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EDUCATION

Ph.D., Mathematics Education, New York University, 1987

M.A., Mathematics, Courant Institute of Mathematical Sciences, New York University, 1975

B.A., Mathematics and Slavic Languages, Columbia University, 1969

ADMINISTRATION

Executive Director, Julia Robinson Mathematics Festival, 2016-present.

Director of Competitions, Mathematical Association of America, 2015-2016.

Director, Center for Mathematical Talent, Courant Institute of Mathematical Sciences, New York University, 2010 – 2015

Senior Scholar, John Templeton Foundation, 2005 - 2010

Project Director, National Science Foundation, Directorate for Education and Human Resources, Division of Elementary, Secondary, and Informal Education, 2002-2005

Board of Directors, National Council of Teachers of Mathematics, 2001-2004

Chief Guide, International Mathematical Olympiad, 2001

Director and Principal Investigator, ARML-Russian exchange program, 1991-95

Director, Research Science Institute, Center for Excellence in Education, McLean, Virginia, 1987; San Diego, California, 1990; Cambridge, Massachusetts, 1992-2000; Shanghai, China, 2006.

Computer Consultant/Coordinator, The Bronxville Schools, 1985-96

President, American Regions Mathematics League, 1989 -2001; New York City Interscholastic Mathematics League, 1978-1989; Coach of New York City Mathematics Team, 1976 - 86

Association of Teachers of Mathematics of New York City, Executive Board Member, 1979-1985

Member of Admissions Panel for Fiorello H. LaGuardia High School for the Performing Arts, New York, 1979-1986

TEACHER EDUCATION

Curriculum support services, grades K-12, computer education and mathematics, Bronxville School District, 1985-2002

Training courses for teachers (mathematics, computer science, methods) Lehman College, CUNY; Sarah Lawrence College, 1984-1998

Speaker at national and regional meetings for:

- National Council of Teachers of Mathematics,
- Mathematical Association of America
- Association of Teachers of Mathematics of New York State
- New York Association for Computers and Technologies in Education
- New York Academy of Sciences.
- Metropolitan Mathematics Club of Chicago
- South Dakota Mathematics Teachers' Association
- World Federation of National Mathematics Competitions
- American Association for the Advancement of Science

In-service courses for New York City Board of Education, 1976- 1980; for Bronxville School District, 1985 - 2002.

TEACHING

Teacher, Department of Mathematics, Bronx High School of Science, 1969-1985; Bronxville High School, 1985 - 2002

- Mathematics, grades 6 - 12, remedial through advanced placement
- Computer literacy, grades K - 9
- Computer science, grades 10 - 12; elementary through advanced placement
- History and Development of Mathematics
- Career and College Guidance

Adjunct Instructor, Lehman College, 1989 - 1998; Sarah Lawrence College, 1990-96, City College of New York, 1988-1998.

Instructor, Johns Hopkins Center for Talented Youth, 1986, COSMOS program, University of California at Davis, 2001.

Consultant in computer education, Hollingworth School for the Gifted, Teachers' College, Columbia University, 1984

RELATED EXPERIENCE

Consultant for teacher education, National Mathematics Centre, Abuja, Nigeria, 2013, MISE Foundation, Ghana, 2015.

Consultant, Girls in Science, Technology, Engineering and Mathematics (Internship program based at NYU) 2013-15.

Consultant, Saudi Research Science Institute, King Abdullah University of Science And Technology; Educational Experts (Riyadh) 2013-2014; Mawhiba (Riyadh), 2011-2014.

Co-Director, AAAS Olympiad Training Program, 2012.

Consultant, City Montessori School, Lucknow; Sarala Birla School, Bangalore, 2002 – 2006, Aditya Birla School, Mumbai, 2010 - present.

Consultant, Educational Development Corporation, Newton, MA, 1999-2000; 2005-2007

Consultant to Nine Nine Cultural and Educational Foundation, Taipei, Taiwan, 1998 – present, to African Research Science Institute, Gabarone, Botswana, 2001 -- 2003.

Member of authors' committee for *Educating Teachers of Science, Mathematics, and Technology: New Practices for the New Millennium*, (Washington, DC: National Academy Press, 2001.), 1998-2000.

Member, Mathematical Sciences Education Board (of National Research Council), 1997 – 2000; executive board member, 1998 – 2000; service on NRC committee on the education of mathematics and science teachers, 1998 - 2000; service on selection committee for US delegation to ICME-9, 1999.

Associate Editor for Education, *Notices of the American Mathematical Society*, 1996 - 2015

Chair, NCTM Student Services Committee, 1996 - 99

Editorial Panel, MAA New Mathematical Library, 1996 – 2002; MAA series on contest problems, 1999 – 2006.

Member of AMS Affiliated Research Group, advising NCTM on revisions of their *Standards*, 1995- 1999

Teacher Coordinator, Gelfand Outreach Program in Mathematics, Rutgers University, 1994- - 1998

Mathematics field editor, *Quantum*, (U.S.-Russian Journal of mathematics and physics, published by National Science Teachers' Association), 1991 - 2001

Editorial Board, *Mathematics and Informatics* (jointly published by Bulgarian Academy of Sciences and Science, Culture and Technology Publishers, Singapore), 1990 - 2002

U.S. delegate, Sixth International Congress on Mathematics Education, (ICME-6) Budapest, 1988; World Federation of National Mathematics Competitions, (WFNMC), Waterloo, Ontario, 1990; ICME-7, Quebec, 1992, WFNMC conference, Pravets, Bulgaria, 1994, ICME - 8, Seville, 1996; WFNMC conference, Chung Shan, China, 1998; ICME-9, Japan, 2000.

Advisory Board Member, Mathematics Education Reform Network, 1992-1996, *Mathematical Horizons* (student publication of Mathematical Association of America), 1992 -1998.

Consultant in computer graphics for 1984 Winter Olympics, American Broadcasting Corporation, 1983-84

Reader, computer science advanced placement test; Author-contributor of test items, Educational Testing Service, Princeton, New Jersey, 1980-88.

Mathematical Association of America Committee on High School Mathematics Contests, Panelist, 1983 - 1999

Judge of competitions for:

International Mathematical Olympiad (Coordinator), 1981, 2013, 2014, 2016
Massachusetts Mathematics League, 1980
St. John's University Science and Humanities Symposium, 1980-83
Central American and Caribbean Mathematical Olympiad, 2010, 2015
International Mathematical Olympiad, 1984, 2013, 2014, 2016

PROFESSIONAL HONORS, LISTINGS AND AWARDS:

New York State Mathematics Educators' Hall of Fame, 2016

Paul Erdos Award from World Federation of National Mathematics Competitions, 1998

Fellow, American Association for the Advancement of Science, 1997

Gabriella and Paul Rosenbaum Foundation Fellowship, 1995

Tandy Technical Scholar, 1994

Admiral Hyman L. Rickover Foundation Fellowship, 1985

Presidential Award for Excellence in the Teaching of Mathematics, National Science Foundation, 1984

Biography included in:

Marquis *Who's Who in America*, 2003 - present
Marquis *Who's Who in the East*, 1984
Marquis *Emerging Leaders of America*, 1987
Marquis *Who's Who in the South and Southwest* 1987
Marquis *Who's Who in the World*, 1988
Who's Who Among American Teachers, 1992
I Am A Teacher (Marquis and Sachs; Simon and Schuster, 1990).

Sigma Xi Recognition Award for Outstanding High School Science Teacher, Lehman College chapter of Sigma Xi, 1981

Certificates of Honor, Westinghouse Science Talent Search, National Science Service, 1980-83

PUBLICATIONS

“Why Do we Do Mathematics?” (film review of “A Brilliant Young Mind”), *Notices of the American Mathematical Society*, Vol. 63, No. 9, October, 2016, pp. 1050 - 1051.

In preparation: *Algebraic Inequalities: New Vistas* (with Titu Andreescu). A problem book connecting traditional curriculum with Olympiad-style contest problems. MSRI series on Math Circle, published by the AMS, to appear in Fall, 2016.

[Translation, with Dmitry Fuchs] V.I. Arnold, *Experimental Mathematics*. A co-publication of the AMS and the Mathematical Sciences Research Institute. Providence: American Mathematical Society, 2016.

[Translation, with Dmitry Fuchs] V.I. Arnold, *Lectures and Problems: A Gift to Young Mathematicians*. A co-publication of the AMS and the Mathematical Sciences Research Institute. Providence: American Mathematical Society, 2016.

[With S. Zelbo]: *Camp Logic: A week of logic games and activities for young people*. Cary, N.C: Delta Stream Media, 2014.

“The Chinese Hedgehog and the American Fox,” in *Notices of the American Mathematical Society*, Vol. 61, No. 5, May 2014, pp. 504-508.

"Gelfand at 92" (In Memoriam, I. M. Gelfand) in *Notices of the American Mathematical Society*, Vol. 60, No. 2, February 2013, pp. 169-171.

“Culture, Community, and Creativity,” in *Building Mathematical and Scientific Talent in the BMENA Region*. Washington, DC: AAAS, 2011, pp. 49-59.

Notices of the American Mathematical Society, special issue on education (editor), Vol. 58, No. 3, March, 2011.

“More Than A System: What We Can Learn from the International Mathematical Olympiad” in *AMS Notices*, Vol. 58, No. 3, March, 2011, pp. 410-416.

“Russian Traditions in Mathematics Education and Russian Mathematical Contests” (with D. Fomin), in *Russian Mathematics Education: History and World Significance*. Edited by: Alexander Karp and Bruce R Vogeli. Singapore: World Scientific, 2010.

The Peak in the Middle: Working with Mathematically Gifted Middle School Students. Reston, VA: NCTM, 2010.

Hadamard: Elementary Geometry. Solutions and Notes to Supplementary Problems. Providence: American Mathematical Society, 2012. Published on the web at <http://www.ams.org/publications/authors/books/postpub/mbk-70-Hadamard-supp-problems.pdf>

Hadamard's Plane Geometry: A Reader's Companion. Providence: American Mathematical Society, 2010.

[Translation of] Hadamard, Jacques. *Lessons in Geometry, Vol I: Plane Geometry*. Providence: American Mathematical Society, 2008

“Russian Traditions in Mathematics Education and Russian Mathematical Contests” (with Dmitri Fomin), in *Russian Mathematics Education: History and World Significance*, Alexander Karp and Bruce R. Vogeli, eds., Singapore: World Scientific Publishing Company, 2010.

“Anecdotes and Assertions about Creativity in the Working Mathematics Classroom” (with Mark Applebaum, in Leikin, R., Berman, A., & Koichu, B., *Creativity in Mathematics and the Education of Gifted Students*. Rotterdam: Sense Publications, 2009.

“Mathematical Creativity and Giftedness in Secondary School”, with Mark Applebaum, in Leikin, R., editor. *Proceedings of the 5th International Conference on Creativity in Mathematics and the Education of Gifted Students (2008)*. Tel Aviv: Center for Educational Technology, 2008.

“Algebra: The Mathematics and the Pedagogy”, in *Algebra and Algebraic Thinking*, 70th Yearbook of the National Council of Teachers of Mathematics, Reston, VA: 2008; Reprinted also in *Integral, A Journal of Natural, Applied, and Pure Science*, Vol. 9, No. 7, October 2006: Yerevan, Armenia.

“Mathematics in a Small Place: Notes on the Mathematics of Romania and Bulgaria”, in *AMS Notices*, May, 2003

“It All Fits Together: Notes on a Visit to Japan”, in *AMS Notices*, December, 2001.

Trigonometry [with Israel Moiseyevitch Gelfand], Boston: Birkhauser Publications, 2001.

"In Praise of the Bull Session," editorial column in *AMS Notices*, May, 2001.

“Algebra: What Are We Teaching?” in *The Roles of Representation in School Mathematics*, 2001 Yearbook, National Council of Teachers of Mathematics, Reston, VA: 2001.

"A Distant Mirror: Mathematics and Education in South Africa", in *AMS Notices*, April, 2001.

"Reifying the Research: Mathematics Education in Taiwan", in *AMS Notices*, March, 2000.

"Kerosinka: An Episode in the History of Soviet Mathematics" in *AMS Notices*, November 1999, pp. 1217-1220.

"A Community of Scholars: Supporting High-Ability Students in the High School Classroom," in *Developing Mathematical Talent*. Reston, VA: NCTM, 1998.

Gradus ad Parnassum, bi-monthly column in *Quantum* on learning about problem solving (with Titu Andreescu), Washington, D.C.: National Science Teachers' Association, 1989-1999.

"Collaboration and Respect," Editorial Column for *AMS Notices*, June 1998 (with Warren Page).

Review of *Good Will Hunting*, *AMS Notices*, April 1998. reprinted in Emmer, Michele, and Manaresi, Mirella (eds.), *Mathematics, Art, Technology, and Cinema* (page 166), 2003: Berlin, Heidelberg, New York, Springer; published in Italian in *Matematica, Arte, Tecnologia, Cinema*, (page 214). 2002: Springer, Milano.

[translator of]: Fomin, Dmitri, Sergey Genkin, and Ilia Itenberg, *Mathematical Circles (Russian Experience)*, Providence, Rhode Island: American Mathematical Society, 1996.

"The Nourishment is Palatable: Which Research Helps Teachers?" in *Journal of Mathematical Behavior*, September, 1995.

"Upstairs, Downstairs: The Mathematician and Pre-College Education," in *Notices of the American Mathematical Society*, September 1995.

Review of *Arcadia* (A play by Tom Stoppard), *Focus*, August 1995.

Review of *Exploring Mathematics With Your Computer* (Arthur Engle. Mathematical Association of America, Washington, DC, 1993, in *The College Mathematics Journal*, Vol. 25, No. 2, March 1994.

"Why Contests?" Editorial in *Mathematics and Informatics*, Vol. 3, No. 2, May, 1993.

"Unity and Diversity," Editorial in *Mathematics and Informatics*, Vol. 2, No. 4, November 1992.

"Jewels in the Crown: The Beauty of Inductive Reasoning". *Quantum*, Vol. 2, No. 6, July/August 1992.

"Tartu in the Summer of 1991," *Quantum*, Vol. 2, No. 4, March/April 1992.

"Mathematics and Culture," Editorial in *Mathematics and Informatics*, Vol. 1, No. 3, December 1991.

"The American Regions Mathematics League," *Quantum*, Vol. 1, No. 2, May 1990.

"Problems Plain and Fancy," *Mathematics Competitions*, Vol. 5, No. 1, June 1992.

"Love Among the Ruins: The Education of High-Ability Mathematics Students in the USSR," *Focus*, Vol. 12, No. 1, February, 1992.

Remember to Read the Question: A Thinking Student's Guide to the SAT Examinations, Dubuque, Iowa: Kendall-Hunt Publishing, 1992 [with Collymore, Morrison, and Paul]

"Exploring, Learning, Sharing: Vignettes From A Working Elementary Classroom," *The Arithmetic Teacher*, November, 1991 [with A. Akaishi]

"What Are We Teaching: Soul Searching and Mathematics," *The Teacher's Journal*, Vol. III, 1990.

"Seven Ways to Find the Area of a Trapezoid", *Mathematics Teacher*, Vol. 84, No. 4, April 1990 [with L. Peterson]

"Mathematical Contests and Gifted Students", in *American Perspectives on the Sixth International Congress on Mathematical Education*, T. Cooney (ed.), National Council of Teachers of Mathematics, 1989.

"The Pre-Socratic Method: Towards a New Style of Teaching", *Curriculum Review*, Vol. 28 No. 2, October 1988.

"Stretching the Software--Stretching Their Minds", *Journal of the New York State Association for Computers and Technology in Education*, Vol. III, 1988.

"Education of the Gifted" in Campbell, Paul J. and Grinstein, Louise S., (eds.), *Mathematics Education*, New York: Garland Press, 1988

"A District-Wide Program of Computer Instruction in Development", *Journal of the New York State Association for Computers and Technology in Education*, Vol. II, 1987.

The New York City Problem Book: Problems and Solutions from the New York City Interscholastic Mathematics League. Palo Alto, California: Dale Seymour Publications, 1986 [with G. Kessler, S. Krilov, and L. Zimmerman]

"Enrichment Problems: A Mathematical *Gradus ad Parnassum*", in *Leadership Manual for High School Mathematics Supervisors*, New York City Public Schools, 1982

"USSR Olympiad, 1974", translation from the Russian, in *Crux Mathematicorum*, Vol. 6, No. 9,
Nov. 1980