

Contribution of Kalyani Govt. Engineering College to the Advancement of Knowledge in the last one year

A) Award by INAE :

Indian National Academy of Engineering (INAE) introduced the prestigious 'Distinguished Visiting Professorship Scheme' at Kalyani Govt. Engineering College and Mr. A Ganguly, previously Works Manager, Andrew Yule & Co. Ltd. joined this college as Distinguished Visiting Professor of INAE on December 1, 2001.

B) R & D Projects :

1) Ongoing research projects sponsored by the AICTE, New Delhi.

Sl. No.	Title of the Project	Principal Investigator	Value of the Project (Rs. in lakhs)
i.	Stepped Threading for Self-locking of Screw & Nut	Dr. Santanu Das	4.50
ii.	Channel Engineering for Deep Submicron MOSFET	Dr. A. Mallik	8.00
iii.	Doppler Effect Imaging for Safety & Rescue	Dr. S. K. Mondal	4.20
iv.	Modern Application of Process Control in Industry	Dr. Achintya Das	7.00
v.	Region Classification in Remote Sensing and Satellite Images : Soft Computing Approach	Dr. Ujjwal Maulik	7.50

2) Projects sanctioned by the AICTE, New Delhi

Sl. No.	Title of the Project	Principal Investigator	Value of the Project (Rs. in lakhs)
i.	Development of Microwave Measurement Laboratory	H.O.D. of Electronics & Communication Engineering	8.0
ii.	Development of CAD Tools for Synthesis of VLSI Circuits With Built-in Self Test Features	Prof Samir Roy	2.5

C) Published Research Work :

- U. Maulik, P. De and S. Bandyopadhyay. "Efficient Vehicle Allocation in Opencast Mines : Integration with Genetic Algorithms" Journal of the Institution of Engineers (India), Mining Engineering Division, 2000, pp. 23-26.
- S. Kundu, P. De, K. Roy, "Benchmarking - The Concept and Its Application", Indian Journal of Engineers, 2001, pp. 67-71.
- S. Basu and R. N. Mitra, "The effect of device parameters on the emitter transit time of a PET", IETE Journal of Research, vol. 47, No. 5, 2001, pp. 221-226.
- S. Mukherjee, D. Mitra and A. Majumdar, "An Account of Pollution of River Hooghly In and Around Calcutta", Conference Proceedings - Third All India People's Technology Congress in Science City, Kolkata, organized by Forum of Scientists, Engineers & Technologists (FOSET), Feb. 9-11, 2001, pp. 55-59.
- S. Mukherjee, D. Mitra and A. Majumdar, "Ball Recirculation - A Smart Approach to Condenser Tube Cleaning", Resource Material - UGC sponsored Refresher Course of Recent Advances in Power Plants and Energy Systems in Jadavpur University, Kolkata, 2001.
- S. Roy, S. Bandyopadhyay, U. Maulik, "Proof regarding the NP-Completeness of the Unweighted Complex - Triangle Elimination (CTE) problem for general adjacency graphs", IEE proceedings Computer and Digital techniques, UK.
- S. Roy, B. K. Sikdar, M. Mukherjee and D. K. Das, "Degree-of-freedom analysis for sequential machines targeting BIST quality and Gate area", 15th International Conference on VLSI design, 2002, INDIA.
- B. K. Sikdar, S. Roy, and D. K. Das "Enhancing BIST quality of sequential Machines through Degree-of-Freedom Analysis", 10th Asian Test Symposium, 2001, Japan.

9. U. Maulik, S. Bandyopadhyay and J. Trinder, "SAEF : An Efficient Feature Extraction Technique", *Journal of Knowledge and Information System*, 2001, pp. 374-387.
10. S. Bandyopadhyay, U. Maulik and M. K. Pakhira, "Clustering Using Simulated Annealing with Probabilistic Redistribution", *International Journal of Pattern Recognition and Artificial Intelligence*, 2001, pp. 269-285.
11. G. Bandyopadhyay, "Dissociation constants of p-Nitroaniline in mixed solvents and a critical assessment of the solvent sorting equilibrium method for the determination of the single ion Gibbs energy of transfer of H⁺ ion from aqueous to aqua-rich Organic solvents", *Zeitschrift Phsikalische Chemie*, 2001, pp. 13.
12. G. Bandyopadhyay, "Studies on Thermodynamic dissociation constants of 2,2'-Bipyridine or 1,10-Phenanthroline in acetone + water mixtures and Gibbs energy of transfer of the hydrogen ion from water to acetone + water mixtures", *Zeitschrift Phsikalische Chemie*, 2001, pp. 37.
13. G. Bandyopadhyay, "Conductometric studies of tetraphenyl 1 arsonium chloride and sodium tetraphenyl borate in different nonaqueous media", *Zeitschrift Phsikalische Chemie*, 2001, pp. 31.
14. S. K. Bose and A. B. Bhattacharyay, "On some Aspects on Non-Io Decametric Emission from Jupiter and Solar Plasma", XI National Space Science Symposium, Puri, Orissa, 2000.
15. S. K. Bose and A. B. Bhattacharyay, "Local time dependence of decametric radio emission from Jupiter observed from earth stations at different solar activity", *Indian Journal of Radio & Space Physics*, 2001, pp. 233-242.
16. A. Das, S. C. Biswas and A. K. Banerjee, "Depression of myocardial function due to loss of contractile power of muscle cells", *International Conference on Biomedical Engineering Bio Vision*, 2001, December 21-24, 2001.
17. A. Das, S. C. Biswas and A. K. Banerjee, "Chronic excrises and Psycho-Physiological Reactivity on senior citizens", *International Conference on Biomedical Engineering, Bio Vision*, 2001, December 21-24, 2001.
18. S. Jash, S. Das, A. Dasgupta, A. K. Jha and S. Das, "Parameter dependence of die-sinking electric discharge machining", *Souvenir of the 46th Congress of ISTAM (An International Meet)*, Hamirpur, India, pp. 159-160, 2001.
19. P. K. Kundu, S. Das, S. Sinha and P. P. Chowdhury, "On grinding wheel performance in dry and wet conditions", *Proceedings of the 4th International Conference on Mechanical Engineering*, Dhaka, Bangladesh, 2001.
20. S. Das, S. Datta, P. Mondal, S. K. Das and S. Sinha, "Application of the analytic hierarchy process as an optimisation and predictive tool", *Proceedings of the National Conference on Intelligent Computing and VLSI*, Kalyani, India, pp. 95-100, 2001.
21. S. Pramanik, D. Mallick, S. K. Sharma, N. C. De and S. Das, "Selection of process sequences using an expert system", *Proceedings of the All India seminar on Artificial Intelligence and Expert Systems in Manufacturing*, Rourkela, India, 2001, pp. 32-40.
22. G. Sutradhar and S. Kumar, "Cold forging of sintered iron powder performs under lubricated condition", accepted for publication in the *Journal of Materials Processing Technology*, 2001.
23. S. Mukherjee, D. Mitra and A. Majumdar, "Bill Recirculation - A Smart Approach to Condenser Tube Cleaning", *Resource Material - UGC sponsored Refresher Course on Recent Advances in Power Plants and Energy Systems in Jadavpur University*, Kolkata.
24. D. Mitra and S. Mukherjee, "An Account of Effects of Air Pollution on Life In and Around Kolkata and Its Abatement", *Seminar Proceedings - National Seminar on Energy and Environment organised by Anand Engineering College, Agra*, December 21-22, 2001, pp. 47.
25. A. Das, S. C. Biswas and A. K. Banerjee, "Depression of myocardial function due to loss of contractile power of muscle cells", *International Conference on Biomedical Engineering, Bio Vision*, 2001, December 21-24, 2001.
26. A. Das, S. C. Biswas and A. K. Banerjee, "Chronic exercises and Psycho-Physiological reactivity on

senior citizens”, International Conference on Biomedical Engineering, Bio Vision, 2001, December 21-24, 2001.

27. G. Sutradhar, S. Kumar and M. Agarwal, “Cold forging of sintered iron powder polygonal discs with barreling”, Journal of the Institution of Engineers (India), Mechanical Engineering Division.
28. A. Karmakar, C. Puttamadappa and S. K. Sarkar, “Warm electron transport in GaN quantum well”, Proceedings of National Conference on Intelligent Computing and VLSI, February, 16-17, 2001 held at Kalyani Govt. Engineering College, Kalyani, West Bengal, pp. 213-216.
29. A. Karmakar, S. K. Sarkar, and A. K. De, “Influence of non-equilibrium LO phonons on high-frequency performance of one-dimensional hot electrons in quantum wires of polar semiconductors”, Czechoslovak Journal of Physics, Vol. 51, No. 3, pp. 249-256 (2001).
30. A. Karmakar, S. K. Sarkar, and A. K. De, “Magneto-quantum effects on micro-wave response of two-dimensional hot electrons in n-Hg_{0.8}Cd_{0.2}Te”, India Journal of Physics, Vol. 75A, No. 3, pp. 267-269 (2001).
31. A. Karmakar, S. K. Sarkar and M. K. Naskar, “ac mobility of one-dimensional hot electrons in In_{0.53}Ga_{0.47}As quantum wires and its enhancement

by nonequilibrium optical phonons”, Proceedings of 25th National Systems Conference (NSC 2001) Dec. 13-15, 2001 held at PSG College of Technology, Coimbatore, Tamilnadu, pp. 213-216.

32. A. Karmakar, M. K. Naskar, B. Maji and S. K. Sarkar, “Improved high frequency response of two dimensional hot electrons in GaN quantum wells by nonequilibrium optical phonons”, Proceedings of DAE Conference, Dec. 26-30, 2001 held at Trombay, Mumbai, India.

D) Workshops/special lectures conducted at this college

1. Workshop on “Removal of Rural Urban Disparity”, as a part of the celebrations of 34th Engineers’ Day on 15th September, 2001.
2. Special Lectures organised in the Mechanical Engineering Department by the Students Chapter of the Society of Automobile Engineers.
 - i) “Thrust Areas of Research on I.C. Engines : Alternative Fuels” — Prof. B. B. Ghosh of Jadavpur University on April 24, 2001.
 - ii) “Alternative Cast Materials and Casting Techniques for Automotive Industries”—Prof. G. L. Datta of IIT, Kharagpur on September 26, 2001.