

## Brief survey of education and outreach activities

**Moscow School No 2.** In 1978-80 I worked as a full-time teacher of mathematics in the (legendary) Moscow Special High School No 2 for physics and mathematics. I was fortunate to teach a number of prominent budding mathematicians. Here is a non-complete list with current affiliation, area of research, and notable distinctions:

L. Polterovich (University of Chicago, symplectic topology; 1996 European Mathematical Society Prize), M. Bialy (Tel Aviv University, Hamiltonian dynamics), M. Sevryuk (Russian Academy of Sciences, KAM theory), L. Rozansky (University of North Carolina, low-dimensional topology), A. Razborov (University of Chicago, theoretical computer science, 1990 Nevanlinna Prize).

**Monthly radio show.** In 1981-83 I was a scriptwriter for a monthly mathematical radio show that was broadcasted across the country by the Moscow Radio Station.

**Gelfand's School.** Gelfand Mathematical School by Correspondence at Moscow State University was a major educational project involving yearly about 10,000 high school students from across the country. My obligations included regular lectures to the Moscow State University students employed as TAs at the School. During my tenure I have given dozens of on-site lectures to high school mathematics teachers and students across the country and participated in organizing mathematical olympiads, festivals and workshops. In 1980s, I wrote a textbook "Polynomials" for the School; it is still in use there. I also authored and co-authored dozens of brochures prepared for the school.

**Kvant magazine.** "Kvant" magazine was initiated in 1970 by a group of prominent Russian mathematicians and physicists (A. Kolmogorov was its deputy editor-in-chief). This magazine, with the circulation of 200,000–350,000, was intended mostly for high-school students, but also for college students, as well as high-school teachers. In 1988-90 I was the Head of the Mathematical Department of "Kvant". I published many articles in the magazine; some are translated into English and Japanese. Our book with D. Fuchs, "Mathematical Omnibus", is partially based on our articles in "Kvant".

**MASS program.** MASS (Mathematics Advanced Study Semesters) program at Penn State is a semester-long NSF supported immersive experience for advanced undergraduate students from across the USA. I have been serving as the MASS Director since 2000. MASS has been a springboard to graduate programs to about 200 hundred students; by now, dozens of MASS alumni have doctoral degrees in mathematics and have positions at various universities. I have also taught and supervised student research in Penn State summer REU program.

**Math Clubs and Math Circles.** I have been participating in organizing and running mathematical clubs and mathematical circles for school students of various ages: Saturday Math Club, with J. Duncan, Fayetteville, AR, 1990–93; Park Forest Middle School, 2002; Radio Park Elementary School, State College, PA, 2003–05; Primrose Hill Elementary School, Barrington, RI, 2010; State College High School, GEM (Guided Explorations in Mathematics) Seminar, with M. Levi, starting in 2010 and expanding to Park Forest and Mount Nittany Middle Schools in 2011. In 2001-02 I was an invited lecturer at Canada/USA Binational Mathematical Summer Program.

**International mathematical summer school.** In 2011, we organized International Mathematical Summer School for Students at Jacobs University at Bremen. The school will take place every summer and alternate between Germany and France; in summer of 2012, it will be at Ecole Normale de Lyon. The school was attended by some 100 students from about 30 countries. I am a member of the Scientific and the Organizing Committees, and I was also a lecturer in 2011.

**American Mathematical Monthly.** Since 2001, I have been an associate editor of the American Mathematical Monthly; since 2011, I am the Notes Editor. AMM probably has the largest readership of mathematical journals and magazines of the world; it receives about a thousand submissions a year.