Welcome Professor Joey Lee!

The Department of Mathematics, Science and Technology is proud to welcome new faculty member Dr. Joey Lee to the Communication, Computing and Technology in Education Program. His research interests explore identity, culture, and video games as designed spaces for learning. “I hope to launch a research trajectory around games for change or games for good. I want my games to allow students to explore possible selves, self-concept, and issues of culture and diversity. Essentially, I am using games as a vehicle for promoting positive change.”

Continued on 2

Edward Silver
Distinguished Alumnus Award Recipient

MST Grant Announcements
Over $2.5 Million Dollars Awarded

Gillian ‘Gus’ Andrews
Current CCTE Doctoral Student
Growing up outside of Pittsburgh, Pennsylvania, Lee lived in a very homogenous community. “I was one of the only Asian Americans in my school, so I saw firsthand in my life and in my peers some of the biases, stereotypes, and discrimination that many other minorities face.”

At 8-years-old Lee created his own adventure computer game on his Apple IIc computer. His creative streak went against familial pressures to become a medical doctor, lawyer or engineer. “Sometimes, Asian Americans are seen as a ‘model minority,’ and this stereotype can have really negative consequences. Feeling pressure to excel in math and science can really pigeonhole young people and stifle their creative interests. But it goes further than that. Stereotypes can contribute to higher expectations and pressures to succeed, and in some cases, it can lead to mental illnesses and depression. It’s not discussed much, but it is a real problem. People may be surprised to learn, for example, that suicide is the second leading cause of death for Asian American women aged 15-24. I hope that my work can do something to address these kinds of issues.”

Lee decided to pursue his passion, and he majored in Computer Science at Penn State University in University Park, Pennsylvania. After graduation, he moved to North Carolina and began working for IBM as a software engineer. “I got a taste of the industry,” he said. “It was my own version of Office Space.” After two years, Lee decided he wanted to go back to graduate school. “I saw education as a more rewarding field where I could make more of a difference.”

He applied to Penn State and began doctoral work in Information Sciences and Technology. “My life came full circle. My past experiences growing up as an Asian American, along with my Christian faith, played a huge role in my motivation to make a difference.”

At Penn State, Lee had the opportunity to teach and explore his research interests. He received a Pennsylvania Governor’s School grant to teach a course called Information, Technology, and People (ITP) Quest: The Design and Exploration of Virtual Worlds for Cultural Awareness. The students involved were generally from homogenous communities in rural Pennsylvania. “Students had the opportunity to try on different genders, races, ethnicities within a virtual world.” Through the program, “students experienced really powerful shifts in perspective in terms of their self-concept and their perceptions of others.” This, coupled with his other teaching experiences, solidified his desire to pursue academia.

Dr. Lee is very happy to be at Teachers College. He currently teaches Video Games & Education and Theory and Programming Interactive Media. “TC students are very bright and very passionate about what they do. They are very enjoyable to teach!” For the first time in his life, Lee is living in a big city. He looks forward to exploring “every nook and cranny” of NYC and seeing a Broadway show in the near future. He enjoys playing guitar, composing music, watching Penn State & Pittsburgh sports, and playing ultimate Frisbee and other sports.

“International work has provided opportunities for our students to expand their understanding of education beyond U.S. borders. In the last year, more than 50 students from departments throughout Teachers College have directly engaged in our international work in some capacity.”

- President Susan Fuhrman

from the State of the College Address on October 28th, 2009
We are proud to Recognize Dr. Edward Silver with the 2008-2009 MST Distinguished Alumnus award. Each year, the MST department honors an alumnus with both prolific and distinctive contributions to the field of Mathematics, Science and Technology. Congratulations, Dr. Silver!

“I realized that my learning was up to me and did not depend only on whether I had a good teacher. It relied on my persistence, my attention, and my activity. I could be assisted by someone else, but fundamentally, learning mathematics was my responsibility.” In high school, Dr. Edward Silver’s pre-calculus teacher appeared to have little knowledge and even less passion. Silver and his classmates seemed doomed to a semester without any real mathematics instruction. Instead of accepting this, Silver and three friends decided to take charge of their own education. “I’m not sure why we made the decision to learn the material, but we did. And it was a great experience! In subsequent study of math, I always had confidence that I could learn the material.” This determination is the backbone of Ed Silver’s success.

He currently serves as the William A. Brownell Collegiate Professor of Education and Professor of Mathematics at the University of Michigan. He received the Lifetime Achievement Award from the National Council of Teachers of Mathematics in April 2009. His research interests include examining mathematical thinking, problem solving, and problem posing. His interests surround creating engaging and equitable mathematics instruction and in exploring new methods of assessment. He is also concerned with empowering mathematics teachers to be more effective. His prolific career has yielded over 150 publications already.

As you might imagine, Silver’s penchant for academia began early. A child with a voracious appetite for knowledge, he loved school. “I always enjoyed mathematics,” said Silver, “but I enjoyed lots of other things too. History, writing, puzzles, language, word choice and usage, puns, sports... I liked it all.” This well-rounded upbringing and personal drive to succeed served him well as he grew into his career in mathematics education.

When he got to college, Silver was on the fast track to success. He did undergraduate work at Iona College in New York. There, he met an inspiring mathematics professor who also happened to be a Teachers College graduate. They developed a close relationship, and Silver decided to go on to graduate work in mathematics. He spent a short time in the Ph.D. program at Maryland University, and there he met Jim Fey, another graduate of Teachers College. When Silver decided to return to New York for family reasons, Fey advised him to “look into TC... you might find something there you would like to pursue.”

When he returned to New York, Silver started teaching at a school in the South Bronx. “I loved it,” he said. “I was excited about the kids, excited about watching them learn and grow. I was totally hooked.” He decided to use his background in multiple fields to teach “math across the curriculum.” One young student in particular stumped Silver. “I could not get him academically motivated. He would smile, put on a show, and cajole you, but he wouldn’t work hard at anything.” One day, Silver gave his students a problem involving palindromes. The young boy really took to the subject. “He wanted more,” said Silver, “so I gave him an independent study project involving palindromes in mathematics and language.” Silver recalls this as an inspirational teaching moment. “I used palindromes as a lever, something to hook him in and get him engaged. I really feel like it made a difference in his educational experience.”

After a few years of teaching, Silver applied to Teachers College. He connected with Professor Bruce Vogeli, current Mathematics Education
Edward Silver - Continued

Program Coordinator, and found a home in the Mathematics Education doctoral program. “From Bruce, Jeremy Kilpatrick, Paul Rosenbloom, and others, I learned to avoid a US-centric view of curriculum, teaching and learning,” he said. “I learned the value of incorporating both global and historical perspectives into the study of mathematics education. I learned that and much more at Teachers College.”

After graduation, Silver was “itching to get into college teaching” and teach. He began teaching at Northern Illinois University and later moved on to San Diego State University. After 10 years teaching in those mathematics departments, he went to the University of Pittsburgh, where he was Professor in the School of Education and Senior Scientist at the Learning Research and Development Center. In 2000, he accepted his current appointment at the University of Michigan.

“One of my great professional joys is seeing the success of my students,” he said. “I work with them and encourage them to excel in their work and career choices. I enjoy meeting up with former students to learn of their accomplishments; it’s very gratifying to pass the baton to the next generation of scholars in the field.”

In his spare time, Silver enjoys exploring history through non-fiction texts and novels. “It takes me away from the immediacy of the work I do and helps me relax.” His wife and daughter are avid horse lovers, so he is often busy around the stable or fixing fences in the pasture. On the weekend, you might find him tackling a Sudoku puzzle or cheering on a Michigan sports team.

Earth2Class Workshops Celebrate 100th Session

Earth2Class Workshops for Teachers at the Lamont-Doherty Earth Observatory (LDEO) of Columbia University have provided opportunities for classroom teachers and research scientists to interact since 1998. This December's program will be the historic 100th program.

Dr. Michael J. Passow (MAT '71, Ed.D. '74) founded E2C and continues to organize each session. More than 60 LDEO scientists have shared their cutting edge research with educators during the Saturday programs, and more than 200 teachers have participated over the years. The website, www.earth2class.org, offers archived versions of the presentations to teachers and others unable to attend in person. It also provides vast amounts of educational resources for Earth Science students and teachers.
MST Grant Announcements

CCTE Students and Faculty Awarded $150,000 Grant for Smoking Cessation

Want to quit smoking? There’s an app for that. Professor Chuck Kinzer, along with Nisha Alex, Azadeh Jamalian, Pazit Levitan and Jessica Mezei are in the process of creating a game called Lit: An Intervention for Nicotine Smokers. The $150,000 project is funded by the Robert Wood Johnson Foundation’s Pioneer Program. The two-year grant supports the design and evaluation of a smoking reduction game for the iPod Touch or iPhone. The game originated in Jessica Hammer’s Video Games in Education course, and is being created as an alternative to smoking with the goal of reducing or eliminating tobacco use in players’ lives. "As graduate students, being a part of the formative phase of a major research project has been an extraordinary opportunity, and the fact that Lit may have innovative implications for both the health field and game design makes it even more compelling." The team of MST students are assisted by faculty Principal Investigator Chuck Kinzer and consultants Jessica Hammer, expert in game design, Kathleen O’Connell, cessation expert, and Sandra Okita, consultant in EEG and assessment design. Rosanna Lopez, a student in the International Educational Development Program, was also active in the initial stages of concept development.

Science Education Faculty Awarded $982,080 NSF Grant

Principal Investigators Ann Rivet, Teachers College Columbia University and Kim Kastens, Columbia University, received a $982,080 grant from the National Science Foundation to explore a fundamental problem in Earth Science education: the Earth is roughly sixteen orders of magnitude larger than the classroom. Most processes operate on time and spatial scales that are untenable for direct examination. Rivet and Kastens propose to investigate how 8th and 9th grade students apply insights gained from working with dynamic tabletop models to understand and reason about processes of the full scale Earth System. This in turn will promote deeper understanding of processes that underlie urgent planet-wide problems, including global climate change and natural hazards.

CCTE Faculty Receive $1.5 Million Dollar IES Award: Steps to Literacy

Professors Jo Anne Kleifgen and Chuck Kinzer received a $1.5 million, three-year award from the Institute of Educational Sciences (Department of Education), for their project entitled STEPS to Literacy: A Digital Writing Space for English Language Learners. STEPS to Literacy will develop a technology-based intervention with a curricular approach to support and increase ELL students' academic writing attainment in English. This intervention will specifically seek to improve the writing of English Language Learners (ELLs), who are emergent bilinguals, through multimodal, web-based software based on an anchored instruction/situated model that incorporates the best knowledge about teaching writing and the ELL adolescent population. The project's goal is to improve these students' academic writing, which is linked to general school achievement.
Andrews spent her formative years in southern California precociously engaging the world. She followed in familial footsteps by attending Polytechnic School, a private prep school in Pasadena, California. Her mother and grandmother both worked at Polytechnic School, and her father taught courses at California Institute of Technology across the street. Andrews’ grandfather, an IBM employee, introduced her to a Tandy computer. Together, Andrews and her grandfather peeled off dust covers one by one and began work and play with word processing and gaming.

In first grade, Andrews began her career in video production. Her first grade teacher, Zeva Lahorgue, screened commercials in class, and asked students to author their own commercial as an exercise in media literacy. Andrews and close friend Robert Durff created a faux commercial for Kitty King Cat Food. The Durff and Andrews duo became well known for their satirical pop culture and media video commentary throughout their K-12 career at Polytechnic School. Andrews’ early technological immersion created a foundation for her current academic work.

Presently, Andrews writes, edits and produces The Media Show on AfterEd TV, a web-based video channel produced by the EdLab at Teachers College. The Media Show raises and addresses media literacy questions using puppets and humorous writing, encouraging viewers to think critically about media influence in their lives. You can check out The Media Show here: http://bit.ly/2ZiFyj

Before enrolling in Teachers College, Andrews attended Hampshire College in Amherst, Massachusetts for her undergraduate work. The alternative atmosphere and lack of standardized tests or grades allowed Andrews to flourish. “I had a time of personal reorganization. I no longer thought of myself as a ‘good student;’ I learned to manage my time and organize my own work.” She struggled many questions during that time. “I pushed my own limits to see how far I could follow an intellectual question. I learned how to pursue it without driving myself crazy.”

Andrews graduated from Hampshire and went on to explore the education and non-profit sectors outside of academia. She moved to NYC and worked at an after-school program in the South Bronx. “The experience made it clear how much inequality in the United States is based on education. It became increasingly apparent that it was unfair to say ‘This is because of who you are.’ Instead, it was obvious that ‘This is because of the terrible resources you’ve been provided.” From there, Andrews moved to a position with the Independent Press Association (IPA), which interacted with the 300+ ethnic press outlets in NYC. “[My time at the IPA] made me think a lot about print journalism and where it might go. It also exposed me to people who were doing interesting work. They all had advanced degrees, so I said to myself, I guess I’ll go back to school.”

At Teachers College, Andrews came back to questions about media literacy. She worked with Chuck Kinzer on digital literacies with the CTELL project, and was later awarded a Spencer Foundation Grant to study video games. Andrews moved to California in Summer 2007 to work with Linden Lab on the Second Life project. She attempted to start her dissertation out there, but missed the support of Teachers College.

She moved back to NYC in Fall 2007 and landed a Graduate Assistantship with AfterEd TV. She pitched her idea for The Media Show a year later, and it was approved. “My job at AfterEd really keeps me motivated. I couldn’t live without it! AfterEd is a great creative community that allows space to experiment and act like artists.”

Currently, Andrews is working on her dissertation; she hopes to graduate this academic year. Her thesis explores blog comment threads and miscommunications that emerge when blog visitors address comments to incorrect blog authors. For example, Andrews wrote a blog post about Ashton...
Gillian ‘Gus’ Andrews, Continued

Kutcher. In subsequent days, blog visitors made comments addressed to Ashton Kutcher. “I realized I wasn’t the only one with this problem, and it became clear this was a big question of media literacy. Bloggers and blog visitors seem to be speaking two different languages.”

In her spare time, she enjoys attending hacker conferences, taking African dance classes and hanging out with her newly-rescued chicken. After ten years in NYC, Andrews has no desire to leave. “I like that you don’t have to go out looking for art; it will come out and find you.” That, and she couldn’t imagine becoming a car owner.

In the future, she hopes to share her dissertation findings in the form of a popular book. “I believe people could benefit from learning how their everyday interactions on the internet shape it to be what it is.” She continues, “Academics make a mistake by keeping academia within its own boundaries. We will eventually lose the battle for our ideas. The argument that it is worthwhile to pay someone to spend their whole life thinking about things in a box somewhere will become increasingly untenable.”

CCTE Mobile Phone Learning Course Generating Buzz

TC’s Mobile Phone Learning course, taught by Nabeel Ahmad and Dominic Mentor in the Communication, Computing, and Technology in Education (CCTE) program, generated press coverage after its first offering this summer. The course was featured on the front page of the TC website (article: http://tinyurl.com/cell-class), in an interview with ABC TV (article and video: http://tinyurl.com/phones-abc) and on a national radio show (audio: http://tinyurl.com/cell-radio). The course covers how K-12 schools, colleges and universities, as well as organizations and corporations can leverage educational uses of mobile phones. Students used practical examples, and theoretical and pedagogical underpinnings as a solid basis for the course. The course does not require students to have a technology background. The course will be offered again in Spring 2010. (CRN 51932; MSTU 5510.005; Thur 510p-650p) For more information, visit http://tinyurl.com/Mob-Ph-Lrng

Accomplishments

Professor Emeritus Herbert J. Stoltze, Ed.D. 1968, was awarded a $75,000 grant for the 2009 - 2010 school year by the Chicago Public School’s Office of Academic Enhancement. The grant provides fast paced high school courses and enrichment classes in Algebra, Biology, and Mysteries of Physics to 150 seventh and eighth grade gifted students. The classes will meet on Friday afternoons at Northeastern Illinois University, Chicago, Illinois.

Melanie Smith, a 2005 Math for America fellow and Mathematics Education Alumnus, teaches high school math at the Urban Assembly School for Law + Justice in Brooklyn, NY. Smith joined an Earthwatch Institute research team for a seven-day trip to help increase sustainable coffee farming practices in the Tarrazú region of Costa Rica. Melanie Smith was sponsored by private donations made to the NY Educator - Look Book.

Dr. Harkirat Dhindsa, Science Education alumnus, is the founding editor of the Brunei International Journal of Mathematics and Science Education (BIJSME). This mission of BIJSME is to serve society through excellence in science and mathematics education research, and to generate new knowledge in the areas of science and mathematics education, including the use of technology, for the benefit of teachers, students, parents, academics, professionals and practitioners.


