It is with great sadness that we announce the loss of Distinguished Professor Victor Isakov of the Department of Mathematics, Statistics, and Physics, who passed away Friday, May 14, 2021 at the age of 73 after a battle with cancer.

In 1988, Professor Isakov joined Wichita State University as a Professor of Mathematics specializing in Partial Differential Equations and Inverse Problems. In 2000, he went on to become the Emylou Keith and Betty Dutcher Faculty of Distinction Endowed Professor due to his outstanding contributions to research in the area of inverse problems. Professor Isakov was recognized as a world-class authority in inverse problems, and he produced many original and breakthrough results for linear and nonlinear inverse boundary value problems. He authored 140 papers in mathematical journals and three books in the subjects of inverse problems and mathematical physics. He also organized several conferences around the world and advised many graduate students. His research has continuously been supported by NSF since 1990. His passing is a huge loss to both the Wichita State University and the inverse problem community.
Professor Isakov was an accomplished and dedicated mathematician who provided many years of distinguished service to the department, the university, and the mathematical community. He was well liked by students, faculty, and researchers around the world. We shall miss him greatly.
Victor Isakov, short autobiography

I was born on November 4, 1947 in the city of Stalinsk, Siberia, renamed to Novokuznetsk after Stalin’s death in 1953. In 1955-1966 I attended an (elementary, middle, and high) school, graduating with a distinction (Gold Medal). Simultaneously, in 1956-63 I studied piano playing at a special School of Music.

In 1966-71 I was a student at the Department of Mathematics and Mechanics of the (newly opened) Novosibirsk State University, getting a Master’s degree, again with distinction, in Mathematics. This University is located in a world known scientific research center, in Akademgorodok, and students can join contemporary research after 2-3 junior years. So I started to work in a new and challenging area of applied mathematics, called inverse problems in partial differential equations. After graduation I was appointed as a researcher at the (now Sobolev) Institute of Mathematics of the Siberian Branch of the Academy of Sciences of the USSR. In 1973 I got PhD in Mathematics from the same Institute. In 1975-82 I was a (part time) associate professor at the Novosibirsk State University. My research was very successful, I solved 2 important problems, published 24 papers, and in 1981 submitted to the Moscow State University my second, doctoral (habilitation) thesis on inverse problems of potential theory.

However, I felt a growing dissatisfaction with the Soviet system, and in 1982 I applied for an emigration from the USSR. As a result, I was fired from all of my positions, and had to wait for an exit visa until 1987. In 1987 I left for the USA, staying for 2 months as a visiting professor at the University of Florence. After staying 10 months as visiting researcher at the Courant Institute of the New York University, Cornell University, and University of Minnesota (IMA), in 1988 I was appointed a professor (distinguished since 2006) at the Wichita State University. Since my arrival to the USA I become one of world leading experts on inverse problems in partial differential equation, the research area with important applications in engineering, finances, geophysics, and medicine. I published two widely cited research monographs, about 110 papers (mostly in leading mathematical journals), presented my results at about 100 national and international conferences, and had visiting positions at the Rutgers University, University of California at Berkeley (MSRI), Radon Institute, Linz, Austria, University of Tokyo, University of Florence and University of Trieste, Italy.

Personal Remembrances of Professor Victor Isakov
Professor Tom DeLillo

Victor was a top mathematician with many collaborators, and he was a great and generous colleague. He and I both arrived here in 1988. Once he got settled, he received steady NSF funding for his broad work on inverse problems for partial differential equations, as you probably know. A good portion of the externally funded research I was involved in here was awarded because he was PI or coPI. FYI, I worked with him on computational aspects of two inverse problems: (1) methods for diagnosing sources of noise from pressure measurements in business jet cabins, with startup funds from Cessna, and GOALI and other funds (with an acoustician Sean Wu at Wayne State ME, in case you run into him) from NSF, and (2) the use of measurements of gravitational fields as a method of detection (I can't say what was to be detected!) The latter funding was from the National Geospatial Intelligence Agency (NGA). None of us had ever heard of this agency until they contacted Victor. It seems they knew of Victor's first book on inverse source problems and paid us a visit. (It turns out that NGA is part of Homeland Security, so I had some explaining to do at my home when this was revealed in the award announcement.) Some of the "regularization" techniques for filtering noise effects in these highly sensitive inverse problems even show up in data analysis computations, as you might have noted.

In addition to his mathematical virtues, Victor was also a fine pianist.

Victor and Wichita State - by Professor Ziqi Sun

I first came to know Victor in 1989. At that time, I was an assistant professor at the University of Washington, and I attended the Joint Summer Research Conference in Acata, California, where I presented a joint work with Professor Gunther Uhlmann about the 2-D generic uniqueness for the Calderon’s problem. Victor attended my talk and made some comments. My first impression of him was that he was very knowledgeable about inverse problems.

After that, I looked at his work closely and found that he was actually a world class expert in inverse problems and had already published many influential works on inverse problems. Through Victor, I also came to know Wichita State since Victor had accepted a senior position there a year previously. At that time, everyone in the inverse problem community began to talk about Wichita State. Undoubtedly, Wichita State had suddenly became an important name in the inverse problem community. This was because of Victor’s arrival.

The following year, I started looking for a new position. Naturally, Wichita State was one of the first places I applied to. My first interview was at Wichita State. Later, I received an offer from Wichita State, and I decided to accept the position. At that time, I had a couple of options, but I finally decided to accept the offer from Wichita State purely because of Victor. I strongly believed that
Wichita State would become a world research center for inverse problems and working with Victor and having him as my mentor was important in pursuing my research career. About at the same time, Professor Peter Kuchment also came. Wichita State soon became an important research center in inverse problems. Wichita State’s reputation in the inverse problem community continued as Professor Alexander Bukhgeym, also a world class expert in inverse problems, joined Wichita State in 2002.

As a world class mathematician specializing in inverse problems, Victor can produce both theoretical and applied results, although my joint work with him is more on the theoretical side. Although we worked on only two joint papers, my experience with him has inspired me forever.

I would like to mention two of Victor’s outstanding, groundbreaking works in the early 90s. One was about the unique recovery of discontinuous conductivity coefficients. Victor was the first to discover how to deal with discontinuous conductivity. This work ignited a sequence of related works by many other experts around the world. The second work was on semilinear inverse boundary value problems. Again, Victor was the first to discover the linearization technique to handle inverse problems for semilinear equations. This work inspired many other works in the area, including my own works on quasilinear inverse boundary value problems. These two examples show that Victor is a powerful mathematician who always brings in new ideas and new techniques.

I have mentioned only a small portion of Victor’s contributions to inverse problems; Victor has published 140 influential papers on many important problems, both theoretical and applied. In each of his works, Victor has demonstrated virtuoso technical skills as well as real originality. He is one of the world’s leading authorities on inverse problems.

To Wichita State, Victor's influence and contribution are indelible. He brought Wichita State on the map of inverse problem research and built a strong research group that has attacked a wide range of theoretical and applied inverse problems. Although Victor has now left us forever, but his legacy will certainly live on through his students and colleagues at Wichita State. Victor will be remembered forever!

Welcome to America! - Dr. Ilia Bouchouev the former president of Koch Global Partners

It was summer of 1993. I was coming to America to study with a well-known Professor Isakov. In truth, I did not know who he was, I never met him or spoken with him before, and I could not even find any of his academic work, which must have been removed from my university library in Siberia. I simply wanted to see what America looks like and sent a pile of letters to people across the country pitching them to become my Ph.D. advisors. Only one of them responded, so the choice was easy.
With no e-mail or phone access, communication was a challenge, but I was supposed to get myself to Greyhound Bus Terminal in Kansas City, where Victor would pick me up. By the time I got there, I was seriously questioning my decision to come after nearly losing my bags, some tense encounters during night bus commute, 102-degree weather that depleted 25% of my tiny budget on drinks, and no signs of my future professor for over an hour. I must have dozed off when someone tapped on the shoulder with a calm but uplifting “Welcome to America!” greeting in Russian.

It turned out that Victor had his own share of challenges that morning, something related to his car, which delayed his drive. Later, I learned that Victor never complains, never lets his challenges to affect others, and always tries to turn the problem into the practical lesson that you would remember. “Here in America, they sell a lot of stuff”, he said, “it is mostly garbage so be careful, but there is one investment that I’d strongly recommend, it’s easy to remember, it’s called “Ah-Ah-Ah (in Russian). They come and help you out on the road, tow your car if needed”, and after noticing my keen interest in a bunch of maps in his car, he added: “and they give you free maps too”. (Buying AAA membership was indeed one of my first personal investments which I have always kept).

As the day moved on, things started to get progressively better. Victor had no interest in talking about mathematics, which instantly relieved some pressure from me as I was nervous about being caught off-guard about his work. Instead, he suggested a quick stop at his friends’ house (who later became our friends) with another practical goal in mind: “they are nice people, from the same Siberian town, and flying out of Kansas City is so much easier than from Wichita – we are immigrants, and we need our own network to help each other, and besides, you must be getting hungry”.

The three-hour drive to Wichita was mostly the exchange of anecdotes. I do not think that I have ever shared a joke with any of my previous teachers before, so it was clearly a new experience. By the end of the long day, I started to wonder whether some things might indeed be better in America, so perhaps I should not be rushing back. Besides, my advisor seems to be a decent guy, and I felt that I have already known him for years. Within twenty-four hours, I got my first investment recommendation, started to build my own network, got an unusual experience of joking with the math professor, but most importantly, I got a sense of some stability available nearby if you ever need it.

I must have slept too long the next morning when Victor finally open the door and greeted me in Russian: “Good morning America (it was the name of popular but banned radio show in USSR), the fried eggs are ready. It will be a nice day”.