

DR. MUSHEER AHMAD

ASSISTANT PROFESSOR

Department of Computer Engineering,
F/O of Engineering and Technology,
Jamia Millia Islamia, New Delhi-110025, INDIA.

Email ID: mahmad9@jmi.ac.in (Official), musheer.cse@gmail.com (Personal)



ACADEMIC QUALIFICATIONS:

- Pursued PhD (*Computer Engineering*) from Jamia Millia Islamia, New Delhi.
- Pursued M.Tech (*Computer Science & Engineering*) in 2008 from ZH College of Engineering & Technology, Aligarh Muslim University, Aligarh.
- Pursued B.Tech (*Computer Engineering*) in 2004 from ZH College of Engineering & Technology, Aligarh Muslim University, Aligarh.
- Pursued XII in 1999 from Senior Secondary School (Boys), Aligarh Muslim University, Aligarh.
- Pursued X in 1997 from S.T.S High School (Minto Circle), Aligarh Muslim University, Aligarh.

TEACHING EXPERIENCE:

Total Teaching Experience: **15** years

- Working as **Assistant Professor** since January, 2011 in the *Department of Computer Engineering, F/O Engineering and Technology, Jamia Millia Islamia, New-Delhi-110025.*
- Worked as Lecturer on temporary basis/Guest Faculty (during 2006-2010) in the *Department of Computer Engineering, ZH College of Engineering and Technology, Aligarh Muslim University, Aligarh.*

THEORIES TAUGHT:

- Microprocessor Theory and Applications
- Discrete Mathematics
- Analysis and Design of Algorithms
- Algorithm Design
- Soft Computing Techniques
- Computer Graphics
- Software Engineering
- Information Technology

CLASSES TAUGHT:

- M.Tech (Computer Engineering)
- M.Tech (Computer Sc. & Engineering)
- M.Tech (Computational Mathematics)
- B.Tech (Computer Engineering)
- B.E. (Computer Engineering)

- M.Sc (Industrial Maths with Computer Applications)

AREAS OF RESEARCH INTEREST:

- Chaos-based Cryptography
- Multidisciplinary Cryptography
- Cryptanalysis
- Hash Function and Authentication
- Information Hiding
- Meta-heuristics for Security Applications
- Machine Learning for Security Applications
- Deep Learning for Security Applications

RESEARCH PUBLICATIONS

JOURNALS:

- J.1. Razaq, A., **Ahmad, M.**, Yousaf, A., Alawida, M., Ullah, A., & Shuaib, U. A Group Theoretic Construction of Large Number of AES-Like Substitution-Boxes. *Wireless Personal Communications*, 1-24, 2021. [SCIE/IF: 1.671].
- J.2. Zahid, A. H., **Ahmad, M.**, Alkhayyat, A., Hassan, M. T., Manzoor, A., & Farhan, A. K. Efficient dynamic S-box generation using linear trigonometric transformation for security applications. *IEEE Access*, 9, 98460-98475, 2021. [SCIE/IF: 3.367].
- J.3. Alhudhaif, A., **Ahmad, M.**, Alkhayyat, A., Tsafack, N., Farhan, A. K., & Ahmed, R. Block Cipher Nonlinear Confusion Components Based on New 5-D Hyperchaotic System. *IEEE Access*, 9, 87686-87696, 2021 [SCIE/IF: 3.367].
- J.4. Khadem, B., Suteh, A. M., **Ahmad, M.**, Alkhayyat, A., Farash, M. S., & Khalifa, H. S. An improved WBSN key-agreement protocol based on static parameters and hash functions. *IEEE Access*, 9, 78463-78473, 2021 [SCIE/IF: 3.367].
- J.5. Zahid, A. H., Ilyasu, A. M., **Ahmad, M.**, Shaban, M. M. U., Arshad, M. J., Alhadawi, H. S., & Abd El-Latif, A. A. A Novel Construction of Dynamic S-Box with High Nonlinearity Using Heuristic Evolution. *IEEE Access*, 9, 67797-67812 2021 [SCIE/IF: 3.367].
- J.6. Razaq, A., **Ahmad, M.**, Yousaf, M. A., & Masood, S. A novel finite rings based algebraic scheme of evolving secure S-boxes for images encryption. *Multimedia Tools and Applications*, 80(13), 20191-20215. 2021 [SCIE/IF: 2.757].
- J.7. Alhadawi, H. S., Majid, M. A., Lambić, D., & **Ahmad, M.** A novel method of S-box design based on discrete chaotic maps and cuckoo search algorithm. *Multimedia Tools and Applications*, 80(5), 7333-7350. 2021 [SCIE/IF: 2.757].
- J.8. Alawida, M., Samsudin, A., Alajarmeh, N., Teh, J. S., & **Ahmad, M.** A Novel Hash Function Based on a Chaotic Sponge and DNA Sequence. *IEEE Access*, 9, 17882-17897, 2021. [SCIE/IF: 3.367].
- J.9. **Ahmad, M.**, Doja, M. N., & Beg, M. M. S. Security analysis and enhancements of an image cryptosystem based on hyperchaotic system. *Journal of King Saud University-Computer and Information Sciences*, 33(1), 77-85, 2021. [SCIE/IF: 13.473].
- J.10. **Ahmad, M.**, & Al-Solami, E. Improved 2D Discrete Hyperchaos Mapping with Complex Behaviour and Algebraic Structure for Strong S-Boxes Generation. *Complexity*, 2020. [SCIE/IF: 2.833].
- J.11. Alhadawi, H. S., Lambić, D., Zolkipli, M. F., & **Ahmad, M.** Globalized firefly algorithm and chaos for designing substitution box. *Journal of Information Security and Applications*, 55, 102671, 2020 [SCIE/IF: 3.872].
- J.12. Freyre-Echevarría, A., Alanezi, A., Martínez-Díaz, I., **Ahmad, M.**, El-Latif, A., Ahmed, A., & Razaq, A. An external parameter independent novel cost function for evolving bijective substitution-boxes. *Symmetry*, 12(11), 1896, 2020 [SCIE/IF: 2.645].
- J.13. Masood, S., Rai, A., Aggarwal, A., Doja, M. N., & **Ahmad, M.** Detecting distraction of drivers using convolutional neural network. *Pattern Recognition Letters*, 139, 79-85, 2020 [SCIE/IF: 3.756].
- J.14. Tanveer, M., Zahid, A. H., **Ahmad, M.**, Baz, A., & Alhakami, H. LAKE-IoD: Lightweight authenticated key exchange protocol for the Internet of drone environment. *IEEE Access*, 8, 155645-155659, 2020 [SCIE/IF: 3.367].

- J.15. Zahid, A. H., Al-Solami, E., & **Ahmad, M.** A novel modular approach based substitution-box design for image encryption. *IEEE Access*, 8, 150326-150340. 2020 [**SCIE/IF: 3.367**].
- J.16. **Ahmad, M.**, & Al-Solami, E. Evolving dynamic S-boxes using fractional-order hopfield neural network based scheme. *Entropy*, 22(7), 717, 2020 [**SCIE/IF: 2.494**].
- J.17. **Ahmad, M.**, Khaja, I. A., Baz, A., Alhakami, H., & Alhakami, W. Particle swarm optimization based highly nonlinear substitution-boxes generation for security applications. *IEEE Access*, 8, 116132-116147. 2020 [**SCIE/IF: 3.367**].
- J.18. Alawida, M., Teh, J. S., Oyinloye, D. P., **Ahmad, M.**, & Alkhawaldeh, R. S. A new hash function based on chaotic maps and deterministic finite state automata. *IEEE Access*, 8, 113163-113174, 2020 [**SCIE/IF: 3.367**].
- J.19. **Ahmad, M.**, Al-Solami, E., Alghamdi, A. M., & Yousaf, M. A. Bijective S-boxes method using improved chaotic map-based heuristic search and algebraic group structures. *IEEE Access*, 8, 110397-110411. 2020 [**SCIE/IF: 3.367**].
- J.20. Razaq, A., Alolaiyan, H., **Ahmad, M.**, Yousaf, M. A., Shuaib, U., Aslam, W., & Alawida, M. A novel method for generation of strong substitution-boxes based on coset graphs and symmetric groups. *IEEE Access*, 8, 75473-75490, 2020 [**SCIE/IF: 3.367**].
- J.21. Yousaf, M. A., Alolaiyan, H., **Ahmad, M.**, Dilbar, M., & Razaq, A. Comparison of pre and post-action of a finite abelian group over certain nonlinear schemes. *IEEE Access*, 8, 39781-39792, 2020 [**SCIE/IF: 3.367**].
- J.22. Jamal, S. S., Anees, A., **Ahmad, M.**, Khan, M. F., & Hussain, I. (2019). Construction of cryptographic S-boxes based on mobius transformation and chaotic tent-sine system. *IEEE Access*, 7, 173273-173285. [**SCIE/IF: 3.367**].
- J.23. Zahid, A. H., Arshad, M. J., & **Ahmad, M.** A novel construction of efficient substitution-boxes using cubic fractional transformation. *Entropy*, 21(3), 245, 2019 [**SCIE/IF: 2.494**].
- J.24. Hussam A. Ahmed, Mohamad Fadli Zolkipli, **Musheer Ahmad**, "A novel efficient substitution-box design based on firefly algorithm and discrete chaotic map", *Neural Computing and Applications*, 31, 7201-7210, 2019 [**SCIE/IF: 5.606**].
- J.25. Amer Awad Alzaidi, **Musheer Ahmad**, Hussam S. Ahmed, Eesa AlSolami, "Sine-Cosine Optimization Based Bijective Substitution-boxes Construction Using Enhanced Dynamics of Chaotic Map", *Complexity*, 2018, [**SCIE/IF: 2.833**].
- J.26. Dragan Lambić, Aleksandar Janković, **Musheer Ahmad**, "Security Analysis of the Efficient Chaos Pseudo-random Number Generator Applied to Video Encryption", *Journal of Electronic Testing: Theory and Applications*, 34, 709-715, 2018 [**SCIE/IF: 0.596**].
- J.27. Amer Awad Alzaidi, **Musheer Ahmad**, M N Doja, Eesa Al Solami, M M Sufyan Beg, "A New 1D Chaotic Map and beta-Hill Climbing for Generating Substitution-Boxes", *IEEE Access*, vol. 6, no. 01, pp. 55405-55418, October 2018. [**SCIE/IF: 3.367**].
- J.28. **Musheer Ahmad**, Hamed D. AlSharari, "Cryptanalysis and Improvement of a Digital Image Watermarking Scheme using Chaotic Map", *International Journal of Rough Sets and Data Analysis*, vol. 5, no. 4, pp. 61-73, October-December 2018 [**SCOPUS**].
- J.29. Eesa Al Solami, **Musheer Ahmad**, Christos Volos, Mohammad Najam Doja, Mirza Mohd Sufyan Beg, "A New Hyperchaotic System-Based Design for Efficient Bijective Substitution-boxes", *Entropy*, vol. 20, no. 7, July 2018 [**SCIE/IF: 2.494**].
- J.30. **Musheer Ahmad**, Eesa Al Solami, Xing-Yuan Wang, M N Doja, M M Sufyan Beg, Amer Awad Alzaidi, "Cryptanalysis of an Image Encryption Algorithm Based on Combined Chaos for BAN System and its Improved Scheme Using SHA-512 and Hyperchaos", *Symmetry*, vol. 10, no. 7, 266, July 2018 [**SCIE/IF: 2.645**].
- J.31. **Musheer Ahmad**, Sushmita Singh, Shruti Khurana, "Cryptographic one-way hash function generation using twelve-terms bounded 4D nonlinear system", *International Journal of Information Technology*, vol. xx, no. x, pp. xx-yy, May 2018 [**SCOPUS**].
- J.32. **Musheer Ahmad**, M N Doja, M M Sufyan Beg, "ABC optimization based construction of strong substitution-box", *Wireless Personal Communications*, vol. 101, no. 3, pp. 1715-1729, August 2018 [**SCIE/IF: 1.671**].
- J.33. **Musheer Ahmad**, Mohammad Zaiyan Alam, Subia Ansari, Dragan Lambić, Hamed D. AlSharari, "Cryptanalysis of an image encryption algorithm based on PWLCM and inertial delayed neural network", *Journal of Intelligent & Fuzzy Systems*, vol. 34, no. 3, pp. 1323-1332, Mar 2018 [**SCIE/IF: 1.852**].
- J.34. **Musheer Ahmad**, Mohammad Zaiyan Alam, Zeya Ummaya, Sarah Khan, Faiyaz Ahmad, "An Image Encryption Approach Using Particle Swarm Optimization and Chaotic Map", *International Journal of Information Technology*, vol. 10, no. 3, pp. 247-255, 2018 [**SCOPUS**].

- J.35. **Musheer Ahmad**, Zishan Ahmad, "Random Search Based Efficient Substitution Box Design for Image Encryption", *International Journal of Rough Sets and Data Analysis*, vol. 5, no. 2, pp. 131-147, 2018 [SCOPUS].
- J.36. **Musheer Ahmad**, M N Doja, M M Sufyan Beg, "Cryptanalysis of a novel image encryption scheme using Fourier series", *3D Research*, vol. 8, no. 4, pp. 1-11, December 2017. [SCOPUS].
- J.37. **Musheer Ahmad**, Shruti Khurana, Sushmita Singh, Hamed D. AlSharari, "A Simple Secure Hash Function Scheme Using Multiple Chaotic Maps", *3D Research*, vol. 8, no. 2, pp. 1-15, 2017 [SCOPUS].
- J.38. Swaleha, S., Sarosh, U. M., Athar, M. A., & **Musheer Ahmad**, "Fisher-yates chaotic shuffling based image encryption". *International Journal of Information Processing*, 8(3), 31-41. 2015.
- J.39. **Musheer Ahmad**, Deepanshu Bhatia and Yusuf Hassan, "A Novel Ant Colony Optimization Based Scheme for Substitution Box Design", *Procedia Computer Science*, Elsevier, vol. 57, pp. 572-580, 2015 [SCOPUS].
- J.40. **Musheer Ahmad**, Uzair Shamsi and Imran Raza Khan, "An Enhanced Image Encryption Method Based on Fractional Chaotic Systems", *Procedia Computer Science*, Elsevier, vol. 57, pp. 852-859, 2015 [SCOPUS].
- J.41. **Musheer Ahmad** and Tanvir Ahmad, "Securing Multimedia Colour Imagery Using Multiple High Dimensional Chaos Based Hybrid Keys", *International Journal of Communication Networks and Distributed Systems*, vol. 12, no. 1, pp. 113-128, 2014. [ESCI-SCOPUS].
- J.42. Om Prakash Verma, Munazza Nizam and **Musheer Ahmad**, "Modified Multi Chaotic Systems that are Based on Pixel Shuffle for Image Encryption", *Journal of Information Processing Systems*, vol. 9, no. 2, pp. 271-286, June 2013 [ESCI-SCOPUS].
- J.43. **Musheer Ahmad**, Tanvir Ahmad, "A Framework to Protect Patient Digital Medical Imagery for Secure Telediagnosis", *Procedia Engineering*, Elsevier, vol. 38, pp. 1055-1066, 2012 [SCOPUS].
- J.44. **Musheer Ahmad**, Bashir Alam and Omar Farooq, "Chaos Based Mixed Keystream Generation for Voice Data Encryption", *International Journal on Cryptography and Information Security*, vol. 2, no. 1, pp. 36-45, 2012. ISSN: 1839-8626.
- J.45. **Musheer Ahmad** and Omar Farooq, "Chaos and Wavelet Based Image Encryption", *International Journal of Information Processing*, vol. 5, no. 2, pp. 13-21, May 2011.
- J.46. **Musheer Ahmad** and M. Shamsher Alam, "A New Algorithm of Encryption and Decryption of Images Using Chaotic Mapping", *International Journal of Computer Science and Engineering*, vol. 2, no. 1, pp. 46-50, January 2010. ISSN: 0975-3397.

INTERNATIONAL CONFERENCES:

- C.1. Muhammad Hamid, Musheer Ahmad, Hussam Alhadawi and Shivam Chandhok, "Cryptographic Pseudo-Random Bit Generator Based on New Combination Discrete Chaotic Systems", *International Conference on Emerging Technologies and Intelligent Systems (ICETIS2021)*, 25-26 June, 2021, Lecture Notes in Networks and Systems, vol. 332 pp. xx-yy, Springer International Publishing, 2021.
- C.2. Musheer Ahmad, M N Doja, M M Sufyan Beg, "A New Chaotic Map Based Secure and Efficient Pseudo-Random Bit Sequence Generation", *Sixth International Symposium on Security in Computing and Communications (SSCC-2018)*, *Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 969, pp. 543-553, 19-22 September 2018, Bangalore. [SCOPUS].
- C.3. Musheer Ahmad, Aisha Aijaz, Subia Ansari, Mohammad Moazzam Siddiqui, Sarfaraz Masood, "Cryptanalysis of Image Cryptosystem Using Synchronized 4D Lorenz Stenflo Hyperchaotic Systems", *International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA-2017)*, *Advances in Intelligent Systems and Computing*, Springer, vol. 701, pp. 367-376, 14-15 October 2017, Bhubaneswar. [SCOPUS].
- C.4. Sarfaraz Masood, Adhyan Srivastava, Harish Chandra Thuwal, Musheer Ahmad, "Real Time Sign Language Gesture (Word) Recognition from Video Sequences Using CNN and RNN", *International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA-2017)*, *Advances in Intelligent Systems and Computing*, Springer, vol. 695, pp. 623-632, 14-15 October 2017, Bhubaneswar. [SCOPUS].
- C.5. Musheer Ahmad, Farooq Seeru, Ahmed Masihuddin Siddiqi, Sarfaraz Masood, "Dynamic 9×9 Substitution-Boxes Using Chaos Based Heuristic Search", *International Conference on Soft Computing: Theories and Applications (SoCTA-2016)*, *Advances in Intelligent Systems and Computing*, Springer, vol. 583, pp. 839-851, 28-30 December 2016, Jaipur. [SCOPUS].
- C.6. Musheer Ahmad, M Alauddin, Hamed D. AlSharari, "Heuristic Approach for Nonlinear $n \times n$ ($3 \leq n \leq 7$) Substitution-Boxes" *3rd International Conference on Computer & Communication Technologies (IC3T-2016)*, *Advances in Intelligent Systems and Computing*, Springer, vol. 542, pp. 347-355, 5-6 November 2016, Vijayawada. [SCOPUS].

- C.7. Sarfaraz Masood, Shubham Gupta, Abdul Wajid, Suhani Gupta, Musheer Ahmad, "Prediction of Human Ethnicity from Facial Images Using Neural Networks" *3rd International Conference on Computer & Communication Technologies (IC3T-2016), Advances in Intelligent Systems and Computing*, Springer, vol. 542, pp. 217-226, 5-6 November 2016, Vijayawada. [SCOPUS].
- C.8. Sahil Wadhwa, Musheer Ahmad, Harsh Vijay, "Chaotic Hash Function Based Plain-Image Dependent Block Ciphering Technique", *International Conference on Advances in Computing, Communications and Informatics (ICACCI-2016)*, pp. 633-637, 21-24 September 2016, Jaipur. [SCOPUS].
- C.9. Musheer Ahmad, Hamed D. AlSharari, "On the Security of Chaos Based Watermarking Scheme for Secure Communication", *International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA-2016), Advances in Intelligent Systems and Computing*, Springer, vol. 515, pp. 313-321, 16-17 September 2016, Bhubaneswar. [SCOPUS].
- C.10. Musheer Ahmad, Farooq Seeru, "Chaotic Key Dependent Generation of APA-like Strong Nonlinear Components", *Sixth International Conference on Advanced Computing & Communication Technologies (ACCT-2016)*, pp. 83-87, 3-4 September 2016, Rohtak. ISBN: 978-981-11-0783-2.
- C.11. Manish Malik, Musheer Ahmad, "Performance Analysis of Cryptographic 8×8 Substitution-Boxes, *Sixth International Conference on Advanced Computing & Communication Technologies (ACCT-2016)*, pp. 200-205, 3-4 September 2016, Rohtak. ISBN: 978-981-11-0783-2.
- C.12. Sushmita Singh, Musheer Ahmad, Dhruv Malik, "Breaking an Image Encryption Scheme Based on Chaotic Synchronization Phenomenon", *Ninth International Conference on Contemporary Computing (IC3-2016)*, pp. 146-149, 11-13 August 2016, Noida. [SCOPUS].
- C.13. Musheer Ahmad, Nikhil Mittal, Prerit Garg, Manaf Mahtab Khan, "Efficient Cryptographic Substitution Box Design Using Travelling Salesman Problem and Chaos", *International Conference on Recent Trends in Engineering and Material Science (ICEMS-2016), Perspectives in Science*, vol. 8, pp. 465-468, 17-19 March 2016.
- C.14. Musheer Ahmad, Manish Malik, "Design of Chaotic Neural Network Based Method for Cryptographic Substitution Box", *International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT-2016)*, pp. 864-868, 3-5 March 2016, Chennai. [SCOPUS].
- C.15. Musheer Ahmad, Faiyaz Ahmad and Syed Ashar Javed, "Cryptanalysis of an Asymmetric Image Cryptosystem Based on Synchronized Unified Chaotic System and CNN", *First International Conference on Intelligent Computing and Communication (ICIC2-2016), Advances in Intelligent Systems and Computing*, Springer, vol. 458, pp. 559-567, 18-19 February 2016, West Bengal. [SCOPUS].
- C.16. Pankaj Kumar Sharma, Aditya Kumar and Musheer Ahmad, "Cryptanalysis of Image Encryption Algorithm Based on Pixel Shuffling and Bits Shuffling", *International Congress on Information and Communication Technology, (ICTT-2015), Advances in Intelligent Systems and Computing*, Springer, vol. 439, pp. 281-289, 9-10 October 2015, Udaipur, [SCOPUS].
- C.17. Musheer Ahmad, Faiyaz Ahmad, Zeba Nasim, Zohra Bano, Shadab Zafar, "Chaos Based Strong Substitution Box Design", *Eight International Conference on Contemporary Computing (IC3-2015)*, pp. 97-100, 20-22 August 2015, Noida. [SCOPUS].
- C.18. Shruti Khurana and Musheer Ahmad, "Designing Chaotic Chirikov Map Based Hash Function", *International Conference on Innovations in Computer Science & Engineering (ICICSE-2015), Advances in Intelligent Systems and Computing*, Springer, vol. 413, pp. 267-274, 7-8 August 2015, Telangana. [SCOPUS].
- C.19. Musheer Ahmad, Danish Raza Rizvi and Zishan Ahmad, "PWLCM Based Random Search for Strong Substitution Box Design", *Second International Conference on Computer & Communication Technologies (IC3T-2015), Advances in Intelligent Systems and Computing*, Springer, vol. 379, pp. 471-478, 24-26 July 2015, Hyderabad. [SCOPUS].
- C.20. Akshay Chopra, Musheer Ahmad, Manish Malik, "An Enhanced Modulo-based Image Encryption Using Chaotic and Fractal Keys", *International Conference On Advances in Computer Engineering and Applications (ICACEA-2015)*, pp. 501-506, 19-20 March 2015, Ghaziabad, UP. [SCOPUS].
- C.21. Zeba Nasim, Zohra Bano, Musheer Ahmad, "Analysis of Random Permutations Generation Schemes for Security Applications", *International Conference On Advances in Computer Engineering and Applications (ICACEA-2015)*, pp. 337-341, 19-20 March 2015, Ghaziabad, UP. [SCOPUS].
- C.22. Shahzad Alam, Amir Jamil, Ankur Saldhi, Musheer Ahmad, "Digital Image Authentication and Encryption using Digital Signature", *International Conference On Advances in Computer Engineering and Applications (ICACEA-2015)*, pp. 332-336, 19-20 March 2015, Ghaziabad, UP. [SCOPUS].
- C.23. Musheer Ahmad, and Bashir Alam, "A Novel Biometric Fingerprint Template Based Method for Stream Cipher Design" *Second International Conference on Information Systems Design and Intelligent Applications (INDIA-*

2015), *Information Systems Design and Intelligent Applications, Advances in Intelligent Systems and Computing*, Springer, vol. 340, pp. 419-427, 8-9 January 2015, West Bengal. [SCOPUS].

- C.24. Musheer Ahmad, Imran Raza Khan and Shahzad Alam, "Cryptanalysis of Image Encryption Based on Fractional-order Lorenz-like Chaotic Systems" *International Conference on Emerging ICT for Bridging Future (CSI-2014), Emerging ICT for Bridging the Future, Advances in Intelligent Systems and Computing*, Springer, vol. 338, pp. 381-388, 13-14 December 2014, Hyderabad. [SCOPUS].
- C.25. Musheer Ahmad, Akshay Chopra, Prakhar Jain, and Shahzad Alam, "A Chaotic Substitution Based Image Encryption Using APA-transformation" *International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA-2014), Advances in Intelligent Systems and Computing*, Springer, vol. 328, pp. 75-83, 14-15 November 2014, Bhubaneswar. [SCOPUS].
- C.26. Musheer Ahmad, and Faiyaz Ahmad, "Cryptanalysis of Image Encryption Based on Permutation-Substitution Using Chaotic Map and Latin Square Image Cipher" *International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA-2014), Advances in Intelligent Systems and Computing*, Springer, vol. 327, pp. 481-488, 14-15 November 2014, Bhubaneswar. [SCOPUS].
- C.27. Pankaj Kumar Sharma, Musheer Ahmad, and Parvez Mahmood Khan, "Cryptanalysis of an Image Encryption Algorithm Based on Pixel Shuffling Scheme and Chaotic S-box Transformation", *Second International Symposium on Security in Computing and Communications (SSCC-2014), Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 467, pp. 173-181, 24-27 September 2014, Noida. [SCOPUS].
- C.28. Swaleha Saeed, M Sarosh Umar, M Athar Ali, Musheer Ahmad, "A Gray-Scale Image Encryption Using Fisher-Yates Chaotic Shuffling in Wavelet Domain", *2014 IEEE Recent Advances and Innovations in Engineering (ICRAIE-2014)*, pp. 1-5, 9-11 May 2014, Jaipur. [SCOPUS].
- C.29. Shahzad Alam, Vipin Kumar, Waseem A Siddiqui, Musheer Ahmad, "Key-Dependent Image Steganography Using Edge Detection", *International Conference on Advanced Computing & Communication Technologies (ACCT-2014)*, pp. 85-88, 8-9 February 2014, Rohtak. [SCOPUS].
- C.30. Prateek Singla, Payal Sachdeva and Musheer Ahmad, "A Chaotic Neural Network Based Cryptographic Pseudo-Random Sequence Design", *International Conference on Advanced Computing & Communication Technologies (ACCT-2014)*, pp. 301-306, 8-9 February 2014, Rohtak. [SCOPUS].
- C.31. Musheer Ahmad, Shahzad Alam, "A Novel Approach for Efficient S-Box Design Using Multiple High-Dimensional Chaos", *International Conference on Advanced Computing & Communication Technologies (ACCT-2014)*, pp. 95-99, 8-9 February 2014, Rohtak. [SCOPUS].
- C.32. Musheer Ahmad, Parvez Mahmood Khan and M Zeeshan Ansari, "A Simple and Efficient Key-Dependent S-Box Design Using Fisher-Yates Shuffle Technique", *International Conference on Security in Networks and Distributed Systems (SNDS-2014), Recent Trends in Computer Networks and Distributed Systems Security, Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 420, pp. 540-550, 13-14 March 2014, Kerela. [SCOPUS].
- C.33. Musheer Ahmad, Hammad Haleem and Parvez Mahmood Khan, "A New Chaotic Substitution Box Design for Block Ciphers", *International Conference on Signal Processing and Integrated Networks (SPIN-2014)*, pp. 255-258, 20-21 February 2014, Noida. [SCOPUS].
- C.34. Prateek Singla, Payal Sachdeva and Musheer Ahmad, "Exploring Chaotic Neural Network for Cryptographic Hash Function", *International Conference on Emerging Trends in Computing and Communication (ETCC-2014), Lecture Notes in Electrical Engineering*, Springer New York, vol. 298, pp. 143-148, 22-23 March 2014, Kolkata.
- C.35. Musheer Ahmad, Sonia Gupta and A K Mohapatra, "A Bio-Chaotic Block Cryptosystem for Privacy Protection of Multimedia Data ", *International Conference on Frontiers of Intelligent Computing: Theory and applications (FICTA-2013), Advances in Intelligent Systems and Computing*, Springer Switzerland, vol. 247, pp. 527-534, 14-16 November 2013, Bhubaneswar. [SCOPUS].
- C.36. Musheer Ahmad, Hitesh Chugh, Avish Goel and Prateek Singla, "A Chaos Based Method for Efficient Cryptographic S-Box Design", *International Symposium on Security in Computing and Communications (SSCC-2013), Security in Computing and Communications, Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 377, pp. 130-137, 22-24 August 2013, Mysore. [SCOPUS].
- C.37. Musheer Ahmad, Bashir Alam, Arpit Jain, Vipul Khare, "A Novel Octuple Images Encryption Algorithm Using Chaos in Wavelet Domain", *Fourth International Conference on Networks & Communications (NETCOM-2012), Computer Networks & Communications (NetCom), Lecture Notes in Electrical Engineering*, Springer New York, vol. 131, pp. 509-518, 22-24 December 2012, Chennai. [SCOPUS].
- C.38. Arpit Jain, Musheer Ahmad and Vipul Khare, "A Ridgelet Based Symmetric Multiple Image Encryption in Wavelet Domain using Chaotic Key Image", *International Conference on Eco-friendly Computing and Communication Systems (ICECCS-2012), Eco-friendly Computing and Communication Systems, Communications*

in *Computer and Information Science*, Springer-Verlag Berlin, vol. 305, pp. 135-144, 9-11 August 2012, Cochin. [SCOPUS].

- C.39. Musheer Ahmad, Bashir Alam and Omar Farooq, "Chaotic Masking of Voice Bitstream using Mixed Sequences for Authorized Listening", *The Second International Conference on Computer Science and Information Technology (CCSIT-2012)*, Advances in Computer Science and Information Technology: Computer Science and Engineering, *Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering*, Springer, vol. 85, Part II, pp. 604-611, 2-4 January 2012, Bangalore. [SCOPUS].
- C.40. Musheer Ahmad, Tanvir Ahmad and Chirag Gupta, "Multiple 3D Chaotic Systems Based Approach for Visual Multimedia Content Protection", *4th International Conference on Recent Trends in Computing, Communication & Information Technologies (ObCom-2011)*, *Global Trends in Information Systems and Software Applications, Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 270, pp. 37-46, 9-11 December 2011, Vellore. [SCOPUS].
- C.41. Musheer Ahmad and Omar Farooq, "Chaos Based PN Sequence Generator for Cryptographic Applications", *International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT-2011)*, pp. 83-86, 17-19 December 2011, Aligarh. [SCOPUS].
- C.42. Musheer Ahmad, M. Ehtashamoul Haque and Omar Farooq, "A Noise Resilient Scrambling Scheme for Noisy Transmission Channel", *International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT-2011)*, pp. 91-94, 17-19 December 2011, Aligarh. [SCOPUS].
- C.43. Musheer Ahmad, Shahab Saquib Sohail, Omar Farooq, Anoop L Vyas, Sekharjit Datta and David Mulvaney, "Chaos-based Encryption of Biomedical EEG Signals using Random Quantization Technique", *4th International Conference on BioMedical Engineering and Informatics (BMEI-2011)*, pp. 1471-1475, 15-17 October 2011, Shanghai, China. [SCOPUS].
- C.44. Musheer Ahmad, "Cryptanalysis of Chaos-based Secure Satellite Imagery Cryptosystem", *Fourth International Conference on Contemporary Computing (IC3-2011)*, *Contemporary Computing, Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 169, pp. 81-91, Noida, 8-10 August 2011. [SCOPUS].
- C.45. Musheer Ahmad and Omar Farooq, "Secure Satellite Image Transmission Scheme Using Chaos and Discrete Wavelet Transform", *International Conference on High Performance Architecture and Grid Computing (HPAGC-2011)*, *High Performance Architecture and Grid Computing, Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 168, pp. 257-264, Punjab, 19-20 July 2011. [SCOPUS].
- C.46. Musheer Ahmad and Izharuddin, "Randomness Evaluation of Stream Cipher for Secure Mobile Communication", *1st International Conference on Parallel, Distributed and Grid Computing (PDGC-2010)*, pp. 165-168, Solan, 28-30 October 2010. [SCOPUS].
- C.47. Musheer Ahmad and Omar Farooq, "A Multi-Level Blocks Scrambling Based Chaotic Image Cipher", *Third International Conference on Contemporary Computing (IC3-2010)*, *Contemporary Computing, Communications in Computer and Information Science*, Springer-Verlag Berlin, vol. 94, part 1, pp. 171-182, 9-11 August 2010, Noida. [SCOPUS].
- C.48. Musheer Ahmad and Izharuddin, "Enhanced A5/1 Cipher with Improved Linear Complexity", *International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT-2009)*, pp. 266-268, Aligarh, 14 -16 March 2009. [SCOPUS].
- C.49. Musheer Ahmad, Chanki Gupta and Ankit Varshney, "Digital Image Encryption Based on Chaotic Map for Secure Transmission", *International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT-2009)*, pp. 289-292, Aligarh, 14-16 March 2009. [SCOPUS].
- C.50. Musheer Ahmad and Izharuddin, "Security Enhancements in GSM Cellular Standard", *Fourth International Conference on Wireless Communication and Sensor Networks (WCSN-2008)*, pp. 191-194, Allahabad, 26-29 December 2008. [SCOPUS].

SERVED AS REVIEWER/REFEREE OF FOLLOWING INTERNATIONAL JOURNALS:

- IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE (SCIE), *IEEE*
- IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS (SCIE), *IEEE*
- IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY (SCIE), *IEEE*
- IEEE TRANSACTIONS ON CYBERNETICS (SCIE), *IEEE*
- IEEE TRANSACTIONS ON NEURAL NETWORKS & LEARNING SYSTEMS (SCI), *IEEE*
- IEEE TRANSACTIONS ON RELIABILITY (SCIE), *IEEE*
- IEEE TRANSACTIONS ON NANOBIOSCIENCE (SCIE), *IEEE*
- IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS (SCI), *IEEE*

- IEEE SYSTEMS JOURNAL (SCIE), *IEEE*
- IEEE MULTIMEDIA (SCIE), *IEEE*
- IEEE ACCESS (SCIE), *IEEE*
- JOURNAL OF INFORMATION SECURITY AND APPLICATIONS (SCIE), *ELSEVIER*
- SIGNAL PROCESSING (SCIE), *ELSEVIER*
- INFORMATION SCIENCES (SCI), *ELSEVIER*
- JOURNAL OF KING SAUD UNIVERSITY - CIS (SCIE), *ELSEVIER*
- NEUROCOMPUTING (SCIE), *ELSEVIER*
- OPTIK (SCI), *ELSEVIER*
- OPTICS AND LASER TECHNOLOGY (SCI), *ELSEVIER*
- COMPUTERS IN BIOLOGY AND MEDICINE (SCI), *ELSEVIER*
- PHYSICA A : STATISTICAL MECHANICS AND ITS APPLICATIONS (SCI), *ELSEVIER*
- CHAOS, SOLITONS & FRACTALS (SCI), *ELSEVIER*
- SIGNAL PROCESSING: IMAGE COMMUNICATION (SCI), *ELSEVIER*
- MICROELECTRONICS JOURNAL (SCIE), *ELSEVIER*
- ALEXANDRIA ENGINEERING JOURNAL (SCIE), *ELSEVIER*
- AIN SHAMS ENGINEERING JOURNAL (SCIE), *ELSEVIER*
- ENGINEERING SCIENCE AND TECHNOLOGY: AN INTERNATIONAL JOURNAL (SCIE), *ELSEVIER*
- BIOSYSTEMS (SCI), *ELSEVIER*
- INTEGRATION (SCIE), *ELSEVIER*
- NEURAL COMPUTING AND APPLICATIONS (SCIE), *SPRINGER*
- WIRELESS PERSONAL COMMUNICATIONS (SCIE), *SPRINGER*
- COMPUTATIONAL AND APPLIED MATHEMATICS (SCIE), *SPRINGER*
- ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING (SCIE), *SPRINGER*
- FRONTIERS OF INFORMATION TECHNOLOGY & ELECTRONIC ENGINEERING (SCIE), *SPRINGER*
- SENSING AND IMAGING (ESCI-SCOPUS), *SPRINGER*
- INTERNATIONAL JOURNAL OF DYNAMICS AND CONTROL (SCOPUS), *SPRINGER*
- IET INFORMATION SECURITY (SCIE), *IET*
- IET BIOMETRICS (SCIE), *IET*
- IET IMAGE PROCESSING (SCIE), *IET*
- INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, (SCIE), *WORLD SCIENTIFIC*
- COMPLEXITY (SCIE), *HINDAWI - WILEY*
- SECURITY AND COMMUNICATION NETWORKS (SCIE), *HINDAWI - WILEY*
- MATHEMATICAL PROBLEMS IN ENGINEERING (SCIE), *HINDAWI*
- JOURNAL OF ELECTRICAL AND COMPUTER ENGINEERING (ESCI), *HINDAWI*
- JOURNAL OF COMPUTER NETWORKS AND COMMUNICATIONS (ESCI), *HINDAWI*
- ETRI JOURNAL (SCI), *WILEY*
- ENTROPY (SCIE), *MDPI*
- JOURNAL OF THE CHINESE INSTITUTE OF ENGINEERS (SCIE), *TAYLOR & FRANCIS*
- IETE JOURNAL OF RESEARCH (SCIE), *TAYLOR & FRANCIS*
- INFORMATION SECURITY JOURNAL: A GLOBAL PERSPECTIVE (ESCI-SCOPUS), *TAYLOR & FRANCIS*
- INTERNATIONAL JOURNAL OF BIO-INSPIRED COMPUTING (SCIE), *INDERSCIENCE*
- INTERNATIONAL JOURNAL OF ADVANCED INTELLIGENCE PARADIGMS (SCOPUS), *INDERSCIENCE*
- INTERNATIONAL JOURNAL OF INFORMATION AND COMPUTER SECURITY (SCOPUS), *INDERSCIENCE*
- JOURNAL OF COMPUTATIONAL METHODS IN SCIENCES AND ENGINEERING (SCOPUS), *IOS PRESS*
- INTERNATIONAL JOURNAL OF INFORMATION SECURITY AND PRIVACY (SCOPUS), *IGI GLOBAL*
- INTERNATIONAL JOURNAL OF ROUGH SETS AND DATA ANALYSIS (ACM-DBLP), *IGI GLOBAL*

JOURNAL SPECIAL ISSUE ORGANIZED (GUEST EDITOR):

1. Guest edited a Special Issue on "[*Intelligent Informatics and Computing for Security*](#)" in **International Journal of Rough Sets and Data Analysis**, vol. 5, no. 3, ISSN: 2334-4601, IGI (*IGI Global Publication*)

SESSION CHAIRED:

1. Served as Chair of Session on "[*Systems and Application Security/Cryptosystems, Algorithms*](#)" in **Sixth International Symposium on Security in Computing and Communications (SSCC-2018)**

held on 19th –22nd September 2018, Bangalore, India, *CCIS*, vol. 969, ISBN: 978-981-10-5826-5 (*Proceeding by Springer*), Available at: <https://doi.org/10.1007/978-981-13-5826-5>

CONFERENCE SPECIAL SESSION ORGANIZED:

1. Organized a Special Session on “[Recent Advancements on Information Security](#)” with **International Conference on Frontiers of Intelligent Computing: Theory and Applications** (FICTA-2016) held on 16th –17th September 2016, *Advances in Intelligent Systems and Computing*, vol. 515, ISBN: 978-981-10-3153-3 (*Proceeding by Springer*)
Available at: <https://doi.org/10.1007/978-981-10-3153-3>

CONFERENCE TRACK MANAGER:

1. Served as track manager for Track: [Information Security Applications](#) in **International Conference International Conference on Computer and Communication Technologies** (IC3T-2016) held on 5th – 6th November 2016, *Advances in Intelligent Systems and Computing*, vol. 542, ISBN: 978-981-10-3223-3 (*Proceeding by Springer*)
Available at: <https://doi.org/10.1007/978-981-10-3223-3>
2. Served as track manager for Track: [Network Security, Wireless and Mobile Computing](#) in **Third International Conference on Information systems Design and Intelligent Applications** (INDIA-2016) held on 8th – 9th January 2016, *Advances in Intelligent Systems and Computing*, vol. 535, ISBN: 978-81-322-2757-1 (*Proceeding by Springer*)
Available at: <https://doi.org/10.1007/978-81-322-2757-1>

REVIEWER OF BOOK CHAPTERS:

1. Reviewed two Book Chapters of the Book titled “[Applications of Soft Computing for the Web](#)”, ISBN: 978-981-10-7097-6, (*Springer Publication*), Available at: <https://doi.org/10.1007/978-981-10-7098-3>

REVIEWER/TPC MEMBER OF CONFERENCES:

- Served as TPC member and Reviewer of more than 40 International Conferences.

OTHER ACADEMIC ACTIVITIES:

- Designed syllabi of M.Tech courses of “*Algorithm Design*”, “*Soft Computing*”, “*Multimedia Technology*” and “*Digital Image Processing*” in the Department of Computer Engineering, Jamia Millia Islamia, New Delhi.
- Revised syllabus of “*Analysis and Design of Algorithms*” and “*Discrete Mathematics*” in the Department of Computer Engineering, Jamia Millia Islamia, New Delhi.
- Introduced a B.Tech Elective course “*Soft Computing Techniques*” and designed its syllabus in the Department of Computer Engineering, Jamia Millia Islamia, New Delhi.
- Revised syllabus of “*Microprocessor Theory & Applications*” course at Department of Computer Engineering, AMU, Aligarh.

RESPONSIBILITIES:

- Serving as M.Tech Coordinator of the Department since 2019.
- Serving as CBCS Programme Advisor of the Department under CBCS system.
- Prepared Departmental NAAC Accreditation Report and served as Nodal faculty member for 2015 NAAC related activities.
- Serving as Teacher Coordinator of the Department for B.Tech (3rd & 4th Sem) IInd year.

- Member of Departmental Syllabus Committee formed to design Subjects syllabi for M.Tech course in the Department.
- Served as member of ICT Guidelines Compliance Committee constituted, in May 2011, to observe the compliance of ICT guidelines and utilization of Personal computers in Jamia Millia Islamia.
- Served as Departmental Scrutinizer for B.Tech program at Department of Computer Engineering, AMU, Aligarh.

ONGOING SUPERVISION:

PH.D	:	3
MTECH DISSERTATIONS	:	2
MTECH PROJECTS	:	2
BTECH PROJECTS	:	3

DISSERTATIONS/PROJECTS SUPERVISED:

MTECH DISSERTATIONS	:	11
MTECH PROJECTS	:	14
BTECH PROJECTS	:	40+

SHORT-TERM COURSE/FDP/WORKSHOPS PARTICIPATED:

- Participated and Completed one week ATAL online **Faculty Development Programme in “Cyber Security”** during 21st September – 25th September 2020 organized by Dr Harisingh Gour University, Sagar, MP.
- Completed Two weeks online **Refresher Course in “Engineering, Physical Sciences and Management”** during 22nd June – 4th July 2020) organized by BVICAM, New Delhi.
- Attended Two weeks online **Faculty Development Programme** during 8th June – 19th June 2020 organized by BVICAM, New Delhi.
- Participated in One-day Workshop over **“Emerging Trends in Digital World”** organized by Department of Computer Engineering, JMI, and FTK-Centre for Information Technology, JMI New-Delhi-110025 held on 08th March 2017.
- Attended 114th four week **Orientation Programme** during 03rd Nov – 03rd Dec 2015 organized by JMI-Human Resource Development Centre, Jamia Millia Islamia, New Delhi.
- Attended 3rd three week **Summer Special Programme** during 16th May – 5th June 2014 organized by Academic Staff College, Jamia Millia Islamia, New Delhi.
- Participated in a Short-term course over **“Multimedia Technology & Applications”** organized by Department of Electronics Engineering, AMU, Aligarh held on.
- Participated in two-days Workshop over **“Emerging Trends in Information & Communication Technology”** organized by Department of Computer Engineering, AMU, Aligarh held on.
- Participated in One-day Workshop over **“Emerging Trends in ICT based Learning”** jointly organized by FTK-Centre for Information Technology, JMI and Department of Computer Engineering, JMI, New-Delhi-110025 held on.

CONFERENCES ATTENDED:

- International Symposium on Security in Computing and Communications (**SSCC-2018**), 19-22 September 2018, Bangalore.

- International Conference on Electrical, Electronics, and Optimization Techniques (**ACCT-2016**), 3-4 September 2016, Rohtak, Haryana.
- International Conference on Electrical, Electronics, and Optimization Techniques (**ICEEOT-2016**), 3-5 March 2016, Ponamallee, Chennai.
- International Congress on Information and Communication Technology (**ICICT-2015**), 9-10 October 2015, Udaipur.
- International Symposium on Security in Computing and Communications (**SSCC-2014**), 24-27 September 2014, Greater Noida.
- International Conference on Multimedia, Signal Processing and Communication Technologies (**IMPACT-2011**), 17-19 December 2011, Aligarh.
- Fourth International Conference on Contemporary Computing (**IC3-2011**), 8-10 August 2011, Noida.
- International Conference on High Performance Architecture and Grid Computing (**HPAGC-2011**), 19-20 July 2011, Punjab.
- 1st International Conference on Parallel, Distributed and Grid Computing (**PDGC-2010**), 28-30 October 2010, Solan.
- Third International Conference on Contemporary Computing (**IC3-2010**), 9-11 August 2010, Noida.
- Fourth International Conference on Wireless Communication and Sensor Networks (**WCSN-2008**), 26-29 December 2008, Allahabad.
- International Conference on Wireless Networks and Embedded Systems (**WECON-2008**), 18-19 October 2008, Punjab.

AWARDS/ACHIEVEMENTS:

- Got Prize for gaining sixth position in Class X Examination 1997.
- Got Prize under Best Papers Award category for research paper in a Conference.

PROFESSIONAL MEMBERSHIPS:

- Member of Society of Digital Information and Wireless Communication (SDIWC), USA.
- Member of International Association of Computer Science and Information Technology (IACSIT), Singapore.
- Member of Institute of Doctors, Engineers and Scientists (IDES), India.

PERSONAL DETAILS:

Date of Birth : 08th JANUARY, 1982
 Father's Name : (LATE) Mr. SAGHEER AHMAD
 Contact : +911126980281 (O)

MySCOPUS : <https://www.scopus.com/authid/detail.url?authorId=35101455800>

MyGoogleScholar : <http://scholar.google.co.in/citations?user=cPbmjWoAAAAI&hl=en&oi=ao>

MyDBLP : <http://dblp.uni-trier.de/pers/hd/a/Ahmad:Musheer.html>

MyResearchGate : https://www.researchgate.net/profile/Musheer_Ahmad

(Dr. Musheer Ahmad)

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