



Dear Colleagues!

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

Talk on January 21, 2025

Speaker: Prof. Sabine Boegli, Durham University, UK.

<https://www.durham.ac.uk/news-events/latest-news/2024/07/durham-researcher-collects>

"Numerical ranges and multiplier tricks "

Abstract: Instead of solving the eigenvalue problem $Tf = zf$ for a linear operator T and eigenvalue z , we can use a multiplier B and instead solve the linear pencil problem $BTf = zBf$. This leads us to study the numerical range and essential numerical range of linear pencils. The essential numerical range is used to describe the set of spectral pollution when approximating the eigenvalue problem by projection and truncation methods. By taking intersection over various multipliers, we get sharp enclosures. We apply the results to various differential operators. This talk is based on joint work with Marco Marletta (Cardiff).

Date: January 21, 2025

Time: 20 : 00 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 **Zoom Platform**. If you are already registered, you do not need to register again. Otherwise, to join the seminar please send an e-mail to seminarim@ug.edu.ge or register here:

<https://forms.gle/xfQJ9fg1uqe7CrZw6>

You will then receive further information.

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

Organizers:

1. R. Duduchava, Institute of Mathematics, University of Georgia, Tbilisi
2. E. Shargorodsky, Department of Mathematics, King's College London
3. G. Tephnadze, Institute of Mathematics, University of Georgia, Tbilisi

Secretary:

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

Technical support:

G. Tutberidze, Institute of Mathematics, University of Georgia, Tbilisi
Z. Vashakidze, Institute of Mathematics, University of Georgia, Tbilisi

