1$^{\text{st}}$ International Workshop on
Hardware Acceleration of Functional and Declarative Languages

Call for Participation

The call for participation in the 1$^{\text{st}}$ International Workshop on Hardware Acceleration of Functional and Declarative Languages (HAFDAL) is now open.

HAFDAL '24 is hosted in conjunction with the International Symposium on High-Performance Computer Architecture (HPCA) 2024 — see hpca-conf.org/2024/ for details. The event will be hosted in Edinburgh, UK, March 2024.

Scope

The 1960s and 1970s saw LISP machines for supporting AI workloads. The 1980s saw graph reductions machines for functional language workloads. After a 30 year lull, modern hardware technology has attracted renewed interest in hardware acceleration of high level languages. This workshop brings together computer architects and programming language implementers to identify software/hardware co-designs of these high level execution models.

This workshop invites two forms of participation: (1) full paper submissions for 30 minute talks, (2) 5-10 minute lightning talks about related projects and early results. For full papers, we are looking for submissions that cover the motivation, design, or real-world application of hardware technology for functional/declarative languages, their compilers and run-time systems. The work should target truly custom (e.g. ASIC/FPGA) hardware, or exploit modern hardware features for functional/declarative language implementation, across the design space of:

- Special-purpose processor architectures for functional or declarative languages.
- Automatic, high-level synthesis of custom accelerators from plain, high-level software functions.
- Hardware description languages embedded in, or hosted by, high-level software languages.

Submitted papers will be reviewed by our Programme Committee. Our intention is to publish accepted papers via a major relevant publisher (details confirmed pending approval).

Key Dates

Paper submission deadline	20 November 2023
Author notification	18 December 2023
Final manuscript due	15 January 2023
Workshop	March 2024

Submission Instructions

The EasyChair submission page for this workshop is easychair.org/conferences/?conf=hafdal24.

Submissions should be 8-10 pages in ACM double-column format. Authors should follow the information for formatting ACM SIGPLAN conference papers, which can be found at acm.org/publications/proceedings-template. Full submission details are on the workshop web page: haflang.github.io/workshops/hafdal24.html.

Please email inquiries concerning the workshop to: craig.ramsay@hw.ac.uk.