ACM Transactions on Parallel Computing: An Introduction

1. INTRODUCTION

I am very excited to present this first issue of the *ACM Transactions on Parallel Computing (TOPC)*. This journal has been several years in the making, with the original proposal submitted to ACM in October 2012. I hope you will agree that we have a stellar first issue, with three articles representing the top papers from the 2012 *International Conference on Parallel Architectures and Compilation Techniques (PACT-21)* and three other high-quality articles submitted as original articles to TOPC. I thank David Lilja, Program Co-Chair of PACT-21, for serving as Guest Editor for the special section on PACT-21.

2. SCOPE OF THE JOURNAL

Parallel computing is no longer a niche research field but an essential ingredient in all aspects of computer science. ACM TOPC is a forum for novel and innovative work on all aspects of parallel computing, including foundational and theoretical aspects, systems, languages, architectures, tools, and applications. It will address all classes of parallel-processing platforms including concurrent, multithreaded, multicore, accelerated, multiprocessor, clusters, and supercomputers.

TOPC will span the range from foundational research in parallel computing to principles extracted from experimental investigations. Submissions should describe novel solutions to important challenges in exploiting parallelism. Solutions should be generic enough to be used beyond the specific application area in which the problem arose. Articles describing experiences should indicate how they illustrate general principles; articles about parallel computing foundations should indicate how they relate to practice.

Subject areas include, but are not limited to, parallel programming languages and models, parallel system software, parallel architectures, parallel algorithms and theory, parallel applications, and tools for parallel computing. Given the broad diversity of topics, articles that cross-cut areas are particularly encouraged.

3. EDITORIAL BOARD

We have assembled an outstanding editorial board—an international mix of junior and senior all-stars, covering the breadth of the journal's subject areas. The current Associate Editors are Kunal Agrawal, David Bader, Guy E. Blelloch, Aydın Buluç, Luis Ceze, Manuel Chakravarty, Andrew A. Chien, Alexandra Fedorova, Antonio Gonzalez, R. Govindarajan, Mark Hill, Charles E. Leiserson, John Mellor-Crummey, Keshav Pingali, Vijaya Ramachandran, Peter Sanders, Sivan Toledo, and Katherine Yelick. Their leadership ensures that TOPC will attract the best articles and maintain the highest quality standards.

4. ACKNOWLEDGEMENTS

Special thanks go to Charles Leiserson, who initiated the efforts to have an ACM journal in parallel computing and pulled together the team that co-authored the proposal to ACM. Thanks to the members of that team—Kunal Agrawal, Guy Blelloch, Aydın Buluç, and Sivan Toledo—who helped draft the proposal. Thanks to Andrew Chien, Margaret Martonosi, David Padua, Dave Patterson, Keshav Pingali, and Peter

Sanders, who agreed to add their names as supportive co-authors, and to the chairs of the five SIGS (SIGACT, SIGARCH, SIGHPC, SIGPLAN, and SIGOPS) who wrote letters of support. We are grateful for the leap-of-faith taken by the conference organizers of PACT, PPOPP, and SPAA in agreeing to have their “best papers” journal issues in TOPC, thereby assuring TOPC’s place as a top journal in parallel computing at launch. Bernie Rous, Ron Boisvert, and the rest of ACM’s Publication Board provided very helpful feedback and support in helping get TOPC off the ground.

I thank Laura Lander (ACM Journals Manager) for her advice and frequent assistance. Jennifer Gabig (TOPC Editorial Assistant) does a great job of keeping things moving forward and resolving problems. Kanat Tangwongsan created and maintains the TOPC homepage. The Editorial Board, the Guest Editors, and the reviewers have been thoughtful and professional in their handling of submissions. Last but not least, thanks go to the authors for their interest in TOPC as a destination for their best work.

5. CONCLUDING COMMENTS

All of us are enthusiastic about the prospects for this new journal. We already have a pipeline of top-notch articles that will appear in subsequent issues. Please see the journal’s website, <http://topc.acm.org>, for further information about the journal including submission instructions. We also welcome feedback about TOPC’s direction and procedures, via email to acmtopc@gmail.com. Our goal is to make TOPC a preeminent journal in parallel computing and that can only happen if you send your best articles to TOPC and encourage others to do likewise!

Phillip B. Gibbons
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