Konstantinos Alexakos, Ph.D.

Education

Doctor of Philosophy, Science Education, Columbia University, New York, NY, May 2005
Ph.D. Thesis: The Science Teacher as the Organic Link in Science Learning: Identity, Motives, and Capital Transfer

Master of Philosophy, Science Education, Columbia University, New York, NY, February 2004

Master of Arts, Education in Physics and General Science, New York University, New York, NY, January 2000

Bachelor of Science, Physics, The City College of New York -CUNY, New York, NY, February 1989

Teaching

Program Coordinator, Adolescence Science Education, The School of Education, Brooklyn College, CUNY, Brooklyn, New York, 09/2006-Present

- Mentor and advise graduate and undergraduate students in science education
- Restructure graduate and undergraduate programs in adolescence science education
- Develop and implement a new Master of Arts in Teaching (MAT) program for inservice and preservice science teachers

Assistant Professor in Adolescence Science Education, The School of Education, Brooklyn College, CUNY, Brooklyn, New York, 09/2005-Present

- Teach, supervise, and mentor graduate and undergraduate teacher candidates and inservice teachers
- Teach graduate level courses in science curriculum, research, and classroom interactions and science methods
- Teach general science courses in geophysics, and light and sound to early childhood and childhood teacher candidates
- Teach college physics courses to special classes of high school students

Assistant Professor of Urban Education, in the Science Math and Technology Specialization in the Doctoral Program in Urban Education, The Graduate School and University Center of CUNY (Joint appointment with Brooklyn College) January 2006 - present.

- Mentor doctoral students
- Serve on PhD committees and defenses

Adjunct Professor, Department Of Secondary Education and Youth Services, Queens College, CUNY, Flushing, New York, 08/2004-05/2005

- Teach undergraduate level courses in secondary science methods
- Teach graduate level courses in research methods, and science curriculum
- Teach and supervise student-teachers

Physics Teacher, F. H. LaGuardia High School of Music & Art and Performing Arts, New York, NY, 09/1998 – 09/2005

- Prepare and teach Regents classes in physics
- Develop and teach Advance Placement Physics and AP Physics labs
- Develop and teach labs utilizing computer and calculator-based technology
- Prepare and teach Regents classes in biology for English language learners
- Prepare and teach Regents class in algebra

Ongoing Research

Fictive kinship, identity, perseverance, and success of minority high school students in science, with additional emphasis on gender, race, and urban issues. Science teacher recruitment, support, and retention, with a focus on teacher identity, motives, and teaching practices.

Research Interests

Resilience and perseverance of inner city high school students in science; fictive kinships and success of students in science. Science teacher identity; science teacher recruitment, support, preparation, and retention. Gender and multicultural issues; equity in science; science education in urban settings. Interdisciplinary aspects of science; strategies for enhancing science learning in the urban classroom

Academic Committee Work

Curriculum Committee, School of Education, Brooklyn College 2006-present
Membership Committee, Urban Education, Graduate Center; 9/2008-present
Faculty Council, Social Science divisional alternate, 9/2009-present
Strategic Planning Meeting "Building Quantitative Competence," CUNY, 2007-2008
Middle States Working Group 6: Academic Programs-Brooklyn College, 2007-2008
Teacher Academy at BC Steering Committee, 2006-2008
Science Educator Search Committee (chair)-Brooklyn College School of Education, 2006-07

Industrial Experience

Car Inspector, M.T.A. - New York City Transit, New York, NY
01/1988 - 10/1998

- Inspected, tested, troubleshot, and made electrical and mechanical repairs and adjustments on a diverse number of subway cars
- Specialized, and was specifically trained in troubleshooting and repairing a subway car's climate control system, its electrical, electronic and mechanical components, and testing and adjusting the car's electrical and electronic propulsion

Certifications

New York State Permanent Certificate: Teacher of Physics and General Science
New York City License: Teacher of Physics and General Science
Environmental Protection Agency types 1, 2, and 3 refrigerant handling certificates

Publications

Alexakos, K. (In press). Teaching the practice of science: Unteaching the "scientific method." *Science Scope*.

Alexakos, K. (2009). Science and creationism: a response to Kenneth Tobin. *Cultural Studies of Science Education*, 4(2), 495-504.

Alexakos, K. (2007). The science teacher as the organic link. *Cultural Studies of Science Education, 2*(4), 883-905.

Alexakos, K. (2007). Dialectics and the organic link as a tool of analysis. *Cultural Studies of Science Education, 2*(4), 918-921.

Alexakos, K., & Antoine, W. (2005). The Islamic Golden Age and science teaching. *The Science Teacher, 72 (3), 36-39.*

Alexakos, K., & Antoine, W. (2003). The gender gap in science education. *The Science Teacher*, 70 (3), 30-33.

Alexakos, K. (2001). Inclusive classrooms: A multicultural look at the National Science Education Standards. *The Science Teacher, 68 (3)*, 40-43.

Presentations

Alexakos, K. and Jones, J. K.(2009, April). *Fictive Kinship as it Affects Resiliency and Perseverance of Inner-City High School Students in a College Physics Lab.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, Garden Grove, CA.

Alexakos, K. and Jones, J. K .(2009, March). *Fictive Kinship as it Affects Resiliency, Perseverance, and Success of Inner-City High School Students.* Presentation at the Urban Science Education Research Seminar, The Graduate Center—CUNY, New York, NY

Alexakos (2008, May). *Encouraging student resiliency through collaboration in college physics.* Presentation at the The Woodrow Wilson National Fellowship Foundation, Early College High School Initiative, Princeton, NJ

Alexakos (2008, May). *Inquiry-Based Science Learning Using Mirrors.* Workshop conducted at the Sharing Our Success in Urban Science and Math Teaching Conference, New York University, New York, NY.

Alexakos, K. and Jones, J. K.(2008, April). *Dynamics of Successful Student Kinship Groups in a College Physics Class of Inner City High School Students*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Baltimore, MD.

Alexakos, K. (2007, April). *Science Teacher Adaptation and Marginalization*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Alexakos, K. (2006, Oct). *Teacher Education and the Subjective Aspects of Science Teachers*. Paper presented at the *The New Educator's Conference*: *Building and Sustaining Learning Communities in Challenging Times*, The City College of New York, New York, NY.

Alexakos, K. (2006, April). *The Science Teacher as the Organic Link in Science Learning*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, San Francisco, CA.

Alexakos, K. (2006, April). S*cience Teacher Identity Construction and Marginalization*. Paper presented at the national convention of the National Science Teachers Association, Anaheim, CA.

Alexakos, K. (2005, October). *The Science Teacher as the Organic Link in Science Education*, National Science Teachers Association Regional Convention, Hartford, CT.

Alexakos, K. (2004, April). *The Making of a Science Teacher: Identity, Motives, and Outcomes*, National Science Teachers Association National Convention, Atlanta, GA.

Grants

PSC-CUNY Research Award (PSCREG-40-843): Fictive Kinship as it Affects Resiliency, Perseverance, and Success of Inner-City High School Students in a College Physics. $6,000. 2009-2010

PSC-CUNY Research Award (PSCREG-38-335): Self and Science Teacher Attrition. $6,000. 2007-2008

Brooklyn College Student Technology Fee Award: Science lab probes. $12,000. 2007

PSC-CUNY Research Award (PSCOOC-37-30): The science teacher, subjective constructs of science teaching, and the "organic link." $5,990. 2006-2007

Synergistic Activities

- Developed a new Master's in teaching science education program that infuses research and practice in science teaching in an urban setting.
- Research interests and activities have been in the following two areas of study: Identity, membership, perseverance, success and fictive kinships among minority high school students in science, and in science teacher recruitment, support, and retention, with a focus on teacher identity, motives, and teaching practices.
- Have taught a college physics class (spring 2007 and spring 2008) for inner city high school students as part of an early college now type of a program. Have collaborated with them in researching success and perseverance of minority students in science (i.e. see two presentations with Jones above) and continue to mentor and advise them past the class and into their early college years (now).
- Visited and studied at the Tiputini Biodiversity Station, Ecuador, January 2009 as part of an initiative from Boston University.
- Participate in weekly and monthly research meetings at the Graduate Center (CUNY) with doctoral students and other early career math and science educators; collaborate with doctoral students in their research in these two fields.

Memberships

American Association for the Advancement of Science
American Museum of Natural History
National Association for Research in Science Teaching
National Science Teachers Association
Wildlife Conservation Society