

Margaret (Marjee) Chmiel
School Based Technology Specialist
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K-12 and University Teaching Experience

School Based Technology Specialist: Fairfax County Public Schools, October 2010-current

Serve as the instructional technology leader at a nationally and internationally recognized top-tier public magnet school for science and technology. Research new instructional software and applications, provide in-house staff development on instructional technology integration and productivity, serve as a liaison between district and school regarding district technology policy and initiatives, oversee large-scale technology changes and transitions within school as part of greater district-led initiatives, develop video communications and staff development tools, advise first-of-its kind student interest group in the area of cyber security and cyber-defense, manage student run website, including the in-house servers and server student administrators.

Science Methods Adjunct Instructor: Marquette University 2004- 2006

Designed and taught science methods courses for pre-service and graduate level science teachers; Courses emphasized integration of learning theory and curricular theory with the Benchmarks for Scientific Literacy; focused on conceptual change and the nature of science for teaching authentic inquiry. Taught both online and hybrid courses, supervised student teachers.

Chemistry and Physics Teacher: West Allis Public Schools, WI 1999-2003

Taught high school chemistry, physics, physical science, and biology courses with heavy emphasis on inquiry-based learning and performance based assessments. Wrote curriculum and chose textbook for the district's first offering of Advanced Placement Biology

Teaching Certification

2000-2012 Wisconsin and Virginia certified for grades 6-12 in general science, biology, chemistry, and physics

Awards and Recognition for Research and Development

2010 CODiE Finalist: Best Education Game or Simulation, Best Online Instructional Solution, and Best K-12 Instructional Solution for *Energy City* and *Transform It!*

2010 Finalist for Best Educational Game or Toy from the Association of Educational Publishers for *Energy City*, *Coaster Creator*, and *Transform it!*

2010 Honorable Mention, Best Educational Software: Computers and Youth Association

2009 Distinguished Achievement Award from the Association of Educational Publishers for *Operation: Resilient Planet*

2009 Innovation Incubator Finalist: Software & Information Industry Association for *Operation: Resilient Planet*

2009 Award of Excellence from Technology & Learning (T&L) magazine for *Operation:*

Resilient Planet

2009 CODiE Winner: Best Science Instructional Solution for *Operation: Resilient Planet*

2009 CODiE Finalist: Best Education Solution and Best Online Instructional Solution for *Operation: Resilient Planet*

2007 PBS Bravo Award: Recognized for leadership on innovative digital projects by Public Broadcasting Services

2004-2006 Spencer Foundation Doctoral Research Fellow: University of Wisconsin-Madison

2006 National Science Foundation Travel Grant

2003 National Science Foundation Travel Grant

1995-1999 Academic Scholarship: Marquette University

Professional and Research Appointments

Graduate Assistantship: George Mason University, 2009-Current

Literature review and analysis on current ideas and trends in qualitative research, particularly in the areas of qualitative research realism, culture and diversity, validity in qualitative research, and the relationship between theory, design, and analysis. Work involved original publication, as well as editing and reviewing publications by Professor Joseph Maxwell.

Director of Digital Media: National Geographic, The JASON Project 2008-2010

Direct and design a diverse library of learning games and interactives for a middle school science that connects student to current research through partnerships with NASA, National Geographic Explorers, and the National Atmospheric and Oceanic Science. Games have received approximately 700,000 plays in past 18 months. Write scientific content and assessments, manage social media initiatives, conduct user testing and user ethnographies, track trends in the field of educational media

Associate Director, Instructional Design: Public Broadcasting Services 2006- 2008

Managed the PBS-ISTE (International Society for Technology Education) certification program for educators. Produced professional development online courses aimed at low-literacy childcare providers as part of the Ready to Learn grant from the Department of Education. Provided teacher professional development at conferences and school districts. Researched competitive landscape and emerging technologies to inform product development, analyzed technology trends, created reports to inform organization

Educational Research Associate: University of Wisconsin-Madison 2003- 2006

Games and Learning Society Group and Wisconsin Center for Educational Research
Conducted original research for publication, presentation, and grants on the development of computational literacy through computer game play. Consulted for companies and organizations developing electronic games, media and simulations for learning

Instructional Designer: Academic Co-Lab

2003- 2004

Designed and directed development of interactive online learning activities for chemistry laboratory safety and for pre-calculus tutorial lessons. Developed and researched online learning tools for science education on the secondary and post-secondary levels. Assessed and advised on online modules to remediate students in college-level pre-calculus courses funded by the National Science Foundation

Education

PhD Research and Evaluation in Education, Secondary Focus: Technology Enhanced Science Instruction

George Mason University, in progress (2009-2012, expected)

Graduate Assistantship 2009-Current

M.A. Educational Policy and Leadership, Focus: Science Education

Marquette University, (2003)

B.S. Broad Field Science, Chemistry

Marquette University, (1999)

Peer Reviewed Article

Peters Burton, E., Frazier, W., Annetta, L., Lamb, R., Cheng, R., & Chmiel, M. (2011). Modeling augmented reality games with preservice elementary and secondary teachers. *Journal of Technology and Teacher Education*, 19(3), 303-329.

Chmiel, M. (2010) Game Design Toward Scientific Literacy. *Cognitive Technology*, 14 (2), 32-42.

Peer Reviewed Conference Proceedings

Steinkuehler, C. & Chmiel, M. (2006). Fostering scientific habits of mind in the context of online play. In S.A. Barab, K.E. Hay, N.B. Songer, & D.T. Hickey (Eds.), *Proceedings of the International Conference of the Learning Sciences* (pp 723-729). Mahwah NJ: Erlbaum.

Chmiel, M., & Owens, T. (2006). Anti-evolution literature and its hidden pedagogical value: Confronting the creationism dilemma. In Osborne, J (Ed.), *Proceedings of the Eighth International History, Philosophy, and Sociology in Science Teaching Conference* (pp. 50-61). Leeds, UK.

Peer Reviewed Encyclopedia Entries

Chmiel, M. (2011). Science Communities. In G. Barnett (Ed.), *Encyclopedia of Social Networking*. Thousand Oaks, CA: Sage Publications.

Chmiel, M. (2011). Poland. In G. Barnett (Ed.), *Encyclopedia of Social Networking*. Thousand Oaks, CA: Sage Publications.

Chmiel, M. (2011). Virginia. In G. Barnett (Ed.), *Encyclopedia of Social Networking*. Thousand Oaks, CA: Sage Publications.

Peer Reviewed Conference Presentations

- Chmiel, M., & Burton-Peters, E. (2011). Just Bare-Bones Facts”: STEM Career-Switchers’ Perceptions the Role of the Nature of Science in Science Education. Paper presented at the National Association of Research in Science Teachers (NARST) Annual Conference, Orlando, FL April 3-6.
- Chmiel, M.,& Norton, D. (2010) Why Can’t I Just Kill That Shark? Challenges and Considerations for Designing Science Games. Games, Learning, and Society. Madison, WI. June 11.
- Maxwell, J., & Chmiel, M. (2010). Rethinking the concept of "culture" in education. Presented at the College of Education and Human Development Faculty Symposium. Fairfax, VA. February 1.
- Squire K.D. Giovanetto, L., & Chmiel, M.U., (2006). Preserving the “Grammar of Schools”: An Investigation of New- Media Use Patterns Among Pre-service Teachers. Presented at the American Educational Research Association (AERA), San Francisco, CA April 12-16 .
- Chmiel, M.U. (2006) When science became a Sputnik: Science Education 1943-1963. Presented at the History of Science Society Annual Conference, Vancouver, British Columbia November 4-6.
- Owens, T. & Chmiel, M. (2006). Mapping the landscape of gender in science through children’s biographies of Marie Curie and Albert Einstein. Presented at the National Association for Research in Science Teaching (NARST), San Francisco, CA April 3-6.
- Squire K.D., Chmiel, M.U., Giovanetto,L.,& Jan, M. (2005). Media Literacy and Pre-service Teachers: Is there a negative correlation between playing video games and becoming a teacher? Presented at the International Convention of the Association for Educational Communication and Technology (AECT), Orlando, FL October 22.

Invited Presentations

- Chmiel, M. (2010) Invading Species, Giant Robots, 3rd grade Algebra, and Other Classroom-Ready Curiosities. Games, Learning, and Society Conference. Madison, WI. June 12
- Chmiel, M. (2010) Designing for the Classroom and the Pass-Back Effect. Games for Learning, New York, NY. May 27
- Chmiel, M. (2010) Using games to communicate science. Science Blogging: Laboratory of Ideas or Contaminated Experiment? Science and Technology in Society Panel, Virginia Commonwealth University. Richmond, VA February 19.
- Chmel, M. (2010) Using games to communicate science (2010). Presented at Science Online in Research Triangle, NC
- Chmiel, M & Rider, S. (2007) The educative promise of digital games. Invited talk at

the Teacher Advisory Group meeting. Arlington, VA July 25.

Teacher Professional Development Presentations

- Chmiel, M. & Owens, T. (2010) Gaming across the curriculum: Finding and evaluating educational games. To be presented at the International Society for Technology in Education (ISTE). Denver, CO June 26.
- Harrison, R. & Chmiel, M. (2010) Effectively Integrating Digital Labs into your science classroom. To be presented at the International Society for Technology in Education (ISTE). Denver, CO June 30.
- Jewell, B. & Chmiel, M. (2010) Integrating games and social media into your classroom. National Science Teacher's Association (NSTA) Annual Conference. Philadelphia, PA March 19.
- Chmiel, M. (2009) Using science video games in your classroom. National Science Teacher's Association Regional Conference, Fort Lauderdale, FL November 14.
- Chmiel, M. (2007) Staff Development meets Web 2.0. Presented at the National Staff Development Council Annual Conference, Dallas, TX, December 1-5, 2007.
- Nies, C., & Chmiel, M. (2003) Inquiry and performance based assessment activities for secondary physical science. Wisconsin Society of Science Teachers, Wisconsin Dells, WI.
- Chmiel, M.U. (2003) What educators need to know for the prevention of electronic plagiarism. Invited talk at the University of Wisconsin-Madison Teacher's Academy, Madison, WI April 14.

Grant and Privately Funded Game and Interactive Design and Development

Projects directed exceeding \$30,000 production budgets:

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| <i>Landform Detectives</i> | \$50,000 (2012) |
| Web based game in which players tinker with sequencing geologic processes behind 25 different geologic sites from around the world. | |
| <i>MasterMines</i> | \$65,000 (2010) |
| Web based game in which players gather minerals from different mines, identify the minerals through a series tests, and explore how those properties lend to different everyday uses. | |
| <i>EcoDefenders</i> | \$85,000 (2010) |
| Web based game in which players develop and use understanding of ecological niches, adaptations, trophic levels, and competition to analyze understand how an invasive species can devastate an ecosystem. | |
| <i>Energy City</i> | \$120,000 (2009) |
| Web based game in which players design a energy portfolio for a city in this turn based strategy game. Players research and deploy a range of exhaustible, renewable and inexhaustible energy sources. Funded by Kauffman Foundation, | |
| <i>Transform It!</i> | \$65,000 (2009) |

Web based game in which players harness energy in its various forms to put a city, a giant robot or a farm to work. The goal is to deliver energy efficiently, and avoid under-powering or overloading various systems. Funded by Kauffman Foundation,

Coaster Creator \$30,000 (2008)

Web based game in which players develop and deploy knowledge of potential energy and kinetic energy to design a roller coaster.

Operation: Resilient Planet \$850,000 (2008)

Downloadable 3D game in which players step into the role of a NOAA marine ecologist to recreate scientist Enric Sala's cutting edge research on near pristine ecosystems. Funded by Kauffman Foundation,

Ready to Learn \$190,000 (2007)

Interactive online course that teaches learning theory and early literacy best practices to childcare providers. Funded by the Department of Education

Advanced Teaching With Technology Online Course \$35,000 (2007)

Interactive online course in which teachers demonstrate competency according to ISTE technology standards through the creation of a digital teaching project

Teaching with Fractions \$70,000 (2006)

Interactive online course in which teachers develop competency in current learning theory to support teaching about fractions

Service

Judge, Games 4 Change Games Festival, 2011

Reviewer, International Journal of Science Education, 2011

Reviewer, International Conference on The Learning Sciences, 2010

Interviewer, Doctoral Applicants at George Mason University, 2010

Reviewer, Portfolios for Master's Candidates at George Mason University, 2010

Conference Co-Chair, Games Learning and Society , 2006

Reviewer, Annual Meeting of the National Association for Research in Science Teaching, 2006

Reviewer, American Educational Research Association Conference, 2006

Reviewer, Journal of Chemical Education, 2004-2006

Consultant, State of Wisconsin, Consulted on revisions to the 10th grade science state exam 2003