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PROFESSIONAL EXPERINCES

Academic Experience:

From 3rd October, 1991 as a faculty member of Mechanical Engineering Department of this Institute and continuing.

Industrial Experience:

From 18th August, 1980 to 2nd October, 1991 in Damodar Valley Corporation, in the capacity of Assistant Engineer (Mech.) and Executive Engineer (Mech.) in the field of Operation and Fuel & Efficiency for 55 MW, 140 MW and 210 MW pulverized coal fired thermal power units, and Commissioning of 210 MW unit.

AREA OF RESEARCH

1. Computational Fluid Dynamics
2. Heat Transfer
3. Energy Analysis
4. Bio-medical Engineering

PUBLICATIONS

JOURNALS:

1. **S. Chakrabarti**, S. Ray and A. Sarkar, Numerical Simulation of the Performance of a Vortex Controlled Diffuser in Low Reynolds Number Regime, International Journal of Numerical Methods for Heat & Fluid Flow, Vol. 12, No. 3 (2002), pp. 224 –240.

2. **S. Chakrabarti**, S. Ray and A. Sarkar, Low Reynolds Number Flow Through Sudden Expansion – From a Diffuser Viewpoint, Journal of Energy, Heat and Mass Transfer, Vol. 25 (2003), pp. 45 – 66.

3. D. Paul, D. Mukherjee, S. R. Bhadra Chaudhuri and **S. Chakrabarti**, A Total Approach for Combating the Challenge of Energy Conservation, ENFUSE Journal (Energy and Fuel User's Journal), Vol. LV, No. 2 (2005), pp. 12 -21.

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5. **S.Chakrabarti** (Technical Note), A Case Study on Availability Losses in a Condenser for a 210 MW Thermal Power Unit in India, Journal of Energy & Environment, Vol. 5 (2006), pp. 144 – 148.

6. D. K. Mandal and **S. Chakrabarti**, Effect of Restriction and Reynolds Number on the Pressure of Blood of a Stenotic Artery, International Journal of Fluid Mechanics Research, Vol. 34, No. 2 (2007), pp. 159-178.

7. D. K. Mandal and **S. Chakrabarti**, Study of Pressure Drop and Flow Characteristics Across Rectangular Stenotic Models, International Journal of Fluid Mechanics Research, Vol. 34, No. 5 (2007), pp. 434-461.

8. D. K. Mandal and **S. Chakrabarti**, Two Dimensional Simulation of Steady Blood Flow Through A Stenosed Coronary Artery, International Journal of Dynamics of Fluids, Vol. 3, No. 2 (2007), pp. 187-209.

9. D. K. Mandal and **S. Chakrabarti**, Effect of Stricture Length on Reattachment Point and Wall Shear Stress Through a Stenosed Coronary Artery, International Journal of Fluid Mechanics Research, Vol. 35, No 2 (2008), pp. 188-202.

10. **S.Chakrabarti**, S.Ray and A.sarkar, Numerical Analysis for Sudden Expansion with Fence in Low Reynolds Number Regime, Journal of Energy, Heat and Mass Transfer, Vol. 30 (2008), pp. 131-148.

11. D. K. Mandal and **S. Chakrabarti**, Numerical Study of Blood Flow through a Double Bell Shaped Stenosed Coronary Artery, Journal of Energy Heat and Mass Transfer, Vol. 31 (2009), pp. 49-72.

12. D. K. Mandal and **S. Chakrabarti**, Effect of Stenosis Length on Flow Characteristics across Rectangular Stenotic Models, International Journal of Fluid Mechanics, Vol. 1, No. 1 (2009), pp. 29-39.

13. D. K. Mandal and S. **Chakrabarti**, Study on the Effect of Different Shaped Stenoses on Blood Flow through Coronary Artery, Int. J. Biomedical Engineering and Technology, Vol. 4, No. 1 (2010), pp. 1-17.
14. **S. Chakrabarti**, S. Rao and D. K. Mandal, Numerical Simulation of the Performance of a Sudden Expansion with Fence Viewed as a Diffuser in Low Reynolds Number Regime, ASME Journal of Engineering for Gas Turbines and Power, Vol. 132 (2010), pp. 114502-1-4.

15. D. K. Mandal, N. K. Manna and **S. Chakrabarti**, A Numerical Model Study of Steady Flow through Bell-Shaped Stenoses with and without Asymmetry, Int. J. Experimental and Computational Biomechanics,Vol. 1, No. 3 (2010), pp. 306-331.

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26. S. Bandyopadhyay, **S. Chakrabarti**, and D. Mukherjee, Mathematical Model Development for Optimum Orientation of a Flat Plate Collector, International Journal of Emerging Technology and Advanced Engineering, Vol. 3, No. 3 (2013), pp. 613-621.

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29. S. Saha and **S. Chakrabarti**, Impact of Magnetic Field Strength on Magnetic Fluid Flow through Channel, International Journal of Engineering Research & Technology, Vol. 2, No. 7 (2013), pp. 1-8.
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45. S. K. Naha, **S. Chakrabarti** and A. Guha, Comparison of Flow Characteristics of a Fluid Flowing through a Sudden Contraction Nozzle and Two Modified Contraction Nozzles, International Journal of Research in Manufacturing Technology & Management, Vol. 3, No. 1 (2015), pp. 17-25.
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52. S. Santra, D.K. Mandal and S. Chakrabarti**,** Effects of Hemodynamic Parameters and involved Processes on Mass Transport through Arterial Wall for Localization and Progression of the Disease, Atherosclerosis: A Review, International Journal of Transport Phenomena, Vol.14 (2016), pp. 183-203.
53. P. Goswami, D. K. Mandal, N. K. Manna and **S. Chakrabarti**, Analysis of Wall Shear Parameters of Physiological Pulsating Flow through Mild and Severe Arterial Stenosis and Correlation to Atherosclerosis, International Journal of Science and Technology, Vol. 2, No. 3 (2016), pp. 40-54.
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4. B. K. Mondal, **S. Chakrabarti** and A. K. Chowdhuri, "An Approach for Optimizing Steam Pipe Insulation Thickness as a Measure for Energy Conservation", All India Seminar on Boiler Management Design, Manufacturing, Operation and Maintenance, The Institution of Engineers (India), WB, Calcutta, 19-20 September, 1997, pp. 106–108.

5. **S. Chakrabarti**, D. Mukherjee, K. K. Datta Gupta, B. K. Mandal and A. K. Chowdhuri, "A Case – Study on a Hybrid Solar Photovoltaic Cum Solar Water Heating System", All India Seminar on Development of Sustainable Energy Systems – an Agenda for Utilization of Non – conventional Energy Sources, The Institution of Engineers (India), WB, Calcutta, 1997, pp. 01–06.

6. **S. Chakrabarti**, K. K. Datta Gupta, A. K. Das, D. Mukherjee, A. K. Chowdhury and B. K. Mandal, "Optimization of a Solar – Assisted Vapour Absorption Refrigeration System", First All India People's Technology Congress, Calcutta, 1997, pp. 76–79.

7. **S. Chakrabarti**, S. Biswas, S. Sarkar and D. Sanyal, "Prediction of Monthly Average of Daily Global Solar Radiation for Calcutta – Howrah Region of West Bengal", Proc. of National Solar Energy Convention (NSEC) – 1998, University of Roorkee, 1998, pp. 220–225.

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9. **S.Chakrabarti**, "Mathematical Model Development in Estimating Monthly Average of Daily Global Solar Radiation for Calcutta – Howrah Region of West Bengal", Second All India People's Technology Congress Issue, Calcutta, 1999, pp. 21–24.

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13. K. K. Datta Gupta, A. K. Mallik, S. K. Saha and **S. Chakrabarti**, "Estimation of Hourly Global and Diffuse Radiation in Kolkata on a Clear Day", Proc. of Int. Conf. on New Millennium – Alternative Energy Solutions for Sustainable Development, 2003, pp. 381–385.

14. **S. Chakrabarti**, S. Ray and A. Sarkar, "Study on the Performance of Sudden Expansion as a Diffuser in Low Reynolds Number Regime", Proc. of 31st National Conf. on Fluid Mechanics and Fluid Power, Jadavpur University, Kolkata, 16-18 December, 2004, pp. 286-295.

15. **S. Chakrabarti**, D. K. Mandal and D. Mondal, "A Numerical Study on the Variation of Static Pressures of Blood near the Stenosis of Coronary Artery", Proceedings of the International

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21. **S. Chakrabarti** and D. K. Mandal, "Study of Wall Shear Stress through Asymmetric Double Stenosed Coronary Artery", Proceedings of the International Conference on Advances in Mechanical Engineering, S. V. National Institute of Technology, Surat, 3-5 August, 2009, pp. 522-526.

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26. T. Das and **S. Chakrabarti**, "Flow Characteristic Study in a Configuration of Sudden Expansion with Central Restriction – Viewed as a Combustor", Proc. of the Int. Conf. on Design and Advances in Mechanical Engineering (ICDAAME 2011), SKP Engineering College, Tiruvannamalai, TN., India, 16-17 December, 2011, pp. 405-412.
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BOOKS:

1) Fundamentals of Renewable Energy Systems by D. Mukherjee and S. Chakrabarti under New Age International Publishers, New Delhi, India, 2004.

2) Fluid Mechanics and Hydraulic Machines by D. K. Mandal, S. Chakrabarti, N. K. Manna and N. C. Chatterjee under Vikas Publishing House Private Limited, Noida (UP), India, 2015.

PROJECT COMPLETED

Title of Research Project	Investigator(s)	Sponsoring Agency	Year of Start and duration	Amount Sanctioned Rs in Lakhs
Modeling of Mass Transport through Arterial Wall during Initiation and Progression of Atherosclerosis	Dr. S. Chakrabarti and Dr. D. K. Mandal	AICTE	2010 2 years	**5.39**

MASTER'S / Ph.D THESES SUPERVISION

MASTER'S THESES:

Twentyfive (25) Theses Supervised and Two Ongoing

Ph.D THESES:

Five (05) Theses Supervised and One Ongoing

CONSULTANCY

***** Actively participated in the consultancy work done by Mechanical Engineering Department from 1998 to 2001 for five organisations (i.e. R. S. Juli Ram Sham Lal, Kolkata – 7; Alloy Steel Rolling Mill, Howrah; East India Paper and Board Mills, Howrah; Calcutta Steel Industries; Shyam Dyeing and Processing Works) in the air pollution control area.

***** Extended the honorary guidance to the relevant officials of Damodar Valley Corporation in 2009 for studying the combustion problem of Durgapur Thermal Power Station's boiler and offering the recommendations for remedial corrective measures.

CONTRUBUTION TO OTHER AGENCIES

* Participated as one of the members of R&D Cell of West Bengal Pollution Control Board, Govt. of West Bengal in 1998 to help the Cell in its relevant R&D activities.

***** Acted as a member of Technology Support Cell under West Bengal State Council of Science & Technology in 2001 for the development of appropriate technologies.

***** Acted as one of the members of an expert committee constituted by WBPDCL in 2008 for examining the cause of failure of a turbine blade in Unit No. 1 of Sagardighi Thermal power plant and offering the suggestions for remedial corrective measures.
