

Mr. Musheer Ahmad

Assistant Professor

Academic Qualifications:

M. Tech (Discipline): *Computer Science & Engineering.*

B. Tech (Discipline): *Computer Engineering.*

Degree	College/School	University	Marks
M. Tech	<i>ZH College of Engineering and Technology</i>	Aligarh Muslim University, Aligarh	72.2 %
B. Tech	<i>ZH College of Engineering and Technology</i>	Aligarh Muslim University, Aligarh	CPI: 8.1/10
XII	<i>Senior Secondary School</i>	Aligarh Muslim University, Aligarh	80.2 %
X	<i>S T S High School (Minto Circle)</i>	Aligarh Muslim University, Aligarh	86.6 %

Teaching Experience:

- Working as **Assistant Professor** in the *Department of Computer Engineering, F/O Engineering and Technology, Jamia Millia Islamia, New-Delhi-110025.*
- Worked as Guest Faculty/Temporary Lecturer (during 2006-2010) in the *Department of Computer Engineering, ZH College of Engineering and Technology, Aligarh Muslim University, Aligarh-202002.*

Theories/Courses Taught:

- Microprocessor Theory and Applications
- Discrete Mathematics
- Analysis and Design of Algorithms
- Computer Architecture
- Computer Graphics
- Software Engineering
- Information Technology

Technical Skills:

- C, VC++, JAVA, VHDL, Intel 8085/8086, Microchip PIC 16F84/16F877.
- MATLAB 7, ModelSim 6.0, MPLAB 5.0.

Publications:

- **Musheer Ahmad**, Bashir Alam and Omar Farooq, “Chaotic Masking of Voice Bitstream using Mixed Sequences for Authorized Listening”, *Advances in Computer Science and Information Technology, Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering*, Springer-Verlag, Heidelberg, Vol. xx, pp. xx--xx, January 2012, ISSN: 1867-8211. [Accepted-Registered]
- **Musheer Ahmad** and Omar Farooq, “Chaos Based PN Sequence Generator for Cryptographic Applications”, *International Conference on Multimedia, Signal Processing and Communication Technologies*, pp. xx--xx, Aligarh, 17-19 December 2011, Aligarh. [Accepted-Registered]
- **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 IEEE International Conference on BioMedical Engineering and Informatics*, pp. 1489--1493, 15-17 October 2011, Shanghai, China. ISBN: 978-1-4244-9350-0.
- **Musheer Ahmad**, “Cryptanalysis of Chaos-based Secure Satellite Imagery Cryptosystem”, *Contemporary Computing, Communications in Computer and Information Science*, Vol. 169, pp. 81--91, Springer-Verlag, Heidelberg, August 2011, ISSN: 1865-0929. (doi: 10.1007/978-3-642-22606-9_12)
- **Musheer Ahmad** and Omar Farooq, “Secure Satellite Image Transmission Scheme Using Chaos and Discrete Wavelet Transform”, *High Performance Architecture and Grid Computing, Communications in Computer and Information Science*, Vol. 168, pp. 257--264, Springer-Verlag, Heidelberg, July 2011, ISSN 1865-0929. (doi: 10.1007/978-3-642-22577-2_35)
- **Musheer Ahmad** and Omar Farooq, “Chaos and Wavelet Based Image Encryption”, *International Journal of Information Processing*, Vol. 4 Issue 2, pp. 13--21, May 2011, ISSN: 0973-8215.
- **Musheer Ahmad** and Omar Farooq, “A Computation Efficient Block Based Scrambling Technique with Random Control Parameters”, *Journal of Information Technology*, Vol. VI, No. 4, pp. 7--16, December 2010. ISSN: 0973-2896.
- **Musheer Ahmad** and Omar Farooq, “A Multi-Level Blocks Scrambling Based Chaotic Image Cipher”, *Contemporary Computing, Communications in Computer and Information Science*, Vol. 94, part 1, pp. 171--182, Springer-Verlag, Heidelberg, August 2010, ISSN: 1865-0929. (doi: 10.1007/978-3-642-14834-7_17)
- **Musheer Ahmad** and Izharuddin, “Randomness Evaluation of Stream Cipher for Secure Mobile Communication”, *1st International Conference on Parallel, Distributed and Grid Computing*, pp. 165--168, 28-30 October 2010. (doi: 10.1109/PDGC.2010.5679889)
- **Musheer Ahmad** and Izharuddin, “Enhanced A5/1 Cipher with Improved Linear Complexity”, *International Conference on Multimedia, Signal Processing and Communication Technologies*, pp. 266--268, 14-16 March 2009. (doi: 10.1109/MSPCT.2009.5164226)

- **Musheer Ahmad** and Izharuddin, “Security Enhancements in GSM Cellular Standard”, *Fourth International Conference on Wireless Communication and Sensor Networks*, pp. 191--194, 26-29 December 2008, ISBN: 978-1-4244-3328-5. (doi: 10.1109/WCSN.2008.4772693)
- **Musheer Ahmad**, Izharuddin and M. Qasim Rafiq, “Dynamic Keystream Generator for Stream Ciphering”, *4th National Conference on Machine Intelligence*, pp. 11--14, August 2008.
- **Musheer Ahmad**, Izharuddin, M. Shamsheer Alam and M. Ahsanul Haque, “Comparison of Sequence Generators based on LFSR Using Different Feedback Topologies”, *National Conference on Emerging Technologies*, pp. 110--114, March 2008.
- **Musheer Ahmad**, Rashid Ali and M. Qasim Rafiq, “Segmentation of Satellite Images Using Mean Shift Algorithm for Coastal Boundary Extraction”, *4th National Conference on Advancement in Network Technologies- Trends in Networking*, pp. 216--227, February 2008.

M.Tech Dissertation:

Topic: Design and Implementation of LFSR based Data Encryption Circuit for Secure Communication.

Guide: Mr. Izharuddin, Reader, *Department of Computer Engineering, ZH College of Engineering & Technology, Aligarh Muslim University, Aligarh-202002.*

Abstract: Global System for Mobile (GSM) communication uses A5/x algorithms to secure the subscriber's information over the air-interface. Among all A5/x algorithms, A5/1 is strong stream cipher which performs actual encryption of information. However, cryptanalytic studies showed that it has security flaws in its architecture and susceptible to several cryptographic attacks. This dissertation mainly concerns with the enhancement of A5/1 cipher. An enhanced Linear Feedback Shift Registers (LFSRs) based A5/1 stream cipher is suggested to overcome the weaknesses and to improve the level of security provided by it.

Ongoing Projects Supervision:

B.Tech Projects:

- Supervising **04** Projects

Dissertations/Projects Supervised:

M.Tech Dissertations: (02)

- RGB Intensity Based Image Steganography.
- Image Encryption using Fibonacci Transform.

M.Tech Projects:

- Supervised **04** M.Tech III Semester Projects

B.Tech Projects:

- Supervised **06** B.Tech Final Year Projects

Research Interest:

- Chaos-based Security Solutions
- Multimedia Encryption
- Sequence Design for Secure Communication
- Hash Function Design
- Digital Image Processing

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.

Short-term Course/Workshops Participated:

- Participated in a Short-term Course over “**Multimedia Technology & Applications**” organized by *Department of Electronics Engineering, AMU, Aligarh.*
- Participated in two-days Workshop over “**Emerging Trends in Information & Communication Technology**” organized by *Department of Computer Engineering, AMU, Aligarh.*
- 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.*

Personal Details:

Date of Birth : 08th January, 1982.
Father’s Name : Mr. Sagheer Ahmad Ansari
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