

International online conference  
**Algebraic and geometric methods of analysis**  
dedicated to the memory of  
Yuriy Yuriyovych Trokhymchuk  
(17.03.1928 - 18.12.2019)



On May 25-28, 2021 held an International online conference «**Algebraic and geometric methods of analysis**» dedicated to the memory of an outstanding mathematician, the Corresponding member of National Academy of Sciences of Ukraine **Yuriy Yuriyovych Trokhymchuk**. His mathematical interests concerned with complex analysis and related fields, and obtained fundamental results have become classical.

Yuriy Yuriyovych Trokhymchuk was born on March 17, 1928, in Kyiv, Ukraine. His parents were the teachers of the Russian language and literature as well as Ukrainian language and literature. That is why Yuriy was a well-read teenager.

After the beginning of the Second World War his family was evacuated, and in 1944, he graduated from high school in Kazakhstan (station Lugova). In the same 1944, his parents were sent to work in Lviv, where Yuriy Trokhymchuk became a student of the Lviv University.

In 1949, Yuriy Trokhymchuk graduated from Lviv University and continued his post graduate studies in Lviv affiliate of Academy of Sciences. His scientific adviser was a well-known expert in complex analysis L. I. Volkovyskyi. In 1953, Yu. Yu. Trokhymchuk successfully defended his Ph.D. theses.

From 1953, he worked as an associate professor at the Lviv Polygraphic Institute, and during 1955–1960, he worked as an associate professor at the Novosibirsk Electrotechnical Institute.

At this time he actively works on the minimal criteria of analytic functions. The results of these researches made up a basis of his Doctor Sciences theses “Continuous mappings and analytic functions” that was successfully defended at the Moscow State University in 1960. These researches are reflected in the monograph (1963), which at once was republished in English in 1964.

In 1960, Yu. Yu. Trokhymchuk has come back to Kiev and began to work as a senior research fellow at the Institute of Mathematics of the Academy of Sciences of Ukraine. He worked also as a professor of the Faculty of Mechanics and Mathematics of Taras Shevchenko Kyiv University, where he gave courses of the mathematical analysis, the function theory, the complex analysis and the topology.

Yu. Yu. Trokhymchuk has shown himself as a talented organizer of science. From 1963, during twenty years, he was the organizer of summer mathematical workshops, where the achievements of contemporary mathematics were always presented, especially, in analysis, differential equations and topology.

Yu. Yu. Trokhymchuk worked as the head of laboratory and the head of department at the Institute of Mathematics of the National Academy of Sciences of Ukraine. He was a leading researcher of the Department of Complex Analysis and Potential Theory.

The Trokhymchuk’s main mathematical results are related to the complete spread of Menshov’s theorems about conformal mappings from the class of univalent functions onto arbitrary continuous functions. In Trokhymchuk’s papers, the combination of theory of monogenity sets and theory of inner mappings in the sence of Stoilov became one of basic methods for solving of difficult problems of the function theory. Moreover, the mentioned problems were not solved within the framework of previous classic approaches. In particular, an important problem solved by Yu. Yu. Trokhymchuk is a problem on removable singularities of harmonic and analytic functions in non-classical terms, when classic methods are not suitable for solving. His fundamental results became the basis of several fruitful investigations of many mathematicians.

In 2006, Yu. Yu. Trokhymchuk has been elected as a Corresponding Member of the National Academy of Science of Ukraine. For his significant scientific achievements Yu. Yu. Trokhymchuk was awarded by Pogorelov Prize of the National Academy of Sciences of Ukraine.

Yu. Yu. Trokhymchuk is an author of nearly 80 mathematical papers and three books. He has supervised 13 Ph.D. and three Doctors of Sciences theses. Among his students were the Coresponding Member of NAS of Ukraine Volodymyr Vasylyovych Sharko who was an Editor in Chief of “Proceedings of the International geometry center”, and also Doctor of Sciences Yuri Borysovych Zelinskiy who was a member of the Editorial Board of our journal.

The conference «Algebraic and geometric methods of analysis» was organized jointly by Odesa National Academy of Food Technologies, Institute of Mathematics of the National Academy of Sciences of Ukraine, Taras Shevchenko National University of Kyiv, and Kyiv Mathematical Society.

The topic of the conference was closely related to the mathematical interests of Yuriy Yuriyovych Trokhymchuk and included

- topological methods in analysis,
- geometric problems of complex and mathematical analysis,
- algebraic methods in geometry,
- differential geometry in the large,
- geometry and topology of differentiable manifolds,
- general and algebraic topology,
- geometric and topological methods in natural sciences.

There was about one hundred and thirty participants from Azerbaijan, Belarus, Canada, Chile, Czech Republic, Ecuador, France, Germany, Greece, India, Iraq, Israel, Japan, Mexico, Moldova, Poland, Romania, Russia, Turkey, Ukraine, USA, Uzbekistan. Many of them know Yuriy Yuriyovych Trokhymchuk personally or were students of his students.

Video records of the talks can be found at the conference web-page

<https://www.imath.kiev.ua/~topology/conf/agma2021>

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Nadiia Konovenko  
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