Dr. Mohd Rafiq Beigh

Curriculum Vitae

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Research Profile:

Research Gate (RG) Score: **12.29 RI Score: 268.8** (URL: https://www.researchgate.net/profile/M_Rafiq_Beigh)
ResearcherID: B-6336-2012 (URL: http://www.researcherid.com/rid/B-6336-2012)
Orcid ID: orcid.org/0000-0003-1463-9270
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Publons Profile: https://publons.com/researcher/1398477/m-rafiq-beigh/
LinkedIn: www.linkedin.com/in/dr-m-rafiq-beigh-36124672
Google Scholar Profile: http://scholar.google.co.in/citations?hl=en&user=cpkkJkoAAAAJ (Citations: **438**, h-index: **12**, i10-index: **12**)

ACADEMIC PURSUITS-

- **Ph. D. (Electronics)** from University of Kashmir, Srinagar (2012-2015)
- **NET** University Grants Commission (UGC), New Delhi (March 2013)
- **M. Phil. (Electronics)** from University of Kashmir, Srinagar with **'O' Grade** (2010-2012)
- **M. Phil. (Electronics)** from Bharathidasan University, Tamil Nadu (2007-2008)
- Topper (Rank 1st) **M. Phil**. Electronics Entrance Test-2008, University of Kashmir
- **M.Sc. (Electronics)** from University of Kashmir, Srinagar with **73%** Marks (1998-2000)
- Intermediate from J & K Board of School Education with **70%** Marks (1993-94)
- Registered as **Research Co-supervisor** in the Department of Electronics & Instrumentation Technology at University of Kashmir

PROFESSIONAL EXPERIENCE-

- Working as Assistant Professor (Electronics) in Higher Education Department, Jammu & Kashmir Government, Srinagar India (19 May 2016 till date, joined on 24 may 2016).
- Worked as Sr. Laboratory Assistant in the Department of Electronics & Instrumentation Technology at University of Kashmir, Srinagar India (26 March 2008 to 23 May 2016).
- Worked as Assistant Professor in the Department of Electronics & Instrumentation Technology at University of Kashmir, Srinagar India (2007-2008).
- Worked as Lecturer in Electronics at Sri Pratap College, M. A. Road Srinagar, Jammu & Kashmir. (Academic Session 2005-06, 2006-07).
- Worked as Lecturer in Electronics and Electronic Equipment & Maintenance (EEM) at Islamia College of Science & Commerce, Srinagar, J&K India (Academic Session 2003-04, 2004-05).
- Worked as Lecturer in Electronics and Electronic Equipment & Maintenance (EEM) at Govt. Degree College Anantnag, Jammu & Kashmir (Academic Session 2001-02, 2002-03).

EDITOR/ MEMBERSHIP/ REVIEWER-

- Associate Editor, International Journal of Reconfigurable and Embedded Systems (IJRES), ISSN: 2089-4864, Scopus Indexed.
- Member, International Association of Engineers (IAENG), Hong Kong.
- Member, Board of Post-Graduate Studies in Electronics, University of Kashmir (2011-2013).
- Member, Board of Under-Graduate Studies in Electronics and EEM, University of Kashmir (2017).
- Member, Advisory Committee, ICETET 2021, PCCOE Pune India.
- Member, Technical Program Committee (TPC), IEEE-ICMIRA 2013-2014, SMVDU Jammu India.
- Reviewer, IEEE Transactions on NanoBioscience (IEEE).
- Reviewer, Microelectronics Journal (Elsevier).
- Reviewer, International Journal of Electronics/Letters (Taylor and Francis).
- Reviewer, Quantum Information Processing (Springer).
- Reviewer, Optical and Quantum Electronics (Springer).
- Reviewer, Journal of Computational Electronics (Springer).
- Reviewer, Arabian Journal for Science and Engineering (Springer).
- Reviewer, Indian Journal of Pure and Applied Physics (NISCAIR India).

LIST OF PUBLICATIONS-

Journal Papers (18)

1. Showkat, I., Khanday, F.A. & **Beigh, M.R.,** "A review of bio-impedance devices", *Medical & Biological Engineering & Computing* (Springer 2023), pp. 927-950, https://doi.org/10.1007/s11517-022-02763-1, Jan 2023.
2. S. Rashid, F. Bashir, F. A. Khanday and **M. R. Beigh**, "Dual material tri-gate Schottky barrier FET as label free biosensor", *Materials Today: Proceedings*, (Elsevier) September 2022. https://doi.org/10.1016/j.matpr.2022.08.318
3. S. Rashid, F. Bashir, F. A. Khanday and **M. R. Beigh**, " L-Shaped Schottky Barrier MOSFET for High Performance Analog and RF Applications," *Silicon (Springer 2022)*, https://doi.org/10.1007/s12633-022-02006-w, July 2022.
4. S. Rashid, F. Bashir, F. A. Khanday and **M. R. Beigh**, " Dielectrically Modulated III-V Compound Semiconductor based Pocket doped Tunnel FET for Label Free Biosensing Applications," in *IEEE Transactions on NanoBioscience (IEEE T-NB*), doi: 10.1109/TNB.2022.3178763, May 2022.
5. S. Rashid, F. Bashir, F. A. Khanday and **M. R. Beigh**, " L-Shaped High Performance Schottky Barrier FET as Dielectrically Modulated Label Free Biosensor," in *IEEE Transactions on NanoBioscience (IEEE T-NB*), Vol. 21, pp. 542-548 doi: 10.1109/TNB.2021.3131372, Nov 2021.
6. S. Rashid, F. Bashir, F. A. Khanday, **M. R. Beigh** and F. A. Hussin, "2-D Design of Double Gate Schottky Tunnel MOSFET for High-Performance Use in Analog/RF Applications," in *IEEE Access*, vol. 9, pp. 80158-80169, doi: 10.1109/ACCESS.2021.3083929, May 2021.
7. S. Umira R. Qadri, Z. A. Bangi, M. Tariq Banday, G. Mohiuddin Bhat and **M. R. Beigh**, "A Novel Comparator- A Cryptographic Design in Quantum dot Cellular Automata", *International Journal of*

Digital Signals and Smart Systems, Inderscience Publishers, Vol. 4, Issue 1-3, pp. 113-132, ISSN: 2398-0311 (Print); 2398-032X (Online) March 2020.

8. Mohd Altaf Sofi, **M. R. Beigh**, Shafiq Maqbool Tantray, "A Review of Sequential Logic Circuits in QCA", *International Journal of Research and Analytical Reviews (IJRAR)***,** E-ISSN: 2348-1269, P-ISSN: 2349-5138, Vol.6, Issue 2, pp.980-985, April 2019.

9. Mohd Altaf Sofi, **M. R. Beigh,** Shafiq Maqbool Tantray, "A Study of Majority Logic Reduction Techniques for QCA Circuits"**,** *International Journal of Research and Analytical Reviews (IJRAR)*, E-ISSN: 2348-1269, P- ISSN: 2349-5138, Vol.6, Issue 1, pp.274-280, March 2019.

10. **M. R. Beigh** and M. Mustafa, "Area Efficient and Optimized Design of Reversible Gates for Quantum-dot Cellular Automata", *Quantum Matter*, American Scientific Publishers, ISSN: 2164-7615 (print); EISSN: 2164-7623 (online), Vol. 4, No. 5, pp. 518-522(5), October 2015.

11. Tawseef A. Bhat, M. Mustafa and **M. R. Beigh**, "Study of Short Channel Effects in n-FinFET Structure for Si, GaAs, GaSb and GaN Channel Materials", *Journal of Nano and Electronic Physics*, Vol. 7, No. 3, pp. 03010-1 - 03010-5, ISSN: 2077-6772 (Print); 2306-4277 (Online) October 2015.

12. **M. R. Beigh** and M. Mustafa, "Design and Simulation of Efficient Code Converter Circuits for Quantum-dot Cellular Automata", *Journal of Computational and Theoretical Nanoscience **(Impact Factor: 1.666 JCR 2014-15)***, American Scientific Publishers, ISSN: 1546-1955 (Print): EISSN: 1546-1963 (Online), Vol. 11, No. 12, pp. 2564-2569(6), December 2014.

13. M. Mustafa and **M. R. Beigh**, "Novel Linear Feedback Shift Register Design in Quantum-dot Cellular Automata", *Indian Journal of Pure and Applied Physics IJPAP (**Impact Factor: 0.923 JCR 2020-21**)* Vol. 52, No. 3, pp. 203-209, ISSN: 0975-1041(online) 0019-5596(print), March 2014.

14. M. Mustafa and **M. R. Beigh**, "Design and Implementation of Quantum Cellular Automata Based Novel Parity Generator and Checker Circuits with Minimum Complexity and Cell Count", *Indian Journal of Pure and Applied Physics IJPAP (**Impact Factor: 0.923 JCR 2020-21**)* Vol. 51, No. 1, pp. 60-66, ISSN: 0975-1041(online) 0019-5596(print), January 2013.

15. **M. R. Beigh,** M. Mustafa and F. Ahmad, "Performance Evaluation of Efficient XOR Structures in Quantum-dot Cellular Automata (QCA)", *Circuits and Systems **(2-GJIF: 0.81)*** Vol. 4, No. 2, pp.147-156, ISSN: 2153-1293 (online) 2153-1285 (print), April 2013.

16. M. Mustafa and **M. R. Beigh**, "A Novel Bit-slice Design of Quantum-dot Cellular Automata Based Arithmetic Logic Unit", *Communications in Information Science and Management Engineering (CISME)*, The World Academic Publishing Company Ltd., Hong Kong, Vol. 3, No. 9, pp. 455-461, ISSN: 2224-7785(online) 2222-1859(print), September 2013.

17. M. Mustafa, Bhat Tawseef A. and **M. R. Beigh,** "Threshold Voltage Sensitivity to Metal Gate Work-Function based Performance Evaluation of Double-Gate n-FinFET Structures for LSTP Technology", *World Journal of Nano Science and Engineering **(2-GJIF: 1.24)*** Vol. 3, No. 1, pp.17-22, ISSN: 2161-4962 (online) 2161-4954 (print), March 2013.

18. Sheikh Ajaz Bashir, N.A.Shah, F. A. Khanday, **M.R. Beigh**, "Current Differencing Buffered Amplifier Based Voltage Mode Multifunction Biquad", *International Journal of Advanced Scientific Research & Technology*, Issue 2, Vol. 3, ISSN: 2249-9954, June 2012.

Conference Papers (21)

1. **M. R. Beigh,** Suhail Ajmal, Arfat Firdous**, "**A Comparative Study of SAR value of Mobile Devices", *Proceedings of ICECMA-2022*, November 9-10, 2022, Sri Pratap College Srinagar India.

2. S. Rashid, F. Bashir, F. A. Khanday and **M. Rafiq Beigh**, "Dual Material Tri-Gate Schottky Barrier MOSFET", *Proceedings of IEEE ICEARS-2022*, pp. 306-309, ISBN: 978-1-6654-8424-4, March 16-18, 2022, Tamil Nadu, India. (https://ieeexplore.ieee.org/abstract/document/9751984), published on 13 April 2022.

3. **M. R. Beigh** and M. Mustafa, "Design and Analysis of a Simple D Flip-flop Based Sequential Logic Circuits for QCA Implementation", *Proceedings of IEEE INDIACom-2014*, pp. 536-540, (Electronic ISBN: 978-93-80544-12-0 Print ISBN: 978-93-80544-10-6) March 5-7, 2014, New Delhi, India. (http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6828016)

4. **M. R. Beigh** and M. Mustafa, "Performance Evaluation of Multiplexer Designs in Quantum-dot Cellular Automata (QCA)", *Proceedings of 2015 International Conference on Advances in Computers, Communication and Electronic Engineering, COMMUNE-2015*, pp. 245-249, (Electronic ISBN: 978-93-82288-63-3 Print ISBN: 978-93-82288-54-1) March 16-18, 2015, University of Kashmir, India.

5. **M. R. Beigh** and M. Mustafa, "Nanoelectronic Technologies Beyond CMOS", *Proceedings of UGC sponsored National Seminar on Electronic devices, Systems & Information Security, SEEDS-2016*, pp. 91, (ISBN: 978-93-82288-88-6) March 18-19, 2016, University of Kashmir, India.

6. **M. R. Beigh** and M. Mustafa, "Emerging Devices for More-Than-Moore", *Proceedings of UGC sponsored National Seminar on Electronic devices, Systems & Information Security, SEEDS-2015*, pp. 53, (Electronic ISBN: 978-93-82288-64-0 Print ISBN: 978-93-82288-59-6) March 16-17, 2015, University of Kashmir, India.

7. M. Mustafa and **M. R. Beigh**, "A Novel XOR Gate Based Combinational Circuits in QCA", *Proceedings of International Conference on Nanosciences & Nanotechnology*, March 28-30, 2011, Gulbarga, Karnataka, India.

8. S. Umaira, Z.A. Bangi, M. Tariq Banday and **M. R. Beigh**, "A Novel 1-bit Comparator in Quantum-dot Cellular Automata", *in Proceedings of 13th JK Science Congress*, University of Kashmir, 2-4 April, 2018.

9. Reyaz A. Mathangi, M. Tariq Banday and **M. R. Beigh**, "Internet of Things for Global Development", *in Proceedings of 13th JK Science Congress*, University of Kashmir, 2-4 April, 2018.

10. Mariya Shafat, M. Tariq Banday and **M. R. Beigh**, "Anti-Forensics as a Hurdle in Digital Forensic Investigations and its Counter Measures", *in Proceedings of 13th JK Science Congress*, University of Kashmir, 2-4 April, 2018.

11. **M. R. Beigh** and M. Mustafa, "Counter Designs using Inherent Capabilities of Quantum-dot Cellular Automata (QCA)", *in Proceedings of 11th JK Science Congress*, University of Kashmir, 12-14 October, 2015.

12. **M. R. Beigh** and M. Mustafa, " Fault Tolerant Logic Designs in Quantum-dot Cellular Automata (QCA)", *Proceedings of 10th JK Science Congress*, University of Jammu, 14-16 March, 2015.

13. M. Mustafa and **M. R. Beigh**, "Study and Implementation of Efficient Multiplexer Designs in Quantum-dot Cellular Automata (QCA)", *Proceedings of 9th JK Science Congress & Regional Science Congress*, University of Kashmir, 1-3 Oct., 2013.

14. M. Mustafa, **M. R. Beigh** and Tawseef A. Bhat, "A Study of Sequential Logic Circuits in QCA", *Proceedings of 8th JK Science Congress*, University of Kashmir, 17-19 Sept., 2012.

15. M. Mustafa, **M. R. Beigh** and Firdous Ahmad, "Design and Implementation of Efficient XOR Structures in Quantum-dot Cellular Automata (QCA)", *Proceedings of 8th JK Science Congress*, University of Kashmir, 17-19 Sept., 2012.

16. M. Mustafa, Tawseef A. Bhat, **M. R. Beigh**, "Short Channel Effects (SCE's) and Sub-threshold Leakage Characteristics of Double Gate n-FinFET Structure for LSTP Logic Technology", *Proceedings of 8th JK Science Congress*, University of Kashmir, 17-19 Sept., 2012.

17. M. Mustafa, **M. R. Beigh** and Tawseef A. Bhat, "Implementation and Verification of Majority Logic Reduction Techniques for Quantum Cellular Automata", *Proceedings of 7th JK Science Congress*, University of Jammu, 13-15 Oct., 2011.

18. M. Mustafa, Tawseef A. Bhat and **M. R. Beigh**, "Study of Threshold Voltage Dependence on Doping Concentration and Physical Scaling in FinFET Structures", *Proceedings of 7th JK Science Congress*, University of Jammu, 13-15 Oct., 2011.
19. M. Mustafa and **M. R. Beigh**, "Combinational & Sequential Logic Design in QCA", *Proceedings of 6th JK Science Congress*, University of Kashmir 2-4 Dec., 2010.
20. M. Mustafa and **M. R. Beigh**, "A Study of Memory Structures in QCA", *Proceedings of 4th JK Science Congress*, University of Kashmir, Srinagar 12-14 Nov., 2008.
21. **M. R. Beigh** and K. A. Khan, "Computing with Quantum dots", *Proceedings of 3rd JK Science Congress*, University of Jammu, 26-28 Feb., 2008.

TECHNICAL PURSUITS-

PGDCA from ICI, Darya Gunj, New Delhi.

Diploma in Java Advanced Java & Web Technologies from SSI, South Extension, New Delhi.

CONFERENCES/ WORKSHOPS/ SEMINARS ATTENDED-

1. Attended two-day International Conference on Electronic and Computational Multidisciplinary Advances and presented a paper, SP College, Srinagar,9-10 November 2022.
2. Attended a 3-day online workshop on "The BodhiTree and SAFE Tools for Effective Online Teaching: A Hands-On Workshop" organised by Teaching Learning Centre (ICT), IIT Bombay, 19-21 June 2020.
3. Attended a 3-day online workshop on "Effective and Efficient Online Teaching in the Age of Corona, A Hands On Workshop" organised by Teaching Learning Centre (ICT), IIT Bombay, 21-23 May 2020.
4. Invited as a speaker for 2 days National level seminar/workshop on "Low Power Design using Quantum-dot Cellular Automata" organised by Pimpri Chinchwad College of Engineering (PCCOE), Pune Maharashtra, 4-5th January, 2018.
5. Nominated to give an invited talk for "Collaborative Conference on Quantum Communication" held in Hawaii U.S. from April 1-5, 2018.
6. Attended 2-days workshop on "Scientific and Technical Documentation using LATEX at NIT Srinagar, April 21-22, 2017.
7. Attended UGC sponsored National Seminar on "Electronic Devices, Systems & Information Security (SEEDS-2017)"at Department of Electronics & Inst. Technology, University of Kashmir, March 24-25, 2017.

SOFTWARE SKILL PROFILE-

Computer Languages	C, C++, Java2, 8085 & 8086 Assembly Language, VHDL
Electronics Simulation Packages	Xilinx ISE WebPACK Design, Model*Sim*, Multisim, Altera Quartus II, Electronics Workbench, QCADesigner
Internet Programming	Jdk 1.2, Swing, Beans, Servlets, JSP
Web Designing Tools	HTML, JavaScript, FrontPage, JSS, CSS

(Dr. M. Rafiq Beigh)
Date: Sept 15, 2024