

# Department of Physics and Astronomy Colloquium Series

**Tuesday, February 10, 2026, 2:30pm in PSE 317**

**Speaker:** Nina Gusinskaia

**Institution:** Netherlands Institute for Radio Astronomy

**Title:** Zooming in on the Brightest Fast Radio Bursts

**Abstract:** The Canadian Hydrogen Intensity Mapping Experiment (CHIME) is a transit radio telescope with a large instantaneous field of view. It has proven to be an incredible instrument for detecting Fast Radio Bursts (FRBs), discovering thousands of individual events over the course of its operation. Interestingly, a few dozen FRBs have been detected in CHIME's far side lobes due to their extraordinary fluence. These very bright and extremely rare FRBs are statistically 20 times closer than typical FRBs detected in CHIME's main lobe, placing them among the most nearby FRBs known.

The proximity of these FRBs makes them ideally suited to constrain our understanding of FRB progenitors and emission mechanisms. In this talk, I will discuss how sub-arcminute localization of these FRBs using CHIME data alone allowed us to unambiguously identify their host Galaxies and what we have learned about their nature. I will also discuss how sub-arcsecond localization of CHIME's side-lobe FRBs (achievable with CHIME's very-long baseline Outrigger stations) opens the door to comprehensive multi-wavelength follow-up studies of FRB sources within their host Galaxies, which is the most crucial step toward unravelling the nature of FRBs.