FACULTY-PROFILE

Name : Dr. Anant Aravind Kulkarni

Date of Birth : 12-06-1980

Highest Qualifications : Ph.D.

E-mail : anant.kulkarni@fcrit.ac.in, anantkulkarni801@gmail.com
Religion/Caste : Hindu/Brahmin

Educational Qualification :

Board/University	Degree	Field	Year	Percentage/Division
Maharashtra State Board of Education, Aurangabad Division, Maharashtra, India	SSC	General	1996	69.33/First
Maharashtra State Board of Education, Latur Division, Maharashtra, India	HSC	Science	1998	83.50/First
Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra, India	B.E.	Electronics	2002	69.58/First with Distinction
Uttar Pradesh Technical University, Lucknow, Uttar Pradesh, India	M.Tech.	Electrical Engineering	2009	CPI of 8.00 on 10/ First
Technocrat Institute of Technology, Bhopal, Madhya Pradesh, India	M.Tech. ()	Microelectronics & VLSI Design	2013	CGPI of 8.33 on 10/First
Indian Institute of Technology Roorkee, Uttarakhand, India	Ph.D.	Quantum Computing	2020	Course work CGPA-8.09/First

Employment Record :

Organization	Period (From-To)	Designation/Approval/Scale
Agnel Charities' Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, Maharashtra	15.06.2021 till date	Assistant Professor in Electronics & Telecommunication Engineering (Ad-Hoc)/81000/- (Last drawn)

M.B.E.S.'s College of Engineering, Ambajogai, Maharashtra	1.06.2009 – 14.06.2021	Assistant Professor in Electrical Engineering (UGC Approved)/ 75000/- (last drawn)
	11.02.2008 till 30.05.2009	Senior Lecturer in Electrical Engineering (Temporary) 19500/- (Last Drawn)
Meerut Institute of Engineering and Technology, Meerut, Uttar Pradesh	07.02.2007 till 28.01.2008	Lecturer in Electronics & Communication Engineering (Temporary) 18300/- (Last drawn)
G. S. Mandal's Marathwada Institute of Technology, Bulandshahr, Uttar Pradesh	01.07.2003 till 26.12.2006	Lecturer in Electronics & Communication Engineering (Regular) 17700/- (Last drawn)

3 Major Strengths

1. Hardworking
2. Have patience
3. Focused

3 Major Weaknesses:-

1. Takes time to sense a particular situation
2. Selfless
3. Quickly says yes.

Subjects taught:

- Microwave Engineering (VIIth Semester)
- Electromagnetics & Antenna (VIth Semester)
- IT Infrastructure & Security (Vth Semester)

Achievements

A. R&D

a) Self-thesis work:

1) Successfully completed **Ph.D. from IIT Roorkee**, Roorkee, in the month of January-2020. Thesis Supervisor: **Prof. Dr. Brajesh Kumar Kaushik**. Topic: **Spintronics based Quantum Computing Architectures.**

2) Successfully completed **M.Tech** thesis from **TIT Bhopal**, in the year 2013. Guide: **Dr. Divya Jain**. Topic: **Fractional Order Digital Differentiators.**

3) Successfully completed M.Tech thesis from **UP Technical University Lucknow**, in the year 2009. Guide: **Prof. Dr. K. S. Verma**. Topic: **Stability Enhancement of Power System using FACTS devices.**

4) Successfully completed BE project work from **S.G.G.S. College of Engineering &**

Technology, Nanded, in the year 2002. Guide: **Prof. Dr. Yashwant V. Joshi**. topic: **Software Defined Radio.**

Research publications (Journals/conferences)

- **International Journals/magazines**

1. **Anant Kulkarni** and Brajesh Kumar Kaushik, "Performance Investigation of 1-Toffoli Gate Quantum Full Adders for Spin-Torque-based *n*-Qubit Architecture," *Journal of Optical & Quantum Electronics* ***Under Review***.
2. **Anant Kulkarni** and Brajesh Kumar Kaushik, "Spin-torque based quantum Fourier transform," ***IEEE Transactions on Magnetics****,* vol. 55, no.11, p. 1401108, 2019.
3. **Anant Kulkarni**, Sanjay Prajapati, Shivam Verma, and Brajesh Kumar Kaushik, "Optimal Boolean logic quantum circuits decomposition for spin-torque based *n*-qubit architecture,*"* ***IEEE Transactions on Magnetics***, vol. 54, no. 10, pp. 1-9, 2018.
4. **Anant Kulkarni**, Sanjay Prajapati, and Brajesh Kumar Kaushik, "Transmission coefficient matrix modeling of spin-torque based *n*-qubit architecture,*"* ***IEEE Transactions on VLSI***, vol. 26, no. 8, pp. 1461-1470, 2018.
5. Shivam Verma, **Anant Kulkarni**, and Brajesh Kumar Kaushik, "Spintronics based devices to circuits: Perspectives and challenges," ***IEEE Nanotechnology Magazine***, vol. 10, no. 4, pp. 13-28, 2016.
6. **Anant Kulkarni**, Namita Bindal, and Brajesh Kumar Kaushik, "Quantum computing circuits based on spin-torque qubit architecture," *IEEE Nanotechnology Magazine*, vol. 13, no. 5, pp. 15-24, 2019.
7. Sanjay Prajapati, Shivam Verma, **Anant Kulkarni**, Brajesh Kumar Kaushik, "Modeling of a magnetic tunnel junction for a multilevel STT-MRAM cell," ***IEEE Transactions on Nanotechnology***, vol. 18, pp. 1005-1014, 2018.

- **International Conferences**

1. Vulligadla Amaresh, Rajiv Ranjan Singh, Rajeev Kamal, and **Anant Kulkarni**, "Linear Regression Models based Housing Price Forecasting," *International Conference on Industry 4.0 Technology,* ***IEEE Conference Number: #55392****,* Pune, India, 2022.
2. **Anant Kulkarni**, Brajesh Kumar Kaushik, and Zeljko Zilic, "Implementation and analysis of spin torque based reversible D-Latch," ***IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)*****, Quebec City, QC, Canada**, 2018.
3. Namita Bindal, **Anant Kulkarni,** Gyanendra Singh, and Brajesh Kumar Kaushik, "Spin based neuromorphic computing, " ***Spintronics XII, SPIE Nanoscience + Engineering*****, San Diego, California, USA**, 2019.
4. Sanjay Prajapati, Shivam Verma, **Anant Kulkarni**, Brajesh Kumar Kaushik, "Novel compact model for multi-level spin torque magnetic tunnel junctions," ***Spintronics IX, SPIE Nanoscience + Engineering*****, San Diego, California**, USA, 2016.

a) Books/Chapters published:

1. Brajesh Kumar Kaushik, Shivam Verma, **Anant Kulkarni**, and Sanjay Prajapati. *Next Generation Spin Torque Memories*. Singapore: Springer Nature, 2017.

b) STTP/Workshop/Seminars/Conferences attended

1. Attended a course 'Introduction to IOT' by IIT Bombay.
2. Attended five days' online ISTE approved short-term training programme (STTP) on Power Electronics & Drives by Department of Electrical Engineering, Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai, India from 31st October – 4th November 2022.

3. Attended half-day Workshop on Research Paper Writing organized by Mahatma Gandhi Central Library, Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India on 9th September 2017.
4. Attended GIAN (Global Initiative of Academic Network) course titled Charge and Spin Based Electronics: From Devices to Circuits and Systems by Prof. Kaushik Roy, Purdue University, West Lafayette, USA from 13th –24th June 2016 at Indian Institute of Engineering Science and Technology, Shibpur, West Bengal, India.
5. Attended GIAN course titled Quantum Transport: Atom to Transistor by Prof. Supriyo Datta, Purdue University, West Lafayette, USA from 12th –16th December 2016 at Jawaharlal Nehru University, Munirka, New Delhi, India.
6. Attended two days' workshop on Effective Research Methodology by Dr. Manesh B. Kokare at Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded, Maharashtra, India during 11th – 12th April 2015.
7. Attended National Level Conference on Technical Education Quality Improvement Programme (TEQIP)-II: Best Policies and Practices, jointly organized by State Project Facilitation Unit, TEQIP-II, Maharashtra State, India and Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded, Maharashtra, India during 10th - 11th January 2014.
8. Attended two days Advanced Workshop by Wipro Technologies at College of Engineering, Ambajogai, Maharashtra, India from 23rd – 24th March 2010.
9. Attended a Workshop on High Impact Teaching Skills by Dale Carnegie and associates, Inc. Trainer and Wipro Technologies, Bangalore, Karnataka, India at Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded, Maharashtra, India during 30th November – 4th December 2009.

a. International Conferences Attended

1. Attended International Conference SPIE Optics + Photonics 2016 held at **San Diego, CA, USA** during 28th August - 2nd September 2016.

b. Invited talks/Session Chairs

1. Delivered an invited talk on the topic titled Quantum Computing: Towards Physical Realization in 21st Century on 16th August 2022 in a one-week Faculty Development Program (FDP) at **Fabtech Technical Campus College of Engineering & Research, Sangola in collaboration with Dr. Babasaheb Ambedkar Technological University, Lonere**.
2. Delivered an invited talk on the topic titled **Applications of Quantum Computing** on 30th July 2022 in a two-weeks summer school at **Jaypee Institute of Information Technology in collaboration with Delhi University and Ministry of Education, Government of India.** (Talk Link: https://www.youtube.com/watch?v=T8NebqqHLW0)
3. A webinar on Spintronics based Quantum Computing Architectures under Growth Opportunities in EXTC at **Fr. C. Rodrigues Institute of Technology, Vashi, Navi Mumbai**.
4. A webinar on Recent Trends in Electrical Power Systems at **Angadi Institute of Technology and Management, Belagavi, Karnataka.**
5. Recorded video lectures on selected topics of Electrical Networks and Analysis for the Digital Content Drive (DCD) of **Dr. Babasaheb Ambedkar Technological University, Lonere, Maharashtra, India.**

c. Administrative work

1. Worked as a class teacher (V semester, EXTC), FCRIT, Vashi, Navi Mumbai for FH-2023.
2. Organized online FDP on Quantum Computing. Keynote Speaker: Prof. Supriyo Bandopadhyay, Virginia Commonwealth University, Richmond, USA.
3. Worked as a Convener for the Degree-Certificate Distribution Ceremony.
4. Worked as Technical Program Committee (TPC) Chair, 5th Biennial International Conference on Nascent Technologies in Engineering (ICNTE 2023).
5. Department Planning Committee (DPC) Member, Electronics and Telecommunication Engineering, FCRIT, Vashi, Navi Mumbai.
6. Worked as a class teacher (VII semester, EXTC), FCRIT, Vashi, Navi Mumbai for SH-2021.
7. Assistant Centre Superintendent, November-December 2014 semester examination at M.B.E.S.'s College of Engineering, Ambajogai, Maharashtra, India.
8. Worked as Assistant Centre Superintendent, May-June 2014 semester examination at M.B.E.S.'s College of Engineering, Ambajogai, Maharashtra, India.
9. Inaugural Committee Member of Arghya-2009 (A National Level Technical Symposium) at M.B.E.S.'s College of Engineering, Ambajogai, Maharashtra, India.
10. Worked as a Member of Cultural Committee, M.B.E.S.'s College of Engineering, Ambajogai, India.
11. Worked as a Member of Departmental Committee for National Board of Accreditation (NBA), Electronics and Communication Engineering Department, Meerut Institute of Engineering and Technology, Meerut, Uttar Pradesh, India.
12. Edited "Wall Magazine-04" and "Wall magazine-06" at G. S. Mandal's Marathwada Institute of Technology, Bulandshahr, Uttar Pradesh, India.

10. **Awards/Professional society membership/activities**

Sr. No.	Awards/ Activities/Name of the Professionals Society
1.	**Best Coordinator of UTSAV-2002** held at Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded, Maharashtra, India from10th – 12th April2002.
2.	MISTE
3.	**'Wide-ranging Research' on the front cover of the IEEE Nanotechnology Magazine, August 2019.**
4.	**Featured Research: On the Front Cover of IEEE Transactions on Magnetics, Volume 54, Issue 10, October 2018.**
5.	Mission 10X Certification

6.	Short listed to prepare and record the video lectures for the Dr. Babasaheb Ambedkar Technological University, Lonere, Maharashtra, Nov 2020.

Place: Vashi Date: 07. 06. 2022