

OBITUARY

MAX NALSKY AND MICHAEL OSTROVSKY

We met Misha in the early 1990s while studying at the Mathematical School #57 in Moscow. From the start, it was clear that Misha had a promising scientific career in front of him: he easily won several prizes in Math Olympiads and quickly established a great rapport with teachers and class advisors who treated him as an equal. In part, this was due to Misha's extraordinary mind. Even as a teenager, Misha already had an amazing ability to solve the most difficult math problems. He impressed us as a formidable competitor when it came to intellectual games and puzzles. We also came to admire the depth of his knowledge on many intellectual topics. But perhaps as remarkable were Misha's unique drive, commitment to learning, and capacity to focus on whatever seemed most important to him at the moment. At the same time, Misha was often charmingly disorganized and absent-minded when it came to matters he deemed less important. And these different sides of Misha could surface in all kinds of circumstances.

Once, at a weekend camping trip, among autumn trees, tents, campfires, and barbeque, while everyone else was resting and having a good time, Misha was discovered sitting under a red maple tree, editing the slides for his upcoming presentation for a conference. On another occasion, classmates and friends gathered in Prague for a reunion several years after graduation. Again, everyone came to relax, wonder around the city, admire the sights, and enjoy some Czech beer. But Misha was not content with such a light program. At one point, he said that he needed to leave for a while and (after some persistent questioning) admitted that he urgently needed to finish a paper. He always carried papers, notes, and drafts with him, even when he went skiing in Maine or in the backcountry of the Yaroslavl region.

Misha was also someone who could forget to change the time on his watch upon flying from the US back to Moscow, and thus

come to a meeting at a wrong time. Once, during a get-together with friends, he suddenly remembered that he needed to be at the university in one hour for his senior thesis defense — which was now impossible to make on time. Another time, he accepted a last-minute invitation from his friends to celebrate the New Year at a remote country house, but miscalculated the travel time. They ended up greeting the New Year in quite an unconventional way — in the middle of an open field, next to a tiny fir tree, knee-deep in snow, in a windstorm and -30 degrees C. But nobody was cold — for there were seven people traveling in Misha's small car.

As a college student in the late 1990s, Misha was actively involved in teaching “beyond-school” mathematics in Moscow's specialized math schools. Because he himself learned a lot from college students while in high school, he was keen to pay tribute to this tradition of Moscow math education. He was a favorite grader of problem sets among his high school students, because presenting the key idea for a solution was enough to pass the problem; one did not have to work out tedious technical details. With an advisor like that, learning math could be pure joy. Misha, like many other advisors, was also a good friend to his students; they often saw him as a peer. As the students grew up, the friendship grew stronger, and after they graduated from high school, a group of friends formed with Misha as the leader and one of the most active participants. The group went on camping or sightseeing trips together or just gathered to chat about life and play the guitar.

Misha went on many camping expeditions both in Russia and in the US — hiking, mountain climbing, and kayaking. His apartment was always scattered with bright, colorful kayaks, backpacks, and all kinds of camping gear. But even though Misha was quite an expert camper and hiker, he never bothered to pack an organized backpack. He did not want to waste his time on such “nonsense” as packing, and was willing to courageously carry his clumsy, uncomfortable load instead. The one rule of packing that he followed was never leaving his guitar at home.

Misha's guitar playing deserves a special mention. In his childhood years he learned to play the flute at a music school. He was very good at it, though, tall as he was, he looked a bit funny when

he played it. However, the flute did not give him the opportunity to fully express himself—he could not sing while playing it. So Misha started playing the guitar. It soon became clear that it was “his thing” and he took it up with the same passion, fervor, and vigor that went into all the other things that were important to him. Misha’s guitar playing had an infectious energy to it, no matter what he played: blues, rock-n-roll, or anything else. Misha and the guitar became a single being, and this being would immediately become the center and life of the party. There is probably nobody else with whom Misha’s friends associated so many songs: “Colorado”, “The Tanks Song”, almost all the songs by poet and songwriter Scherbakov (one time Misha sang 60 Scherbakov songs in a row!), and many others. For his friends, these songs are permanently connected with Misha, and now that he is gone, they are gone too: they just do not sound right when somebody else sings them.

Misha’s scientific activity was purely abstract and theoretical, in such fields as logic and theoretical computer science. However, Misha also had significant practical skills in computer programming, which he had acquired during his high school years, and he applied these skills successfully while he was in college. During his freshman year, Misha developed a software product called Universal Configurable Database (UCDB) for a Moscow company. Misha spent about three months on it, and the client initially viewed the result of his work as a proof-of-concept, not as a serious product that could be used in production. But this turned out to be completely wrong. After a certain period of getting used to the product (or, rather, of brain-twisting and changing their way of thinking about it), the company found that the software elegantly solved the problems it needed to solve and was very easy and convenient to use. As it happens, the long conversations that Misha’s colleagues had about the software functionality were not only heard and taken into account by Misha, but also transformed into a rather serious instrument designed for fast software development.

In programming terms, Misha’s UCDB was an in-memory database, and it turned out to be an uncommonly mature and stable tool compared to others in the same category. The further fate

of this software is rather curious: it was included in the basic set of software tools used to build the first version of Yandex, the dominant search engine in Russia. Formally, Misha had nothing to do with this use of his software, and it happened almost by chance: his colleagues started using the product, liked it, and recommended it to their friends. Of course, UCDB was not an ideal tool, and various complaints arose during its use. Nevertheless, it remained a part of the company's "basic tools package" for about a decade. It is remarkable that a college student, working alone for just three months, was able to create such a product while other available software tools in this field had decades of labor invested in them. Even the fact that it was possible to use the software without contacting its author is a quite rare occurrence in computer programming.

After graduating from Moscow State University in 2000, Misha came to the US. Before joining UC San Diego as an Assistant Professor, he spent a total of three years as a postdoc at Princeton's Institute for Advanced Study and completed his PhD at MIT in two years. It is a common belief that only extremely motivated and hard-working students make it at MIT. While this belief is, of course, not always true, Misha surely possessed both of these qualities. Often after dinner Misha would go up to his study, making some light excuse like he was going to surf the Web or play a computer game. But everyone knew that he was really going to work on some hypothesis or proof. Around the same time, he had his first publications in prestigious journals, about which he spoke with unmasked and sincere joy and pride.

Since Misha started making his home on two continents, his interactions with Moscow friends became less frequent. But every time he came back to Russia, his social life would immediately become a whirlwind: on the day of his arrival, he would call friends and invite them over, and the party would usually go on until the morning (much to his neighbors' displeasure). And every reunion with Misha, even after a very long break, made it seem like the previous encounter took place only the day before. We all knew that even if Misha was far away, we could call him any day, any time, and he would be there for us. He was always ready to help,

even when nobody was expecting him to, and he could always support a friend in a difficult situation. Misha never concealed his emotions or worries: he was always sincere. He was a very likable person: warm, open-hearted, willing to help in any situation. He was never angry or mean; he always remained cheerful, charming, and good-natured. Misha always tried to expand the boundaries of the possible. He was free, with the freedom that does not notice any traditional boundaries and the usual limits of life.

It is such a great loss that Misha is not with us today. We miss his clear head and kind heart.

This is how we remember him.

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