

Min Si

Contact Information

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Current Appointment

Enrico Fermi Postdoctoral Scholar 2016/10 – Current
Argonne National Laboratory IL, USA
Mathematics and Computer Science Division

Research Interests

Parallel programming models, communication runtime systems for high performance computing.

Education

Ph.D. in Computer Science 2012/10 – 2016/3
The University of Tokyo Tokyo, Japan
Department of Computer Science , Graduate School of Information Science and Technology

Master of Science 2010/10 – 2012/9
The University of Tokyo Tokyo, Japan
Department of Computer Science , Graduate School of Information Science and Technology

Bachelor of Arts 2003/9 – 2007/7
Sichuan International Studies University Chongqing, China
Department of Japanese Language and Culture, College of Oriental Languages

Professional Experience

Research.....
Postdoctoral Appointee 2016/5 – 2016/9
Argonne National Laboratory IL, USA
Mathematics and Computer Science Division

Guest Graduate Student **2014/5 – 2016/3**
Argonne National Laboratory *IL, USA*
Mathematics and Computer Science Division
MPI optimization on massively parallel multi-/many-core architectures

Research Aide **2013/5 – 2013/9**
Argonne National Laboratory *IL, USA*
Mathematics and Computer Science Division
Multithreaded MPI for Many-core Environments

Summer Internship **2011/8 – 2011/10**
NEC Corp *Tokyo, Japan*
Green Platform Research Laboratories
InfiniBand driver modification for direct data transfer from/to FPGA board

Programming.....

Part-time Programmer **2010/12 – 2011/12**
Secioss Corp *Tokyo, Japan*
E-commerce web system development using PHP

Full-time Engineer **2008/7 – 2010/9**
Kinotrope Inc *Tokyo, Japan*
Web system (CMS, E-commerce, Auto-test) development using PHP

Full-time Engineer **2007/7 – 2008/4**
DGT Information Systems Ltd *Shanghai, China*
Credit card member management system development using Java

Programming Skills

MPI, OpenMP, C, PHP, JavaScript, Shell script, Java, HTML, CSS

Languages

Chinese, English, Japanese

Honors and Awards

Enrico Fermi Fellowship **2016 – 2019**
Argonne National Laboratory *IL, USA*
Argonne Named Fellowship for Postdoctoral Scientists

2016 Achievement Award **2016/3**
National Energy Research Scientific Computing Center *CA, USA*

2016 NERSC Award for Innovative Use of HPC in the Early Career category

Dean's Award **2016/3**
The University of Tokyo *Tokyo, Japan*
Dean's Award for Outstanding Achievement Doctoral Course at Graduate School of Information Science and Technology

University of Tokyo Fellowship **2012 – 2015**
The University of Tokyo *Tokyo, Japan*
The University of Tokyo Fellowship Special Scholarship Program for International Students

SCALE Challenge Final List **2015/5**
CCGrid 2015 *Shenzhen, China*
IEEE International Scalable Computing Challenge (SCALE 2015) Final List [2]

SC Travel Grant **2013/11**
SC 2013 *Denver, USA*
Travel Grant for International Attendees of the SC13 Doctoral Showcase [5]

ACM Student Research Competition Final List [7] **2012/11**
SC 2012 *Salt Lake City, USA*

Computer Science Research Award for Young Scientists [9] **2012**
IPSJ (Information Processing Society of Japan) *Japan*

Publications

1. Min Si, Antonio J Peña, Jeff Hammond, Pavan Balaji, Masamichi Takagi, and Yutaka Ishikawa. Casper: An Asynchronous Progress Model for MPI RMA on Many-Core Architectures. In *2015 IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pages 665–676, May 2015.
2. Min Si, Antonio J Peña, Jeff Hammond, Pavan Balaji, and Yutaka Ishikawa. Scaling NWChem with Efficient and Portable Asynchronous Communication in MPI RMA (*Finallist Award*). In *2015 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)*, pages 811–816, May 2015.
3. Min Si, Pavan Balaji (Co-advisor), and Yutaka Ishikawa (Advisor). Techniques for Enabling Highly Efficient Message Passing on Many-Core Architectures. In *2015 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid)*, pages 697–700, May 2015.
4. Min Si, Antonio J. Peña, Pavan Balaji, Masamichi Takagi, and Yutaka Ishikawa. MT-MPI: Multithreaded MPI for Many-core Environments. In *Proceedings of the 28th ACM International Conference on Supercomputing, ICS '14*, pages 125–134. ACM, 2014.
5. Min Si, Yutaka Ishikawa (Advisor), and Pavan Balaji (Co-advisor). Optimizing MPI Implemen-

tation on Massively Parallel Many-Core Architectures. In *SC13 Doctoral Showcase - Early Research Showcase*, 2013-11.

6. Min Si, Yutaka Ishikawa, and Masamichi Tatagi. Direct MPI Library for Intel Xeon Phi Co-Processors. In *Parallel and Distributed Processing Symposium Workshops PhD Forum (IPDPSW), 2013 IEEE 27th International*, pages 816–824, 2013-05.

7. Min Si and Yutaka Ishikawa. Abstract: An MPI Library implementing Direct Communication for Many-Core Based Accelerators (*ACM Student Research Competition Final List*). In *High Performance Computing, Networking, Storage and Analysis (SCC), 2012 SC Companion*., pages 1527–1528, 2012-11.

8. Min Si and Yutaka Ishikawa. Design of Direct Communication Facility for Many-Core Based Accelerators. In *Parallel and Distributed Processing Symposium Workshops PhD Forum (IPDPSW), 2012 IEEE 26th International*, pages 924 –929, 2012-05.

9. Min Si and Yutaka Ishikawa. Design of Communication Facility on Many-Core based Cluster. *The Special Interest Group Technical Reports of Information Processing Society of Japan(IPSJ)*. [*High Performance Computing*], 2012(16):1–8, 2012-03.

Professional Activity

Organization of Research Activity.....

PC member **2017/9**

Cluster 2017

IEEE International Conference on Cluster Computing 2017

PC member **2017/9**

P2S2 2017

10th International Workshop on Parallel Programming Models and Systems Software for High-End Computing

PC member **2017/5**

AsHES 2017

7th International Workshop on Accelerators and Hybrid Exascale Systems

PC member **2017/5**

CCGrid 2017

17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing

PC member **2017/9**

Euro MPI/USA 2017

24th European MPI Users Group Meeting

Workshops Committee <i>IPDPSW 2017</i> Workshops of 31th IEEE International Parallel & Distributed Processing Symposium (IPDPS) 2017	2017/5
PC member <i>ExaMPI16</i> Workshop on Exascale MPI at Supercomputing Conference 2016 held in conjunction with SC16	2016/11
Publicity Chair <i>P2S2 2016</i> The Ninth International Workshop on Parallel Programming Models and Systems Software for High-End Computing (P2S2) 2016	2016/8
Workshop Session Chair <i>AsHES 2015</i> The Fifth International Workshop on Accelerators and Hybrid Exascale Systems held in conjunction with IPDPS (IEEE International Parallel and Distributed Processing Symposium) 2015	2015/5 <i>Hyderabad, India</i>
Co-chair of Postdoc-Ph.D.-Student Evening Meeting <i>The 2ed JLESC Workshop</i> INRIA-ILLINOIS-ANL-BSC Joint Laboratory on Extreme Scale Computing	2014/11 <i>Chicago, USA</i>

Invited Talks and Tutorials.....

1. Scaling NWChem with Efficient and Portable Asynchronous Communication on NERSC Edison Supercomputer. Invited talk at National Energy Research Scientific Computing Center, 2016-03.
2. Techniques for Enabling Highly Efficient Message Passing on Many-Core Architectures. Seminar at Argonne National Laboratory, 2015-10.
3. Parallel Programming with MPI. Full-day tutorial at Argonne National Laboratory. Copresent with Pavan Balaji, Rajeev Thakur, Ken Raffenetti and Antonio J Peña, 2015-06.
4. Casper: An Asynchronous Progress Model for MPI RMA on Many-core Architectures. Seminar at Argonne National Laboratory, 2015-04.
5. Casper: An Asynchronous Progress Model for MPI RMA on Many-core Architectures. Invited talk at the 2ed Workshop of INRIA-ILLINOIS-ANL-BSC Joint Laboratory on Extreme Scale Computing, 2014-11.
6. MT-MPI: Multi-threaded MPI for Many-core Environments. Seminar at Argonne National Laboratory, 2013-09.

Journal Reviewer.....

1. Journal of Parallel and Distributed Computing (JPDC): 2016, 2015
2. IEEE Transactions on Parallel and Distributed Systems (TPDS): 2014

3. Concurrency and Computation: Practice and Experience (CPE): 2016

Reviewer for Conferences and Workshops.....

1. International Conference on Supercomputing (ICS): 2016
2. IEEE International Parallel & Distributed Processing Symposium (IPDPS): 2016, 2015
3. International European Conference on Parallel and Distributed Computing (Euro-Par): 2015
4. Workshop on Accelerators and Hybrid Exascale Systems (AsHES): 2014
5. IEEE Hot Interconnects (HOTI): 2016