Vancouver: Improving Programmability of Contemporary Heterogeneous Architectures

- Understanding novel heterogeneous architectures
  - SHOC Benchmarks
  - Application engagement and refactoring
- Developing languages and compilers to facilitate portability
  - OpenARC compiler infrastructure for GPU, Xeon Phi, FPGAs
  - KLAP – CUDA GPU Dynamic parallelism compiler
- Building autotuning frameworks that hide complexity
  - Tanagram – kernel synthesis
- Designing scalable performance analysis and modeling tools
  - Scalable performance tools for heterogeneous systems - Tau
  - Automatically generating performance models - COMPASS
- Deployed open-source tools