

# **BIRENJITH P. S.**

**ASSISTANT PROFESSOR**



## **Contact Information**

Official Address : Assistant Professor, Department of Electronics &  
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## **Professional Qualifications**

<b>B-Tech</b>	Specialization	Electronics and Communication Engineering
	Institute/University	College of Engineering Trivandrum
	Year	2002
<b>MSC (ENGINEERING)</b>	Specialization	Communication
	Institute/University	Indian Institute of Science, Bangalore.
	Year	2009

## **Area/Research Interests**

- Error control codes

## **Professional Experience**

- Assistant Professor in Govt. Engineering College, Kannur (2008 to 2011)
- Assistant Professor in Govt. Engineering College, Bartonhill (2011)
- Assistant Professor in Govt. Engineering College, Bartonhill (2016 to till date)

### **Responsibilities/Position (Department, College and University)**

- Staff advisor of 2016-2020 ECE batch at GEC Bartonhill.
- NBA Accreditation Department Coordinator at GEC Bartonhill.
- Convener of the committee for maintenance of Projector/Electronic Equipments at GEC Bartonhill.
- Co-convener of CERD Committee at GEC Bartonhill.
- Member of the committee for Professional societies at GEC Bartonhill.
- NSS Coordinator at Govt. Engineering College, Kannur.

### **Publications (Journals/ International Conferences)**

#### International Journals

1. Birenjith Sasidharan, N. Prakash, M. Nikhil Krishnan, Myna Vajha, Kaushik Senthooor and P. Vijay Kumar, "Outer Bounds on the Storage-Repair Bandwidth Tradeoff of Exact-Repair Regenerating Codes," International Journal of Information and Coding Theory, Special Issue on Information and Coding Theory for Data Storage, 2016.
2. Chao Tian, Birenjith Sasidharan, Vaneet Aggarwal, Vinay A. Vaishampayan, and P. Vijay Kumar, "Layered Exact-Repair Regenerating Codes via Embedded Error Correction and Block Designs," IEEE Trans. Information Theory, pp. 1933-1947, Apr. 2015.
3. Sreeram Kannan, Birenjith Sasidharan, P Vijay Kumar, "DMT of parallel-path and layered networks under the half-duplex constraint," IEEE Trans. Information Theory, pp. 3875-3891, Jun. 2013.
4. Sreeram Kannan, Birenjith Sasidharan, P Vijay Kumar, "DMT of multihop networks: end points and computational tools," IEEE Trans. Information Theory, pp. 804-819, Feb. 2012.

#### International Conferences

1. Myna Vajha, Vinayak Ramkumar, Bhagyashree Puranik, Ganesh Kini, Elita Lobo, Birenjith Sasidharan, P. Vijay Kumar (IISc), Alexandar Barg, Min Ye (University of Maryland), Srinivasan Narayanamurthy, Syed Hussain, and Siddhartha Nandi (NetApp ATG, Bangalore), "Clay Codes: Moulding MDS Codes to Yield an MSR Code," 16th USENIX Conference on File and Storage Technologies (FAST 18) Feb 2018, Oakland, CA USA.
2. Birenjith Sasidharan, Myna Vajha, P. Vijay Kumar, "An Explicit, Coupled-Layer Construction of a High-Rate MSR Code with Low Sub-Packetization Level, Small Field Size and  $d < (n-1)$ ," IEEE Symposium on Information Theory (ISIT) 2017, Aachen, Germany.

3. Birenjith Sasidharan, Gaurav Kumar Agarwal, P. Vijay Kumar, "Codes with hierarchical locality," IEEE Symposium on Information Theory (ISIT) 2015, Hong Kong.
4. Birenjith Sasidharan, Gaurav Kumar Agarwal, P. Vijay Kumar, "A high-rate MSR code with polynomial sub-packetization level," IEEE Symposium on Information Theory (ISIT) 2015, Hong Kong.
5. Kaushik Senthooor, Birenjith Sasidharan, P. Vijay Kumar, "Improved layered regenerating codes characterizing the exact-repair storage-repair bandwidth tradeoff for certain parameter sets," IEEE Information Theory Workshop 2015, Jerusalem.
6. M. Nikhil Krishnan, N. Prakash, V. Lalitha, Birenjith Sasidharan, P. Vijay Kumar, Srinivasan Narayanamurthy, Ranjit Kumar, Siddhartha Nandi, "Evaluation of Codes with Inherent Double Replication for Hadoop," USENIX HotStorage 2014, CA USA.
7. Birenjith Sasidharan, Kaushik Senthooor, P. Vijay Kumar, "An improved outer bound on the storage-repair-bandwidth tradeoff of exact-repair regenerating codes," IEEE Symposium on Information Theory (ISIT) 2014, Honolulu, Hawaii, USA.
8. Birenjith Sasidharan, P. Vijay Kumar, "On the interior points of the storage-repair bandwidth tradeoff of regenerating codes," 2013 Annual *Allerton Conference* on Communication, Control, and Computing, UIUC, USA.
9. Birenjith Sasidharan, P. Vijay Kumar, "High-rate regenerating codes through layering," IEEE Symposium on Information Theory (ISIT) 2013, Istanbul, Turkey.
10. K. Sreeram, Birenjith Sasidharan, P. Vijay Kumar, "DMT of Multi-hop Cooperative Networks," (invited paper) presented at the 2010 IEEE Information Theory Workshop, Cairo, Jan. 6-8, 2010.
11. K. Sreeram, Birenjith Sasidharan, P. Vijay Kumar, "Multi-hop Cooperative Wireless Networks: Diversity Multiplexing Tradeoff and Optimal Code Design," invited paper presented at the Information Theory and Applications Workshop, University of California, San Diego, Feb 2008.
12. K. Sreeram, Birenjith Sasidharan, P. Vijay Kumar, "Diversity and degrees of freedom of cooperative wireless networks," IEEE Symposium on Information Theory (ISIT) 2008, Toronto, Canada.
13. K. Sreeram, Birenjith Sasidharan, P. Vijay Kumar, "DMT of multi-hop cooperative networks-Part I: K-Parallel-Path networks," IEEE Symposium on Information Theory (ISIT) 2008, Toronto, Canada
14. K. Sreeram, Birenjith Sasidharan, P. Vijay Kumar, "DMT of multi-hop cooperative networks-Part II: Layered and multi-antenna networks," IEEE Symposium on Information Theory (ISIT) 2008, Toronto Canada.
15. K. Sreeram, Birenjith Sasidharan, K. Vinodh, M. Anand, P. Vijay Kumar, "On the throughput, DMT and optimal code construction of the K-parallel-path cooperative wireless fading network," Wireless Personal Multimedia Communications (WPMC' 07), Jaipur, Dec. 2007.

1. D. Shivakrishna, Arvind Rameshwar, V. Lalitha, Birenjith Sasidharan, "On Maximally Recoverable Codes for Product Topologies," 2018 Twenty Fourth National Conference on Communications (NCC), Feb 2018, IIT Hyderabad.
2. Gaurav Kumar Agarwal, Birenjith Sasidharan, P. Vijay Kumar, "An Alternate Construction of an Access-Optimal Regenerating Code with Optimal Sub-Packetization Level," National Conference on Communications (NCC 2015), IIT Bombay, 2015.

### **FDPs, Workshops and Conferences attended**

- Workshop on Image Processing and Embedded Systems using NI my RIO- GEC Bartonhill (23-25 Mar 2017)
- 2017 JTG/IEEE Information Theory Society Summer School on Signal Processing, Communications and Networks- IIT Mumbai (28-31 May 2017)
- 2017 IEEE International Symposium on Information Theory at Aachen, Germany (Presented a paper in this conference)- Aachen, Germany (25-30 Jun 2017)
- Workshop for staff advisor orientation course design- DTE (3-5 Aug 2017)
- Quality initiative in Technical and Higher Educational Institutions (in compliance with NAAC and NBA accreditation), ESCI Campus, Hyderabad- Engineering Staff College of India (Organ of Institution of Engineers in India)- 6-8 Dec 2016
- Bombay Information Theory Seminar, IIT Bombay- IEEE, IIT Bombay and TIFR (1-3 Jan 2016)
- 2016 Joint Telematics Group/IEEE Information Theory Society Summer School on Signal Processing, Communications and Networks, IISc Bangalore- JTG and IEEE (27 June – 1<sup>st</sup> July 2016)
- 2015 Joint Telematics Group/IEEE Information Theory Society Summer School on Signal Processing, Communications and Networks, IISc Bangalore- JTG and IEEE (20-23 July 2015)
- 2015 IEEE Information Theory Workshop (Presented a paper in this conference)- IEEE (April 26 to May 1)
- 2015 IEEE International Symposium on Information Theory at Hong Kong (Presented a paper in this conference- IEEE (14-19 Jun 2015)
- Croucher Summer Course in Information Theory, Hong Kong- IEEE and Croucher Foundation (8 – 12 June 2015)
- 2014 IEEE International Symposium on Information Theory at Honolulu (Presented a paper in this conference)- IEEE (June 29 to July 4)
- 2013 IEEE International Symposium on Information Theory at Istanbul (Presented a paper in this conference)- IEEE (July 7 to 12)
- 2013 Joint Telematics Group/IEEE Information Theory Society Summer School on Signal Processing, Communications and Networks, IIT Madras- JTG and IEEE (26-29 June 2013)
- 2007 Wireless Personal Multimedia Communications Symposium, Jaipur- IEEE (3-7 Dec 2007)