

**List of Publications**

No.	Year	Title	Author List	Journal Name
1	2019	Towards Accelerated Genome Informatics on Parallel HPC Platforms: The ReneGENE-GI Perspective	Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy	Springer Journal for Signal Processing Systems (DOI: 10.1007/s11265-019-01452-x)
2	2018	ReneGENE-Novo: Co-designed Algorithm-Architecture for Accelerated Preprocessing and Assembly of Genomic Short Reads	Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy	Proceedings of Applied Reconfigurable Computing Symposium, Santorini, Greece, May 2018
3	2018	ReneGENE-GI: Empowering Precision Genomics with FPGAs on HPCs <b>Won Best Paper Award</b>	Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy	Proceedings of Applied Reconfigurable Computing Symposium, Santorini, Greece, May 2018
4	2018	ReneGENE-DP: Accelerated Parallel Dynamic Programming for Genome Informatics <b>Won Best Paper Award</b>	Santhi Natarajan, Krishna Kumar N., Pavan M., Debnath Pal and S. K. Nandy	Proceedings of IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT), March 2018
5	2017	ReneGENE: A pipeline to maximally harness the genome big-data	Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy	Proceedings of Basel Life Conference, Switzerland, September 2017
6	2017	Accurate and Accelerated Secondary Analysis of Genome: Implications for Genomics	Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy	Proceedings of NGS'17: Structural Variation and Population Genomics., Barcelona, Spain, April 2017
7	2016	AccuRA: Accurate Alignment of Short Reads on Scalable Reconfigurable Accelerators	Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy	Proc. IEEE International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation (SAMOS), pp. 79-87, July 2016
8	2016	A scalable Hardware Accelerator Model for Accurate Alignment of Short Reads from High Throughput Next Generation Sequencing [NGS] Platforms	Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy	Proceedings of the EECS Symposium, Indian Institute of Science

9	2015	SIMAAH: RTL simulation accelerator for complex SoC's	Ipsita Biswas Mahapatra, Santhi Natarajan, Nalesh S, S. K. Nandy	Proceedings of IEEE International Conference on Electronics, Computing and Communication Technologies, 2015
10	2014	A Framework for Post-Silicon Realization of Arbitrary Instruction Extensions on Reconfigurable Data-paths	Saptarsi Das, Kavitha Madhu, Madhava Krishna, Nalesh S, Farhad Merchant, Santhi Natarajan, Ipsita Biswas Mahapatra, Adithya Pulli, S. K. Nandy, Ranjani Narayan	Elsevier Journal of Systems Architecture, Volume 60, Issue 7, August 2014, Pages 592-614

### List of Patents

No	PATENT ID	PATENT TITLE	PATENT STATUS	FILING COUNTRY	PCT ID	US Patent No
1	1089_CHE_2015	MAPPING OF SHORT READS IN SEQUENCING PLATFORMS	GRANTED	INDIA	PCT/IB2016/050840	
2	1090_CHE_2015	DATA STREAMING IN HARDWARE ACCELERATOR FOR ALIGNMENT OF SHORT READS	GRANTED	INDIA	PCT/IB2016/050841	
3	1088_CHE_2015	HARDWARE ACCELERATOR FOR ALIGNMENT OF SHORT READS IN SEQUENCING PLATFORMS	FER	INDIA	PCT/IB2016/050839	15/554,592 Under Review