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International Max Planck Research School
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Credit:Max Alexander

Professor Jocelyn Bell Burnell
British astrophysicist who discovered the first "pulsar", a discovery which led to the Nobel Prize in Physics in 1974.

From the astrophysicist who discovered Pulsars

Reflections on the discovery of pulsars

October 21, 18:30

"*Festsaal*" Bonn University main building
coffee served at 18:00
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Abstract

Professor Jocelyn Bell Burnell, is one of the most distinguished personalities in the field of astrophysics. In 1967 as a PhD student she discovered the first **radio pulsar**. This ground breaking discovery led to a Nobel Prize in 1974.

The distinct feature of this object was its extremely precise emission of radio signals (like a lighthouse) which led to the examination even of the hypothesis of extraterrestrial intelligence!

Nowadays, we nevertheless know that pulsars are extremely dense objects comprising the corpses of dead stars. They are typically as heavy as the sun but they are spheres of only, 20 km across!!! These among several other properties make them clearly the latest stage of matter that modern physics can describe. Most importantly however, they provide probably the most promising tool for discovering the "holy grail" of modern astronomy: the gravitational waves!

Professor Bell will give a short account of the discovery of pulsars (pulsating radio stars) and recount some other instances where pulsars were nearly discovered. She will conclude with some reflections on the lessons that can be drawn from these stories.

Image: Composite Optical/X-ray image of the Crab Nebula, showing synchrotron emission in the surrounding pulsar wind nebula, powered by injection of magnetic fields and particles from the central pulsar (created for NASA by Space Telescope Science Institute and for ESA by the Hubble European Space Agency Information Centre under Contract NAS5-26555).