

**Seminario IPCT Agosto 2025**

**EXPOSITOR:** Sebastián Muñoz-Thon, Purdue University, US and Université Paris-Saclay, France

**TÍTULO:** Inverse scattering for asymptotically hyperbolic manifolds.

**RESUMEN:** On compact Riemannian manifolds with boundary, the (anisotropic) Calderón's problem asks to what extent the Dirichlet-to-Neumann map associated with the Laplace—Beltrami equation determines the metric (up to a natural obstruction).

In this talk, I will discuss a similar problem, known as inverse scattering for asymptotically hyperbolic manifolds (i.e., manifolds that, outside a compact region, behave like the hyperbolic space): fixed an "energy level", and given the analog of the Neumann data for solutions to certain 0-elliptic PDE depending on the fixed energy level, determine the metric of the manifold. I will show that, under some geometric conditions, one can determine the Taylor series of the metric at the boundary.

The proof is based on the relation between this problem and the Calderón problem for the Conformal Laplacian.

**DÍA / HORA:** Jueves 14 de agosto del 2025 / 14:30 – 15:30 hrs.

**LUGAR:** Sala de Seminarios Felipe Alvarez Daziano, 5to PISO, Departamento de Ingeniería Matemática, FCFM Universidad de Chile.

**DIRECCIÓN:** Av. Beauchef 851, Santiago, Chile.

**MODALIDAD:** Presencial y transmisión online por zoom (a publicar en la página wb)

**WEB:** <https://eventos.cmm.uchile.cl/seminarioipct>

