Curriculum Vitae

Dr. Muzzammil Hussain

Assistant Professor

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Department of Computer Science & Engineering

School of Engineering and Technology

Central University of Rajasthan

NH8, Bandarsindri, Kishangarh (Tehsil), Ajmer (Dist)

Rajasthan - 305 817, India.

Objective: To establish myself as a renowned academician, attaining highest standards in academics and research in the field of Computer Science Engineering, benefitting the student community, institution and nation as a whole.

Education:

Degree	Board/University	Year of passing	Division
X	CBSE	1994	I
Intermediate	BIE, Hyderabad	1996	I
B.Sc (CS)	Kakatiya University	1999	I
M.Sc (CS)	Kakatiya University, Warangal	2001	I
M.Tech (CSE)	JNTUH, Hyderabad	2009	I
Ph.D.	Kakatiya University, Warangal	2012	**Title:** Routing in Ad hoc Networks of Mobile Hosts – Implementation Methods, Security Attacks and Solutions.
APSET	AP State Council for Higher Education & Osmania University	2012 (Computer Science Applications)	

Experience:

S. No.	Position	Institute	Duration
1	Assistant Professor (on Contract)	Kakatiya University, Warangal	Nov 2005 to August 2012
2	Professor	Christu Jyothi Institute of Technology & Sciences, Jangoan, Warangal.	August 2012 to Sept. 2013 (1 year)
3	Assistant Professor	Central University of Rajasthan, Ajmer	Sept. 2013 to till date (9 years)

Specializations: Wireless Sensor Networks, Mobile Ad hoc Networks, IoT Networks, Cognitive Radio Networks, Network Security, Security Databases, Secured Payments.

Administrative Positions:

S. No.	Position	Institute	Duration
1	Head, Department of Computer Science Engineering	Christu Jyothi Institute of Technology & Sciences, Jangaon, Warangal.	Aug 2012 to Sept. 2013
2	Principal	Christu Jyothi Institute of Technology & Sciences, Jangaon, Warangal.	Dec 2012 to June 2013
3	Web administrator	Central University of Rajasthan	July 2015 to July 2017
4	Assistant Dean Students Welfare	Central University of Rajasthan	2018 to 2019
5	Warden, Boys Hostel	Central University of Rajasthan	July 2016 to till date
6	Member, School Board, School of Engineering and Technology.	Central university of Rajasthan	May 2020 to till date

7	Member, Central Committee for Halls of Residences	Central University of Rajasthan	July 2017 to June 2019
8	Convener, Committee to implement ERP Software in the university	Central University of Rajasthan	November 2022 – Till date
9	Member, Committee to establish Data Center	Central University of Rajasthan	April 2022 – Till date
10	Convener, Committee to implement ERP software in Central University of Rajasthan	Central University of Rajasthan	Sept 2022 – Till Date
11	Convener, E-Waste Management Committee	Central University of Rajasthan	November 2022 – Till Date

Research Experience:

a. **Ph.D.'s guided : 01**
b. **M.Tech. theses guided : 32**
c. **PG theses guided : 05**
d. **Publications:**
   i. **Journal publications:**

1. Muzzammil Hussain, Neha Kaliya, "An improvised framework for privacy preservation in IoT", International Journal of Information Security and Privacy, Vol. 12 (2), IGI global, 2018, Pages 46 – 63. (Scopus Indexed)
2. Aditya Kaushal Ranjan, Muzzammil Hussain, "Terminal Authentication in M2M Communications in the Context of Internet of Things", Procedia Computer Science, Volume 89, 2016, Pages 34-42. (Scopus Indexed)

3. Sonal Jain, Muzzammil Hussain, "Improving Capacity in Wireless Heterogeneous Networks by Mitigation of Interference", Procedia Computer Science, Volume 115, 2017, Pages 596-60. (Scopus Indexed)

4. Jain, U, Hussain, M, Kakarla, "Simple, secure, and lightweight mechanism for mutual authentication of nodes in tiny wireless sensor networks", International Journal of Communication Systems (Wiley), 2020, Volume 33 pages: e4384. (SCIE indexed with Impact factor 1.8)

5. Usha Jain, Muzzammil Hussain, "Securing Wireless Sensors in Military Applications through Resilient Authentication Mechanism", Procedia Computer Science, Volume 171, 2020, Pages 719-728. (Scopus Indexed)

6. Muzzammil Hussain, Uma Sankar Mishra, "Simplified Online Payment Mechanism for Micropayments in E-Commerce", International Journal of Advanced Science and Technology, Volume 29 (4), SERSC, Pages 6263 – 6268. (Scopus Indexed).

7. Muzzammil Hussain, Usha Jain, "Simple and Secure Device Authentication Mechanism for Smart Environments using IoT Devices", International Journal of Communication Systems (Wiley), 2020, Volume 33, pages: e4570. (SCI indexed with impact factor 1.8).

8. Jain, Usha and Hussain, Muzzammil, Wireless Sensor Networks: Attacks and Countermeasures (April 27, 2018). SSRN Electronic Journal, 2020.

9. Jain Usha, Saied Pirsathen and Hussain Muzzammil, Lightweight, Secure, Efficient and Dynamic Scheme for Mutual Authentication of Devices in IoT Fog Environment, Concurrency and Computation: Experience and Practice, e7428, Wiley, 2023. (SCI Indexed with IF 1.8)

10. Usha Jain, Muzzammil Hussain, Security mechanism for maritime territory and frontier surveillance in naval operations using wireless sensor networks, Concurrency and Computation: Experience and Practice, e6300, Wiley, 2020 (SCI Indexed with IF 1.8)

ii. **Book Chapters:**

1. Usha Jain, Muzzammil Hussain, "Underwater Wireless Sensor Networks", Handbook of Computer Networks and Cyber Security, Springer Cham, 2020, Pages 227 – 245.

iii.   Edited Book:

1. Edited a book titled "Advanced Research in Computing", published by Allied Publishers Pvt. Ltd., New Delhi, 2013. (ISBN 978-81-8424-876-0).

iv.   Conference Proceedings:

1. V. Kumar and M. Hussain, "Secure communication for advance metering infrastructure in smart grid," *2014 Annual IEEE India Conference (INDICON)*, Pune, 2014, pp. 1-6.

2. A. K. Ranjan, V. Kumar and M. Hussain, "Security analysis of TLS authentication," *2014 International Conference on Contemporary Computing and Informatics (IC3I)*, Mysore, 2014, pp. 1356-1360.

3. Rathore R., Hussain M. (2015) Simple, Secure, Efficient, Lightweight and Token Based Protocol for Mutual Authentication in Wireless Sensor Networks. In: Shetty N., Prasad N., Nalini N. (eds) Emerging Research in Computing, Information, Communication and Applications. Springer, New Delhi.

4. Sharma V., Hussain M. (2017) Mitigating Replay Attack in Wireless Sensor Network through Assortment of Packets. In: Satapathy S., Prasad V., Rani B., Udgata S., Raju K. (eds) Proceedings of the First International Conference on Computational Intelligence and Informatics. Advances in Intelligent Systems and Computing, vol 507. Springer, Singapore.

5. Sultana R., Hussain M. (2018) Mitigating Primary User Emulation Attack in Cognitive Radio Network Using Localization and Variance Detection. In: Somani A., Srivastava S., Mundra A., Rawat S. (eds) Proceedings of First International Conference on Smart System, Innovations and Computing. Smart Innovation, Systems and Technologies, vol 79. Springer, Singapore.

6. N. Kaliya and M. Hussain, "Framework for privacy preservation in iot through classification and access control mechanisms," *2017 2nd International Conference for Convergence in Technology (I2CT)*, Mumbai, 2017, pp. 430-434.

7. V. Sharma and M. Hussasin, "Node authentication in WSN using key distribution mechanism," *2016 International Conference on ICT in Business Industry & Government (ICTBIG)*, Indore, 2016, pp. 1-7.

8. P. Yadav and M. Hussain, "A secure AODV routing protocol with node authentication," *2017 International conference of Electronics, Communication and Aerospace Technology (ICECA)*, Coimbatore, 2017, pp. 489-493.

9. U. Jain and M. Hussain, "Simple, secure and dynamic protocol for mutual authentication of nodes in wireless sensor networks," *2017 Second International Conference on Electrical, Computer and Communication Technologies (ICECCT)*, Coimbatore, 2017, pp. 1-7.

10. Anjali Gupta and Muzzammil Hussain, 2015, "Secure Session Key Sharing Using Public Key Cryptography", In Proceedings of the Third International Symposium on Women in Computing and Informatics (WCI '15), Association for Computing Machinery, New York, NY, USA, 573-576.

11. A. K. Ranjan, V. Kumar and M. Hussain, "Security Analysis of Cloud Storage with Access Control and File Assured Deletion (FADE)," *2015 Second International Conference on Advances in Computing and Communication Engineering*, Dehradun, 2015, pp. 453-458.

12. Gupta A., Hussain M. (2017) Distributed Cooperative Algorithm to Mitigate Hello Flood Attack in Cognitive Radio Ad hoc Networks (CRAHNs). In: Satapathy S., Prasad V., Rani B., Udgata S., Raju K. (eds) Proceedings of the First International Conference on Computational Intelligence and Informatics. Advances in Intelligent Systems and Computing, vol 507. Springer, Singapore.

13. A. Vardhan, M. Hussain and R. M. Garimella, "Simple and secure node authentication in wireless sensor networks," *2016 International Conference on Recent Advances and Innovations in Engineering (ICRAIE)*, Jaipur, 2016, pp. 1-5.

14. V. P. Singh, M. Hussain and C. K. Raina, "Authentication of base station by HDFS using trust based model in WSN," *2016 International Conference on Communication and Electronics Systems (ICCES)*, Coimbatore, 2016, pp. 1-5.

15. Suditi Choudhary and Muzzammil Hussain, 2015, "Primary User Authentication in Cognitive Radio Network using Signal Properties", In Proceedings of the Third

International Symposium on Women in Computing and Informatics (WCI '15), Association for Computing Machinery, New York, NY, USA, 290-296.

16. S. Jain, M. Hussain and R. M. Garimella, "Primary user authentication in cognitive radio network using authentication tag," *2016 International Conference on Recent Advances and Innovations in Engineering (ICRAIE)*, Jaipur, 2016, pp. 1-5.

17. S. Arora and M. Hussain, "Secure Session Key Sharing Using Symmetric Key Cryptography," *2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, Bangalore, 2018, pp. 850-855.

18. Kumar A., Hussain M. (2018) Secure Query Processing Over Encrypted Database through CryptDB. In: Sa P., Bakshi S., Hatzilygeroudis I., Sahoo M. (eds) Recent Findings in Intelligent Computing Techniques. Advances in Intelligent Systems and Computing, vol 709. Springer, Singapore.

19. N. Badetia and M. Hussain, "Distributed mechanism for authentication of nodes in wireless sensor networks," *2017 2nd International Conference for Convergence in Technology (I2CT)*, Mumbai, 2017, pp. 471-474.

20. R. R. Kumar and M. Hussain, "Query Execution over Encrypted Database," *2015 Second International Conference on Advances in Computing and Communication Engineering*, Dehradun, 2015, pp. 459-464.

21. M. Hussain and T. Swami, "Primary User Authentication in Cognitive Radio Network Using pre-generated hash digest," *2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, Bangalore, 2018, pp. 903-908.

22. A. Vardhan and M. Hussain, "Dynamic and resilient protocol for mutual authentication of nodes in wireless sensor networks," *2017 International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, Udupi, 2017, pp. 2010-2015.

23. Yadav K., Hussain M. (2020) An Extended Polyalphabetic Cipher Using Directional Shift Patterns. In: Raju K., Senkerik R., Lanka S., Rajagopal V. (eds) Data Engineering and Communication Technology. Advances in Intelligent Systems and Computing, vol 1079. Springer, Singapore.

24. Singh V.P., Aggarwal N., Hussain M., Raina C.K. (2019) A New Approach to Provide Authentication Using Acknowledgment. In: Pati B., Panigrahi C., Misra S.,

Pujari A., Bakshi S. (eds) Progress in Advanced Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 713. Springer, Singapore.

25. Kumar A., Kakarla J., Hussain M. (2020) Asymmetric Key Cryptosystem and Digital Signature Algorithm Built on Discrete Logarithm Problem (DLP). In: Abraham A., Cherukuri A., Melin P., Gandhi N. (eds) Intelligent Systems Design and Applications. ISDA 2018 2018. Advances in Intelligent Systems and Computing, vol 940. Springer, Cham.

26. M. Hussain and K. Jhorar, "Resilient Mechanism for Security in Navigation of Service Vehicles and Aircrafts at Airports," *2018 International Conference on Advances in Computing, Communications and Informatics (ICACCI)*, Bangalore, 2018, pp. 831-837.

27. A. M. Ansari and M. Hussain, "Middleware Based Node Authentication Framework for IoT Networks," *2018 International Conference on Inventive Research in Computing Applications (ICIRCA)*, Coimbatore, 2018, pp. 31-35.

28. Kumar B., Hussain M., Kumar V. (2018) BRRC: A Hybrid Approach Using Block Cipher and Stream Cipher. In: Saeed K., Chaki N., Pati B., Bakshi S., Mohapatra D. (eds) Progress in Advanced Computing and Intelligent Engineering. Advances in Intelligent Systems and Computing, vol 563. Springer, Singapore.

29. Muzzammil Hussain, Suditi Choudhary (2016) Authentication of Primary User at Physical Layer through Approximation in Cognitive Radio. In: Afzalpulkar N., Srivastava V., Singh G., Bhatnagar D. (eds) Proceedings of the International Conference on Recent Cognizance in Wireless Communication & Image Processing. Springer, New Delhi.

30. Narendra Kumar Chahar, Krishan Pal Singh, Muzzammil Hussain (2023), Simplified Micropayment Mechanism to Eliminate the Risk of Double Payment in E-Commerce, 2023 International Conference on Advances in Intelligent Computing and Applications (AICAPS), IEEE Xplore.

31. Raushan Kumar Singh, Akshay Kumar, Muzzammil Hussain, A Secure Key Agreement Scheme for Smart Homes, 2022 International Conference on Connected Systems & Intelligence (CSI), IEEE Xplore.

32. Akshay Kumar, Muzzammil Hussain, Mutual Authentication of Devices under Multi-cluster Environment in Industrial Internet of Things (IIoT) Networks, 2022 Fourteen International Conference on Contemporary Computing, ACM Digital Library.

33. Akshay Kumar, Muzzammil Hussain, Secure ECC Based Key Exchange Mechanism for Devices in IoT networks, 2022 Fourteen International Conference on Contemporary Computing, ACM Digital Library.

34. Shweta Arora, Muzzammil Hussain, Usha Jain, Saied Pirasteh, A Simple, Secure and Energy Efficient Key Establishment Mechanism for Heterogenous Clusters of IoT Devices in Smart Environments, 2022 IEEE 7th International Conference for Convergence in Technology (I2CT), IEEE Xplore.

35. Usha Jain, Muzzammil Hussain, Komal Jhorar, Two-Phase Device Authentication Scheme for Request-Response Computing, 2022 IEEE 7th International Conference for Convergence in Technology (I2CT), IEEE Xplore.

Invited Lectures:

1. Delivered a lecture on Cluster Analysis in UGC sponsored Two Day Workshop on Data Mining organized by Department of Informatics, Kakatiya University, Warangal during March 2009.

2. Delivered a lecture on ICT in 6 days orientation training programme for UG College Teachers organized by APSCHE and SR & BGNR Govt. Arts & Science College, Khammam during November 2011.

3. Delivered an extension lecture on Web Technologies at ABV Govt. Degree College, Jangoan during August 2013.

4. Delivered an invited lecture on Network Security in National Level workshop on Network Simulation using NS2 organized by JNTUH College of Engineering, Kondagattu, Karimnagar during March 2014.

5. Delivered an invited lecture on Role of Academia in e-Governance in UGC Sponsored National Level workshop on e-governance at R K Patni Govt. College, Kishangarh during December 2014.

6. Delivered a lecture on Intellectual Property Rights at JECRC university, Jaipur as part of Faculty Development Programme.

7. Delivered Keynote address at International Conference organized by Vaagdevi Engineering College, Warangal

8. Delivered a lecture on Security in Blockchain at Refresher course by UGC-HRDC, JNTUH, Hyderabad.

Workshops/FDPs attended:

1. Two-week ISTE workshop in Cyber Security conducted by IIT, Bombay during 10th to 20th July 2014 held under National Mission on Education through ICT (MHRD).
2. UGC sponsored Orientation Programme at UGC-HRDC, MDS University Ajmer during 01st to 28th February 2017.
3. UGC sponsored summer school on Strategies on Research Oriented Teaching by UGC-HRDC, JNTUH, Hyderabad during 05th to 24th June 2017.
4. ARPIT course on Pedagogical Innovations and Research Methodology during 01st Dec 2020 to 31st March 2021 by Guru Jambheshwar University of Science & Technology, Hisar through Swayam portal.
5. Online Interdisciplinary Refresher Course on Pedagogical Innovations in Higher Education by TLC, Tezpur University during 06th to 20th December 2021.
6. NPTEL course on Computer Networks and Internet Protocols by IIT, Kharagpur through Swayam portal during 23rd January 2023 to 14th April 2023.

Declaration

I hereby declare that all the facts mentioned in this are true to the best of my knowledge and belief.

Bandarsindri,   (Dr Muzzammil Hussain)