

International
Scientific Conference



Algebraic
and Geometric
Methods
of Analysis

27-30 May 2024
Odesa, Ukraine

The purpose of this conference is to bring together researchers in geometry, topology, algebra, analysis and dynamical systems and to provide for them a forum to present their recent work to colleagues from different nationalities. This way we aim to stimulate discussion about the latest findings in geometrical and topological methods in analysis and to increase international collaboration.

The conference continues the traditional annual conference «Geometry in Odesa» holding from 2004, and hosted by Odesa National University of Technology (Odesa National Academy of Food Technologies till 2021). From 2017 the conference was renamed to «Algebraic and geometric methods of analysis» (AGMA).

The Conference languages: Ukrainian and English.

LIST OF TOPICS

- Algebraic methods in geometry
- Differential geometry in the large
- Geometry and topology of differentiable manifolds
- General and algebraic topology
- Dynamical systems and their applications
- Geometric and topological methods in natural sciences
- Geometric problems in mathematical analysis

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- Odesa National University of Technology, Ukraine
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- Taras Shevchenko National University of Kyiv
- Kyiv Mathematical Society

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We will also discuss related geometric structures, such as Sasaki, pseudo-Kähler, and para-Kähler geometries. Time permitting, we will explore open pathways for further research in differential geometry.

This talk is based on joint work with D. Conti and R. Segnan Dalmasso.

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Ricci flow of G_2 -type real flag manifolds

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A real flag manifold is a quotient space $\mathbb{F} = G/P$, where G is a connected Lie group with non-compact real simple associated Lie algebra \mathfrak{g} , and P is a parabolic subgroup of G . In [1], we investigate homogeneous Riemannian geometry on real flag manifolds of the split real form of \mathfrak{g}_2 . We characterize the metrics that are invariant under the action of a maximal compact subgroup of G_2 and we explore the Ricci flow for the case where the isotropy representation has no equivalent summands, employing techniques from the qualitative theory of dynamical systems. This is joint work with Brian Grajales and Gabriel Rondón.

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