

# Reflections of TIME

TIME 2000 Newsletter

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## Teacher Preparation Debate: TIME 2000 GRADUATES RESPOND!

By: Kasey Luchan (T-7)

Reacting to a report that questions the effectiveness of teacher preparation programs, TIME 2000 graduates spoke out in praise of the program's strategies for preparing future secondary mathematics teachers.

Arthur Levine, former president of Teachers College, Columbia University, and current president of the Woodrow Wilson National Fellowship Foundation, published a report on September 18, 2006, resulting from a two year study of teacher preparation programs stating that a majority of aspiring teachers are educated in low-quality programs that do not sufficiently prepare them for the classroom.

To rebut this idea, TIME 2000 graduates weighed in with their own experiences as teachers. Recent graduate Sylvia Liu (T-5), now in her first year of teaching at the Queens School of Inquiry, stated

that she felt TIME 2000 adequately prepared her for teaching, noting that she was taught "different methods we can use and... that reflection, variety and risks are key to being successful [teachers]." Gabrielle Wiesel (T-1) asserts, "I do not think that I would be as good a teacher if it was not for what Dr. Artzt made us do." She went on to say, "All the new teachers that came to my school had a harder time than I did. I think that is because they were not as prepared ... as we were in Dr. Artzt's program."

TIME 2000 graduates are prepared to meet NCTM standards, not only New York State standards. Kathy Koczela (T-1), teaching at St. Stanislaus/B.M. Nativity School, credits TIME 2000 with keeping her up-to-date with the latest NCTM standards and technologies used in the field.

Quratul Ain (T-4), teaching at IS 230Q, believes she was "definitely more prepared than [other first year

teachers] in organization and expectations of students." She went on to praise Queens College's education program, saying, "[teachers who did not graduate from QC] have very little experience with students prior to teaching. Being at QC helped me be among the students starting freshman year and that helped me a lot." Sara Liu (T-3), teaching at Townsend Harris High School, stamps out the debate by saying, "I think students from the TIME 2000 program go through more experiences, and are therefore much more informed and are better prepared as first year teachers."

Arthur Levine may not feel education programs adequately prepare prospective teachers, but if the experiences of TIME 2000 graduates are any indication, current TIME 2000 undergraduates have nothing to worry about.

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## HAVE YOU MET... TIME 2000 PROFESSOR STEVE KAHAN



Professor Kahan

Have you met Professor Steve Kahan? If not, you will surely have the pleasure of sitting in one of his mathematics classes in the near future. He teaches the TIME 2000 sections of Calculus I (M151), Calculus II (M152), Multivariable Calculus (M152), and Linear Algebra (M231). When asked to share his experiences teaching at Queens College and offer some advice for potential teachers, it became clear that Professor Kahan is one of the great mathematics teachers we hope to emulate in the future!

**TIME:** How long have you been teaching at Queens College, and have you ever taught anywhere else?

**SK:** I started teaching at Queens College in September 1970 and completed my 35th year in the Spring of 2006. I

have not taught anywhere else, nor have I ever had the desire to do so.

**TIME:** Tell us about your position as the assistant chair of the Mathematics Department.

**SK:** I have served as the assistant chair of the Mathematics Department for the last 23 years, acting as a liaison between our faculty and our students. Perhaps the most gratifying part of this position is the resolution of problems that arise involving these two groups. It is a challenge to make sure that the needs and concerns of our students are addressed in a fair and equitable manner while at the same time insuring that the high standards of our department are in no way compromised.

**TIME:** What are your mathematics specialties?

**SK:** I specialize in number theory, the branch of mathematics devoted primarily to the study of the set of count-

ing numbers. Aside from having many practical applications as well as vital links with other areas of mathematics, this field offers an opportunity to discover fascinating numerical relationship and patterns. When one observes that  $3^3 + 4^4 + 3^3 + 5^5 = 3435$ , one must acknowledge the existence of God! I am also involved in recreational mathematics and enjoy challenging my students to solve mathematical puzzles from this realm.

**TIME:** What is your favorite class to teach?

**SK:** Although I probably enjoy teaching the graduate number theory course the most, I think that I simply enjoy teaching mathematics, regardless of the course material. It gives me the opportunity to interact with young men and women and to interject my love of mathematics into their fertile minds.

*Interview continued on Page 2*

### Congratulations To:

- Saeed Chaudhry (T-4) on his November marriage
- Kasey Luchan (T-7) and Elisheva Rubin (T-7) on their induction into the Golden Key International Honor Society
- Irina Kimyagarov (T-2) on the birth of her daughter, Kate Tamara on August 31, 2006
- Christopher Persaud (T-2) on his Elmont HS Teacher of the Month award for May 2006

## INTERVIEW (CONTINUED)

**TIME:** Is there anything else you would like to share with us about your career?

**SK:** During my tenure at the college, I've written four books - a college-level intermediate algebra text and three books on code-breaking puzzles called alphametics. I've also authored thirty five published papers and have served on the editorial board of the Journal of Recreational Mathematics since 1976.

**TIME:** What is your favorite aspect of mathematics?

**SK:** I find an enormous amount of pleasure and satisfaction in seeing seemingly complex problems crumble in the face of a thoroughly logical approach.

**TIME:** What is your fondest QC memory?

**SK:** Since I still look forward to teaching my classes after all these years, it's safe to say that each day that I am on the Queens College campus creates another fond memory for me. There are two especially noteworthy memories that come to mind. One was the chance to share an office with Banesh Hoffmann, a well-known mathematical physicist and scholar who was a collaborator of Albert Einstein. Professor Hoffmann told me never to walk into a classroom without looking over my lecture notes beforehand, and I've scrupulously followed his advice ever since. More recently, I was present when

Professor Paul Erdos came to deliver a colloquium at the college shortly before his death. He was one of the most prolific mathematicians of the twentieth century and it was a special treat to hear him lecture and to speak with him afterward. Rumor has it that he was incapable of tying his own shoes, but he certainly could do mathematics!

**TIME:** What hobbies do you have?

**SK:** I like to devise and solve puzzles, both mathematical and linguistic. Much to the chagrin of my wife, I like to inflict these puzzles on others, which explains why we don't get invited to too many parties. I am an avid baseball fan (now that I am too old to play) and I am eagerly awaiting the day in the not-too-distant future when the Mets will proudly raise their World Championship banner. For the past five years, I've been writing haiku, a form of Japanese poetry that dates back to the fifteenth century.

*“Always be upfront and honest when in front of a class, for the students will know if you do otherwise.”*

**TIME:** Where did you attend college?

**SK:** Queens College is my alma mater. After receiving my degree in 1968, I pursued my graduate studies at the Courant Institute of Mathematical Sciences in New York University.

**TIME:** Is there any personal or family information that you would like to share with us?

**SK:** My wife, Susan, and I have been happily married for thirty three years and we have two children. Our 24-year-old son, David, works for Ernst and Young in the field of Information Technology (I've asked him what that is, but he tells me that I wouldn't understand it.) Our daughter, Sara, soon to be 21 years old, is a senior at Brandeis University. She sings like an angel (but I'm prejudiced!)

**TIME:** What advice do you have for future teachers?

**SK:** I'd advise prospective teachers to treat all their students equally and with the utmost respect. Always be upfront and honest when in front of a class, for the students will know if you do otherwise. If you make a mistake, admit it. (I tell my students on day 1 that all the mistakes that I make are intentionally done to see if they are paying attention, but no one ever believes me!) If a question is raised for which you don't have an immediate response, say so. In this situation, the best answer is often given at the next meeting of the class.

## WHERE'S THE MATH? EVERYWHERE! MATHEMATICS IN PHILOSOPHY CLASS

By: Jennifer Fong, T-7

The theme of this year's TIME 2000 conference is "Where's The Math? Everywhere!" Students submitted examples of math found in nature, music, architecture, archeology, astronomy and medicine, to name a few. As a TIME 2000 student, I was delighted to find math in my philosophy class.

The first question tackled in my philosophy of religion course was the existence of God. The argument for God's existence motivated a discussion on the concept of infinity. If the past was actually infinite there would be all sorts of absurdities; that is, there wouldn't be a now. To illustrate this, the paradox of Hilbert's Hotel, by the German mathematician David Hilbert, was discussed to argue that an actual infinite number of things cannot exist. In Hilbert's Hotel there are an infinite number of rooms. Suppose that one night all the rooms are occupied and a man wants to check in. Contra intuition, the hotel manager would not turn this new patron away. He would simply shift each person down one room; that is, move the occupant in room one to room two, the occupant in room two to room three, etc. and so on, ad infinitum. The manager would eventually get to a point where he could accommodate the new visitor in room one. But the weird thing is that before this new guest checked in, the hotel was presumably full.

This means that an infinite number of guests could check in or check out and the number of people in the hotel would not have changed. But that can't be. We would naturally be inclined to say if an infinite amount of people checked in or even if one person checked into the hotel, there would be more, not the same.

A mathematician, however, would want to assert that our intuitions regarding infinite sets are incorrect. There is not any number of people in the hotel but, rather, a transfinite number of people. Our intuitions about infinite sets are generally mistaken. What holds for a finite set may not hold for an infinite set and it is wrong to suppose that infinite sets adhere to the same rules as finite sets. When you compare a finite set, it is said to be the same as another set if you can place each member in a one-to-one correspondence with each other. For example, if you wanted to see if the number of people in classroom A was the same as the number of people in classroom B, you could partner up each person from classroom A to another person in classroom B evenly. Then you could say the sets of students in each class were equivalent. This would hold true regardless of the fact that some students are from the Bronx or that some are philosophy majors. The sets are equivalent in respect to number and size, not what kinds of items the set consists of.

Infinite sets, however, do not obey this rule of one-to-one correspondence. We can take two infinite sets and place them in a one-to-one correspondence with one another and still have one larger than the other. To illustrate, the set of integers and natural numbers are both infinite though the set of integers is larger than the set of natural numbers. So, more specifically one would have to understand the concept of infinity correctly and not mistake it with properties of finitude. Infinite sets lack a beginning as well as an end and are not simply incredibly long finite sets that do not terminate.

Infinity tends to be an elusive concept that most people often misunderstand. The concept of infinity goes beyond computing limits in calculus. In attending a philosophy of religion course I didn't expect to see much mathematics but I was astonished to be confronted with infinity, set theory, and logic from the very beginning. Math really is everywhere!

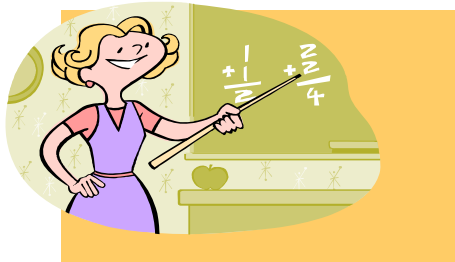


## MATH IMMERSION ON CAMPUS

### TIME 2000 STUDENT WORKS WITH TIME 2000 PROFESSOR

By: Michael London, T-6

In order to attend Queens College, one must demonstrate that he or she possesses a firm mathematical background. Unfortunately, some students who apply to Queens College have been out of school for many years and therefore have forgotten many fundamental mathematical concepts. In order to help these students, Dr. Fern Sisser, professor of Mathematics, created the Queens College Math Immersion course. The course, offered at no charge, allows potential



Queens College students to work one on one with math tutors. In addition, those students can watch video tapes in order to review mathematical concepts while they prepare for the CUNY math assessment exam.

This program has many benefits for future mathematics teachers in that it allows teaching candidates (such as TIME 2000 students) who serve as tutors to review a range of mathematical concepts from fractions to factoring, and to discover the best way to explain particular concepts.

The Math Immersion course is extremely successful. At least ninety percent of the students who take the course pass the exam and therefore gain acceptance to Queens College. For the past two years, I have been able to help many of these students begin their college careers and there is no better feeling in the world than seeing one of your students walk across campus. Because of the

immersion course these students now have an opportunity to attend Queens College and are free to pursue the career of their choice. For these students, mathematics became the master key to the rest of their lives. I would like to thank Dr. Sisser for allowing me to participate in such a wonderful program as well as the Queens College administration for providing these students with the opportunity to discover their full potential to live a successful and happy life.



*Dr. Fern Sisser*

## MY INTERNSHIP EXPERIENCE AT MCGRAW-HILL

By: Ferrin Mohammed-Bujan, T-9

This summer I was fortunate enough to intern at the McGraw-Hill Company through Teacher Academy. As some of us may remember, McGraw-Hill tortured us through our early school years, being the main company that our math and reading textbooks came from. Since I am a math student, I was assigned to work with the math division of McGraw-Hill on the Content Team.

On the first day, I was nervous, leaving my house extra early to make the hour and a half trek. Two Pennsylvania Plaza was my destination. I got to the city in record time and upon getting off the subway, I saw 1 Pennsylvania Plaza immediately. How hard could 2 Penn Plaza be to find? Let me tell you, it was very hard! I asked for directions from various people, who didn't know much more than I did, or just wanted to make my life harder by confusing me. Finally I found the building which was right next to Madison Square Garden. I arrived on time and met my boss, Sara Savage, who was really nice and welcoming. My first day erased all my fears.

I used to think that textbooks came from some evil place to make our lives miserable. Now, I know just how hard the dedicated people behind the scenes are working in order to make our lives less complex. I helped with everything! It was not the usual internship you hear about where stapling is the highlight of the day and shredding paper the norm; I actually got to participate in the process! For most of

the summer, the majority of my time was spent working on a huge project.

Writers compose documents that will eventually become online tutorials and then send them to the Content Team. We, in turn, edit this content, trying to make the language simpler for the intended audience. Then, requests for illustrations have to be made for specific problems and sent to the graphics team. Afterwards, the content is sent back to the writers for revision before being returned to the Content Team to be put into a formatting program. The process begins all over again, until all of the content is completed and a prototype can be made for the buyer to look over. If the buyer is happy, then the workbook is sold; if not, then there is a prototype that can be used later on.



Every Friday, the Content Team has a meeting. It is not your regular run of the mill meeting. In fact, I am fast coming to believe that this is not a regular job at all. At this meeting, the first thing we do is go around the table and have each person reveal their accomplishments, challenges, frustrations, goals for the coming week, and finally shout-outs. The cool thing is that it doesn't even have to be work related, allowing everyone to know you better and creating a very friendly, easygoing environment. After this portion of the meeting, we do whatever the facilitator of the week

wants to do.

I had two very memorable experiences with the second part of the meeting. The first was the day that Sara decided that we were going to make a Content Team collage. We went shopping for supplies and surprised everyone with the project. Everyone decorated a piece of poster board and afterwards we put it all together. It was a very fun activity that brought the team together. The second thing we did, also my boss' idea, was to visit a heliport near the Hudson River. It may sound boring, but I have never seen a helicopter so close, or felt the power of the wind as it took off. It was a very exciting meeting!!

Going into this internship, I was a bit worried that I would have unpleasant experiences associated with internships. Of course, I am always up for new experiences and the incentive of a \$2000 stipend didn't hurt either. However, I came out of this internship with a lot more knowledge and satisfaction than I would have thought possible. My boss was very pleased with my performance and decided to hire me. I am exposed to things such as the education standards of New York State as well as a majority of the states in this country. It also doesn't hurt that I work with people that were once math teachers. All in all, my summer internship turned out to be an experience I will never forget.



**New Web Address!**

<http://time2000.qc.cuny.edu>

If you would like to write an article, please contact us at:  
[irrationalwriters@yahoo.com](mailto:irrationalwriters@yahoo.com)

Enjoy our SUDOKU Puzzle! Start warming up for MT4's Winter Wonderland SUDOKU Competition!

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## CLUB ANNOUCEMENTS

MT4 is hosting a **Winter Wonderland Sudoku** competition on Wednesday, December 6 in the Student Union Ballroom during free hour, 12:15—1:30 p.m. To register for this event, please email Jessica Mercado (T-7) at [prprincess@verizonmail.com](mailto:prprincess@verizonmail.com) or Reanna Boodoo (T-7) at [rkboodoo@aol.com](mailto:rkboodoo@aol.com)

Lixu (Lily) Li (T-7) has created a club called **Falun Dafa (Falun Gong)**, promoting A Traditional Self-Cultivation Practice to Improve Mind and Body. If you would like to know more, you can contact her at [falundafaclub@gmail.com](mailto:falundafaclub@gmail.com).

If you would like more information about **Black Student Union** events, please contact Randall Clarke (T-7) at [rclarke100@qc.cuny.edu](mailto:rclarke100@qc.cuny.edu)

## New NCTM Publication: Curriculum Focal Points

**What:** The National Council of Teachers of Mathematics (NCTM) recently published *Curriculum Focal Points for Pre-Kindergarten through Grade 8 Mathematics*. "A focal point specifies the mathematical content that a student needs to understand deeply and thoroughly for future mathematics learning." (NCTM News Bulletin, November 2006, Volume 43, Issue 4)

**Why:** Mathematics education continues to differ from state to state. The mathematics curriculum has been criticized as being a "mile wide and an inch deep". The *Curriculum Focal Points* explain "how to build on important mathematical content and connections identified for each grade level, pre-K-8." (Curriculum Focal Points for Pre-Kindergarten through Grade 8 Mathematics, NCTM 2006)

**Who:** Math educators at the state and local level, classroom teachers, and textbook publishers can refer to the *Curriculum Focal Points* to develop curriculum, instruction and assessment materials.

**Where:** The *Curriculum Focal Points* are available online at <http://www.nctm.org/focalpoints/>. It is vital that any and all current and future mathematics teachers are up-to-date with the latest recommendations from NCTM.



## MATH IN THE MEDIA

On TBS, there was a commercial for *Everybody Loves Raymond* that featured math! The commercial focused on the transitive property:



**"IF *Everybody Loves Raymond* and *Raymond is on Wednesdays*, THEN *Everybody Loves Wednesdays*! This is an example of the transitive property."**

If you notice any math in the media, either positive or negative, please let us know!

Email submissions to [irrationalwriters@yahoo.com](mailto:irrationalwriters@yahoo.com)

## CALL FOR TALENT

You wanted it, we brought it! My name is Stacy Moise and I am a freshman at Queens College and of course I'm new to the TIME 2000 program. I've heard a lot of talk



about the members of TIME wanting a talent show, so I've decided take charge and put one together. Problem is, I can't get a talent show going with no acts. I think I know what you guys are looking for and I'm prepared to make it happen. All talents are welcome: singing, dancing, instruments, anything! Your fellow classmates want to see that you guys and gals can do more than just math. I have

helped direct a play and musical at Sewanhaka High School as well as a very successful fashion show and I would love to help put on TIME 2000's first talent show. If you are interested please e-mail me at [Smo0388@yahoo.com](mailto:Smo0388@yahoo.com), whether you can help out or want to be in the show. Don't be shy; just be sure to have fun. Be it group acts, a solo, comedy, music or dance, whatever your talent is, we want to see it!

-Stacy, T-9

