

New School Seminar  
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Date: 21st Nov 2012

Title: Correct and efficient GPU programming

Speaker: Dr Anton Lokhmotov. ARM

Time and location: 14:15 in Kilburn lecture theatre 1.4

Host: Mikel Lujan

**Abstract:**

General-purpose computation on graphics processing units (or GPGPU) is growing in popularity, expanding from desktop and supercomputer to mobile and embedded applications. The issues of software correctness, efficiency, portability and longevity, however, are casting shadows over the landscape of GPU programming, which is fragmented between similar but incompatible technologies. This talk will overview the state-of-the-art, introducing Khronos OpenCL and Android Renderscript, and describe initial results from the EU-funded project CARP, including the design of PENCIL, a platform-neutral compute intermediate language, polyhedral code generation and kernel verification.

**Bio:**

Anton Lokhmotov is a Staff Engineer at the Media Processing Division of ARM, where he is leading the design and implementation of production and research compilers for the ARM Mali GPU series. His research interests include parallel programming, performance evaluation and optimisation, and applications. He holds a PhD in Computer Science from the University of Cambridge, and an MSc in Applied Mathematics and Physics from the Moscow Institute for Physics and Technology.