



International Symposium on Code Generation and Optimization

CGO 2015 San Francisco, CA

<http://www.cgo.org/>

Call for Papers

The International Symposium on Code Generation and Optimization (CGO) provides a premier venue to bring together researchers and practitioners working at the interface of hardware and software on a wide range of optimization and code generation techniques and related issues. The conference spans the spectrum from purely static to fully dynamic approaches, including techniques ranging from pure software-based methods to architectural features and support.

Original contributions are solicited on, but not limited to, the following topics:

Code Generation and Optimization

- Efficient execution of dynamically typed and higher-level languages
- Optimization and code generation for emerging programming models, platforms
- Optimizations for energy efficiency
- Profile-guided, feedback-directed, and machine learning based optimization
- Compiler abstractions and intermediate representations

Static and Dynamic Analysis

- Profiling and instrumentation for power, memory, throughput or latency
- Efficient profiling and instrumentation techniques
- Program characterization methods
- Profile-guided optimization
- Novel and efficient tools for power, performance analysis, debugging and testing

Code Generation for Higher Levels of Abstraction

- Efficient code and program generation for domain specific languages.
- Optimization techniques using staging for domain specific languages.
- Code generation and optimization for HDL, Verilog, etc.

Optimization for Parallelism

- Runtime systems for parallelism & heterogeneity
- Optimizations for heterogeneous or specialized parallel targets, e.g. GPUs
- Compiler-driven data distribution and synchronization
- Thread extraction

OS, Architecture and Runtime support

- Architectural support for improved profiling, optimization and code generation
- Integrated system design (HW/OS/VM/SW)
- Memory management and garbage collection

Security and Reliability

- Code analysis and transformations to address security or reliability concerns

Practical Experience

- Deployed dynamic and static compiler and runtime systems for general purpose, embedded system and Cloud/HPC platforms

Applications of above in emerging technology areas, such as

- Web programming environments, application runtimes, optimizations
- SOCs, heterogeneous platforms hardware/software co-design, analysis and optimization

CGO 2015 is co-located with HPCA 2015 and PPOPP 2015. Authors should carefully consider the difference in focus of the conferences when deciding where to submit a paper. CGO will make the proceedings freely available via the ACM DL platform for up to two weeks before and two weeks after the event. This option will facilitate easy access to the proceedings by conference attendees, and it will also enable the community at large to experience the excitement of learning about the latest developments being presented in the period surrounding the event itself.

Important Dates

Abstracts Due	August 29, 2014
Papers Due	September 5, 2014
Rebuttal Period	October 21-23, 2014
Author Notification	November 3, 2014



General Chairs

Kunle Olukotun, *Stanford University*
Aaron Smith, *Microsoft Research*

Program Chairs

Robert Hundt, *Google*
Jason Mars, *University of Michigan*

Workshop & Tutorial Chair

Crisstophe Dubach, *University of Edinburgh*

Finance Chair

Vijay Janapa Reddi, *UT Austin*

Local Chairs

Jose Renau, *UC Santa Cruz*
Behnam Robotmili, *Qualcomm*

Publications Chair

Fabrice Rastello, *Inria*

Students Chair

Jennifer Sartor, *Ghent University*

Sponsors Chair

Ben Zorn, *Microsoft Research*

Registration Chair

Lingjia Tang, *University of Michigan*

Submissions Chairs

Michael Laurenzano, *University of Michigan*
Yunqi Zhang, *University of Michigan*

Web Chair

Mehrzad Samadi, *University of Michigan*

Program Committee

Saman Amarsinghe, MIT
Derek Bruening, Google
Simone Campanoni, Harvard
Mike Carbin, MIT
John Cavazos, U. of Delaware
Albert Cohen, Inria
Jack Davidson, UVA
Gregory Diamos, NVidia
Christophe Dubach, University of Edinburgh
Evelyn Duesterwald, IBM
Xiaobing Feng, ICT Chinese Academy
Mike Ferdman, Stony Brook University
Ravi Iyer, Intel
Alexandra Jimborean, Uppsala
Naveen Kumar, Google
Calvin Lin, UT Austin
Scott Mahlke, Michigan
Kathryn S McKinley, Microsoft Research
Abdullah, Muzahid, UT San Antonio
Chris J Newburn, Intel
Michael O'Boyle, Edinburgh
David Padua, UIUC
Depei Qian, Xi'an Jiaotong University
Fabrice Rastello, Inria
Lawrence Rauchwerger, Texas A&M University
Vijay Janapa Reddi, University of Texas at Austin
Behnam Robotmili, Qualcomm
Norm Rubin, NVidia
Jennifer Sartor, Ghent
Xipeng Shen, William and Mary
Lingjia Tang, Michigan
Mike Taylor, UCSD
Mohit Tiwari, UT Austin
James M. Tuck, NCSU
Cheng Wang, Intel Labs
Chenggang Wu, Institute of Computing Technology
Jingyue Wu, Google
Eddy Zhang, Rutgers
Ben Zorn, Microsoft Research