

2016 Second International Workshop on Extreme Scale Programming Models and Middleware (ESPM2 2016)

**Salt Lake City, Utah, USA
18 November 2016**



**IEEE Catalog Number: CFP16J37-POD
ISBN: 978-1-5090-3859-6**

**Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16J37-POD
ISBN (Print-On-Demand):	978-1-5090-3859-6
ISBN (Online):	978-1-5090-3858-9

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2016 Second International Workshop on Extreme Scale Programming Models and Middleware

ESPM2 2016

Table of Contents

Message from the Program Chairs	v
---------------------------------------	---

Keynote Talk

Keynote	1
<i>Thomas Sterling</i>	

Research Papers

Full Papers

In-Staging Data Placement for Asynchronous Coupling of Task-Based Scientific Workflows	2
<i>Qian Sun, Melissa Romanus, Tong Jin, Hongfeng Yu, Peer-Timo Bremer, Steve Petruzza, Scott Klasky, and Manish Parashar</i>	
PGAS Communication Runtime for Extreme Large Data Computation	10
<i>Ryo Matsumiya and Toshio Endo</i>	
A Scalable Task Parallelism Approach for LU Decomposition with Multicore CPUs	17
<i>Verinder S. Rana, Meifeng Lin, and Barbara Chapman</i>	
Metaprogramming-Enabled Parallel Execution of Apparently Sequential C++ Code	24
<i>David S. Hollman, Janine C. Bennett, Hemanth Kolla, Jonathan Lifflander, Nicole Slattengren, and Jeremiah Wilke</i>	
SWE-X10: Simulating Shallow Water Waves with Lazy Activation of Patches Using Actorx10	32
<i>Alexander Pöppel, Michael Bader, Tobias Schwarzer, and Michael Glaß</i>	

Short Papers

Runtime Coordinated Heterogeneous Tasks in Charm++	40
<i>Michael P. Robson, Ronak Buch, and Laxmikant V. Kale</i>	
An Overview of Performance Portability in the Uintah Runtime System through the Use of Kokkos	44
<i>Daniel Sunderland, Brad Peterson, John Schmidt, Alan Humphrey, Jeremy Thornock, and Martin Berzins</i>	
Author Index	48