

Roberto Fernandez

*NYU-ECNU Institute of Mathematical Sciences at NYU Shanghai
Shanghai New York University
rf87@nyu.edu*

In Memoriam Vladas Sidoravicius (1963–2019)

Celebrating science as an adventure

On 23 May 2019 Vladas Sidoravicius passed away unexpectedly in Shanghai. He was 55 years old. Sidoravicius was Professor of Mathematics and Deputy Director of the Mathematical Institute of the Shanghai New York University. From 2007 to 2011 Sidoravicius held a research position at Centrum Wiskunde & Informatica and a visiting professorship at Leiden University. His friend and colleague Roberto Fernandez looks back on his life and career.

Professor Vladas Sidoravicius's untimely death deprived us of a singular scientist and friend whose intense and restless life fertilized contemporary probability theory and left a mark on institutions in three continents.

After completing a Master in Mathematics at Vilnius University, Vladas obtained his PhD in Mathematics from Moscow University under the direction of Vadim Malyshev (1990), who is an important contributor to modern mathematical statistical mechanics. Immediately after graduation Vladas started his itinerant life with post-doc positions at Heidelberg (1991) and Paris Dauphine (1992–1993). In 1993 he came to the Instituto de Matematica Pura e Aplicada (IMPA) in Rio de Janeiro, Brazil, which became his base of operations for most of his scientific life. But his more frequent location was the road. Vladas was a tireless traveler. His many collaborative projects were built on his personal visits to his collaborators for intensive sessions of friendly and decontracted brainstorming.

The Dutch period

Vladas' career became associated to Dutch mathematics in a number of ways. He had a long-lasting scientific collaboration with Harry Kesten, stretching from 1997 un-



Vladas Sidoravicius

til Kesten's death in 2019, that resulted in twelve joint papers, including the celebrated 'A shape theorem for the spread of an infection', published in the *Annals of Mathematics* in 2008. Other important Dutch collaborators were Rob van der Berg (CWI) with whom he worked on random spatial growth, and Frank den Hollander with whom he wrote two papers on random walks in random environments. His gravitation towards Dutch mathematics consolidated into a research position at CWI, together with a visiting professorship at Leiden University, which he held from 2007 to 2011. During this period, Vladas was active on several fronts. Besides his scientific production, he gave courses and seminars at CWI and Leiden, attracted a large number of high-level visitors and acted as consultant for appointments and recruitment of PhD students. He also co-organized a number of conferences and workshops, mostly at Eurandom where he was a member of the Scientific Council and Senior Fellow. These included 'Dynamic Random Environment' (2009) and 'Combinatorics and Analysis in Spatial Probability' (2010), with support from the European Science Foundation.

Vladas' Dutch period was a boost for our probability community. Remco van Hofstad recalls that "he was there with his usual enthusiasm, energy, and chaos as well. I

really appreciated that." Rob van den Berg, points out that "he usually brought visitors and a lot of activity and enthusiasm with him. This was very stimulating and useful!" Frank den Hollander, remembering the joint papers with Vladas involving visitors and a Leiden PhD student, speaks of "wonderful discussions, wonderful times". For me, as one of the organizers of Marc Kac seminars — a monthly seminar bringing together researchers and students in probability and physics throughout The Netherlands — it was always a joy to have Vladas either as speaker or in the audience. His departure from CWI was very much regretted, but it certainly did not conspire against his engagement with local activities, or his respect for the 'Dutch model'. When I visited him in Shanghai — where in 2015 he was appointed NYU Global Network Professor — he told me that his cherished projects were to reproduce in China the tradition of the Marc Kac seminars, and to build the 'Eurandom of Asia'.

Lithuanian roots

Throughout his international career, Vladas always remained in contact with his Lithuanian roots, both personal and professional. He visited often his mother, Galina Sidoraviciene, who survives him, and these visits were combined with talks and conferences. He also helped to organize sessions of different editions of the Vilnius Conference on Probability and Mathematical Statistics. In particular, the session on percolation organized by Vladas in the 2006 edition was well appreciated by specialists of the area, in particular by the several young Brazilian researchers that attended. More recently, he was a member of the Program Committee of the 2018 edition, which was held jointly with the 2018 IMS Annual Meeting on Probability and Statistics.

His main Lithuanian coauthor was Donatas Surgailis who was also his mentor. In his words: "Vladas' mathematical mind and thinking was very unusual. He seemed not very interested in classical probability and calculus but showed great imagination and 'geometric visualization' of random evolution. I told him about the 'new probability' related to statistical physics which I learned from my Moscow contacts (Dobrushin, Bleher) and proposed Vladas to go to Moscow for his PhD studies. I also contacted Vadim Malyshev who agreed to supervise Vladas' thesis. All this happened

when we were part of the Soviet Union and at that time Moscow certainly was the best place to start a mathematical career. Here, Vladas wrote his dissertation on stochastic equations in Grassmann algebras which he defended in 1990." Surgailis was, in fact, one of Vladas last visitors to NYU Shanghai. He left Shanghai on May 13, with Vladas' promise to visit him in a few weeks. Vladas passed away ten days later.

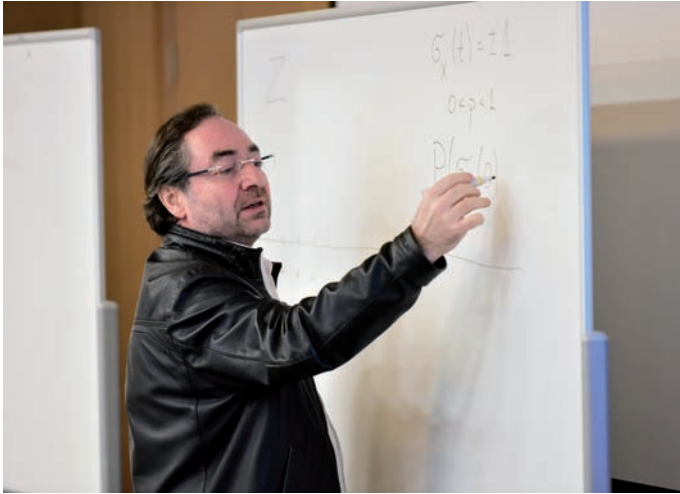
Legacy

Vladas' scientific legacy has a number of layers. A first, perhaps more visible layer is formed by his impressive list of publications involving close to 100 papers and more than 70 coauthors, among whom one finds the most conspicuous names of contemporary probability theory, including Fields medalist Wendelin Werner. He was one of the driving forces of a generation of researchers that brought to maturity the mathematical theory of random walks and percolative phenomena, and with it brought depth, precision and scope to stochastic modeling. A second layer is his inspirational role to his students and young colleagues. Through courses, talks and a generous use of his time and ideas, he helped attract many young minds to the theory of stochastic processes and probabilistic modeling. This role of Vladas was instrumental, for instance, for the establishment of a probability group at the University of Minas Gerais, which now counts four of his former students. He belonged to a surprisingly small group of scientists that transformed Brazilian mathematics into a major actor in the probability scene and a seedbed of bright PhD students and young researchers that were welcome in major institutions throughout the world.

A third layer is his action as catalyzer of ideas and scientific projects. He organized several remarkable scientific meetings, which in turn gave rise to many successful collaborations. A chief example is the heading of the steering committee of the XV International Congress on Mathematical Physics which took place in Rio de Janeiro in 2006 and brought most of the top theoretical and mathematical physicists to an amazed audience of South American young scientists and students. Vladas was also among the initiators, and a frequent organizer, of the Brazilian School of Probability, an annual meeting which has transformed a few secluded hotels into contenders for



Vladas Sidoravicius and Harry Kesten



Vldas Sidoravicius lecturing at NYU-Shanghai



the beach resort with the highest production of theorems.

Another example is recalled by Frank den Hollander: “The 2010 Clay Mathematics Institute summer school in Buzios, Brazil, remains for me one of the most memorable scientific events I took part in, because of its sheer scope and depth, and the incredible organization Vldas put into it. The blackboard Vldas had specially made by a carpenter was ten meters long. A mathematician’s dream.”

Vldas courses and talks were also a source of ideas and projects, as Rob van den Berg remembers: “In the fall of 2009 Vldas gave a very nice and inspiring series of lectures on first-passage percolation at CWI. This triggered work (which led to a paper) by Demeter Kiss and myself.”

But above all, it was Vldas human attributes that made him a singular presence within the competitive and sometimes merciless academic world. The words of Frank den Hollander are particularly expressive: “Vldas had a great sense of humour. We laughed a lot, about funny incidents and joyful events, all over the world. Vldas had a great heart and a small ego. He loved conversation. He could be critical about mathematical work, but never put down anyone. For him mathematics was a quintessential human enterprise. He had a sharp nose for talent. He commanded respect both scientifically and personally. Vldas gave his heart and soul to mathematics. He was generous and uplifting. He did not take enough care of himself in later years. Instead, he took care of others. He made you feel welcome, comfortable and safe.”

Shanghai New York University

In 2015 Vldas came to the recently formed Shanghai New York University, as Deputy Director of the Mathematical Institute. There he showed yet another layer of his legacy: vision and leadership. In just a couple of years he helped to build a top-level institute with an impressive lineup of visitors and a frantic scientific activity. A particular highlight was his semester on mathematical physics supported by the Chinese Science Foundation, which week after week brought very distinguished scholars to NYU-SH.

Vldas was a singularity in our scientific community. He was a man of two centuries who embodied the transition across the change of millennium in a sense deeper than just chronology. As a twentieth century scientist, he was a product of the founding fathers of mathematical statistical mechanics. As such, he contributed to the coming of age of this branch of mathematical physics and, furthermore, to its merging with probability theory. This was a remarkable accomplishment that put the former on a rigorous basis and enriched the latter with a wealth of new topics and mathematical techniques. At the same time he was quick to embrace the new scientific spirit of the twenty-first century, in which low travel costs and the globalization of efforts and problems made geographical location subordinated to scientific undertakings. In this sense, NYU Shanghai, as a truly twenty-first century institution, offered him the ideal setting to turn over all the experience gathered in his restless scientific pursuits. He helped build an institute as singular as himself.

A dear friend

On a personal note, Vldas was a dear friend and a travel companion on the roads of science and academic life. We got very close during my three years as visiting scholar at the University of São Paulo in the middle of the nineties. At that time, Vldas was already an established presence at the prestigious IMPA in Rio de Janeiro. In our long talks facing the forest and watching monkeys and parrots, we consolidated a lasting personal and scientific friendship that we kept throughout the years, despite our respective itinerant scientific lives. After I left Brazil, we kept in close contact. He visited me for one semester at the University of Rouen, during my tenure as a professor there. He took his CWI position the same year I was appointed professor at Utrecht University. Finally, when mandatory retirement ended my Utrecht period, it was his enthusiasm and conviction that brought me to NYU Shanghai. There I saw Vldas developing his full potential as a top researcher and academician with a wide web of scientific connections and collaborations.

After so many scientific peregrinations, Vldas suddenly embarked on his ultimate migration. Besides the sadness, his untimely departure leaves us with the immense challenge of living up to his legacy. There are projects to complete, events to organize, a vision to preserve and enrich. But above all we must keep alive his celebration of science as an adventure, and of scientific collaboration as a festive occasion in which ideas flow while we enjoy the simple happiness of sharing curiosity and thirst for understanding. Farewell, dear Vldas. ☼