The team developed novel capabilities for measurement, analysis, and attribution of applications that employ GPU accelerators. Today, HPCToolkit can report performance about accelerated applications in source-code centric profiles views and time-centric visualizations of an execution’s dynamics.

- To relate performance measurements of accelerated applications back to source code constructs, the team improved HPCToolkit’s ability to recover control flow graphs from machine code, which enabled HPCToolkit to relate application performance to inline functions, templates, and loops in highly optimized code on both host processors and accelerators.

- The team added a new measurement substrate to HPCToolkit to measure code performance using the native Linux perf events interface. In addition to measuring application performance, Linux perf events enable HPCToolkit to measure operating system activity and thread blocking.

- The team developed support for handling programming models with short-lived dynamic threads.