

Partha Pratim Pande

(Professor, Director and Boeing Centennial Chair in Computer Engineering, School of Electrical Engineering and Computer Science, Washington State University)

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❖ Education

Ph.D. (Electrical & Computer Engineering), University of British Columbia, 2005

M.S (Computer Science), National University of Singapore, 2002

❖ Appointments

Director, School of EECS	Washington State University	3/1/2018-
Interim Director, School of EECS	<i>Washington State University</i>	12/1/2016-2/28/2018
Professor, School of EECS	<i>Washington State University</i>	2014 –
Boeing Centennial Chair in Computer Engineering	<i>Washington State University</i>	2013-
Associate Professor, School of EECS	<i>Washington State University</i>	2011- 2014
Asst. Professor, School of EECS	<i>Washington State University</i>	2005- 2011

❖ Awards

- NSF CAREER Award, 2009
- Anjan Bose Outstanding Researcher Award, College of Engineering and Architecture, Washington State University, 2013.
- Outstanding Researcher Award, School of EECS, Washington State University, 2013.
- Early Career Research Award, School of EECS, Washington State University 2012.
- Best paper award nomination, IEEE International Conference on Compilers, Architectures and Synthesis of Embedded Systems, CASES 2015.
- Best paper award winner, IEEE International Symposium Quality Electronic Design, ISQED 2017
- Best paper award nomination, IEEE/ACM Network on Chip Symposium NOCS 2017

❖ University-Level Leadership Roles:

- **Director, School of EECS, WSU: My responsibilities include**
 - Managing almost 50 faculties, 20 staff members and around 1100 students
 - Managing school budget
 - Performance evaluation of the faculty and staff
 - Overseeing the strategic research directions of the school
 - Overseeing the curriculum and instructional activities
 - Faculty and staff recruitment
- **Chairing Tenure and Promotion Committees:** I have chaired multiple promotion and tenure committees at the school of EECS, WSU.
- **Member of the College-Level Tenure and Promotion Committee:** Served in the college-level tenure and promotion committee during 2014-2016.
- **Computer Engineering Group Lead:** Responsible for leading the computer engineering curriculum and research at the school of EECS, WSU since 2013. Under my leadership, ranking of the computer engineering graduate program has improved from 77 to 46 (US News 2016 data).

- **Member of the Provost's Leadership Academy:** Participated in the training program to develop leadership skills.

❖ **Current Research Interests:** My current research principally revolves around the broad topic of Network on Chip (NoC), which has emerged as the communication backbone for multi-core chips. With my graduate students and collaborators, I am working on the following projects.

- **On-chip wireless communication network for manycore architectures.**
- **NoC-based hardware accelerators for Biocomputing.**
- **Optimizing Power-Thermal-Performance Trade-offs of Massive Manycore Processors.**
- **Heterogeneous Computing.**
- **Machine Learning Inspired Three-dimensional (3D) NoC Architectures.**
- **Manycore Architectures for IoT Applications.**

❖ **Research Grants: (Total ~7.0 Million)**

Serial No.	Title	Source	Role	Amount	Duration
(1)	CAREER: Reliable On-Chip Wireless Communication Network for Multi-Core Systems	NSF	PI	\$450k	07/01/09 - 06/30/14
(2)	DC: Small: Efficient Algorithms for Data-intensive Biocomputing	NSF	Co-PI	\$435k+\$16k REU	06/01/09 - 07/31/13
(3)	II-NEW: Acquisition of Test and Measurement Equipment Enabling Design of Wireless Networks-on-Chip for Multi-Core Systems	NSF	PI	\$645k	02/01/11-02/01/14
(4)	SHF: CSR: Medium: Collaborative Research: Hierarchical On-Chip Millimeter-Wave Wireless Micro-Networks for Multi-Core Systems	NSF	Lead PI	\$800K	06/01/12-05/31/17
(5)	Millimeter-Wave Wireless Network-on-Chip Architectures for Multi-Core Systems	Army Research Office (ARO)	PI	\$373K	08/16/12-12/31/15
(6)	Collaborative Research: On-chip Multi-Channel Millimeter-wave Wireless Links for Multi-core Platforms	NSF	Co-PI	\$490k	10/16/12-10/15/16
(7)	Equipment for research on wireless network on chip architectures for multicore systems	DURIP, ARO	PI	\$249,964	8/1/13-7/31/14
(8)	REU Site: New-generation Power-efficient Computer Systems Design	NSF	Co-PI	\$323,660	05/01/14-04/30/17
(9)	SHF: NeTS: Medium: Collaborative Research: The Power of Less Wiring: Wireless NoC-enabled Voltage-Frequency Islands (VFIs) for Energy-Efficient Multicore Platforms	NSF	WSU PI	\$629,000	08/01/15-07/31/18
(10)	Student Travel Sponsorship for the	NSF	PI	\$10,000	07/15/15-

	IEEE/ACM International Symposium on Networks-on-Chip 2015				07/14/16
(11)	NeTS: CSR: Medium: Collaborative research: Wireless Datacenter-on-Chip (WiDoC): A New Paradigm for Big Data Computing	NSF	WSU PI	\$ 1.2 Million	08/01/16-07/31/19
(12)	Energy Efficient Heterogeneous Datacenter-on-Chip for Big Data Computing	Army Research Office (ARO)	Lead PI	\$763K	07/16/17-07/15/20
(13)	A Cloud-Capacitor-Enabled Switched-Inductor-Capacitor Power Management System for Energy-Efficient Manycore Platforms	Intel	PI	\$150K	Unrestricted
(14)	SHF: Small: Parallel Algorithms and Architectures Enabling Extreme-scale Graph Analytics for Biocomputing Applications	NSF	Co-PI	\$509K	07/01/2018-06/30/2021

❖ **Publications: (Citation Count: 5304, H-index: 36)**

(1) Journal Papers:

(a) Published/ Accepted

1. S. Gopal, P. Agarwal, J. Baylon, L. Renaud, S.N. Ali, P.P. Pande and D. Heo, "**A Spatial Multi-bit Sub-1V Time-Domain Matrix Multiplier Interface for Approximate Computing in 65nm CMOS,**" IEEE Journal on Emerging and Selected Topics in Circuits and Systems, in press.
2. Xian Li, Karthi Duraisamy, Paul Bogdan, Janardhan Rao Doppa and Partha Pratim Pande, "**Cyber-Physical Many-core Platforms for Brain-Machine-Interfaces Applications,**" IEEE Transactions on VLSI (TVLSI), in press
3. Dongjin Lee, Sourav Das, Janardhan Rao Doppa, Partha Pratim Pande and Krishnendu Chakrabarty, "**Performance and Thermal Trade-Offs for Energy Efficient Monolithic 3D Network-on-Chip,**" ACM Transactions on Design Automation of Electronic Systems (TODAES), in press.
4. S. N. Ali, P. Agarwal, L. Renaud, R. Molavi, S. Mirabbasi, P. Pande and D. Heo, "**A 40% PAE Frequency Reconfigurable CMOS Power Amplifier with Tunable Gate-Drain Neutralization for 28-GHz 5G Radios,**" IEEE Transactions on Microwave Theory and Techniques, in press.
5. Pawan Agarwal, Jong-Hoon Kim, Partha Pratim Pande and Deukhyoun Heo, "**Zero-Power Feed-Forward Spur Cancellation for Supply-Regulated CMOS Ring PLLs,**" in IEEE Transactions on Very Large Scale Integration (VLSI) Systems, vol. 26, no. 4, pp. 653-662, 2018.
6. Dongjin Lee, Sourav Das, Daehyun Kim, Janardhan Rao Doppa and Partha Pratim Pande, "**Design Space Exploration of 3D Network-on-Chip: A Sensitivity-based Optimization Approach,**" ACM Journal on Emerging Technologies in Computing (JETC), in press.

7. Dongjin Lee, Sourav Das and Partha Pratim Pande, "**Analyzing Power-Thermal-Performance Trade-offs in a High-Performance 3D NoC Architecture,**" Integration, in press
8. Ryan Gary Kim, Janardhan Rao Doppa, Partha Pratim Pande, Diana Marculescu and Radu Marculescu, "**Machine Learning and Manycore Systems Design: A Serendipitous Symbiosis**", IEEE Computer, in press.
9. Wonje Choi, Karthi Duraisamy, Ryan Gary Kim, Janardhan Rao Doppa, Partha Pratim Pande, Diana Marculescu and Radu Marculescu, "**On-Chip Communication Network for Efficient Training of Deep Convolutional Networks on Heterogeneous Manycore Systems,**" IEEE Transactions on Computers (TC), May 2018, Spotlight paper
10. Ryan Gary Kim, Wonje Choi, Zhuo Chen, Janardhan Rao Doppa, Partha Pratim Pande, Diana Marculescu and Radu Marculescu, "**Imitation Learning for Dynamic VFI Control in Large-Scale Manycore Systems,**" IEEE Transactions on VLSI (TVLSI), Volume: 25, Issue: 9, Sept. 2017, pp. 2458 – 2471.
11. P. Agarwal, S. P. Sah, R. Molavi, S. Mirabbasi, P. P. Pande, J.-H. Kim, and D. Heo, "**Switched Substrate-Shield Based Low Loss CMOS Inductors for Wide Tuning Range VCOs,**" IEEE Transactions on Microwave Theory and Techniques, vol. 65, pp. 2964-2976, Aug. 2017.
12. Sourav Das, Dongjin Lee, Wonje Choi, Janardhan Rao Doppa, Partha Pratim Pande and Krishnendu Chakrabarty, "**VFI-based Power Management to Enhance the Lifetime of High-Performance 3D NoCs,**" ACM Transactions on Design Automation of Electronic Systems (TODAES), 23, 1, Article 7 (August 2017), 26 pages.
13. Xian Li, Karthi Duraisamy, Joe Baylon, Turbo Majumder, Guopeng Wei, Paul Bogdan, Deukhyoun Heo and Partha Pratim Pande, "**A Reconfigurable Wireless NoC for Large Scale Microbiome Community Analysis,**" IEEE Transactions on Computers (TC), vol. 66, no. 10, pp. 1653-1666, Oct. 1 2017.
14. Karthi Duraisamy and Partha Pratim Pande, "**Enabling High Performance SMART NoC Architectures Using On-Chip Wireless Links,**" IEEE Transactions on VLSI (TVLSI), vol. 25, no. 12, pp. 3495-3508, Dec. 2017.
15. Karthi Duraisamy, Yuankun Xue, Paul Bogdan and Partha Pratim Pande, "**Multicast-aware High Performance Wireless Network-on-Chip Architectures,**" IEEE Transactions on VLSI, Volume: 25, Issue: 3, March 2017, pp. 1126 - 1139.
16. Sourav Das, Janardhan Rao Doppa, Partha Pratim Pande and Krishnendu Chakrabarty, "**Design-Space Exploration and Optimization of an Energy-Efficient and Reliable 3D Small-world Network-on-Chip**", IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, (TCAD), Volume: 36, Issue: 5, May 2017, pp. 719-732.
17. P. Agarwal, S. P. Sah, R. Molavi, S. Mirabbasi, P. P. Pande, J.-H. Kim, S. Oh and D. Heo, "**Switched Substrate-Shield Based Low Loss CMOS Inductors for Wide Tuning Range VCOs**", IEEE Transactions on Microwave Theory and Techniques (in press).
18. N. Tang, B. Nguyen, R. Molavi, S. Mirabbasi, Y. Tang, P. Zhang, J.-H. Kim, P. P. Pande, D. Heo, "**Fully Integrated Buck Converter with Fourth-Order Low-Pass Filter,**" IEEE Transactions on Power Electronics (in press).

19. Karthi Duraisamy, Hao Lu, Partha Pratim Pande and Ananth Kalyanaraman, **“High Performance and Energy Efficient Network-on-Chip Architectures for Graph Analytics”**, ACM transactions on Embedded Computing, Volume 15 Issue 4, August 2016, Article No. 66.
20. Xian Li, Karthi Duraisamy, Turbo Majumder, Paul Bogdan and Partha Pratim Pande, **“Enabling Closed Loop Control with Networks-on-Chip”**, IEEE Transactions on VLSI, Volume: 24, Issue: 9, Sept. 2016, pp. 2837 – 2850.
21. Ananth Kalyanaraman, Mahantesh Halappanavar, Daniel Chavarría-Miranda, Hao Lu, Karthi Duraisamy and Partha Pratim Pande, **“Fast Uncovering of Graph Communities on Chip: Toward Scalable Community Detection on Multicore and Manycore Platforms”**, Foundations and Trends in Electronic Design Automation.
22. Andrea Mineo, Maurizio Palesi, Giuseppe Ascia, Partha Pratim Pande, Vincenzo Catania, **“On-Chip Communication Energy Reduction through Reliability Aware Adaptive Voltage Swing Scaling”**, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (in press).
23. Ryan Gary Kim, Wonje Choi, Zhuo Chen, Partha Pratim Pande, Diana Marculescu and Radu Marculescu, **“Wireless NoC and Dynamic VFI Co-Design: Energy Efficiency without Performance Penalty”**, IEEE Transactions on VLSI, vol. 24, no. 7, pp. 2488-2501, July 2016.
24. Ryan Gary Kim, Wonje Choi, Guangshuo Liu, Ehsan Mohandesi, Partha Pratim Pande, Radu Marculescu and Diana Marculescu, **“Wireless NoC for VFI-Enabled Multicore Chip Design: Performance Evaluation and Design Trade-offs”**, IEEE Transactions on Computers, Vol. 65, Issue 4, pp. 1323–1336.
25. Jacob Murray, Nghia Tang, Partha Pratim Pande, Deukhyoun Heo and Behrooz Shirazi, **“DVFS Pruning for Wireless NoC Architecture”**, IEEE Design and Test, Vol. 32, Issue 2, pp. 29-38.
26. Xinmin Yu, Hooman Rashtian, Shahriar Mirabbasi, Partha Pratim Pande and Deukhyoun Heo, **“An 18.7-Gb/s 60-GHz OOK Demodulator in 65-nm CMOS for Wireless Network-on-Chip,”** IEEE Trans. on Circuits and Systems 62-I (3): 799-806 (2015).
27. Xinmin Yu, Suman Prasad Sah, Hooman Rashtian, Shahriar Mirabbasi, Partha Pratim Pande and Deukhyoun Heo, **“A 1.2-pJ/bit 16 Gb/s 60-GHz OOK Transmitter in 65-nm CMOS for Wireless Network-On-Chip,”** IEEE Transactions on Microwave Theory and Techniques, vol.62, no.10, pp.2357, 2369, Oct. 2014.
28. Paul Wettin, Ryan Kim, Jacob Murray, Xinmin Yu, Amlan Ganguly, Partha Pratim Pande and Deukhyoun Heo, **“Design Space Exploration for wireless NoCs Incorporating Irregular Network Routing”**, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Vol. 33, Issue 11, pp. 1732-1745, Nov. 2014.
29. Xinmin Yu, Joe Baylon, Paul Wettin, Deukhyoun Heo, Partha Pratim Pande and Shahriar Mirabbasi, **“Architecture and Design of Multi-Channel Millimeter-Wave Wireless Network-on-Chip”**, IEEE Design and Test, Vol. 31, Issue 6, Nov/Dec 2014, pp. 19-28.
30. Jacob Murray, Ryan Kim, Paul Wettin, Partha Pratim Pande and Behrooz Shirazi, **“Performance Evaluation of Congestion-Aware Routing with DVFS on a Millimeter-**

Wave Small World Wireless NoC", ACM Journal of Emerging Technologies in Computing Systems (JETC), Volume 11 Issue 2, November 2014.

31. Ipshita Datta, Debasish Datta and Partha Pratim Pande, "**Design Methodology for Optical Interconnect Topologies in NoCs with BER and Transmit Power Constraints**", IEEE/OSA Journal of Lightwave Technology, Vol. 32, Issue 1, January 2014, pp. 163-175.
32. Turbo Majumder, Partha Pratim Pande and Ananth Kalyanaraman, "**Hardware Accelerators in Computational Biology: Application, Potential and Challenges**", IEEE Design and Test, Vol. 31, Issue 1, February 2014, pp. 8-18.
33. Jacob Murray, Teng Lu, Paul Wettin, Partha Pratim Pande and Behrooz Shirazi, "**Dual-Level DVFS-enabled Millimeter-Wave Wireless NoC Architectures**", ACM Journal of Emerging Technologies in Computing Systems (JETC), Volume 10 Issue 4, May 2014.
34. Turbo Majumder, Partha Pratim Pande and Ananth Kalyanaraman, "**Wireless NoC Platforms for Maximum Likelihood Phylogeny Reconstruction**", IEEE Design and Test (D&T), Vol. 31, Issue 3, May/June 2014, pp. 54-64.
35. Haera Chung, Christof Teuscher and Partha Pande, "**Design and Evaluation of Technology-Agnostic Heterogeneous Networks-on-Chip**", ACM Journal of Emerging Technologies in Computing Systems (JETC), Volume 10 Issue 3, April 2014.
36. Jacob Murray, Teng Lu, Partha Pratim Pande, Behrooz Shirazi, "**Sustainable DVFS-Enabled Multi-Core Architectures with On-Chip Wireless Links**" Advances in Computers 88: 125-158 (2013)
37. Turbo Majumder, Partha Pande, Ananth Kalyanaraman, "**High-Throughput, Energy-Efficient Network-on-Chip-Based Hardware Accelerators**", Sustainable Computing, Informatics and Systems (SUSCOM), Elsevier, Volume 3, Issue 1, March 2013, Pages 36–46.
38. Sujay Deb, Kevin Chang, Xinmin Yu, Suman Sah, Miralem Cosic, Amlan Ganguly, Partha Pratim Pande, Benjamin Belzer and Deukhyoun Heo, "**Design of an Energy Efficient CMOS Compatible NoC Architecture with Millimeter-Wave Wireless Interconnects**", IEEE Transactions on Computers (TC), Vol.62, no.12, pp.2382-2396, Dec. 2013.
39. Paul Wettin, Amlan Ganguly, Anuroop Vidapalapati and Partha Pratim Pande, "**Complex Network Enabled Robust Wireless Network-on-Chip Architectures**", ACM Journal of Emerging Technologies in Computing Systems (JETC), Vol. 9, Issue 3, September 2013.
40. Sujay Deb, Amlan Ganguly, Partha Pratim Pande, Benjamin Belzer and Deukhyoun Heo, "**Wireless NoC as Interconnection Backbone for Multicore Chips: Promises and Challenges**", IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS), Vol. 2, No.2, June 2012, pp. 228-239.
41. Turbo Majumder, Michael Borgens, Partha Pratim Pande and Ananth Kalyanaraman, "**On-Chip Network-Enabled Multi-Core Platforms Targeting Maximum Likelihood Phylogeny Reconstruction**", IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), Vol. 31, No.7, July 2012, pp. 1061-1073.
42. Kevin Chang, Sujay Deb, Amlan Ganguly, Xinmin Yu, Suman Prasad Sah, Partha Pratim Pande, Benjamin Belzer and Deukhyoun Heo, "**Performance Evaluation and Design Trade-Offs for Wireless Network-on-Chip Architectures**", ACM Journal on Emerging Technologies in Computing Systems, Vol. 8, No. 3, August 2012

43. Turbo Majumder, Souradip Sarkar, Partha Pratim Pande and Ananth Kalyanaraman, "**NoC-Based Hardware Accelerator for Breakpoint Phylogeny**", IEEE Transactions on Computers (TC), Vol. 61, NO. 6, June 2012, pp. 857-869.
44. Partha Pratim Pande and Sriram Vangal, "**Guest Editors' Introduction: Promises and Challenges of Novel Interconnect Technologies**", IEEE Design and Test of Computers, Volume 27, Issue 4, July/August 2010, pp. 6-9.
45. Amlan Ganguly, Kevin Chang, Sujay Deb, Partha Pratim Pande, Benjamin Belzer, Christof Teuscher, "**Scalable Hybrid Wireless Network-on-Chip Architectures for Multi-Core Systems**", IEEE Transactions on Computers, Vol. 60, Issue 10, pp. 1485-1502.
46. Souradip Sarkar, Gaurav Ramesh Kulkarni, Partha Pratim Pande and Ananth Kalyanaraman, "**Network-on-Chip Hardware Accelerators for Biological Sequence Alignment**", IEEE Transactions on Computers, Vol. 59, Issue 1, January 2010, pp. 29-41.
47. Amlan Ganguly, Partha Pratim Pande, Benjamin Belzer, "**Crosstalk-Aware Channel Coding Schemes for Energy Efficient and Reliable NoC Interconnects**", IEEE Transactions on VLSI, Vol. 17, Issue 11, November 2009, pp. 1626-1639.
48. Brett S. Feero, Partha Pratim Pande, "**Networks-On-Chip in a Three Dimensional Environment: A Performance Evaluation**", IEEE Transactions on Computers, vol.58, no. 1, January 2009, pp. 32-45.
49. Amlan Ganguly, Partha Pratim Pande, Benjamin Belzer, Cristian Grecu, "**Design of Low power & Reliable Networks on Chip through joint Crosstalk Avoidance and Multiple Error Correction Coding**", Journal of Electronic Testing: Theory and Applications (JETTA), Special Issue on Defect and Fault Tolerance, June 2008, pp. 67-81.
50. Partha Pratim Pande, Amlan Ganguly, Haibo Zhu, Cristian Grecu, "**Energy Reduction through Crosstalk Avoidance Coding in Networks on Chip**", Journal of System Architecture (JSA), Vol. 54/ 3-4, March-April 2008, pp.441-451.
51. Cristian Grecu, André Ivanov, Res Saleh, Partha Pratim Pande, "**Testing Network on Chip Communication Fabrics**", IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Vol. 26, No. 12, December 2007, pp. 2201-2214.
52. Resve Saleh, Steve Wilton, Shahriar Mirabbasi, Alan Hu, Mark Greenstreet, Guy Lemieux, Partha Pratim Pande, Cristian Grecu, André Ivanov "**System-on-Chip: Reuse and Integration**", Proceedings of IEEE, Volume 94, issue 6, June 2006 pp. 1050-1069.
53. Partha Pratim Pande, Cristian Grecu, André Ivanov, Res Saleh, Giovanni De Micheli "**Design, Synthesis and Test of Networks on Chip: Challenges and Solutions** ", IEEE Design and Test of Computers, Volume 22, Issue 5, Sept.-Oct. 2005 pp. 404 – 413.
54. Cristian Grecu, Partha Pratim Pande, André Ivanov, Res Saleh, "**Timing Analysis of Network on Chip Architectures for MP-SoC Platforms**", Microelectronics Journal, Elsevier, Vol. 36, issue 9, pp. 833-845, August 2005.
55. Partha Pratim Pande, Cristian Grecu, Michael Jones, André Ivanov, Res Saleh, "**Performance Evaluation and Design Trade-offs for Network on Chip Interconnect Architectures**", IEEE Transactions on Computers, vol. 54, no. 8, pp. 1025-1040, August 2005.

(b) Under Review

56. P. Agarwal, J.-H. Kim, P. P. Pande and D. Heo, "**PVT-Robust 53% Tuning Range CMOS VCO using High-Q Boosted Active-Capacitor with Negative-Transconductance**," IEEE Transactions on Microwave Theory and Techniques.
57. Srinivasan Gopal, Sourav Das, Deukhyoun Heo, Partha Pratim Pande, "**High-Performance and Small-Form Factor Near Field Inductive Coupling for 3D NoC**," IEEE Transactions on VLSI (TVLSI).
58. Biresh Kumar Joardar, Ryan Gary Kim, Janardhan Rao Doppa, Partha Pratim Pande, Diana Marculescu and Radu Marculescu, "**Learning-based Application-Agnostic 3D NoC Design for Heterogeneous Manycore Systems**," IEEE Transactions on Computers (TC).
59. Karthi Duraisamy, Hao Lu, Ananth Kalyanaraman and Partha Pratim Pande, "**Energy-Efficient Graph Community Detection using Approximate Computing and Wireless Network-on-Chip**," IEEE Transactions on Computers (TC).

(2) Edited Book:

60. Partha Pratim Pande, Amlan Ganguly and Krishnendu Chakrabarty, "**Design Technologies for Green and Sustainable Computing Systems**", Springer.

(3) Book Chapter:

61. Partha Pratim Pande, Amlan Ganguly, Sujay Deb and Kevin Chang, "**Energy-Efficient Network-On-Chip Architectures for Multicore Systems**", In *Handbook of Energy-Aware and Green Computing*, Ishfaq Ahmad and Sanjay Ranka (eds.), CRC press, Taylor and Francis Group
62. Partha Pratim Pande, Cristian Grecu, Amlan Ganguly, Andre Ivanov, and Resve Saleh, "**Test and Fault Tolerance of NoC Infrastructures**", In *Networks-on-Chips: Theory and Practice*, Fayez Gebali, Haytham Elmiligi, and M.Watheq El-Kharashi (eds.), Taylor & Francis Group LLC - CRC Press.
63. Brett Feero and Partha Pratim Pande, "**Three-Dimensional Networks-on-Chip: Performance Evaluation**", In *3D-Architectures and Networks-on-Chip*, Abbas Sheibanyrad, Frédéric Pétrot, and Axel Jantsch (eds.), Morgan Kaufmann.

(4) Conference Papers:

(a) Published/Accepted

64. Biresh Kumar Joardar, Karthi Duraisamy and Partha Pratim Pande, "**High Performance Collective Communication-Aware 3D Network-on-Chip Architectures**," Proceedings of IEEE Design, Automation and Test in Europe, DATE 2018.
65. Sourav Das, Janardhan Rao Doppa, Partha Pratim Pande, Krishnendu Chakrabarty, "**Monolithic 3D-enabled High Performance and Energy Efficient Network-on-Chip**," Proceedings of IEEE/ACM International Conference on Computer Design, ICCD 2017.
66. Sourav Das, Srinivasan Gopal, Deukhyoun Heo, Partha Pratim Pande, "**Energy-Efficient and Robust 3D NoCs with Contactless Vertical Links**," Proceedings of IEEE/ACM International Conference on Computer Aided Design, ICCAD 2017 (invited paper)
67. Sudeep Pasricha, Janardhan Rao Doppa, Krishnendu Chakrabarty, Saideep Tiku, Daniel Dauwe, Shi Jin, Partha Pratim Pande, "**Data Analytics Enables Energy-Efficiency and**

- Robustness: From Mobile to Manycores, Datacenters, and Networks,”** Proceedings of International Conference on Hardware/Software Codesign and System Synthesis (CODES+ISSS), Embedded Systems Week, 2017
68. Biresh Kumar Joardar, Wonje Choi, Ryan Gary Kim, Janardhan Rao Doppa, Partha Pratim Pande, Diana Marculescu and Radu Marculescu, **“3D NoC-Enabled Heterogeneous Manycore Architectures for Accelerating CNN Training: Performance and Thermal Trade-offs,”** Proceedings of IEEE/ACM Network-on-Chip Symposium, NOCS 2017.
 69. Srinivasan Gopal, Sourav Das, Deukhyoun Heo, Partha Pratim Pande, **“Energy and Area Efficient Near Field Inductive Coupling: A Case Study on 3D NoC,”** Proceedings of IEEE/ACM Network-on-Chip Symposium, NOCS 2017.
 70. Karthi Duraisamy, Hao Lu, Partha Pratim Pande and Ananth Kalyanaraman, **“Accelerating Graph Community Detection with Approximate Updates via an Energy-Efficient NoC,”** Proceedings of the Design Automation Conference, DAC 2017.
 71. Dongjin Lee, Sourav Das and Partha Pratim Pande, **“Performance-Thermal Trade-offs for a VFI-Enabled 3D NoC Architecture,”** Proceedings of the International Symposium on Quality Electronic Design, ISQED 2017, Best Paper Award Winner.
 72. Karthi Duraisamy and Partha Pratim Pande, **“Performance Evaluation and Design Trade-offs for Wireless-enabled SMART NoC,”** Proceedings of IEEE Design, Automation and Test in Europe, DATE 2017.
 73. Sourav Das, Janardhan Rao Doppa, Partha Pratim Pande and Krishnendu Chakrabarty, **“Robust TSV-based 3D NoC Design to Counteract Electromigration and Crosstalk Noise,”** Proceedings of IEEE Design, Automation and Test in Europe, DATE 2017.
 74. Sourav Das, Janardhan Rao Doppa, Partha Pratim Pande and Krishnendu Chakrabarty, **“Energy-Efficient and Reliable 3D Network-on-Chip (NoC): Architectures and Optimization Algorithms,”** Proceedings of IEEE/ACM International Conference on Computer Aided Design, ICCAD 2016 (invited paper).
 75. Wonje Choi, Karthi Duraisamy, Ryan Gary Kim, Janardhan Rao Doppa, Partha Pratim Pande, Radu Marculescu and Diana Marculescu, **“Hybrid Network-on-Chip Architectures for Accelerating Deep Learning Kernels on Heterogeneous Manycore Platforms,”** Proceedings of the International Conference on Compilers, Architectures and Synthesis of Embedded Systems, CASES 2016.
 76. Paul Bogdan, Miroslav Pajic, Partha Pratim Pande and Vijay Raghunathan, **“Making the Internet-of-Things a Reality: From Smart Models, Sensing and Actuation to Energy-Efficient Architectures,”** Proceedings of CODES+ISSS, 2016.
 77. Paul Bogdan, Partha Pratim Pande, Hussam Amrouch, Muhammad Shafique, Jörg Henkel, **“Power and Thermal Management in Massive Multicore Chips: Theoretical Foundation meets Architectural Innovation and Resource Allocation,”** Proceedings of the International Conference on Compilers, Architectures and Synthesis of Embedded Systems, CASES 2016.
 78. Sheng-En(David) Lin, Partha Pratim Pande, Dae Hyun Kim, **“Optimization of Dynamic Power Consumption in Multi-Tier Gate-Level Monolithic 3D ICs”**, Proceedings of IEEE International Symposium on Quality Electronic Design, ISQED 2016.

79. Sourav Das, Janardhan Rao Doppa, Partha Pratim Pande and Krishnendu Chakrabarty, **“Reliability and Performance Trade-offs for 3D NoC-Enabled Multicore Chips”**, Proceedings of IEEE Design, Automation and Test in Europe, DATE 2016.
80. Sourav Das, Janardhan Rao Doppa, Dae Hyun Kim, Partha Pratim Pande and Krishnendu Chakrabarty, **“Optimizing 3D NoC Design for Energy Efficiency: A Machine Learning Approach”**, Proceedings of IEEE/ACM International Conference on Computer Aided Design, ICCAD 2015.
81. Partha Pratim Pande, Ryan Gary Kim, Wonje Choi, Zhuo Chen, Diana Marculescu and Radu Marculescu, **“The (Low) Power of Less Wiring: Enabling Energy Efficiency in Many-Core Platforms Through Wireless NoC (Invited Paper)”**, Proceedings of IEEE/ACM International Conference on Computer Aided Design, ICCAD 2015.
82. Karthi Duraisamy, Hao Lu, Partha Pratim Pande and Ananth Kalyanaraman, **“High Performance and Energy Efficient Wireless NoC-Enabled Multicore Architecture for Graph Analytics”**, Proceedings of the International Conference on Compilers, Architectures and Synthesis of Embedded Systems, CASES 2015 (best paper award finalist).
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86. Sourav Das, Dongjin Lee, Dae Hyun Kim and Partha Pratim Pande, **“Small-World Network Enabled Energy Efficient and Robust 3D NoC Architectures”**, Proceedings of ACM GLSVLSI, 2015.
87. Turbo Majumder, Partha Pratim Pande and Ananth Kalyanaraman, **“On-Chip Network-Enabled Many-Core Architectures for Computational Biology Applications”**, IEEE Design, Automation and Test in Europe, DATE 2015.
88. Turbo Majumder, Xian Li, Paul Bogdan and Partha Pratim Pande, **“NoC-Enabled Multicore Architectures for Stochastic Analysis of Biomolecular Reactions”**, IEEE Design, Automation and Test in Europe, DATE 2015.
89. Karthi Duraisamy, Ryan Gary Kim, Partha Pratim Pande, **“Enhancing Performance of Wireless NoCs with Distributed MAC Protocols”**, IEEE International Symposium on Quality Electronic Design, ISQED 2015.
90. Ryan Kim, Guangshuo Liu, Paul Wettin, Radu Marculescu, Diana Marculescu, Partha Pratim Pande, **“Energy-Efficient VFI-Partitioned Multicore Design Using Wireless NoC Architectures”**, Proceedings of the International Conference on Compilers, Architectures and Synthesis of Embedded Systems, CASES 2014.

91. Ryan Kim, Jacob Murray, Paul Wettin, Partha Pratim Pande, Behrooz Shirazi, "**An Energy-Efficient Millimeter-Wave Wireless NoC with Congestion-Aware Routing and DVFS**", Proceedings of ACM/IEEE International Symposium on Networks-on-Chip, NOCS 2014.
92. Jacob Murray, Paul Wettin, Ryan Kim, Xinmin Yu, Partha Pratim Pande, Behrooz Shirazi, Deukhyoun Heo, "**Thermal Hotspot Reduction in mm-Wave Wireless NoC Architectures**", Proceedings of the IEEE International Symposium on Quality Electronic Design, ISQED 2014.
93. Paul Wettin, Jacob Murray, Ryan Kim, Xinmin Yu, Partha Pratim Pande and Deukhyoun Heo, "**Performance Evaluation of Wireless NoCs in Presence of Irregular Network Routing Strategies**", Proceedings of IEEE Design, Automation and Test in Europe (DATE), 2014.
94. S. P. Sah, X. Yu, P. Agarwal, H. Rashtian, P. P. Pande, D. Heo and Shahriar Mirabbasi, "**A V-band Wide Locking Range Injection Locked CMOS VCO for Wireless Network-on-Chip Receiver**", Proceedings of IEEE International Microwave Symposium (IMS), 2013
95. Jacob Murray, Paul Wettin, Partha Pande, Behrooz Shirazi, Nishad Nerurkar and Amlan Ganguly, "**Evaluating Effects of Thermal Management in Wireless NoC-Enabled Multicore Architectures**", Proceedings of IEEE International Green Computing Conference (IGCC), 2013.
96. Paul Wettin, Partha Pratim Pande, Deukhyoun Heo, Benjamin Belzer, Sujay Deb and Amlan Ganguly, "**Design Space Exploration for Reliable mm-Wave Wireless NoC Architectures**", Proceedings of IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP), 2013.
97. Turbo Majumder, Partha Pratim Pande and Ananth Kalyanaraman, "**Network-on-chip with long-range wireless links for high-throughput scientific computation**" Proceedings of IPDPS workshop on Communication Architecture for Scalable Systems (CASS), 2013.
98. Paul Wettin, Jacob Murray, Partha Pratim Pande, Behrooz Shirazi and Amlan Ganguly, "**Energy-Efficient Multicore Chip Design Through Cross-Layer Approach**", Proceedings of IEEE Design, Automation and Test in Europe (DATE), 2013.
99. Jacob Murray, Rajath Hegde, Teng Lu, Partha Pratim Pande and Behrooz Shirazi, "**Sustainable Dual-Level DVFS-enabled NoC with on-chip Wireless Links**", Proceedings of the IEEE International Symposium on Quality Electronic Design, ISQED 2013.
100. Jacob Murray, Partha Pratim Pande and Behrooz Shirazi, "**DVFS-Enabled Sustainable Wireless NoC Architecture**", Proceedings of IEEE International System-on-Chip Conference (SOCC), September 2012.
101. Sujay Deb, Kevin Chang, Miralem Cosic, Amlan Ganguly, Partha Pande, Deukhyoun Heo and Benjamin Belzer, "**CMOS Compatible Many-Core NoC Architectures with Multi-Channel Millimeter-Wave Wireless Links**", Proceedings of ACM Great Lake Symposium on VLSI, GLSVLSI 2012.
102. Jacob Murray, John Klingner, Partha Pande and Behrooz Shirazi, "**Sustainable Multi-Core Architecture with on-chip Wireless Links**", Proceedings of ACM Great Lake

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103. Sujay Deb, Kevin Chang, Amlan Ganguly, Xinmin Yu, Christof Teuscher, Partha Pande, Deuk Heo and Benjamin Belzer, “**Design of an Efficient NoC Architecture using Millimeter-Wave Wireless Links**”, Proceedings of the IEEE International Symposium on Quality Electronic Design, ISQED 2012.
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105. Turbo Majumder, Partha Pratim Pande and Ananth Kalyanaraman, “**Accelerating Maximum Likelihood based Phylogenetic Kernels using Network-on-Chip**”, Proceedings of 23rd International Symposium on Computer Architecture and High-Performance Computing - SBAC-PAD 2011.
106. Amlan Ganguly, Partha Pratim Pande, Benjamin Belzer and Alireza Nojeh, “**A Unified Error Control Scheme to Enhance the Reliability of a Hybrid Wireless Network-on-Chip**”, Proceedings of IEEE International Symposium on Defect and fault Tolerance in VLSI and Nanotechnology systems, DFTS 2011.
107. Xinmin Yu, Suman Prasad Sah, Sujay Deb, Partha Pratim Pande, Benjamin Belzer and Deukhyoun Heo, “**A Wideband Body-Enabled Millimeter-Wave Transceiver for Wireless Network-on-Chip**”, Proceedings of IEEE Midwest Symposium on Circuits and Systems, MWSCAS 2011.
108. Amlan Ganguly, Paul Wettin, Kevin Chang and Partha Pratim Pande, “**Complex Network Inspired Fault-Tolerant NoC architectures with Wireless Links**”, Proceedings of the ACM/IEEE International Symposium on Networks-on-Chip, NOCS 2011.
109. Partha Pande, Fabien Clermidy, Diego Puschini, Imen Mansouri, Paul Bogdan, Radu Marculescu and Amlan Ganguly, “**Sustainability through Massively Integrated Computing: Are We Ready to Break the Energy Efficiency Wall for Single-Chip Platforms?**” Proceedings of IEEE Design, Automation and Test in Europe (DATE) 2011.
110. Radu Marculescu, Christof Teuscher and Partha Pande, “**Unconventional fabrics, architectures, and models for future multi-core systems**”, Proceedings of CODES+ISSS 2010.
111. Sujay Deb, Kevin Chang, Amlan Ganguly and Partha Pande, “**Comparative Performance Evaluation of Wireless and Optical NoC Architectures**”, Proceedings of IEEE International SOC Conference (SOCC), 27th-29th September 2010.
112. Turbo Majumder, Souradip Sarkar, Partha Pratim Pande and Ananth Kalyanaraman, “**An Optimized NoC Architecture for Accelerating TSP Kernels in Breakpoint Median Problem**”, Proceedings of IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP 2010), 7th – 9th July 2010.
113. Sujay Deb, Amlan Ganguly, Kevin Chang, Partha Pratim Pande, Benjamin Belzer and Deuk Heo, “**Enhancing Performance of Network-on-Chip Architectures with Millimeter-Wave Wireless Interconnects**”, Proceedings of IEEE International Conference on Application-specific Systems, Architectures and Processors (ASAP 2010), 7th -9th July, 2010

114. Souradip Sarkar, Turbo Majumder, Ananth Kalyanaraman, Partha Pratim Pande, **“Hardware Accelerators for Biocomputing: A Survey”**, Proceedings of IEEE International Symposium on Circuits and Systems, ISCAS 2010, 30th May – 2nd June, 2010.
115. Partha Pratim Pande, Amlan Ganguly, Kevin Chang, Christof Teuscher, **“Hybrid Wireless Network-on-Chip: A New Paradigm in Multi-Core Design”**, Proceedings of International Workshop on Network-on-Chip Architectures (NoCArc), December 12, 2009.
116. Luca P. Carloni, Partha Pande and Yuan Xie, **“Networks-on-Chip in Emerging Interconnect Paradigms: Advantages and Challenges”**, Proceedings of the IEEE International Symposium on Networks-On-Chip, 10-13 May 2009.
117. Amlan Ganguly, Kevin Chang, Partha Pratim Pande, Benjamin Belzer and Alireza Nojeh, **“Performance Evaluation of Wireless Networks on Chip Architectures”**, Proceedings of the IEEE International Symposium on Quality Electronic Design (ISQED), 16th-18th March 2009.
118. Cristian Grecu, Andre Ivanov, Resve Saleh, Claudia Rusu, Lorena Anghel, Partha Pratim Pande, Vasile Nuca, **“A flexible network-on-chip simulator for early design space exploration”**, Proceedings of IEEE Microsystems and Nanoelectronics Research Conference, MNRC, October 2008.
119. Alireza Nojeh, Partha Pratim Pande, Amlan Ganguly, Samad Sheikhaei, Benjamin Belzer and Andre Ivanov, **“Reliability of wireless on-chip interconnects based on carbon nanotube antennas”**, Proceedings of IEEE International Mixed-Signals, Sensors, and Systems Test Workshop (IMS3TW) June 2008.
120. Partha Pratim Pande, Amlan Ganguly, Benjamin Belzer, Alireza Nojeh, Andre Ivanov, **“Novel Interconnect Infrastructures for Massive Multicore Chips – An Overview”**, Proceedings of IEEE International Symposium on Circuits and Systems, ISCAS 2008, 18th-21st May, 2008.
121. Jabulani Nyathi, Souradip Sarkar, Partha Pratim Pande, **“Multiple Clock Domain Synchronization for Network on Chip Architectures”**, Proceedings of IEEE International SoC Conference, SOCC 2007, 26th-29th September 2007.
122. Haibo Zhu, Partha Pratim Pande, Cristian Grecu, **“Performance Evaluation of Adaptive Routing Algorithms for achieving Fault Tolerance in NoC Fabrics”**, Proceedings of 18th IEEE International Conference on Application-specific Systems, Architectures and Processors, ASAP 2007, July 9th - 11th, 2007.
123. Cristian Grecu, Lorena Anghel, Partha Pratim Pande, André Ivanov, Res Saleh, **“Essential Fault-Tolerance Metrics for NoC Infrastructures”**, Proceedings of IEEE International Online Testing Symposium (IOLTS), 9th-11th July, 2007.
124. Partha Pratim Pande, Amlan Ganguly, Brett Feero, Cristian Grecu, **“Applicability of Energy Efficient Coding Methodology to address Signal Integrity in 3D NoC Fabrics”**, Proceedings of IEEE International Online Testing Symposium (IOLTS), 9th-11th July, 2007.
125. Amlan Ganguly, Partha Pratim Pande, Benjamin Belzer, Cristian Grecu, **“Addressing Signal Integrity in Networks on Chip Interconnects through Crosstalk-Aware Double Error Correction Coding”**, Proceedings of IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 9th-11th May 2007.

126. Brett Feero, Partha Pratim Pande, "**Performance Evaluation for Three-Dimensional Networks-on-Chip**", Proceedings of IEEE Computer Society Annual Symposium on VLSI (ISVLSI), 9th-11th May 2007.
127. Cristian Grecu, André Ivanov, Partha Pande, Axel Jantsch, Erno Salminen, Ümit Y. Ogras, Radu Marculescu, "**Towards Open Network-on-Chip Benchmarks**", Proceedings of IEEE International Symposium on Networks-on-Chip (NOCS' 07), 7-9 May 2007.
128. Cristian Grecu, André Ivanov, Res Saleh, Partha Pratim Pande, "**NoC Interconnect Yield Improvement Using Crosspoint Redundancy**", Proceedings of 21st IEEE International Symposium on Defect and Fault Tolerance in VLSI Systems (DFT'06), 2nd-4th October 2006.
129. Partha Pratim Pande, Amlan Ganguly, Brett Feero, Benjamin Belzer, Cristian Grecu, "Design of Low Power and Reliable Networks on Chip through joint crosstalk avoidance and forward error correction coding", Proceedings of 21st IEEE International Symposium on Defect and Fault Tolerance in VLSI Systems (DFT'06), 2nd-4th October 2006.
130. Partha Pratim Pande, Haibo Zhu, Amlan Ganguly, Cristian Grecu, "**Crosstalk-aware Energy Reduction in NoC Communication Fabrics**", Proceedings of IEEE International SOC Conference, SOCC 2006, 24th-27th September, 2006.
131. Partha Pratim Pande, Haibo Zhu, Amlan Ganguly, Cristian Grecu, "**Energy Reduction through Crosstalk Avoidance Coding in NoC Paradigm**", Proceedings of 9th Euromicro Conference on Digital System Design, DSD 2006, 30th August-1st September 2006.
132. Cristian Grecu, André Ivanov, Res Saleh, Egor S. Sogomonyan, Partha Pratim Pande, "**On-line Fault Detection and Location for NoC Interconnects**", Proceedings of 12th IEEE International On-Line Testing Symposium, IOLTS 2006, July 10-12 2006.
133. Cristian Grecu, Partha Pratim Pande, André Ivanov, Res Saleh, "**BIST for Network on Chip Interconnect Infrastructures**", Proceedings of 24th IEEE VLSI Test Symposium, VTS 2006, 30th April – 4th May, 2006.
134. Cristian Grecu, Partha Pratim Pande, Baosheng Wang, André Ivanov, Res Saleh, "**Methodologies and Algorithms for Testing Switch-Based NoC Interconnects**", Proceedings of IEEE International Symposium on Defect and Fault Tolerance in VLSI Systems (DFT 2005), 3-5th October, 2005, Monterey, USA.
135. Partha Pratim Pande, Cristian Grecu, Michael Jones, André Ivanov, Res Saleh, "**Effect of traffic localization on energy dissipation in NoC-based interconnect infrastructures**", Proceedings of IEEE International Symposium on Circuits and Systems, ISCAS 2005, 23-26th May, Kobe Japan.
136. Partha Pratim Pande, Cristian Grecu, Michael Jones, André Ivanov, Res Saleh, "**Evaluation of MP-SoC Interconnect Architectures: A Case Study**", Proceedings of 4th IWSOC, 19th-21st July, 2004, Banff, Alberta, Canada.
137. Cristian Grecu, Partha Pratim Pande, André Ivanov, Res Saleh "**Structured Interconnect Architecture: A Solution for the Non-Scalability of Bus-Based SoCs**", Proceedings of GLSVLSI 2004, 26-28th April, Boston.
138. Cristian Grecu, Partha Pratim Pande, André Ivanov, Res Saleh, "**A Scalable Communication-Centric SoC Interconnect Architecture**", Proceedings of IEEE

International Symposium on Quality Electronic Design, ISQED 2004, San Jose, California, USA, 22-24 March, 2004.

139. Partha Pratim Pande, Cristian Grecu, André Ivanov, Res Saleh, "**Switch-Based Interconnect Architecture for Future Systems on Chip**", Proceedings of SPIE, VLSI Circuits and Systems, 2003, Maspalomas, Gran Canaria, Spain.

140. Partha Pratim Pande, Cristian Grecu, André Ivanov, Res Saleh, "**High-Throughput Switch-Based Interconnect for Future SoCs**", Proceedings of IEEE International Workshop on SoC for Real Time Applications, 2003, Calgary, Canada.

141. Partha Pratim Pande, Cristian Grecu, André Ivanov, Res Saleh, "**Design of a Switch for Network on Chip Applications**", Proceedings of IEEE International Symposium on Circuits and Systems, ISCAS 2003, Bangkok, Thailand.

❖ **Patents**

1. Network-on-chip Computing Systems with Wireless Interconnects, US Patent No. 9,876,708.
2. Network-on-chip based computing devices and systems, US Patent No. 9,608,684

❖ **Synergistic Activities:**

1. Journal Leadership:
 - a. Editor-in-Chief (EIC), IEEE Transactions on Multiscale Computing Systems (TMSCS) 2015-
 - b. Associate Editor-in-Chief (A-EIC), IEEE Design and Test (D&T) 2014-
 - c. Chair, EIC search committee of an IEEE Transactions on Service Computing
2. Associate Editor:
 - a. IEEE Transactions on VLSI (TVLSI) 2015-
 - b. ACM Journal on Emerging Technologies in Computing Systems (JETC) 2013-
3. Technical Program Committee Chair:
 - a. IEEE/ACM Network on Chip Symposium NOCS 2015
 - b. IEEE International Green Computing Conference 2014
4. General Chair:
 - a. IEEE International Green Computing Conference, 2015
 - b. IEEE/ACM Network on Chip Symposium NOCS 2016
5. Tutorial Presenter:
 - a. Design, Automation and Test in Europe (DATE) 2017
 - b. IEEE/ACM Network on Chip Symposium NOCS 2013
 - c. Design, Automation and Test in Europe (DATE) 2014
 - d. IEEE System-on-Chip Conference (SOCC) 2014
 - e. IEEE System-on-Chip Conference (SOCC) 2016
6. NSF Panelist, CISE CCF, CPS, SPX
7. Guest Editor, IEEE Design and Test of Computers, Special Issue on Emerging Interconnect Technologies for Gigascale Integration.
8. Guest Editor, IEEE Design and Test of Computers, Special Issue on Hardware Acceleration in Computational Biology.
9. Guest Editor, ACM Journal on Emerging Technologies in Computing Systems, Special Issue on Sustainable and Green Computing Systems.
10. Keynote Speaker, NocArc 2013.
11. Presenter in special session on Wireless NoC, NOCS 2014
12. Program Committee member of the following conferences
 - a. IEEE Design, Automation conference, DAC (2014-2016, 2018)
 - b. International Conference on Hardware/Software Codesign and System Synthesis, CODES+ISSS (2013-2018).
 - c. IEEE/ACM International Conference on Computer-Aided Design, ICCAD (2014-2017).

- d. IEEE International Midwest Symposium on Circuits and Systems, MWSCAS, 2007 (Co-chair for the Test and Characterization track)
 - e. IEEE International Midwest Symposium on Circuits and Systems, MWSCAS, 2010, Publication Chair.
 - f. IEEE International online testing symposium, IOLTS (2007-2010)
 - g. Asian Test Symposium, ATS (2007, 2008)
 - h. IEEE International Workshop on Electronic Design, Test and Applications, DELTA (2008-2010)
 - i. IEEE International Symposium on Networks-on-Chip (NOCS 2009-2012, 2014-2018)
 - j. IEEE Green Computing Conference (IGCC) 2013
13. Presenter in the special session on Emerging Interconnect technologies, NOCS 2013.
 14. Organizer of the Hot Topic session “Fault Tolerant Nanoscale Architectures – the Challenges and Emerging Solutions” 25th IEEE VLSI Test Symposium, VTS 07
 15. Presenter in the Hot Topic Session, “Signal Integrity: How Can it be Designed into Multiprocessor Platforms, Systems on-Chip, and Systems in-Package?” 24th IEEE VLSI Test Symposium, VTS 06
 16. Special session organizer and session chair, IEEE International Symposium on Circuits and Systems, ISCAS 2008, 2010.
 17. Workshop organizer, IEEE International Green computing Conference.
 18. Special session Chair, IEEE International Symposium on Networks-on-Chip NOCS 2011.
 19. Member, Computer Engineering Curriculum Committee, School of EECS, Washington State University.
 20. Member, Scholarship Committee, School of EECS, Washington State University.
 21. Participant of Provost’s Faculty Leadership Academy (PFLA) program.
 22. Reviewer for conferences like Design Automation & Test in Europe (DATE), International Conference on Computer Aided Design (ICCAD), Design Automation Conference (DAC), VLSI Test Symposium (VTS), International Test Conference (ITC), International Symposium on Circuits and Systems (ISCAS) and journals like IEEE Transaction on VLSI, IEEE Design and Test, IEEE Transactions on computer-aided design of Integrated Circuits and Systems.

❖ **Graduate Students Supervision:**

(a) Current Graduate Students:

1. Dongjin Lee (PhD)
2. Sheng-En Lin (PhD), Co-advising with Dae Hyun Kim
3. Biresch Joarddar (PhD), Co-advising with Jana Doppa.
4. Anwesha Chatterjee (PhD)
5. Shouvik Musavir (PhD)
6. Jackson Hart (PhD, starting Fall 2018)

(b) Graduated:

- 1) Xian Li (PhD, April 2018, currently employed at Qualcomm)
- 2) Sourav Das (PhD, April 2018, currently employed at Intel)
- 3) Wonje Choi (PhD, February 2018, currently employed at AMD)
- 4) Karthi Duraisamy (PhD, December 2017, currently employed at Synopsys)
- 5) Ryan Kim (PhD, May 2016, currently employed as Post Doctoral Research Fellow, CMU)
- 6) Paul Wettin (PhD, May 2014, currently employed at Cirrus Logic)
- 7) Jacob Murray (PhD, May 2014, currently employed as Clinical Asst. Professor Electrical Engineering, WSU at Everett Community College program)
- 8) Turbo Majumder (PhD, May 2013, currently at Intel Labs)
- 9) Sujay Deb (PhD, May 2012, currently Asst. Professor, Indraprastha Institute of Information Technology (IIIT), Delhi, India)

- 10) Kevin Chang (PhD, May 2012, currently employed at ARM)
- 11) Amlan Ganguly (PhD, August 2010, currently Associate. Professor, Rochester Institute of Technology)
- 12) Souradip Sarkar (PhD, December 2010, currently R&D Engineer, Bell Labs)
- 13) Haibo Zhu (MS, July 2007, currently employed at Micron, San Jose, USA)
- 14) Brett Feero (MS, May 2008, currently employed at Apple)
- 15) Divya Krishnan (MS, August 2010, currently working at Micron, Boise)
- 16) Chien Chuan Hung (MS, December 2010, currently working at NVidia)

(c) Committee Member:

- 1) Syryanarayana Tatapudi
- 2) Daniel R. Blum
- 3) Ray Robert Rydberg III
- 4) Billy J Hamon
- 5) Nancy Shah
- 6) Jeremy Asmussen
- 7) Alex O. Mikul
- 8) Gaurav Ramesh Kulkarni
- 9) Thanigainathan Manivannan
- 10) Philip Munson
- 11) Florian Grigoleit
- 12) Rajath Hegde
- 13) Yu You
- 14) Huan Peng
- 15) Siqi Zhu
- 16) Xinmin Yu
- 17) Suman Prasad Sah
- 18) Pawan Agarwal
- 19) Joe Baylon
- 20) Srinivasan Gopal
- 21) Huan Hu
- 22) Yiting Chen



Teaching Activities:

- EE 434 (ASIC and Digital Systems)
- EE 587 (System on Chip Design and Test)
- EE 586 (VLSI Design)
- EE 466 (VLSI Design)