (with Dino Lorenzini) of special session in Arithmetic Geometry at the AMS/MAA Joint Meetings in Atlanta (January 2005)
Reviewer of over 60 papers for AMS Math Reviews (Fall 1999-Present)
Referee for papers in a number of prominent journals, including Journal of the AMS, Inventiones Math., Duke Math. J., International Math. Research Notices, J. Reine Angew. Math. (Crelle's Journal), Algebra and Number Theory, J. London Math. Soc., Math. Annalen, J. Number Theory, and Mathematical Research Letters.

STUDENTS SUPERVISED at GEORGIA TECH:
Farbod Shokrieh, Ph.D. student, Georgia Institute of Technology (2007-Present)
Ye Luo, Masters thesis student, Georgia Institute of Technology (2008-Present)
David Krumm, Masters degree, Georgia Institute of Technology (2008)
Stefan Froehlich, Georgia Institute of Technology summer REU project (2008)
Daniel Connelly, Georgia Institute of Technology summer REU project (2008)
Rebecca Reitman, Georgia Institute of Technology senior project (2007)
Adam Tart, Georgia Institute of Technology senior project (2006)
Dragos Ilas, Georgia Institute of Technology summer REU project (2006)
Ander Steele, Georgia Institute of Technology summer REU project (2005, 2006)
Matthew Tanzy, Georgia Institute of Technology summer REU project (2005)