RESUME

SHAJULIN BENEDICT

Adhoc Faculty
Indian Institute of Information Technology Kottayam (IIIT-K)
Email: shajulin@iiitkottayam.ac.in
Contact: 0091-9443543746

EDUCATION :

- **Technische Universitat Muenchen,** Faculty of Informatics I10, April 2009-March 2011, Post Doctorate.
- **Anna University**, Faculty of Information and Communication Engineering, Jun2004-Oct2008, **Ph.D** in the topic ON SCHEDULING IN GRID COMPUTING**.**
- **Anna University**, Faculty of Information and Communication Engineering, Jun 2002- May 2004, Master of Engineering.

AWARDS / ACHIEVEMENTS :

- **University Rank Holder** (Master of Engineering, Anna University-Chennai, 2002-2004 Batch)
- **Rank Holder** (Academic Excellence) in A.K.College of Engineering 2003-2004 Batch
- **Distinction Holder** for Bachelors and Master Programme
- **Two Ph.D candidates** (submitted thesis).
- **Organizing Chair** for IEEE International Conference on Green High Performance Computing (ICGHPC'13 and ICGHPC'16)
- **Travel Grants Awardee:** ICC2014, Oman (by DST,India), Dagstuhl Seminar, Germany (by GIZ Germany), IndoSys2014, Bangalore (by IndoSys Organizers) , Guest Scientist / Guest Lecturer visits (TUM, Germany); IPDPS 2015 Hyderabad; HiPC 2015 Bangalore.
- **Science Slam Second Prize Winner:** Science Slam - Kolkatta Event - 2014 (Organized by GIZ, DWIH, Germany)

EXPERIENCE :

Sl. No.	Duration	Position	Affiliation	Country
1	6 years 4 months	Professor (Promoted on 1.4.2011 as Professor)	St.Xavier's Catholic College of Engineering, Research Centre, Anna University - Chennai, India	India
2	15 Oct 2016 to 15 April 2017. (as LIEN leave from SXCCE)	Guest Professor	Technical University Munich, Germany	Germany
3	1 month (July 2012) 15 days (Oct 2012)	Visiting Scientist	Technical University Munich	Germany

	12 days (March 2015) 10 days (March 2016) (During vacation slots from SXCCE)			
4	2 years.	PostDoctoral Scientist	Technical University Munich	Germany
5	4 months	Asst.Professor	St.Xaviers Catholic College of Engineering	India
6	4 years 6 months (May 2004 to Nov 2008)	Asst.Professor	Kalasalingam University, India (Earlier named as *Arulmigu Kalasalingam College of Engineering AKCE*)	India
7	9 months	R&D Engineer	Power Electronic Industries, Chennai.	India

MEMBERSHIP :

i) Member – EUIndiaGrid
ii) Member – Indian Society for Technical Education (Life Member).
iii) Member – Alumni Technische Universitat Muenchen, Germany
iv) Member – International Society of Engineering Association (Computer Society)

PROJECTS : **Completed Projects / Grants**

Sl.No.	Title of the project	Role	Funding Agency	Year of Completion / period	Amount in Rupees
1	Energy Aware Autotuning for Scientific Applications	Principal Investigator	DST-FWF	April 2017 (3 years)	1705680
2	Online-based Energy Consumption Analysis Methodology for Scientific Applications	Principal Investigator	DST – SERB	Feb 2015 (3 years)	1512000
3	HPC Cloud Research and Applications – *Returning Experts Grant*	Principal Investigator	CIM-GIZ Germany	Mar 2012 (1 year)	226800
4	HPC Cloud Research and Applications – *Returning Experts Grant*	Principal Investigator	CIM-GIZ Germany	Mar 2011 (2 years)	453600

Participated Projects

i) ISAR project : Post Doctoral Researcher of ISAR project for the Periscope toolkit development (http://www.lrr.in.tum.de/~periscop/) - Germany (2 years)

ii) Grid Scheduling algorithms at TIFAC Core in Network Engineering, DST funded project.
iii) Hot Standby Routing Protocol for Catalyst switches in Software Technologies Group of TIFAC Core in Network Engineering

EDITORIAL/REVIEWER/ORGANIZER :

- Special Issue Editor – Computing Journal (Springer) – in Aug. 2017
  - ***Editors**: Shajulin Benedict, Michael Gerndt, and Seigfried Benkner,*
  - ***Title**: Energy Reduction Techniques for Exa-Scale Computing – Theory and Practice*
  - ***Journal Name**: Computing (Springer) **ISSN**: 0010-485X (print version)*
- IEEE Transactions on Parallel and Distributed Computing - Reviewer
- IEEE Transactions on Systems, Man, and Cybernetics – Part C - Reviewer
- EuroPAR conference series - Advisory Board Member
- ACM-SigArch ICS2014 – Proceedings Chair
- PARCO 2011 – PC Member
- MTaaS 2015 – PC Member
- IEEE-ICGHPC - 2013 and 2016 – **Organizing Chair (Indexed in DBLP, Scopus)**

SUBJECTS TAUGHT:

Course No. & Title	Level (UG/PG)	Number of Times	Taught for
Advanced Computer Architecture	UG	1	SXCCE, Anna Univ. Chennai
Cloud Computing and Cloud Computing lab	PG	1 (2016 completed) 1 (Oct 2017 proposed)	Technical University Munich, Germany
Nanotechnology and Applications	PG	1	SXCCE, Anna Univ. Chennai
Cloud Computing	PG	3	SXCCE, Anna Univ. Chennai
Grid Computing	PG	2	SXCCE, Anna Univ. Chennai
Advanced Operating Systems	PG	2	SXCCE, Anna Univ. Chennai
Network Management	PG	2	SXCCE, Anna Univ. Chennai
Real Time Embedded Systems	PG	1	SXCCE, Anna Univ. Chennai
Advanced Computer Architecture	PG	3	AKCE, Anna Univ. Chennai
Computer Networks	UG	3	AKCE, Anna Univ. Chennai
Electromagnetic Field Theory	UG	2	AKCE, Anna Univ. Chennai
Advanced Computer Networks	UG	2	AKCE, Anna Univ. Chennai
Network Routing Algorithms	PG	1	AKCE, Anna Univ. Chennai
Spread Spectrum Communications	PG	2	AKCE, Anna Univ. Chennai

SELECTED PUBLICATIONS :

1. Shajulin Benedict **(2017-Accepted)**, Revenue Oriented Air Quality Prediction Microservices for Smart Cities, accepted in 2017 International Conference on Advances in Computing, Communications and Informatics (IEEE-ICACCI), 2017.
2. Shajulin Benedict, Rejitha R.S., Preethi B., Bright C., and Judyfer W.S.**(2017)**, 'Energy Analysis of Code Regions of HPC Applications using EnergyAnalyzer Tool', in Int. Journal of Computational Science and Engineering, InderScience publishers, Vol. 14, No.3, pp.267-278, 2017.
3. Rejitha R.S., Shajulin Benedict, Suja A.Alex, and Shany Infanto (**2017-Online**), 'Energy Prediction of CUDA Application Instances using Dynamic Regression Models', in Computing-Springer, DOI:10.1007/s00607-016-0534-5, pp.1-26, 2017.
4. Shajulin Benedict, Rejitha R.S., Preethi B., Bright C., and Judyfer W.S. (**2017**), 'Energy Analysis of Code Regions of HPC Applications using EnergyAnalyzer Tool', in Int. Journal of Computational Science and Engineering, InderScience publishers, Vol. 14, No.3, pp.267-278, 2017.
5. Matthias Janetschek, Radu Prodan, and Shajulin Benedict (**2017**), 'A Workflow Runtime Environment for Manycore Parallel Architectures', FGCS Elsevier, Vol.75, DOI:http://dx.doi.org/10.1016/j.future.2017.02.029, pp. 330-347, 2017.
6. Brintha N.C., Shajulin Benedict, Winowlin Jappes J.T**. (2017-Accepted)**, Resource Allocation in Cloud Manufacturing using Bat Algorithm, accepted in Int. Journal of MTM, Inderscience publishers, 2017.
7. Vladimir Podolskiy, Michael Gerndt, and Shajulin Benedict **(2017)**, QoS-based Cloud Application Management: Approach and Architecture, in CrossCloud2017, ACM, DOI:http://dl.acm.org/citation.cfm?doid=3069383.3069390, colocated with EuroSys17, Serbia, 2017.
8. Brintha N.C., Shajulin Benedict, Winowlin Jappes J.T. **(2017**), A bio-inspired hybrid approach for managing and scheduling virtual Resources in Cloud Manufacturing, Applied Mathematics and Information Sciences, Vol. 11, No. 2, pp. 565-572, DOI:http://dx.doi.org/10.18576/amis/110228, 2017.
9. N. C. Brintha, J. T. W. Jappes and S. Benedict **(2016)**, An Approach for Management and Scheduling of Resources in Printing and Packaging Enterprise using Cloud Manufacturing, in Int. Journal of Printing, Packaging and Allied Sciences, ISSN: 2320-4387, Vol. 4, No. 5, pp. 2983-2993, 2016.
10. N. C. Brintha, J. T. W. Jappes and S. Benedict **(2016)**, "A Modified Ant Colony based optimization for managing Cloud resources in manufacturing sector," 2016 2nd International Conference on Green High Performance Computing (ICGHPC), Nagercoil, 2016,pp.1-6.doi: 10.1109/ICGHPC.2016.7508068.
11. Vincenzo Di Maio, Radu Prodan, Shajulin Benedict, Gabor Kecskemeti**(2016**), 'Modelling energy consumption of network transfers and virtual machine migration', in FGCS-Elsevier, Vol.56, pp.388-406, doi:10.1016/j.future.2015.07.007, 2016.
12. Brintha N.C and Shajulin Benedict, A Survey on Cloud Based Solutions for Cloud Manufacturing, accepted in Int. J. of Computer Aided Engineering and Technology, Inderscience Publishers, 2016.

13. Shajulin Benedict, Rejitha R.S., Suja Alex **(2015)**, 'Scalability Aware Performance AutoTuning for OpenMP Applications', in DDDAS-HiPC2015 , Bangalore, DOI 10.1109/HiPCW.2015.24, pp. 63, 2015.
14. Shajulin Benedict, Rejitha R.S., Phillip G., Radu Prodan, Thomas Fahringer **(2015)**, 'Energy Prediction of OpenMP Applications using Random Forest Modeling Approach', in iWAPT2015 @ IPDPS 2015, DOI:10.1109/IPDPSW.2015.12, pp.1251-1260.
15. M Christobel, ST Selvi, Shajulin Benedict **(2015)**, Efficient Scheduling of Scientific Workflows with Energy Reduction using Novel Discrete Particle Swarm Optimization and Dynamic Voltage Scaling for Computational Grids, Scientific World Journal, http://dx.doi.org/10.1155/2015/791058, Hindawi Publishers, ArticleID:791058.
16. N.C. Brintha, Shajulin Benedict, J.T. Winowlin Jappes (**2015**), Machining parameter optimisation of Al/SiCp composite materials using artificial neural networks, in IJCAET, Inderscience Publishers, Vol. 7, No.1 pp. 2 - 14, DOI:10.1504/IJCAET.2015.066166, 2015.
17. Shajulin Benedict and Michael Gerndt (**2014**), 'Scalability and Performance Analysis of OpenMP Codes using the Periscope', in Computing and Informatics Journal, Vol.4.No.14, ISSN: 1335-9150, 2014.
18. Shajulin Benedict (**2014**), 'Application of Energy Reduction Techniques using Niched Pareto GA of EnergyAnalzyer for HPC Applications', in 7th IEEE IC3 2014, IEEE, scopus indexed (DBLP), http://dx.doi.org/10.1109/IC3.2014.6897234, 2014.
19. Shajulin Benedict, Rejitha R.S., Suja Alex, Preethi (**2014**), 'Energy-based AutoTuning of HPC Applications using EnergyAnalyzer Tool', in IndoSys 2014, 2014.
20. Shajulin Benedict (**2014**), 'Threshold Acceptance Algorithm based Energy Tuning of Scientific Applications using EnergyAnalyzer', accepted in ISEC2014, **acm publishers**, 2014.
21. Shajulin Benedict, Rejitha R.S., and Bency Bright C. (**2014**), 'Energy Consumption Analysis of HPC Applications using NoSQL Database Feature of EnergyAnalyzer', accepted in ICC2014, in LNCS series (press), **Springer** publishers, 2014.
22. Shajulin Benedict and Michael Gerndt (**2013**), 'Formalizing Bottlenecks in Task-based OpenMP Applications' in ParCo 2013, Advances of Parallel Computing Series, **IOS press**, 2013.
23. Shajulin Benedict (**2013**), 'Performance Issues and Performance Analysis Tools for HPC Cloud Applications: A Survey, Computing Journal, February 2013, Vol. 95, No. 2, pp 89-108, DOI 10.1007/s00607-012-0213-0 **Springer**, 2013.
24. Rejitha R.S., Bency Bright C., and Shajulin Benedict (**2013**), 'Energy Consumption Analysis and Energy Optimization Techniques of HPC Applications', accepted for publication in IEEE Int. Conf. on Energy Efficient Technologies for Sustainability, 2013.
25. Shajulin Benedict (2012), 'Energy-Aware Performance Analysis Methodologies for HPC Architectures - An Exploratory Study' Vol. 35, No. 6, Journal of Network and Computer Applications, **Elsevier**, pages 1709 - 1719, November 2012.
26. Shajulin Benedict, Rejitha R.S., and Bency Bright C. **(2012)**, 'Energy Consumption-based Performance Tuning of Software and Applications using Particle Swarm Optimization', in **IEEE** Conseg 2012, pp 1-6, 2012.
27. Shajulin Benedict and M.Gerndt **(2010)**, 'Formalizing OpenMP performance properties for automatic performance analysis tools', Proceedings of CPC 10, Vienna, Austria, 2010.