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Assistant Professor

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Joined the Institute in July 2018

## About

Welcome to my home page. I am an Assistant Professor in the Department of Electronics and Communication Engineering at Indian Institute of Information Technology Guwahati. I joined the institute on June 2018. I obtained my Ph.D. from Indian Institute of Technology Guwahati in February 2018.

Communication technology has played a pivotal role in the exponential growth of data over the years. For instance, with the introduction of each new generation of mobile technology, there has been a consistent and dramatic increase in the amount of information generated. This increase can be attributed to the higher data rates supported by each succeeding technology, thereby drawing ever more number of customers and promoting the use of high capacity requiring services such as video. Although each new generation of communication technology seeks to meet the ever increasing data rate demands set by the previous, there appears to be a fundamental limitation owing to the availability of the limited radio spectrum. Currently, I am looking into novel ways to implement schemes which can dynamically and efficiently allocate radio spectrum for the next generation of communication devices.

## Research Interests

Cognitive Radio, Wireless Communication, Signal Processing for Communication.

## Teaching

At IIITG, I am currently taking the following courses:

- Cognitive Radio
- Digital Design Lab

## Publication

### Journal

- ➔ Kukil Khanikar, Rohit Sinha and Ratnajit Bhattacharjee, "Cooperative Spectrum Sensing using Quantized Energy Statistics in the Absence of Dedicated Reporting Channel", in IEEE Transactions on Vehicular Technology, vol. 67, no. 5, (2018), pages. 4149-4160,
- ➔ Kukil Khanikar, Rohit Sinha and Ratnajit Bhattacharjee, "Incorporating Primary User Interference for Enhanced Spectrum Sensing", IEEE Signal Processing Letters, vol. 24, no. 7, (2017), pages. 1039 - 1043,

### Conference

- ➔ Kukil Khanikar, Rohit Sinha and Ratnajit Bhattacharjee, "Sparse Coding Based Spectrum Sensing in Presence of Multiple Frequency Hopping Primary Users", in Proc. National Conference on Communications, (2015),
- ➔ Kukil Khanikar, Rohit Sinha and Ratnajit Bhattacharjee, "Sparse Representation Based Tracking of Frequency Hopping Primary User for Cognitive Radio", in Proc. International Conference on Signal Processing and Communications, (2014),



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