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# Editorial activities:

- Area Editor, *New Mathematics and Natural Computation*
- Editor, *Journal of Computing and Information Technology*
- Member, Editorial Board, *International Journal of Artificial Intelligence and Soft Computing*
- Member, Editorial Board, *The Open Information Systems Journal*
- Member, Editorial Board, *InfoBiz An Internationl Journal of Informatics, Business and Economics*
- Guest Editor, *Journal of Systems Architecture* (special issue on Evolutionary Computation, 2001)
- Guest Editor, *Information Sciences Journal* (special issue on Genetic and Evolutionary Computation, 2008)
- Guest Editor, *Information Sciences Journal* (special issue on Evolutionary Computation, 2003)
- Guest Editor, *Journal of Computing and Information Technology* (special issue on Evolutionary Computing, 1999)

# Selected Publications:

### Books

1. U.K. Chakraborty (Ed.), Computational Intelligence in Flow Shop and Job Shop Scheduling, Springer, Heidelberg (forthcoming)
2. U.K. Chakraborty (Ed.), Advances in Differential Evolution, Springer, Heidelberg, New York, 2008.
3. U.K. Chakraborty and D.G. Dastidar, "Software and Systems: An Introduction", Wheeler Publishing, New Delhi, 1995.
4. S. Blair, U. K. Chakraborty et al. (Eds.), Proceedings of the 8th Joint Conference on Information Sciences, 2005.

### Articles

#### 2008

5. S. Das, A. Abraham, U.K. Chakraborty, A. Konar, Differential evolution with a neighborhood-based mutation operator, *IEEE Transactions on Evolutionary Computation* (accepted).
6. A. Chakraborty, A. Konar, U.K. Chakraborty, Emotion detection from facial expression using fuzzy logic, *IEEE Transactons on Systems, Man and Cybernetics, Part A* (accepted).
7. U.K. Chakraborty, Static and dynamic modeling of SOFC using genetic programming, *Energy*, (accepted).

8. U.K. Chakraborty, Genetic programming model of SOFC stack: First results, *International Journal of Information and Communication Technology* (accepted).

9. M. Ghosh, A. Konar, L. Jain, U.K. Chakraborty, Behavioral analysis of cooperative/competitive antibody dynamics in garbage cleaning applications, *Journal of Intelligent and Fuzzy Systems* (accepted).

10. J. Chakraborty, A. Konar, L. Jain, U.K. Chakraborty, Cooperative multirobot path-planning using differential evolution, *Journal of Intelligent and Fuzzy Systems* (accepted).

11. D. Laha, U.K. Chakraborty, An efficient hybrid heuristic for makespan minimization in permutation flowshop scheduling, *International Journal of Advanced Manufacturing Technology*, 2008 (doi: 10.1007/s00170-008-1845-2)

12. D. Laha, U.K. Chakraborty, A constructive heuristic for minimizing makespan in no-wait flowshop scheduling, *International Journal of Advanced Manufacturing Technology*, 41:97-109, 2009.

13. D. Laha, U.K. Chakraborty, Minimizing total flow time in permutation flowshop scheduling using a simulated annealing based approach, *International Journal of Automation and Control*, (accepted).

14. S. Das, A. Konar, U.K. Chakraborty, Differential evolution with time-varying Scale Factor, *New Mathematics & Natural Computation* (to appear).

15. U.K. Chakraborty, Genetic and evolutionary computing, *Information Sciences* 178 (23), pp. 4419-4420, 2008.

16. U. K. Chakraborty, An evolutionary computation approach to predicting output voltage from fuel utilization in SOFC stacks, IEEE CEC 2009 (accpted)

17. S. Sil, S. Das, U.K. Chakraborty, Kernel induced pixel clustering with differential evolution, CEC-2008 Proceedings (IEEE Press), to appear.

18. M. Ghosh, A. Konar, L.C. Jain, U.K. Chakraborty, Behavioral analysis of cooperative/competitive antibody dynamics, CEC-2008 Proceedings (IEEE Press), to appear.

19. J. Chakraborty, A. Konar, L.C. Jain, U.K. Chakraborty, Distributed cooperative multi-robot path planning using differential evolution, CEC-2008 Proceedings (IEEE Press), to appear.

**2007**

20. U.K. Chakraborty, D. Laha, An improved heuristic for permutation flowshop scheduling, *International Journal of Information and Communication Technology*, 1(1), pp. 89-97, 2007.

21. D. Laha, U.K. Chakraborty, An efficient heuristic approach to total flowtime minimization in permutation flowshop scheduling, *International Journal of Advanced Manufacturing Technology*, 38:1018-1025, 2008.

22. U.K. Chakraborty, H.W.Kang, P.P. Wang, Image-based Painterly Rendering by Evolutionary Algorithm, *New Mathematics & Natural Computation*, 3(2), pp. 239-257, 2007.

23. D. Laha, U.K. Chakraborty, An efficient stochastic hybrid heuristic for flowshop scheduling, *Engineering Applications of Artificial Intelligence*, 20, pp. 851-856.

24. S. Das, A. Konar, U.K. Chakraborty, Annealed Differential Evolution, Proc. IEEE Congress on Evolutionary Computation (CEC-2007), 2007.

**2006**

25. H. W. Kang, C.K. Chui, U.K. Chakraborty, A unified scheme for adaptive stroke-based rendering, *The Visual Computer: International Journal of Computer Graphics* 22(9-11), 2006, pp. 814-824.

26. U.K. Chakraborty, S. Das, A. Konar, Differential evolution with local neighborhood, Proc. IEEE Congress on Evolutionary Computation (CEC-2006), pp. 2042 - 2049.

27. S. Das, A. Konar, U.K. Chakraborty, Automatic Fuzzy Segmentation of Images with Differential Evolution, Proc. IEEE Congress on Evolutionary Computation (CEC-2006), pp. 2026 - 2033.

28. S. Joseph, H. W. Kang, U.K. Chakraborty, Lens optimization in a multi-objective framework, Proc. Sixth International Conference on Recent Advances in Soft Computing, 2006 (RASC-2006), pp. 309-314.

29. S. Joseph, H. W. Kang, U.K. Chakraborty, Optical design with $\epsilon$-dominated multi-objective evolutionary algorithm, ICANNGA-2007, to appear in an LNCS (Springer) volume.

30. S. Joseph, H. W. Kang, U.K. Chakraborty, Lens optimization in a classical-evolutionary hybrid framework, Proc. Mendel-2006, pp. 45-50.

**2005**

31. A. Konar, U.K. Chakraborty, P.P. Wang, Supervised learning on a fuzzy Petri net, *Information Sciences*, 172 (2005), pp. 397-416.

32. A. Konar, U.K. Chakraborty, Reasoning and unsupervised learning in a fuzzy cognitive map, *Information Sciences*, Vol.170 (2-4), 2005, pp. 419-441.

33. H. W. Kang, W. He, C.K. Chui, U.K. Chakraborty, Interactive sketch generation, *The Visual Computer: International Journal of Computer Graphics* 21(8-10), 2005, pp. 821-830.

34. H. W. Kang, U.K. Chakraborty, C. K. Chui, W. He, Multiscale stroke-based rendering by evolutionary algorithm, Proc. Frontiers of Evolutionary Algorithms (FEA/JCIS, July 2005).

35. S. Das, A. Konar, U.K. Chakraborty, Improving particle swarm optimization with differentially perturbed velocity, Proc. GECCO-2005, Washington, D.C., pp. 177-184.

36. S. Das, A. Konar, U.K. Chakraborty, Two improved differential evolution schemes for faster global search, Proc. GECCO-2005, pp. 991 - 998.

37. S. Das, A. Konar, U.K. Chakraborty, An efficient evolutionary algorithm applied to the design of two-dimensional IIR filters, Proc. GECCO-2005, Washington, D.C., pp. 2157 - 2163.

38. S. Das, A. Konar, U.K. Chakraborty, Improved differential evolution algorithms for handling noisy optimization problems, Proc. IEEE Congress on Evolutionary Computation, Edinburgh, September 2005.

39. S. Das, A. Konar, U.K. Chakraborty, Design of two-dimensional digital IIR filters with self-organizing hierarchical PSO, Proc. Frontiers of Evolutionary Algorithms, 2005.

40. S. Sen, S. Narasimhan, A. Konar, U.K. Chakraborty, Genomic data mining for species identification using principal component analysis, Proc. Computational Biology and Genome Informatics conference, 2005.

**2004**

41. U.K. Chakraborty, Gray and Binary Encoding in the (1+1)-EA, in N.R. Pal et al. (Eds.), Neural Information Processing, LNCS 3316, Springer, 2004, pp. 242-247.

42. U.K. Chakraborty & H. Kang, Painting by Evolutionary Algorithm, Proceedings of the 5th International Conference on Recent Advances in Soft Computing, RASC2004, December 2004, pp. 249-254.

43. U.K. Chakraborty & H. Kang, Stroke-based Rendering by Evolutionary Algorithm, Proceedings of the IEEE INDICON 2004 Conference, December 2004, pp. 52-57.

44. U.K. Chakraborty & P. Osmera, Gray and binary encoding in Droste's (1+1)-EA, Proc. Int'l Conference on Soft Computing, MENDEL 2004, pp. 105-111, June 2004.

**2003**

45. U.K. Chakraborty & C. Janikow, An analysis of Gray versus binary encoding in genetic search, *Information Sciences*, 156(3-4), 2003, pp. 253-269.

46. U. K. Chakraborty, Heuristics for flowshop scheduling, in Lotfi, A. & Garibaldi, J. M. (Eds.), *Applications and Science in Soft Computing* (Advances in Soft Computing Series), Springer-Verlag, 2003, pp. 81-86.

47. A. Konar & U. K. Chakraborty, Unsupervised learning in a fuzzy cognitive map, Proceedings of the 7th Joint Conference on Information Sciences, Cary, NC, Sept 2003, pp. 214-215.

48. U.K. Chakraborty & C. Janikow, Binary and Gray encoding in univariate marginal distribution algorithm, genetic algorithm, and stochastic hillclimbing, Proc. Workshop on Analysis and Design of Representations and Operators at the International Conference on Genetic and Evolutionary Computation (GECCO 2003), July 12-16, 2003, pp, 8-14.

49. U.K. Chakraborty & P. Osmera, Soft computing in software development effort estimation, Proc. International Conf. on Soft Computing Applied in Computer and Economic Environments, ICSC 2003, Jan 30-31, pp. 203-212, 2003.

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51. U.K. Chakraborty and C. Janikow, Gray versus Binary Encoding in Genetic Search, Proceedings of the 4th International Conference on Recent Advances in Soft Computing (RASC-02), Nottingham, UK, December 2002, pp. 338-343.

52. U.K.Chakraborty and D. Laha, Efficient hybrid heuristics for flowshop scheduling – Part I: Deterministic methods, Proceedings of the 4th Asia-Pacific Conference on Simulated Evolution And Learning (SEAL-02), Singapore, 2002, Vol. II, pp. 821-826.

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55. U.K. Chakraborty, Mathematical analysis of the population-based incremental algorithm, Proceedings of the IEEE ACE 2002, December 2002, pp. 182-185.

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60. U.K. Chakraborty, A note on approximation errors in the branching process model of ranking and tournament selection, Proceedings of the 8th International Conference on Advanced Computing and Communications (ADCOM), 2000, pp. 332-334.

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64. D. Dasgupta, C.Z. Janikow, U.K. Chakraborty, Representations and operators in genetic search, in N. R. Pal et al. (Eds.), *Advances in Pattern Recognition and Digital Techniques*, Narosa, 1999, pp. 488-494.

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