# The Steklov problem on non-smooth domains

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9:30h PST – 11:30h EST – 16:30h BST – 17:30h CEST

The lectures will take place at pavillon André-Aisenstadt, room TBA.
The zoom link will be sent to the *Spectral geometry in the clouds* mailing list.

## Syllabus

- Dirichlet, Neumann and Robin Laplacians.
- Abstract commutator trace identities and their applications, including the Payne—Pólya—Weinberger inequality.
- Method of multipliers and the generalised Hörmander—Pohozhaev—Rellich identity.
- Parameter-dependent Dirichlet-to-Neumann map $\mathcal{D}_\Lambda$.
- Relation of its spectrum to that of the Dirichlet, Neumann and Robin Laplacians.
- The Steklov problem. Comparison of the spectrum of the Steklov problem to the spectrum of the boundary Laplacian.
- The bounds on the eigenvalues of $\mathcal{D}_\Lambda$ with $\Lambda \leq 0$.
- Asymptotics of the spectrum of the Steklov problem in curvilinear polygons: main results and ideas of the proof. The sloshing problem and the sloping beach problem. Inverse problems (time permitting).