



Institut de Planétologie et  
d'Astrophysique de Grenoble

# APC colloquium

## Wednesday, May 14th at 11am

### Room Luc Valentin, 454A



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## **Hunting for millisecond pulsars at the heart of the Milky Way**

Millisecond pulsars are magnetised, rapidly rotating neutron stars known to produce a pulsed emission at multiple frequencies, from radio to at least GeV energies. Stellar evolution models predict a large number of millisecond pulsars in the inner region of our Galaxy. However, their true contribution to the diffuse gamma-ray sky, and in particular to the Fermi GeV excess (which is also interpreted as an evidence for dark matter at the Galactic center), remains elusive. Detecting them is indeed extremely challenging and, despite extensive searches, very few millisecond pulsars have been found towards these inner regions, neither contradicting nor confirming the presence of a bulge population of millisecond pulsars. I will review current efforts to unveil this population and possible implications for our understanding of the Fermi GeV excess.