



## Seminar/Talk

# Confinement and essential self-adjointness via weak anisotropic Hardy inequalities

**Irina Nenciu**

University of Illinois

Host: Robert Seiringer

We consider the problem of essential self-adjointness of the drift-diffusion operator  $H = \frac{1}{\rho} \nabla \cdot \rho D \nabla + V$  on domains  $\Omega \subset \mathbb{R}^d$ . We give criteria showing how the behavior as  $x \rightarrow \partial\Omega$  of the coefficients  $\rho$ ,  $D$  and the potential  $V$  balances to ensure essential self-adjointness of  $H$ , which in turn is closely connected to confinement of quantum particles to  $\Omega$ . In the process, we will discuss an essential tool, which are new anisotropic Hardy inequalities.

**Tuesday, June 17, 2025 04:15pm - 05:15pm**

Office Bldg West / Ground floor / Heinzl Seminar Room (I21.EG.101)



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

Please find a schedule of the ISTA Shuttle on our webpage:

<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.