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## GPUs in real-time discovery of millisecond radio transients with LOFAR

*Thursday 3 May 2012 17:20 (40 minutes)*

I will present a project that uses GPU technology with the next-generation LOFAR radio telescope, to search for bright millisecond bursts of radio emission from astrophysical sources. GPUs provide the computing power necessary to remove in real time the effects of propagation of the radio emission through the ionised interstellar medium. I will present details of the specific problem, our current approach for optimisation of the relevant GPU code, and why GPUs are currently the most appropriate solution compared to other multicore technologies. Finally, I will describe how our current work fits in the context of the Square Kilometer Array and its pathfinders for the science of astrophysical radio transients.

**Presenter:** Dr KARASTERGIOU, Aris