

MICHAEL HACKER

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PROFESSIONAL PREPARATION

DATES	DEGREE	INSTITUTION	LOCATION
2014	Ph.D., Science and Technology Education	Ben Gurion University	Beersheva, Israel
1985-92	Technology Studies Ph.D. Program	New York University	New York City
1970	Certification in School Administration and Supervision (SAS)	City College of New York	New York City
1968	M.S. in Education	City College of New York	New York City
1964	B.S. in Education	City College of New York	New York City
1959	Science and Mathematics Diploma	Stuyvesant High School	New York City

APPOINTMENTS

DATES	POSITION	INSTITUTION
1999-Present	Co-director, Center for STEM Research	Hofstra University, Hempstead, NY
1997-2002	Research Professor	State University of New York at Stony Brook, Stony Brook, NY
1984-1997	New York State Supervisor for Technology Education	The New York State Education Department, Albany, NY
1964-1984	Chairperson and Teacher, Department of Technology	Syosset CSD, Syosset, NY
1970-1978	Adjunct Faculty, Department of Technology Education	City College of New York, NYC, NY

PUBLICATIONS

Books and Book Chapters

- Barak, M., & Hacker, M., eds. (2011). *Fostering Human Development through Engineering and Technology Education*. Sense Publishers: Amsterdam, The Netherlands.
- Hacker, M., & Kiggens, J. (2011). Gaming to Learn. A Promising Approach Using Educational Games to Stimulate STEM Learning. In Barak, M. and Hacker, M., eds. *Fostering Human Development through Engineering and Technology Education*. Sense Publishers: Amsterdam, The Netherlands.
- Hacker, M. et al. *Engineering and Technology*. (2010). 731 pp. Delmar Cengage Learning: Clifton Park, NY.
- Hacker, M., & Burghardt, M. D. (2008). *Technology Education: Learning by Design*. 558 pp. Prentice Hall School Division: Upper Saddle River, NJ.
- McAlister, B., Tiala, S., & Hacker, M. (2008). Engineering Content and the Technology Education Curriculum. In *Engineering and Technology Education: 57th yearbook of the Council on Technology Teacher Education* (Custer and Erikson, eds.). Peoria, IL: Glencoe
- Gordon, A., Hacker, M., & de Vries, M., eds. (1993). *Advanced Educational Technology in Technology Education*. NATO ASI Series. Springer-Verlag: Heidelberg, Germany.
- Hacker, M. (1995). Implementation of Technology Education in New York State, in *Advanced Educational Technology: Research Issues* (Thomas T. Liao, ed.). Proceedings of the NATO Advanced Research Workshop.
- Hacker, M., & Barden, R. (1993). *Living with Technology*. 560 pp. Delmar Publishers, Inc.: Albany, NY
- Hacker, M., & Barden, R. (1992). *Technology in Your World*. 448 pp. Delmar Publishers, Inc.: Albany, NY.
- Hacker, M., Gordon, A., and de Vries, M., eds. (1991). *Integrating Advanced Technology into Technology Education*. NATO ASI Series. Springer-Verlag: Heidelberg, Germany.
- Hacker, M., and Barden, R. (1990). *Communications Technology*. 448 pp. Delmar Publishers, Inc.: Albany, NY.

Journal Articles and Papers (selected)

- Hacker, M., and Barak, M. (2014). Importance of Key Engineering and Technology Concepts and Skills for all High School Students: Comparing Perceptions of University Engineering Educators and High School Technology Teachers. PATT 29 Conference, Marseille, France. In press.
- Rossouw, A., Hacker, M., & de Vries, M. (2012, April). Concepts and Contexts in Engineering and Technology Education: An International and Interdisciplinary Delphi Study. *International Journal of Technology and Design Education*. 21(4):409-424. DOI: 10.1007/s10798-010-9129-1
- de Vries, M., Hacker, M., & Burghardt, M.D. (2010, November). Teaching Engineering and Technology: A Research Study to Identify Overarching Themes and Instructional Contexts in Engineering and Technology Education. *The Technology and Engineering Teacher*. ITEEA: Reston, VA.
- Burghardt, M. D., Hecht, D., Russo, M., Lauckhardt, J., & Hacker, M. (2010, Fall). A Study of Mathematics Infusion in Middle School Technology Education Classes. *Journal of Technology Education*. Vol. 22, No. 1,
- Hacker, M., & Burghardt, M. D. (2008, November). Addressing Issues Related to Technology and Engineering. *The Technology Teacher*. ITEA: Reston, VA.
- Hacker, M. (2008, October). *Technology Education Teacher Quality in the STEM Era*. Proceedings of the International Conference on Design and Technology Education Research. PATT/ORT Israel.

- Hacker, M., & Burghardt, M. D. (2002). Large-Scale Teacher Enhancement Projects Focusing on Technology Education. *Journal of Industrial Teacher Education*. Volume 39, Number 3.
- Hacker, M. (1994). A Model for Integrated Mathematics, Science, and Technology Education Staff Development, in *Technology Education in School and Industry* (Blandow and Dyrenfurth, eds.). NATO ARW.
- Hacker, M. (1993). Technology Education in New York State, in *Engineering Education: Renewing America's Technology* (L. Grayson, ed.). Frontiers in Education Conference Proceedings. IEEE: Piscataway, NJ.
- Hacker, M. (1993). Implementation Issues in Technology Education, in *Advanced Educational Technology in Technology Education* (Gordon, A., Hacker, M., and deVries, M., eds.). Proceedings of the NATO ASI.
- Hacker, M. Engineering Preparation. *Ties Magazine*. January-February 1992.
- Hacker, M. (1990, Jan). Leadership and Strategic Planning Techniques, *The Technology Teacher*. ITEA: Reston, VA.

SYNERGISTIC ACTIVITIES

As co-director of the Hofstra Center for STEM Education Research (CSR), Hacker has conceived, written, and administered 12 large-scale NSF projects to advance STEM literacy with a particular focus on STEM integration and engineering and technology education. As PI of the \$1.7M Engineering for All (EfA) Project, Hacker works with a team of STEM experts to develop a middle school program that promotes the potential of engineering as a social good. As PI of the \$2M ATEP Project, Hacker manages a project to develop media-enhanced curriculum to bridge high school and community college technical programs in manufacturing, bio/chemical technology, and information and communication technology. As PI of the \$3.2M SMTE project, Hacker directs a project using online gaming to contextualize STEM instruction. As PI/co-PI of nine prior large-scale NSF Projects, Hacker provided leadership to projects ranging in size from \$750K over three years to an \$11.5M project over a five-year period. These projects all focused on improving K-16 STEM teaching and learning.

As the former state supervisor for technology education at the NYSED, Hacker has had primary responsibility for conceptualizing, managing, and implementing NYS technology education reform. He led the development of the state-mandated middle school *Introduction to Technology* program, the NYS high school *Principles of Engineering* program, and a female engineer-mentored program for middle school girls. His responsibilities included curriculum and staff development, provision of technical assistance to universities and school districts, assessment development, facility design, and information dissemination. During the generation of the *New York State Learning Standards for Mathematics, Science and Technology*, Hacker managed the development of the technology standards, conducted ongoing discussions with national STEM leaders; synthesized input; convened and led writing and review teams; and developed performance-based assessments. As a member of the NSF-funded *Standards for Technological Literacy* development team, Hacker collaborated with national leaders in engineering and technology education to help develop the U.S. national standards for technological literacy (STL).

Selected Professional Activities and Honors

- National Science Foundation Panelist - Teacher Enhancement; IMD; ATE (1991-1993, 1998, 2000, 2001, 2004); ITEST (2006); MSP (2010); DR K-12 (2014).
- Distinguished Technology Educator (DTE) designation from the ITEEA, March, 2012
- International Technology Education Association Academy of Fellows (2004)
- Distinguished Service Citation, Epsilon Pi Tau National Honor Society (2001)
- National Standards for Technological Literacy Development Team Member and Writer, ITEA* (1996-2000)
- President's Award, New York State Technology Education Association (1997)
- Consultant to the American Association for the Advancement of Science (1996)
- Consultant to British Technology Enhancement Project (London, 1995)
- Award of Distinction, International Technology Education Association (1995)
- Outstanding State Supervisor Award, ITEA Council of Supervisors (1993)
- Member, National Conceptual Framework for Technology Education Task Force, ITEA* (1989-1991)
- IEEE Spectrum Pre-college Math/Science Education Award, Institute of Electrical and Electronic Engineers (1990)
- Outstanding Technology Educator Award, International Technology Education Association (1985)
- President, New York State Technology Education Association (1984-1985)

Projects Administered and Grants Received

- PI, *Engineering for All (EfA)*, NSF # 1316601, \$1.7M, 2013-2016
- PI, *Articulated Technological Education Pathways (ATEP)*, NSF # DUE-1104253, \$2M, 2011-2015
- PI, *Simulations and Modeling in Technology Education (SMTE)*, NSF # 0821965, \$3.2M, 2008-2013
- Co-PI, *Math Infusion into Science Project (MiSP)*, NSF # DUE-0927973, \$2.09M, 2009-2012
- Co-PI/PC, *Mathematics, Science, and Technology Education Project (MSTP)* NSF # 0314910, \$11.5M, 2003-2008
- Co-PI, *Project ESTEEM*, NSF # DUE-0703081, \$720K, 2007-2010
- Co-PI, *Core Curriculum for Technology (CCfT)*, NSF # DUE-0603403, \$750K, 2006-2009
- Co-PI, *New York State Professional Development Collaborative (NYSPDC)*, NSF # DUE-0302808, \$1.53M, 2003-2006
- Co-PI, *NYS Curriculum for Advanced Technological Education (NYSCATE)*, NSF # 0053269, \$1.5M, 2000-2003
- Co-PI, *Technology Modules on the World-Wide Web*, NSF # 9911569, 2000-2003
- Co-PI/PC, *Math, Science and Technology in the Elementary Schools (MSTe)*, NSF # ESI-9618962, \$4.2M, 1997-2002
- Co-PI, *New York State Technology Education Network (NYSTEN)*, NSF # ESI-9353514, \$1.6M, 1993-1996
- Director and Principal Investigator, NATO Advanced Research Workshops: Eindhoven, The Netherlands, *Integrating Advanced Technology into Technology Education*, \$40,000, 1990; The Czech and Slovak Republics, *Technology Education in School and Industry*, \$60,000, 1993; Salford, England, *Advanced Educational Technology in Technology Education*, \$60,000, 1992.

*Note: ITEA was renamed ITEEA in 2010