Welcome to the Graphite Simulator Tutorial

Today’s presenters:
George Kurian, Sabrina Neuman, George Bezerra

http://graphite.csail.mit.edu/
What is Graphite?

• Fast, scalable multicore/manycore simulator and framework
  – Designed for 100’s to 1000’s of cores
  – Modular with swappable models for major components
  – Parallel, distributed simulation
  – Performance and energy modeling

• Works with standard pthread applications
  – 13 SPLASH-2 benchmarks (tested up to 1024 cores)
  – 9 Parsec 3.0 benchmarks (3 in lite mode only)
  – UHPC Challenge Apps: Dynamic Graph, Streaming Sensor

• Widespread interest and adoption
  – Other groups at MIT, Univ. of New Mexico, Ghent Univ., UC San Diego, Freescale Semiconductor, Intel-MIPT Lab (Moscow), Intel PAR group
Today’s Schedule

• 9:00 Welcome/Agenda
• 9:05 Intro/Overview
• 10:00 Coffee Break
• 10:30 Graphite Internals
• 11:30 Architectural Model Details
• 12:00 Power Modeling
• 12:15 Dynamic Voltage Frequency Scaling
• 12:30 Lunch
• 2:00 How to Obtain, Install, and Run Graphite
  – 2:00 List of web resources
  – 2:10 How to install, build and run apps, adding a new app
  – 2:40 How to configure, useful scripts, performance considerations
• 2:55 Directory Structure/Key Code Locations
• 3:10 Extending the Simulator Example: New network model
• 3:30 Coffee Break
• 4:00 Extending the Simulator: New parameters, MCP, adding syscalls
• 4:25 Known Issues
• 4:35 Hands-On Session
• 6:00 Adjourn