

Research and Related Activities of Individual Faculty Members of the Department of Comp. Sc. & Engg.

Period: April 2014 – March 2015

Name Prof. (Dr.) Jyotsna Kumar Mandal
Designation

**Professor, Department of Computer Science & Engineering,
 University of Kalyani, Kalyani, Nadia 741235, West Bengal, India.**

1. Publications (attach additional sheets if necessary):

Publication Type	Publication Details with Impact Factor/ ISSN/ISBN etc.	Total No.
a) Books (including creative writing)	NIL	00
b) Articles in Books	Sarkar, A., & Mandal, J. K. (2015). Particle Swarm Optimization based Session Key Generation for Wireless Communication (PSOSKG). In A. Bhattacharyya, S., & B. Dutta, P. (Eds.), Handbook of Research on Swarm Intelligence in Engineering, chapter 20, 701 E. Chocolate Ave., Hershey, Pennsylvania (USA): IGI GLOBAL. (Accepted). Indexed by: SCOPUS, Thomson Reuters, DBLP Computer Science Bibliography, ERIC - Education Resources Information Center, and ACM Digital Library, CrossRef., Compendex, PsycINFO, INSPEC, Cabell's Directories, Google Scholar etc., 2015.	01
c) Research Papers in		
Journals with Impact factor/ ISSN Average impact factor 1.231	<ol style="list-style-type: none"> 1. Rajdeep Chakraborty, Sibendu Biswas and JK Mandal "Modified Rabin Cryptosystem through Advanced Key Distribution System", published in IOSR Journal of Computer Engineering (IOSR-JCE), e-ISSN: 2278-0661, p-ISSN: 2278-8727, accepted & published in Volume 16, Issue 2 Ver XII (Mar. - Apr. 2014) issue, PP 01-07, Impact Factor: 1.213 indexed by NASA, Cross Ref, Arxiv.org, Cabell's, Index Copernicus, EBSCO Host, Ulrichs Web, Google Scholar, ANED, Jour Informatics, 2014. 2. Sarkar, A., Mandal, J. K. (2014). Cryptanalysis of Key Exchange method in Wireless Communication (CKE). International Journal of Network Security (IJNS), ISSN 1816 – 3548 [Online]; 1816 – 353X [Print]. (Accepted). Impact Factor: 1.39, Indexed by: SCOPUS, DBLP, SciVerse, Engineering Village, Ei Compendex, Summon by Serial Solutions, SCImago, EBSCO, DOAJ, Google Scholar etc., 2014. 3. Nandi, U and Mandal, J. K., "Achieving the Capability of a Dictionary Based Data Compression Technique OLZW and its Variants", International Journal of Electronics Communication and Computer Engineering, Volume 5, Issue 4, ISSN (Online): 2249-071X, ISSN (Print): 2278-4209, pp.921-926, Impact Factor: 1.0909, 2014. 4. Rajdeep Chakraborty, Sibendu Biswas and J K Mandal, "Modified Rabin Cryptosystem through Advanced Key Distribution System", published in IOSR Journal of Computer Engineering (IOSR-JCE), e-ISSN: 2278-0661, p-ISSN: 2278-8727, Volume 16, Issue 2 Ver XII (Mar. - Apr. 2014) issue, PP 01-07, Impact Factor: 1.213, indexed by NASA, Cross Ref, Arxiv.org, Cabell's, Index Copernicus, EBSCO Host, Ulrichs Web, Google Scholar, ANED, Jour 	06

	<p style="text-align: center;">Informatics(2014).</p> <ol style="list-style-type: none"> 5. Mallick, M., Sengupta Madhumita and Mandal, J. K. (20th February, 2015). Authentication through Hough Signature on G-Let D4 Domain (AHSG – D4), National Conference on Computational Technologies – 2015 (NCCT’15), Organized by North Bengal University. Proceedings published with International Journal of Computer Science and Engineering. 3(1), 59 - 67, e-ISSN: 2347-2693, Impact Factor: 1.251, 2015. 6. Mukhopadhyay, S and Mandal, J. K. , A Fuzzy Switching Median Filter of Impulses in Digital Imagery (FSMF), Circuits, Systems, and Signal Processing, February 2014, DOI:10.1007/s00034-014-9739-z,ISSN: 0278-081X, Springer US, http://link.springer.com/article/10.1007%2Fs00034-014-9739-z, Impact Factor: 1.264, 2014. 	
Other Journals	<ol style="list-style-type: none"> 1. Bandyopadhyay, D, Dasgupta, K Mandal, J. K. Dutta, P, “A novel secure image steganography method based on Chaos theory in spatial domain”, International Journal of Security, Privacy and Trust Management (IJSPTM) ,Vol 3, No 1, February 2014, pp: 11-21, 2014. 2. Rajdeep Chakraborty, Santanu Basak and JK Mandal “An FPGA Based Crypto Processor through Triangular Modulo Arithmetic Technique (TMAT)”, published in International Journal of Multidisciplinary in Cryptology and Information Security (IJMCIS) ISSN 2320 –2610, accepted & published in Volume 3, No.3 (May – June 2014) issue, PP 14-20, indexed by Google scholar, Cite Seer, getCited, .docstoc, Scribd, Ulrich Web, Index Copernicus, Microsoft Academics, New Jour, DOAJ, 2014 3. Singh, M.M.,Singh., A and Mandal, J.K., Towards Techniques of Detecting Node Replication Attack in Static Wireless Sensor Networks”, International Journal of Information and Computation Technology,Vol 4, Number 2(2014), Pp 153-164,ISSN: 0974-2239., 2014 4. Ghosal, S.K, Mandal J.K, “Color Image Authentication based on Two-Dimensional Separable Discrete Hartley Transform (CIA2D-SDHT)”, Association for the Advancement of Modelling and Simulation Techniques in Enterprises (AMSE), France, communicated on line (www.amse-modeling.com under user of jkm), 2014. 5. Sarkar, A., Mandal, J. K. (2014). Computational Science guided Soft Computing based Cryptographic Technique using Ant Colony Intelligence for Wireless Communication (ACICT). International Journal of Computational Science and Applications (IJCSA), 4(5), 61-73, DOI: 10.5121/ijcsa.2014.4505, ISSN 2200 – 0011. Indexed by: Ulrichsweb, DOAJ, Scrib, getCITED, Pubget, .docstoc, pub zone, Open J-Gate, CiteSeerx, Google Scholar, cnki.net, etc.,2014. 6. Sarkar, A, Mandal, J. K. , " Soft Computing based Cryptographic Technique using Kohonen’s Self Organizing Map Synchronization for Wireless Communication(KSOMSCT), International Journal in Foundations of Computer Science & Technology (IJFCST), Vol.4, No.5,ISSN 1839-7662, Indexed on Google Scholar, EBSCO, DOAJ, SCRIBD, WorldCat,Vol.4, No.5, pp.85-100, (DOI:10.5121/ijfcst.2014.4508) September 2014. 	12

	<ol style="list-style-type: none"> 7. Sarkar, A, Mandal, J. K, "Intelligent Soft Computing based Cryptographic Technique using Chaos Synchronization for Wireless Communication(CSCT), International Journal of Ambient Systems & Applications(IJASA),ISSN 2321-6344 (Print) ISSN 2320-9259 (Online), Indexed on Google Scholar, EBSCO, DOAJ,SCRIBD, WorldCat, Vol.2, No.3, pp.11-20, (DOI:10.5121/ijasa.2014.2302) September 2014. 8. Sarkar, A, Mandal, J. K, "Cryptanalysis of Key Exchange method in Wireless Communication (CKE)" (IJNS-2012-10-05-1), International Journal of Network Security, ISSN 1816-353X (Print) ISSN 1816-3548 (Online), Indexed on Scopus, DBLP, SCI, Taiwan(http://ijns.femto.com.tw/),(accepted July, 24 2014). 9. S. K. Ghosal, J. K. Mandal, "Binomial Transform based Fragile Watermarking for Image Authentication" Journal of Information Security and Applications (Ref. No.: ISTR-D-13-00009R2, DOI: 10.1016/j.jisa.2014.07.004), Science Direct, Elsevier, Published on September 27,2014. 10. Mandal, J K, Sing, M. M., Sing, A, "Towards Techniques of Detecting Node Replication Attack in Static Wireless Sensor Networks", International Journal of Information and Computation Technology, ISSN 0974-2239 Volume 4, Number 2 (2014), pp. 153-164, 2014. 11. Mandal, J. K.(coauthor) et al, "A Novel Secure Image Steganography Method Based On Chaos Theory In Spatial Domain", International Journal of Security, Privacy and Trust Management (IJSPTM) Vol 3, No 1, February 2014, pp.11-21, DOI:10.5121/ijstpm.2014.3102,link:http://airccse.org/journal/ijstpm/papers/3114ijstpm02.pdf, 2014. 12. Chakraborty, R, Mandal, J.K. "Secure Encryption Technique (SET): A Private Key Crypto System' in the International Journal of Multidisciplinary in Cryptology and Information Security (IJMCIS)", ISSN 2320-2610, Vol.4, No.1 (January – February 2015 issue), pp.10-13, 2015. 	
d)		
Proceedings		
National Conferences - Full Paper		
International Conferences - Full Paper	<p>Springer International Conferences</p> <ol style="list-style-type: none"> 1. Paul, M, Mandal J. K., (12th-14th December, 2014) , "A Cryptographic Scheme through cascaded Session based Symmetric Keys for Ubiquitous Computing", Emerging ICT for Bridging the Future - Proceedings of the 49th Annual Convention of the Computer Society of India (CSI-2014), Springer AISC Series - 337. Vol. 1, 525-532. 978-3-319-13728-5,2014 2. Bandyopadhyay, D, Dasgupta, K, Mandal, JK, Dutta, P, Ojha, V K, Snášel, Václav "A Framework of Secured and Bio-Inspired Image Steganography Using Chaotic Encryption with Genetic Algorithm Optimization (CEGAO)", Springer International Publishing, Proceedings of the Fifth International Conference on Innovations in Bio- 	21

Inspired Computing and Applications IBICA 2014, pp. 271-280,2014.

3. Sengupta, Madhumita, Mandal J. K., Khan Sakil Ahamed. (12th-14th December, 2014) , “Image Authentication in Frequency domain through G-Let Dihedral Group D3 (IAFD-D3)”, Emerging ICT for Bridging the Future - Proceedings of the 49th Annual Convention of the Computer Society of India (CSI-2014), Springer AISC Series - 337. Vol. 1, 145-152. 978-3-319-13728-5,2 014.
4. Sarkar, A and Mandal, J.K.,“ Comparative Analysis of Tree Parity Mac”, Emerging ICT for Bridging the future- Proceedings of 49th Annual Convention of the Computer Society of India(CSI) Vol1, AISC 337 Springer, Springer, pp.43, December 12-14, 2014
5. Chakraborty, A and Mandal, J.K.,“ A GIS Anchored System for Clustering hine and Double Hidden Layer Perceptron based session key exchange in Wireless Communication”, Bridging the future- Proceedings of 49th Annual Convention of the Computer Society of India(CSI) Vol1, AISC 337 Springer, Springer, pp.53, December 12-14, 2014
6. Mandal, J.K., Datta, D. and Sarkar A, “Hopfield Network Based Neural Key Generation for Wireless Communication (HNBKNG) International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2014), AISC 328 series of Springer, Springer, pp.217, September 14-15, 2014.
7. Sengupta,M, Mandal J.K., Sarkar, A and Bhattacharjee T, “KSOFM Network Based Neural Key Generation for Wireless Communication”, International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2014), AISC 328 series of Springer, Springer, pp.207, September 14-15, 2014.
8. Sarkar A, Mandal, J.K. and Pritha Mondal, “Neuro-key Generation Based on HEBB Network for Wireless Communication”, International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2014), AISC 328 series of Springer, Springer, pp.197, September 14-15, 2014.
9. Nandi Utpal and Mandal J. K., “Windowed Huffman Coding with Limited Distinct Symbols by Least Recently Used Symbol Removable”, International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2014), AISC 327 series of Springer, Springer, pp.489, September 14-15, 2014
10. S. Mukhopadhyay, P. Mandal, T. Pal and J. K. Mandal, “Image Clustering based on Different length Particle Swarm Optimization (DPSO)”, International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2014), AISC series of Springer, Springer,pp.711, September 14-15, 2014
11. Goswami, J.Pal, M , Mandal, J.K., “A Symmetric Key Cryptographic Technique based on Frame Rotation of an even order square Matrix”, Proceedings of Second International Conference on INformation Systems Design and Intelligent Applications-2015(INDIA-2015), 8-9 January 2015, University of Kalyani, West Bengal, India, Springer AISC 340, DOI:10.1007/978-81-322-2247-7_47,pp. 319-328, 2015
12. Pal, M , Mandal, J.K. and Singh, M. M, “Modified PCT on Variable Cipher Block Chaining Mode”, Proceedings of Second International Conference on INformation Systems Design and Intelligent Applications-2015(INDIA-2015), 8-9 January 2015, University of Kalyani, West Bengal, India, Springer AISC 340, DOI:10.1007/978-81-

	<p>322-2247-7_47, 2015</p> <p>13. Mahapatra Suman, Mandal, J. K. Sengupta, Madhumita. (8th – 9th January, 2015). Authentication in Higher Region of Convergence of Z Transform Domain (AHRocZ). Second International Conference on INformation Systems Design and Intelligent Applications - 2015 (INDIA-2015). Springer AISC – 340, 2015</p> <p>IEEE International Conferences</p> <p>14. Singh M.M, Singh A. and Mandal , J.K., Preventing Node Replication Attack in Static Wireless Sensor Networks”, Proceedings of 2014 IEEE 3rd International Conference ICRITO-2014, 8-10 October 2014, Amity University Uttar Pradesh Noida India.[IEEE Xplore,DOI:10.1109/ICRITO.2014.7014687]</p> <p>15. Singh M.M, Baruah, M.and.Mandal, J.K , “Reliability Computation of Mobile Adhoc Network Using Logistic Regression”, Proceedings of IEEE and IFIP 11th International Conference WOCN2014, 11-13 September 2014, K.L.University Vijayawada India.[IEEE Xplore, DOI: 10.1109/WOCN.2014.6923060]</p> <p>16. Gupta, A. K., Bhattacharya, I., Banerjee, P. S., Mandal,J. K., “A Co-operative Approach to Thwart Selfish and Black-hole Attacks in DTN for Post Disaster Scenario”, in Proc. EAIT-2014 (IEEE Xplore), ISI, Kolkata, DOI , pp-, Dec 20-21, 2014</p> <p>17. Pragati Mandal, J. K. Mandal, T Pal, “Adaptive Partial Image Encryption Technique based on Chaotic Map”, 2014 Fourth International Conference on Emerging Applications of Information Technology (EAIT 2014), December 19-21, ISI, Kolkata, India, 2014</p> <p>18. Sahil Sareen, J. K. Mandal, Tandra Pal, “Image Encryption using Genetic Algorithms”, IEEE Seventh International Joint Conference on Computational Sciences and Optimization (CSO 2014), July 4-6, 2014,Beijing, China,2014</p> <p>19. Mandal, J. K. Nandi, U, “Fractal Image Compression By Using Loss-Less Encoding On The Parameters Of Affine Transforms”, IEEE International Conference ACES-14, HOOGHLY, WEST BENGAL, INDIA(2014)(accepted).</p> <p>20. Mandal, J. K. Nandi, U, “Fractal Image Compression using Fast Context Independent HV partitioning Scheme and MRBH, MRBHM coding”, IEEE International Conference ACES-14, HOOGHLY, WEST BENGAL, INDIA(2014).</p> <p>21. Sarkar, A., Changder, S and mandal, J. K., “A Threshold based Directional Weighted Median Filter for Removal of Random Impulses in Thermal Images”, IEEE, 2nd International Conference on Business and Information management(ICBIM)- 2014, NIT Durgapur, Doi:978-1-4799-3264-1/14/\$31.00@2014 IEEE, pp. , NTU Singapore.</p>	
Others - Full Paper	NIL	
National Conferences	NIL	

– Abstract		
International Conferences - Abstract	NIL	
Others - Abstract	NIL	
e) Theses /Monographs etc	<ol style="list-style-type: none"> 1. “Design and Implementation of Security System using Cipher Block Chaining (CBC) Mode” By Manas Paul on 26.09.2014 (Awarded) 2. “Estimation, Suppression and Optimization of Impulses in Digital Imagery “ By Somnath Mukhopadhyay on 12.11.2014 (Submitted) 3. “Towards Design and Implementation of Soft-computing based Cryptographic Techniques for Wireless Communication”. By Arindam Sarkar on 28.11.2014 (Submitted) 4. Towards Design and Implementation of Discrete Transform Image Coding based Document Authentication Techniques” By Madhumita Sengupta on 25.02.2015 (Submitted) 	Awarded-01 Submitted-03
f) Academic articles in Newspaper/ Magazines/ Periodicals etc.	NIL	
g) Any Other Invited Talk Delivered	<ol style="list-style-type: none"> 1. Talk on “Networking”, at “Reaching Out” program to the school children organized by CSI Kolkata Chapter and Sundarban Unnayan Nigam, at High School, Gosaba, Sundarban on 19.7.14 2. Talk on“Digital Systems and Networking”, at “Reaching Out” program to the school children organized by CSI Kolkata Chapter and Sundarban Unnayan Nigam, at Kalidanga High School, Basanti, Sundarban on 5.7.14 3. Invited talk on “Chaos based Security and Authentication”, Computational Intelligence in Data Mining (Published by Springer Volume 1 & 2), ICCIDM Department of Computer Science and Engineering, Veer Surendra Sai University of Technology (VSSUT), Burla, Sambalpur – 768018, Odisha, India, 20-21 December 2014. 4. Invited talk on, “ANN based Cryptographic Techniques in Wireless Communications”,“Eleventh International Conference on Wireless and Optical Communications Networks WOCN2014 Next Generation Internet 11th, 12th and 13th of September 2014, Vijayawada, Andhra Pradesh, INDIA(http://www.wocn2014.org), on 11.09.2014, 2014 5. Expert Lecture on “Computer Science Honours Curriculum”, At the Department of Computer Science, University of Burdwan on 6.8.2014. 	15

	<p>6. Expert Lecture on “Image and Document Authentication and their use in Life Sciences”, Staff Development Programme conducted by the Department of Botany, University of Kalyani on 30.6.2014</p> <p>7. Invited talk on “State-of-the-art Invisible Communication for Authentication”, First National Conference on Microelectronics, Circuit & System Design(Micro-2014), 11-13th July, 2014, HOTEL HYATT REGENCY, Salt Lake, Kolkata, on 12.07.2014</p> <p>8. Invited Talk on “Security & Authentication of Documents”, in the Workshop on Document Security and Telecom networking, at Techno Salt Lake Campus, on 29.03.2014</p> <p>9. Invited Talk on “Steganography”, in the National Conference on Research Trends in Computer Science & Application(NCRTCSA – 2014), at SIT, Siliguri, on 08.02.2014.</p> <p>10. Invited Talk on “Security and Authentication of Documents”, in the IETE Student Day at IETE, Kolkata, on 01.02.2014</p> <p>11. Invited Lecture on “Data Authentication using Digital Signature and watermarking” in the Seminar of Haripal Vivekananda Mahavidyalaya, Haripal on 11.01.2014.</p> <p>12. Invited Talk on “Authentication of legal Documents using Steganography” in the Seminar of Student day Celebration, IETE on 1.02.2014.</p> <p>13. “Internet Technology and Image Processing in Open Source”, UGC Sponsored Orientation Program conducted by Academic Staff College, Burdwan University, March, 17, 2015.</p> <p>14. “Chaos based Image Authentication”, National Conference on Computational Technologies 2015(NCCT’15), 20th February, 2015, Department of Computer Applications, North Bengal University, 2015.</p> <p>15. Security and Authentication using Chaos Theory, AICTE Sponsored National Conference at Kalyani Govt. Engg. College, 5-6 January 2015</p>	
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2. Seminars / Conferences/ Workshops attended (add rows if necessary):

International:

Serial No.	Date	Title, organiser, place	Remarks (paper presented/ session chaired/ keynote speaker/ participant/ organiser etc)
		<p>1. International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA) 2014, 14-15 November, 2014 at Bhubaneswar Engineering College, Bhubaneswar- as Program Chair and member of editorial Board of the Proceedings to be published - Advances in Intelligent Systems and Computing(AISC), Springer Verlag, Switzerland.</p> <p>2. Computational Intelligence in Data Mining (Published by Springer Volume 1 & 2), ICCIDM, Department of Computer Science and Engineering, Veer Surendra Sai University of Technology (VSSUT), Burla, Sambalpur – 768018, Odisha, India, 20-21 December 2014, Smart Innovation,</p>	04

		<p>Systems and Technologies, Springer as Program Co-Chair & Editor of the Volomes.</p> <p>3. Emerging ICT for Bridging the Future - Proceedings of the 49th Annual Convention of the Computer Society of India CSI Volume 1 & 2, CSI 2014, 14-16 December, 2014 at JNTU Hyderabad as Program Chair and member of Editorial Board of the Proceedings to be published -Advances in Intelligent Systems and Computing (AISC), Springer Verlag, Switzerland.</p> <p>4. Information Systems Design and Intelligent Applications Proceedings of Second International Conference INDIA 2015, Volume 1 and Volume 2, Smart Innovation, Systems and Technologies, Springer, as Program Chair, Publication Chair,8-9 January,2015, Kalyani University.</p>	
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National:

Serial No.	Date	Title, organiser, place	Remarks (paper presented/ session chaired/ keynote speaker/ participant/ organiser etc)
		<p>1. NMEICT Microsoft Saksham Programme on Teachers' Empowerment at Kalyani University under the Directorate of IQAC, Kalyani University during 24 November to 29th November 2014, where twenty four faculty members from various departments of the University participated for their upgradation of skills on Microsoft Office Management Software.</p> <p>2. One Day Workshop on "Emerging Issues on Information Technologies, 31.03.2015, FETM, Kalyani University,</p> <p>3. Regional Student Convention 2015, CSI Kolkata chapter, CSI and NIT Agarpara as National Student Coordinator, Region II, Computer Society of India on 14th March 2015 at NIT, Agarpara</p>	03

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State Level:

Serial No.	Date	Title, organiser, place	Remarks (paper presented/ session chaired/ keynote speaker/ participant/ organiser etc)

Others:

Serial No.	Date	Title, organiser, place	Remarks (paper presented/ session chaired/ keynote speaker/ participant/ organiser etc)