

W. Barry Roth  
Associate Professor of Practice  
The University of Arizona College of Education  
Department of Teaching Learning and Sociocultural Studies  
roth@email.arizona.edu

## Education

**Doctor of Education:** University of Arizona, 2002  
Major: Educational Leadership  
Minor: Teaching and Teacher Education

**Master of Education:** University of Arizona, 1989  
Major: Secondary Education with special emphasis on  
multicultural and gender equity issues

**Bachelor of Science in Education:** University of Arizona, 1976  
Major: Biology Minor: Chemistry/Physics

## Professional Experience

**Co-director Teach Arizona, 2004-present**  
**The University of Arizona**

Manage all aspects of a Master's Degree teacher certification program focusing on science, math, social studies, English and Spanish language content. Serve as Liaison between the program and local school districts. Coordinate field placements for interns/student teachers. Conduct clinical supervision and evaluation of student teachers. Co-direct all facets of program operation.

**Science Resource Teacher, 2000-2007**  
**Tucson Unified School District**

Review and recommend science curriculum to TUSD School Board. Assist Teachers, Principals, and Guidance Counselors with the implementation of science curriculum. Proactive liaison between K-12 and higher education, business and industry. Conduct community-wide, state and national educational outreach activities

**Adjunct Instructor Teaching and Teacher Education, 2000-2004**  
**University of Arizona**

Instructor for the science teaching methods course for the Teach for Tucson Teacher Preparation Program. Influential in the initial development and the continuing growth of this program.

**Title II Coordinator (2000-2003)**  
**Tucson Unified School District**

Coordinate *No Child Left Behind* Title II program for K-12 school district. Manage and submit accountability reports for a budget in excess of \$1 million

**Secondary Science Teacher, 1977-2000**  
**Tucson Unified School District**

Served as Classroom Instructor in General Science, Biology, Chemistry, Physics, and Advanced Placement Biology. Developed an innovative course titled Biochemical Research. Coached Jr. High Basketball and High School Swimming and Track. Served as class and club sponsor and as Science Department Chair.

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### National and Local Service and Educational Outreach

- The University of Arizona science methods instructor for SSTEMA Secondary Science Teaching with English Language and Literacy Acquisition: Partner instructor for NSF funded DRK-12 project to include English language acquisition and literacy strategies in science teacher preparation programs.
- The University of Arizona Co-Investigator for SAINT, Southern Arizona Inducting New Teachers: Co-principal investigator for US DOE funded Transition to Teaching grant recruiting, preparing and providing induction support for grade 7-12 mathematics teachers.
- The University of Arizona Co-Investigator for BioME, Biodiversity from Molecules to Ecosystems: Co-principal Investigator for NSF funded GK-12 grant partnering graduate student Fellows with K-12 teachers.
- Pima County Schools Math Science Partnership Consortium: Project manager for an Arizona Department of Education grant providing science professional development workshops to K-6 teachers.
- Hayden-Winkelman AZ School District Curriculum Consultant: Assist K-8 teachers and administrators in the development of an inquiry-based science curriculum.
- Arizona Department of Education Science AIMS Item Writing Committee: Write and review test items for the state science assessment.
- Arizona Science Educational Leaders Association: Past chair and founding member of a statewide organization of leaders in P-20 science education.
- Arizona Department of Education Science AIMS Item Specification Committee: Clarify performance objectives and specify content limits for science AIMS development.
- Arizona Department of Education Science Standards Articulation Committee: Revise the Arizona State Science Standards and articulate by grade level.
- Pima Community College: Developed curriculum for EDU 282, *Science Methods in the Secondary Classroom*, a six-module online teacher preparation course.
- American Museum of Natural History Seminars on Science: Consultant spearheading broad dissemination of online science content courses for teacher professional development.
- Leadership and Assistance for Science Education Reform (LASER) Strategic Planning Institute: Developed five-year strategic plan for K-8 science instruction in the Tucson Unified School District..
- National Science Foundation Information Technology Experience for Students and Teachers (ITEST) Grant Review Panel: Only secondary education specialist on this review panel.
- Bio Boot Camp: Co-developed and taught biotechnology and molecular genetics teacher institute funded by an Eisenhower Science and Mathematics Education Act grant.
- Inquiry Institute: Developed and taught leading-edge inquiry-based learning methods for K-16 educators. Secured funding for program from TUSD and NSF.
- Optics cluster workforce development planning: *Blueprint for the 21<sup>st</sup> Century* International Society of Optical Engineers and the Optical Society of America
- Arizona Teacher Proficiency Assessment Chemistry Content Committee
- Arizona Board of Education Professional Practices Advisory Committee
- Tucson Unified School District Instructional Leadership Team
- Arizona Educational Foundation A+ Schools Selection Committee
- Sahuaro High School Instructional Council Chairperson
- Tucson Unified School District Leadership Academy

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## Awards and Achievements

- AzTEC, Arizona Teacher Excellence Coalition
- GTE GIFT Fellow, GTE Foundation
- Innovations in Teaching Award, Intel Foundation/Intel Corporation
- Teacher of the Year Ambassador for Excellence, Arizona Educational Foundation
- Access Excellence Fellow, Genentech Corporation
- Outstanding Educator Award, University of Arizona College of Education Alumni Council
- High School Faculty Awards Program, Circle K Corporation/University of Arizona Wildcat Club
- Biochemistry Research Supplemental Grant Recipient, Research Corporation
- Partners in Science Research Grant Recipient, Research Corporation

## Publications and Presentations

*Bringing the Teacher Preparation Program Review Process into the 21<sup>st</sup> Century: Process, Product and Challenges*, Association of Teacher Educators, 2015

*Reading, Writing, and Talking Science: Preparing Secondary Science Teachers to use Next Generation Science Standards and Common Core State Standards in Linguistically Diverse Classrooms*, Association of Science Teacher Educators, 2015

*Preparing Secondary Science Teachers to Teach English Learners*, Arizona Science Teachers Association, 2014

*Promising Practice: Embedding Reflection in Professional Practice*, Association of Teacher Educators, 2013

*Preparing the Next Generation of Science Teachers in Arizona*, Arizona Science Teachers Association Convention, 2006

*The State of Science Education in Arizona*, Arizona Governor Napolitano's combined P-20 Council and Teacher Quality and Support Committee meeting, 2005

*Best Practices in Teacher/Scientist Partnerships*, Education and Training in Optics and Photonics Conference, 2003

*Inquiring Minds*. OE Magazine, October 2002

*The Effect of Principal's Leadership Style on School Council Members' Perceptions of Empowerment*. Doctoral Dissertation, University of Arizona, 2002

*Research Activities in High School Science Classes*, National Science Teachers Association Regional Convention, 2002

*DNA Fingerprinting in a High School Research-Based Science Course*. The American Biology Teacher. January 1997

*Learning Science by Doing Science: Doing Research in Your Classroom*, Arizona Science Teachers' Association State Conference

*Northern Hybridization Analysis of Euglena gracilis Mutant Strain Y9NA1L*, Research Corporation National Conference, 1993

*Euglena gracilis DNA Sequence Analysis*, Research Corporation National Conference, 1992