



ANATOLE KATOK

On April 30, 2018, an outstanding mathematician, a member of the Editorial Board of our journal, a friend of the Independent University of Moscow, creator of a brilliant school in dynamical systems, Raymond N. Shibley Professor of Mathematics at Penn State University, director of Center for Dynamics and Geometry, Anatole Katok passed away.

His mathematical talent was seen from his student years. Being a graduate school student he created, together with A. Stepin, the theory of periodic approximation of Dynamical Systems. This work was awarded by the Prize for Young Mathematicians of the Moscow Mathematical Society in 1967. At this time Katok became a close collaborator and a good friend of Dmitry Anosov, one of the authors of the “Hyperbolic Revolution” in dynamical systems. Together they invented the so called “Anosov–Katok method” of construction of ergodic dynamical systems on arbitrary manifolds. Since then Katok became a giant in the theory of dynamical systems. To mention a few of his key achievements, name the Hermann–Katok theorem about minimal diffeomorphisms of the circle, progress in the entropy theory, rigidity of smooth dynamical systems. He predicted the “Fubini nightmare”, which was later discovered by Shub and Wilkinson as a property of partially hyperbolic dynamical systems. Katok’s construction was presented by Milnor in the paper “Fubini foiled: Katok’s paradoxical example in measure theory”, *Mathematical Intelligencer*, 1997. Katok was an invited speaker of the ICM-1983. In 2004 he became a member of the Academy of Arts and Sciences.

Anatole was an enthusiastic teacher. Being a freshman, he started to teach in a circle for high school students, and continued to teach during all his life. As a senior student he taught in the famous High School 2, in the team supervised by E. Dynkin, and was one of the key figures in the team. As a graduate student he began to supervise, together with D. Anosov, the research of Brin and Pesin, who initiated the theory of partial hyperbolicity. But his full capacity as a teacher was realized in the US, where he moved together with his family in 1978. The total number of his PhD students is 42.

Katok is an author of several books; the most celebrated one is "Introduction to the Modern Theory of Dynamical Systems" written with his student Boris Hasselblatt, which is a true Bible of dynamical systems. He made special efforts to lower the price of the book to make it affordable to a broad audience. He was one of the creators and Editor-in-Chief of the Journal of Modern Dynamics, and a member of editorial boards of other prestigious publications.

Katok was an enthusiastic friend of the Independent University of Moscow. He gave three crash courses in dynamical systems in 2000, 2001, 2002. These courses were landmarks in the life of the IUM.

Anatole was a person of a great talent; during all his life he generously shared his knowledge with the community. His influence will be felt for long.