

Dear Colleagues!

The V. Kupradze Institute of Mathematics at the University of Georgia is pleased to invite you to the Online Tbilisi Analysis & PDE Seminar. The seminar is held bi-weekly on Wednesdays at 20:00 (GMT+4) local time in Tbilisi.

Talk on November 25, 2026

Speaker: Dr. **Linhan Li**, University of Edinburgh, UK;
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https://sites.google.com/brown.edu/linhan-li/home

The title of the lecture: "Domain perturbations that preserve the L^p solvability of boundary value problems"

Abstract: In this talk, we consider boundary value problems for the Laplacian with boundary data in L^p. These problems are solvable if we have some nontangential control on the solution (or its derivatives) in L^p.

While there has been huge success in characterising solvability of the L^p Dirichlet problem for some (typically large) value p in terms of geometry, there is no geometric characterisation of solvability of the L^p Dirichlet problem for all $p > 1$. The only result in this spirit requires assuming additionally flatness of the boundary of the underlying domain. However, it is known that the L^p Dirichlet problem is solvable for all $p > 1$ on convex domains, whose boundary can be far from flat. In a joint work with Joseph Feneuil and Jinping Zhuge, we show that small bi-Lipschitz transformations of a Lipschitz domain preserve the solvability of the Dirichlet problem for the Laplacian with boundary data in L^p, for the same value of $p > 1$. This provides the first example of a perturbation result preserving the same range of exponents p in the absence of boundary flatness.

If time permits, I will also discuss the analogous result for the Neumann problem, which requires an additional analytical framework and new ideas.

Date: November 25, 2026
Time: 20:00 (GMT+4) local time in Tbilisi;
(**Compare to your local time**: https://www.timeanddate.com/worldclock/georgia/tbilisi);

How to join:

The seminar is organized on the **Google Meet** platform. If you are already registered, you do not need to register again. Otherwise, to join the seminar, please send an email to **kim@ug.edu.ge** or register here:

https://forms.gle/xfQJ9fg1uqe7CrZw6.

You will then receive further information.

WEB of Seminar: https://ug.edu.ge/en/tbilisi-analysis-and-pde-seminars.

Organizers:

1. R. Duduchava, Institute of Mathematics, University of Georgia, Tbilisi, Georgia
2. E. Shargorodsky, Department of Mathematics, King's College London, UK
3. A. Meskhi, Kutaisi International University, Kutaisi, Georgia

Secretary:

M. Tsaava, Institute of Mathematics, University of Georgia, Tbilisi, Georgia

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Google Meet Join Information

- **Video Call Link:** https://meet.google.com/msj-atrm-cno
- **Invitation (Calendar) Link:** https://calendar.google.com/calendar/u/0/r/week/2026/10/28?hl=en