

Coordinators: Prof. Alexey Karapetyants, Prof. Vladislav Kravchenko

[JOIN THE SEMINAR](#)

29 January 2026, 6 pm (UTC+3)

Weakly Lipschitz mappings in higher dimensions

Anatoly Golberg, Holon Institute of Technology, Israel

golberga@hit.ac.il

In one dimension, Lipschitz continuity serves as a natural bridge between continuous differentiability and absolute continuity. However, this relatively simple picture becomes significantly more intricate in higher dimensions. Despite this added complexity, Lipschitz mappings retain a wealth of important properties and find numerous applications. Classical results, such as the McShane and Kirszbraun extension theorems, alongside the preservation of Hausdorff dimension, underscore the significance of these mappings. This talk delves into the fascinating and multifaceted theory of Lipschitz functions in the higher-dimensional setting. We will introduce a weakly Lipschitz condition and establish that such a mapping is absolutely continuous on almost all lines parallel to the coordinate axes (an ACL-mapping) and belongs to the Sobolev class $W_{loc}^{1,n}$. Furthermore, we demonstrate that any metrically quasiconformal mapping is weakly Lipschitz in this sense.

*Seminar website: <https://msrn.sfedu.ru/sl>. The seminar uses Microsoft Teams online platform.
Please send questions to ademp.seminar@gmail.com (Tatiana Andreeva, scientific secretary).

The seminar is organized by the coordinators Alexey Karapetyants and Vladislav Kravchenko within the activities of the Regional Mathematical Center of the Southern Federal University in collaboration with Institute of Mathematics, Mechanics and Computer Sciences of the Southern Federal University and the OTHA research group in Operator Theory and Harmonic Analysis.



Regional Mathematical Center
<https://rmc.sfedu.ru/>



Institute of Mathematics, Mechanics
and Computer Sciences
<http://www.mmcs.sfedu.ru/>



OTHA research network in
Operator Theory and Harmonic Analysis
<http://msrn.sfedu.ru/>