

Dr Rupak Kharel

Manchester Metropolitan University, UK



Chaotic systems and applications to secure communication

Abstract: In this talk, beautiful world of chaos will be explored. Various inherent properties of chaotic system that makes it useful in encryption and cryptography and in secure communication will be explored. There are many techniques that allow chaotic systems to be used in secure communication however there are various challenges as well, which will form the heart of this talk. Possible solutions that the speaker is currently working on to improve the techniques along with selected application will be presented.

Biography: Dr Rupak Kharel is currently working as a Senior Lecturer in School of Engineering, Manchester Metropolitan University. He joined the school in July 2011. He has over 10 years of experience in the field of academics, R&D and software design. He received his PhD in Secure Communication using chaotic systems in 2011 from Northumbria University during which he was also awarded best PhD student in the school in 2009 and 2010. Before this, he obtained MSc in Optoelectronic and Communication systems from Northumbria University in 2007. He was awarded P.O Byrne prize for outstanding achievement in his MSc. He obtained his B.Eng. degree in Computer Engineering from Institute of Engineering, Pulchowk Campus, Tribhuvan University, Nepal in 2004. Recently, he has also finished his teaching qualification, Postgraduate Certificate in Academic Practice (PGCAP) from Manchester Metropolitan University. He has worked on several commercial projects and have provided consultancy in software design and architecture. His current research interests are in the field of security and cryptography, smart m-health applications, IoT, wireless sensor networks and cyber security challenges in distributed systems mainly cloud computing and smart grids. He has served as a local organizing committee member for CSNDSP2014, CSNDSP2010, NOC/OC&I2011, EFEA2012 as well as reviewer for several leading publications and international conferences.