

CfP: 6th ALCHEMY Track on Many-core Programming Issues (Part of ICCS 2018)

Submitted by Anonymous on Fri, 01/26/2018 - 5:26pm

CALL FOR PAPERS

6th ALCHEMY Track on Many-core Programming Issues

Held in conjunction with the [International Conference on Computational Science \(ICCS 2018\)](#)

Wuxi, China | 11-13 June 2018 | <https://sites.google.com/site/alchemyworkshop/>

The future aims toward increasing parallelism and heterogeneity of systems to tackle the so-called power-wall while permitting a roadmap of increased performance. Several challenges rise for programming such systems. The ALCHEMY workshop goal is to show some of these relevant challenges and finding ways to tackle them, while permitting programmers to focus on important part of application designs and letting compilers or runtime optimization do most of the work toward good performance.

The ALCHEMY workshop is the Many-core track of ICCS. It is also a good place of exchange between the traditional HPC domain of research and all the emerging HPES (High Performance Embedded Systems) domain, since the programming issues are mostly the same, with a relatively high cost of communication and the difficulty to program hundreds of cores often under performance and power usage constraints.

Original high quality submission are encouraged on all topics related to many-core programming issues including (but not limited to):

Topics

- * High-level Programming
- * Programming models and languages for many-cores
- * Compilers for programming languages
- * Runtime generation for parallel programming on manycores
- * Handling heterogeneity in many-cores

- * Operational research and optimizations
- * Application, runtime, system and hardware sizing
- * Task scheduling
- * Task placement, application mapping

- * System and runtime
- * New operating systems, dedicated OS
- * Dedicated runtimes for manycores
- * Shared memory, data consistency models and protocols

- * Hardware architecture
- * Architecture support for massive parallelism management
- * Enhanced communications

- * Security
- * Accelerators for security
- * Crypto systems for manycores

- * In-situ systems and user experimentations
- * User feedback on existing manycore architectures
- * Many-core integration within HPC systems (micro-servers)
- * Coping with heterogeneity

Submission

The manuscripts of 10-14 pages, written in English and formatted according to the Springer LNCS templates, should be submitted electronically via EasyChair. Templates are available for download in EasyChair horizontal menu "Templates".

Papers must be based on unpublished original work and must be submitted to ICCS only.

Submission implies the willingness of at least one of the authors to register and present the paper.

All accepted papers will be included in the [Springer Lecture Notes in Computer Science \(LNCS\)](#) series and indexed by Scopus, EI Engineering Index, Thomson Reuters Conference Proceedings Citation Index (included in ISI Web of Science), and several [other indexing services](#).

Please use the [ICCS submission system](#) hosted by EasyChair and select the *Architecture, Languages, Compilation and Hardware support for Emerging ManYcore systems* track.

General Chair

- Loic CUDENNEC, CEA, LIST, France
- Stephane LOUISE, CEA, LIST, France

Program Chair and Program Committee: TBA

Program Committee

- Camille COTI, Universite de Paris-Nord, France

- Loic CUDENNEC, CEA, LIST, France
- Daniel ETIEMBLE, University of Paris-Sud, France
- Vianney LAPOTRE, Universite de Bretagne-Sud, France
- Stephane LOUISE, CEA, LIST, France
- Vania MARANGOZOVA-MARTIN, Universite Joseph-Fourier Grenoble, France
- Marco MATTAVELLI, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland
- Eric PETIT, Intel, France
- Erwan PIRIOU, CEA, LIST, France
- Antoniu POP, University of Manchester, UK
- James A. ROSS, U.S. Army Research Laboratory, MD, USA
- Martha Johanna SEPULVEDA FLORES, Institute for Security in Information Technology, TU Munich, Germany

Important dates

Submission deadline : February 15, 2018

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