Adjunct Faculty Spotlight:
Dr. Renhong Wang, Science Education Program

Dr. Renhong Wang, an Adjunct Assistant Professor in the Science Education program, grew up in China and lived there until 1988. As a child in China he worked very hard as a student and really enjoyed school. Dr. Wang wanted to learn everything and even tried to finish the next semester’s coursework during the summer months. He was not only an academic as a young man but he was also interested in sports such as swimming and Ping-Pong. In high school, he was strong in all subjects but found his passion in both science and literature. His tendency towards literature was natural since his father was a journalist and magazine editor in China. It was through his father’s best friend, a columnist for an English newspaper and lawyer, that Dr. Wang learned English.

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Dr. Renhong Wang – Continued

Just before Dr. Wang would have begun college, China’s Cultural Revolution began which prevented him from attending a university. During this time most people were forced to move to the countryside, this included Dr. Wang and his siblings. As he was quite ill, he was allowed to stay at home until he was recovered. This made him very sad with no hope to go to college – one thing he had desired since childhood. But he did not give up. He began to study English secretly because if discovered he would be punished severely and thought of as a traitor. These circumstances led him to sleep during the day and study at night. Since he was ill, people did not find it out of the ordinary for him to sleep all day. This pattern continued for 8 years! The Cultural Revolution was finally over and Dr. Wang began his college education at Shanghai Teachers University with a major in Chemistry. Since his extensive study of English, he was asked by professors to translate materials. The Chemistry Department knew they had a valuable asset in Dr. Wang so they asked him to continue on and teach Chemistry in English.

In 1988, he was invited to Columbia University’s Ophthalmology Department to work as a Research Associate and Lab Instructor in the Photobiology and Photochemistry Lab. After receiving M.A. and M.S from the Teachers College, Dr. Wang started to teach at George Washington High School in 1995. Encouraged by Dr. Anderson, Dr. Wang continued his education at Teachers College. He received his doctorate in 2008 and currently teaches Chemistry Concepts I and II at Teachers College along with his high school teaching at A. Philip Randolph High School. Dr. Wang also works as an Education Specialist at New York State Education Department on Regents Chemistry assessment. Along with his academic work, he is still very involved with exercise and yoga. Through all of his experiences and troubles growing up during a difficult time in China, Dr. Wang is a delightful man and a dedicated teacher.


Ulises Mejias, Communication, Computing and Technology in Education (CCTE) Program graduate, was born and raised in Mexico City, Mexico. His father is an electronics engineer so he and his brother were exposed to electronics very early on. “We were fortunate in that we had access to videogame systems and computers (I’m talking Atari, Commodore 64, etc.). I taught myself how to program elemental BASIC. At that point I didn’t even speak English, so even if I would have had manuals they would have been useless.” At this age, Ulises felt that technology represented the opportunity to express himself creatively “through the creation of simple programs, the design of toys and robots, and the production of media.”

Along with technology, Ulises found a passion for film. “I am definitely a member of the Star Wars generation – I was in elementary school when the first one came out – and I think because of my tinkering with computers, robotics and such, I became very interested in how films like that were made. So, at some point, I got it into my head that I wanted to be a filmmaker, ‘Señor Spielbergo’, perhaps?” Still in Mexico, Ulises began college with a focus in communications, but realized that he wanted something more. He applied for a scholarship through the Institute of International Education and was one of 20 students selected to study in the US. He studied film, photography and visual arts at Ithaca College and became more interested in documentary films. Ulises won awards for best documentary films in his junior and senior years. He also took some courses in politics, which made him begin to think about the uses of media for social and political purposes. He
Ulises Mejias – Continued

continued with his education as a graduate student at Ithaca and through that experience was exposed to conferences, journals, and academe, which lead him to contemplate going for a doctorate.

The CCTE doctoral program was a perfect fit; however, he was still working as the Director of Learning Systems Design at eCornell, where he made a significant contribution of developing a model, Learning Molecules, “for systematizing the production of online courses and aiding their design by applying a problem-based learning methodology.” While attending classes at TC he would drive round-trip once a week from Ithaca to New York in one day to return to his position at eCornell. This lasted for two and a half years! Ulises really enjoyed his time as a student at TC. “I learned a lot from each of my professors. But my favorite classes were those by Drs. Robbie McClintock and Frank Moretti. I share their passion for philosophy and critical theory. Consequently, they later became involved in my dissertation. I think what I appreciated the most was the way they validated my project. My dissertation, which examined the way digital networks mediate nearness, was purely theoretical, and looked nothing like the other dissertations I was seeing.” His dissertation work served as the foundation for his book, being published by the University of Minnesota Press, that he is currently finishing. His book is a “critical examination of the digital network as a technological template for organizing society, something that increases participation while simultaneously also increasing certain forms of inequality.”

Ulises currently teaches at SUNY Oswego, where he has the freedom to create his own courses. “For some years I have been experimenting with the use of campus-wide Alternate Reality Games for learning. We have tackled issues like budget cuts, racism and immigration. The interplay between the online game and what happens on campus can be tricky to navigate (which is the point), but I have found the school to be very supportive of this kind of experiment.” It seems that Ulises is a natural professor; yet, he admits, “becoming a professor was an idea that emerged mostly from observing my wife, who has been in academia longer than I have. Observing the kind of impact she can have on students’ lives and the integrity with which she approaches her research has served as a model I have striven to emulate.”

Traveling has been integrated into his academic life through conferences in England, Spain, Finland, the Netherlands, and across the United States. “Because of my wife’s research on Islam, I have been fortunate enough to visit places like Egypt, Indonesia, Pakistan and Saudi Arabia. I think it’s important to displace ourselves and encounter difference regularly, and I always encourage my students to do so as well.”

A Fond Farewell to a Legendary Figure in Education

By Dino Sossi

The Department of Mathematics, Science and Technology (MST) held a warm send-off for one of its most respected intellectual leaders Professor Robert “Robbie” McClintock. Celebrating more than 43 years of service and commitment to both Teachers College and the wider Columbia University community, Robbie’s life and work was honored with a lecture, reception and dinner on May 12th. Professor McClintock is a historian of educational and political thought. His intellectual work has examined the effects of changes in communication on education and culture, among others. He has held the distinguished position of John L. and Sue Ann Weinberg Professor in the Historical and Philosophical Foundations of Education at Teachers College since 2001.

The event was a fitting tribute to someone who has given selflessly to many members of the College. MST formally celebrated Robbie McClintock’s legacy with Professor René V. Arcilla’s lecture "An Existential Basis for Study" at the Cowin Center Auditorium in front of a highly supportive
A Fond Farewell – Continued

crowd of approximately 100 attendees. The lecture was populated by a diverse group of fellow faculty members both within TC and beyond, former students as well as other well-wishers. Dr. Arcilla holds the position of Associate Professor of Educational Philosophy at New York University Steinhardt School of Culture, Education and Human Development.

Professor McClintock’s intellectual work has been at the forefront of a vast array of academic subject areas including the application of digital technologies to the reform of education, the educational potentialities of urban life, as well as formative justice and education as an academic study, among a long list of others. In addition, among a diversity of professional titles, Robbie has acted as the Co-Director of the Institute for Learning Technologies (ILT) housed at Teachers College. The ILT is a development group focused on furthering progressive reform in education and society through the use of digital information resources.

In addition to the lecture, there were also addresses by various Teachers College faculty. A panel including former students was led by Professor Frank Moretti, the Director of the Columbia Center for New Media Teaching and Learning, as well as Robbie’s dear colleague. Following the lecture, there was a reception in Horace Mann as well as a farewell dinner.

As one of Robbie’s former students who have benefited so deeply from his guidance on both an intellectual and personal level, the event was a fitting tribute to a scholar who has given so much to not only Teachers College, but also New York City, the disciplines of education, history and communications as well as academic scholarship as a whole. He will be sincerely missed.

For a more in-depth look at some of Robbie McClintock’s work as well as the community of scholars he has developed, please visit www.studyplace.org. Also, an online tribute was developed at http://robbieaseducator.pressible.org. To watch the lecture, please visit this article online at http://blogs.tc.columbia.edu/mst.

Scratch Day at TC 2011

Once again the Department of Mathematics, Science and Technology along with the Department of Human Development, Institute for Learning Technologies and the Office of School and Community Partnerships were pleased to sponsor Scratch Day at TC on May 14th, 2011. Mayokun Aduwo, a Master’s student in the Communication, Computing, and Technology in Education Program, was the lead coordinator and managed, planned, and executed the event from beginning to end along with the previous coordinator Cameron Fadjo. The event brought in about 80 educators and students, ranging from 12 years old and up, to discover and explore Scratch.

There were three strands that structured the day: presentations, workshops and a design lab. The presentations were a chance to learn about current research and projects associated with Scratch.
Scratch Day – Continued

and how instructors have integrated scratch into their curriculum. The workshops were divided into beginners and advanced sessions. Tim Cooper facilitated the design lab, which was BYOL (Bring Your Own Laptop) this allowed the participants most of them students to use Scratch. The lab coordinators presented tasks based on the individual skills of each participant. The day ended with the keynote presentation, Yes, But Are They Programming? Scratch as a Vehicle for Storytelling in Middle School, given by Ursula Wolz. The day would not have been such a success without the support of the volunteers who helped organize and assist during the event.

Keynote Lecture. Photo Credit: Edward Bujak

Teachers College Mathematical Modeling Handbook

The Mathematics Education Program together with COMAP, the Consortium for Mathematics and Its Applications, are publishing the Teachers College Mathematical Modeling Handbook intended to support the implementation of the Common Core State Standards for Mathematics (CCSSM) high school Mathematical Modeling conceptual category. The CCSSM document provides a brief description of mathematical modeling accompanied by 22 star symbols (*) designating modeling standards and standard clusters. The CCSSM approach is to interpret modeling “not as a collection of isolated topics but in relation to other standards.” The editors Heather Gould (current Ph.D. student), Diane R. Murray (current Ph.D. student), and Andrew Sanfratello (current M.A. student) with Drs. Bruce Vogeli, Henry O. Pollak, and Hernando Echeverri along with numerous current and past Mathematics Education students contributed to the project.

The sampler is available at http://www.comap.com/NCTM.html with 5 modules available for free download. The expanded version contains 20 modules and can be downloaded for free with a commitment to review at least one of the modules at www.modelinghandbook.com. In the next couple months, the complete collection will be available both online and in print. The goal of this Handbook is to aid teachers in implementing the CCSSM approach by helping students to develop a modeling disposition, that is, to encourage recognition of mathematical opportunities in everyday events. This project will also include a handbook on modeling assessment, which will be published by Spring 2012.
A common complaint regarding academic conferences is their tendency to bring together only people who work within the same discipline. The problem? Group-think. Few truly novel ideas. And a tendency to miss key developments outside that subject area. An answer? The Teachers College Educational Technology Conference (TCETC).

“We need this conference because it provides graduate students with a comfortable setting where they can present their research,” stated TCETC 2011 Co-chair Darnel Degand, a doctoral student in Mathematics, Science and Technology (MST) at Teachers College. But TCETC is not solely focused on research. “The conference … serves as a great opportunity for students to meet and network with one another as well as receive feedback,” added Co-chair Melanie Hibbert, also a doctoral student in MST.

TCETC was originally conceived as a multi-disciplinary setting where graduate students could share theories and research regarding the development and application of emerging technologies. Initial areas of interest included Pre-K to 12 classrooms, after-school programs, higher education, home environments, distance learning and corporate learning environments.

TCETC 2011, the third edition of the annual conference, was convened in May and has evolved from its humble beginnings. The current iteration was a two-day-long affair focusing on the work of students at Teachers College and across the U.S., including Tennessee, Texas and California. Session themes included social media and web 2.0; school integration and policy; mathematics and science; building literacies; mobile devices; visuals, aesthetics and design; new media literacies; film and video; issues and methodologies in technology/educational research; virtual spaces; human-computer interaction; and identity formation.

A much-acclaimed highlight of TCETC 2011 was keynote speaker Shira Ackerman. An alumna of Teachers College, Ms. Ackerman has a well-rounded background in both the educational and children’s media sectors. She has over a decade’s worth of education and media experience working for companies like BarnesandNoble.com, Nick Jr., Scholastic and Sesame Workshop. She has created/researched a number of products for not only television but also the web, as well as CD Roms, the Wii, Nintendo DS, Leapster, the TAG pen as well as both print and eBooks, her current focus. Ms. Ackerman’s diverse professional successes served as a particularly appropriate metaphor for the wide intellectual interests that converged at TCETC.

The substance and style of the conference as well as the profile of attendees pleased organizers. “I was really happy with the turnout and the quality of the presentations,” enthused Degand. “I was also happy with the amount of networking that happened during the breaks and during our cheese and wine reception,” Degand added. New MST student and conference participant Chris Huson exclaimed, “the hard work and selflessness of the volunteers was inspiring!” According to attendees and organizers alike, TCETC 2011 was an unqualified success. If you would like more details about TCETC 2011 or want to get involved with next year’s conference, please visit http://blogs.tc.columbia.edu/tcetc/.
Accomplishments and Announcements

A paper published by **Professor O. Roger Anderson**, co-authored with **Julie Contino**, an Ed.D. candidate in Science Education, has been selected by the Association for Science Teacher Education (ASTE) and the National Science Teachers Association (NSTA) as one of the top ten papers published in science education in 2010. The paper, titled “A Study of Teacher-mediated Enhancement of Students’ Organization of Earth Science Knowledge Using Web Diagrams as a Teaching Device,” will be especially highlighted and recommended for reading in the professional journals published by NSTA this coming year. The original article appeared in the *Journal of Science Teacher Education, 21*, 683–701.

**Dr. Jerald Cole**, CCTE Ed.D. 1992 graduate, is Director of the graduate program in Instructional Technology at the University of Bridgeport. The program offers three tracks in technology for teachers, trainers and developers. His research is in the area of distributed learning systems and intelligent tutoring systems.

**Anna Conover** was awarded the academic year FLAS fellowship to continue studying Hindi/Urdu. The Foreign Language and Area Studies (FLAS) Fellowship Program "promotes foreign language competence and international world area knowledge." As a doctoral student in the Instructional Technology and Media program, Anna is interested in how information and communication technology (ICT) and education can contribute to social inclusion at the international level.

**Benjamin Dickman**, current Mathematics Education Ph.D. student, received a National Science Foundation Graduate Research Fellowship (NSFGRF) in STEM Education and Learning Research - Mathematics Education. His fellowship is one of four awarded in this field of study in 2011, the first year in which the NSFGRF has included STEM Education. For more information, please see: http://www.nsfgrfp.org/

**Dr. Christopher Emdin**, faculty member in Science Education, was awarded the Strage Junior Faculty prize this year.

**Dr. Meghan Groome**, Science Education Ph.D. 2007 graduate, has been offered an appointment of Adjunct Assistant Professor at SUNY Environmental Science and Forestry for a three-year term. In addition to her responsibilities as the Director of K-12 Science Education at the New York Academy of Sciences, she was recently appointed Director of Science & the City, the Academy's public science series.

**Arvind Grover**, CCTE M.A. 2007 graduate, was appointed as the first Dean of Faculty for the Grace Church School, a junior kindergarten - 8th grade Episcopal school in the East Village of New York City. The school is expanding and creating a high school on Cooper Square. The new high school division head and Mr. Grover will lead the efforts to create a curriculum, hire a faculty, and open with the inaugural 9th grade in the fall of 2012. He looks forward to engaging in the work of creating a 21st century high school, combining the current research and trends with well over 100 years of the school's experience in ethics-based education.
Accomplishments and Announcements – Continued

Marquina M. Iliev-Piselli, CCTE M.A. 2011 graduate, along with Cameron L. Fadjo and Dr. Joey J. Lee, have been working on a mobile financial literacy game for middle schoolers. Their submission entitled, Bank-It: A Gamified Financial Literacy Mobile App, was accepted for inclusion in the Games, Learning and Society Conference 7.0, as a Poster presentation.

Dr. Janice Kelly, CCTE Ed.D. 2005 graduate, has been promoted to serve as Chair of the Communication Arts and Sciences Department at Molloy College, New York.

William LaMonte, Science Education M.A. 2005 graduate, received the Blackboard award for this year's top Science Teacher in NYC. For more information, please see: http://www.blackboardawards.com/honorees_2011/teacher_billlamonte.php

Marci Levy-Maguire, Science Education M.S. 2003 graduate, is the founding Principal of Queens Metropolitan High School in Forest Hills, Queens. Her school is designed to help students answer three essential questions: Who am I? Who do I want to be? How do I get there? At this zoned public high school, all students take Physics in their freshman year, Chemistry as sophomores, and Living Environment or Earth Science as juniors. Her goal is to help close the achievement gap and increase science and math literacy among all her students as she and her staff prepare them for success as adults.

A CCTE graduate, Keiju Matsunaga, just released her first iPhone game for English language learners in Japan. She was the assistant producer on the project. It was made by Square Enix in collaboration with NHK. For more information, please see: http://itunes.apple.com/us/app/summer-story/id432292560?mt=8

Bette Sloane, Mathematics Education M.A. 2007 graduate, received the NEA Foundation’s award for the Challenge to Innovate Mobile Project. The NEA, in partnership with the US Department of Education, posed a challenge for educators to find a way for mobile phone technology to transform teaching and learning. Her proposal, Camera Phone MATH/ART Gallery, utilized smart phone cameras. In her effort to get her High School students excited about mathematics in today's world, she has them go on a photographic scavenger hunt for mathematical concepts in the real world. Her idea is to have students photograph geometric concepts on their phones. Then, the students e-mail her their digital examples of parallel and perpendicular lines. She posts the digital artwork on her faculty website in an interactive, digital Museum. The entire project, start to finish, is digital.


Check out MST Times online for videos clips of the interviews in this issue, active links, and article archives.

http://blogs.tc.columbia.edu/mst

Kenny Nienhusser, Director of Academic Administration for the Department of Mathematics, Science and Technology, created MST Times in Fall 2005.

Each year, the MST Department Graduate Assistant is responsible for writing and editing the newsletter. Below, editors and respective volume numbers are listed.

Volume I (2005-2006): Raven Hebert
Volume V (2009-2010): Amy J. Rae and Diane R. Murray
Volume VI (2010-2011): Diane R. Murray, dmurray125@gmail.com

If you would like a copy of the MST Times, please email your request, including full name, phone number and mailing address to Kenny Nienhusser, at nienhusser@tc.columbia.edu.