

Physics Department Seminar



“The North American Nanohertz Observatory for Gravitational Waves (NANOGrav)”

Einstein's prediction of the existence of gravitational waves (GWs) was recently confirmed with the LIGO experiment. There is another experiment underway (NANOGrav) that will detect and study GWs in a different part of the GW spectrum (the nanohertz range). These signals arise from orbiting supermassive binary black holes in the early universe. NANOGrav uses several large radio telescopes to observe an array of precisely timed, clock-like radio pulsars over the course of years. GWs can be detected in the patterns of delays observed in the arrival times of the pulses. The NANOGrav consortium involves more than a hundred researchers (including many undergraduates) who are using this pulsar array as a Galactic-scale GW detector. I will describe the NANOGrav project, some of the details of the pulsar observations, and the current estimates for time to a GW detection with this experiment.

By

Dr. Fronefield Crawford III

Franklin and Marshall College



Wednesday, February 28, 2018

4:00 – 5:00 p.m.

Roddy Hall, Room 149



Refreshments will be available at 3:30 p.m.

All invited to attend!

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