

## FOURTH SUMMER SCHOOL “ALGEBRA, TOPOLOGY, FUNCTIONAL AND STOCHASTIC ANALYSIS”

The Fourth Summer School “Algebra, Topology, Functional and Stochastic Analysis” was held on July 17–29, 2006 in the Kozyova School-Lyceum, Lviv region. The school was organized by the Faculty of Mechanics and Mathematics of Ivan Franko Lviv National University and Pidstryhach Institute for Applied Problems of Mechanics and Mathematics of the National Academy of Sciences of Ukraine.

This School continues the tradition of the previous summer schools: The First Summer School in Topological Algebra and Functional Analysis (Kozyova, July 22-31, 2003), the Second Summer School in Algebra and Topology (Dolyna, August 2-14, 2004) and Third Summer School in Algebra, Analysis and Topology (Kozyova, August 9–20, 2005). Information about Summer Schools organized by the Faculty of Mechanics and Mathematics of Lviv National University can be found in [1–4] or on the web-page:

<http://www.franko.lviv.ua/faculty/mechmat/Departments/Topology/news.html>.

The main idea of the School was to support talented Ukrainian undergraduate students as well as PhD students interested in fundamental research in the fields related to Algebra, Topology, Functional and Stochastic Analysis and to supply them with the newest information concerning the current status of these fields. More than 75 participants (including 11 Doctors of Science and 14 Candidates of Science) from U.S.A., Russia and the principal scientific centers of Ukraine (Kyiv, Kharkiv, Lviv, Donetsk, Ivano-Frankivsk, Cherkasy) took part in the work of the School.

The Fourth Summer School “Algebra, Topology, Functional and Stochastic Analysis” had the following main components:

- mornings were devoted to lectures on topics indispensable for a future fruitful work of young mathematicians in Algebra, Topology, Functional and Stochastic Analysis;
- in the afternoons young participants presented short talks on their scientific researches;
- evenings were devoted to discussions, sports and active recreations outdoors.

During the work of the School the participants attended the following survey lecture courses:

- “Some topics in arithmetics of algebraic varieties” by V. Andriichuk (Lviv National University);
- “ $k^*$ -metrizable spaces and their applications” by T. Banakh (Lviv National University);
- “Polynomial transformations of affine spaces” by Yu. Bodnarchuk (University “Kyiv-Mohyla Academy”);
- “Pseudoholomorphic curves in symplectic and complex geometry” by S. Ivashkovich (Universite de Lille-I, FRANCE and Pidstryhach Institute for Applied Problems of Mechanics and Mathematics of NASU, Lviv);
- “ $A_\infty$ -categories of Fukaya” by V. Lyubashenko (Institute of Mathematics of NASU, Kyiv);
- “Singularities of differentiable functions” by S. Maksymenko (Institute of Mathematics of NASU, Kyiv);
- “Links modulo knots and their invariants” by S. Melikhov (Steklov Mathematical Institute, Moscow, RUSSIA);

- “Holomorphic dynamics and group theory” by V. Nekrashevych (Texas A&M University, U.S.A. and Kyiv National University);
- “Regularity lemma” by O. Pikhurko (Carnegie Mellon University, U.S.A.);
- “Markov processes and partial differential equations” by M. Portenko (Institute of Mathematics of NASU, Kyiv);
- “Ultrafilters everywhere” by I. Protasov (Kyiv National University);
- “Professor Jozef Puzyna, prophet of Lviv Mathematical School of 20-30ies of XX century” by Ya. Prytula (Lviv National University);
- “The extension theory and abstract boundary operators” by O. Storozh (Lviv National University);
- “Analytic functions on Banach spaces” by A. Zagorodnyuk (Pidstryhach Institute for Applied Problems of Mechanics and Mathematics of NASU, Lviv);
- “Selected topics in metric geometry” by M. Zarichnyi (Lviv National University).

Informally, the Fourth Summer School “Algebra, Topology, Functional and Stochastic Analysis” consisted of two blocks. The first block (Tuesday—Friday, July 18-22, 2006) had a functional and stochastic while the second one (Monday—Friday, July 24-28, 2006) had rather algebraic and topological characters. There were bus excursions to the Józef Prince Puzyna tomb at the Stryi Cemetery, the Rozhirche Rocky Monastery, the Dovbush Rocks and the Museum “Boikivshchyna” in the Kozyova School-Lyceum. Also there were the hiking to the Memorial of Glory of Ukrainian Sichovi Striltsi at the Makivka Rocky. In addition, the participants took tours to the Carpathian Mountains and spent informal evenings filled with sincere discussions, singing etc.

The Book of Invited Lectures and Abstracts of Research Reports was published at the beginning of the School.

## REFERENCES

1. *First Summer School in Topological Algebra and Functional Analysis*, Matematychni Studii, **20** (2003), no.2, 223–224.
2. *Second Summer School in Algebra and Topology*, Matematychni Studii, **22** (2004), no.2, 223–224.
3. *Third Summer School in Algebra, Analysis and Topology*, Matematychni Studii, **24** (2005), no.2, 217–218.
4. *Third Summer School in Algebra, Analysis and Topology*, Ukr. Mat. Zh., **58** (2006), no.2, 288–289 (in Ukrainian).

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