



ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

# *PHYSICS COLLOQUIUM*

Wednesday, 10 November 2010  
17:00-18:00

3<sup>rd</sup> Floor Seminar Room

***"Einstein@Home's search for new neutron stars and first discoveries"***

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Abstract:

Einstein@Home is a volunteer distributed computing project with more than a quarter-million participants from the general public. It uses donated computer cycles to search data from the LIGO gravitational wave observatories and from the Arecibo Radio Observatory, looking for signals from undiscovered rapidly-rotating neutron stars. This talk covers several topics:

- How LIGO and Arecibo work, and how Einstein@Home searches their data.
- Einstein@Home's first two discoveries, in data from Arecibo. The first appears to be the fastest-spinning disrupted recycled pulsar yet discovered; the second is a 48 Hz pulsar in a 9.4-hour binary system.
- Volunteer distributed computing, and the Berkeley Open Infrastructure for Network Computing (BOINC) infrastructure behind Einstein@Home.
- Why people volunteer their computers for projects like this (there are about 100 such projects world-wide). What motivates them? Why did some of them stick with the project for years, even though it didn't find anything?