

## CURRICULUM VITAE

### 1. PERSONAL INFORMATION

Name in Full : **Dr. BISWAJIT MAHANTY**

Designation : Professor, Department of Industrial and Systems Engineering, IIT Kharagpur - 721 302, WB, India

Date of Birth : 14th January, 1961

### 2. ACADEMIC QUALIFICATIONS

Degree	Institution Conferring	Year	Field	Marks/CGPA Division	Rank/Award
Madhyamik (Class X)	W.B. Board of Secondary Education	1977	-	82.4 % First Division	Third in the Board
Higher Secondary	W.B. Council of HS Education	1979	Science	76.1 % First Division	Fifth in the Board
B. Tech (Hons)	Indian Institute of Technology, Kharagpur	1984	Mechanical Engineering	83.03%	Ninth in the class
M. Tech.	Indian Institute of Technology, Kharagpur	1989	Industrial Engg. & Management	10 out of 10 CGPA	Alumni Gold Medal
Ph.D.*	Indian Institute of Technology, Kharagpur	1993	Industrial Engg. & Management	-	-

### 3. INDUSTRIAL/TEACHING/RESEARCH EXPERIENCES IN BRIEF

Institution	Duration	Designation
IIT Kharagpur	19.11.1990 to Till Date Professor Since 09.08.2004	Professor (HAG)
AIT, Bangkok	10.1.1999 to 10.4.1999	Visiting Faculty
Tata Consultancy Services, Hyderabad	23.11.1989 to 16.11.1990	System Analyst
Bharat Earth Movers Limited, KGF, Karnataka.	02.07.1984 to 18.11.1989	Assistant Manager

### 4. ACADEMIC/PROFESSIONAL AWARDS

- ◆ Inducted into the **editorial board** of the **International Journal of System Dynamics and Policy Planning** in 2003.
- ◆ Received recognition for **Policy Framework Writing** from the Asian Institute of Technology, Bangkok, Thailand in April, 1999.
- ◆ Received **Alumni Gold Medal** from IIT Kharagpur for securing 10 out of 10 C.G.P.A at the Master of Technology level in January, 1989.

### AREAS OF INTEREST

Operations Research, Information Systems, Project Management, System Dynamics

## **5. COURSES TAUGHT AND GUIDANCE OF B.TECH/M.TECH STUDENTS**

### **◆ COURSES TAUGHT**

Courses were taught to B.Tech, Dual Degree and M.Tech students of the Institute:

**Operations Research Area:** 1) Decision Modelling, 2) Quantitative Methods for Decision Making, 3) Networks and Project Management, 4) Operations Research 5) Optimization and Heuristic Methods along with Project

**Systems Modelling Area:** 1) Systems Modelling and Analysis, 2) System Dynamics and Policy Planning, 3) System Analysis techniques, 4) Simulation

**Information Systems Area:** 1) Management Information System, 2) System Analysis and Design, 3) Software Project management, 4) Software Engineering, 5) Information System, 6) Computational Laboratory

### **◆ GUIDANCE OF STUDENT (B.Tech/M.Tech) PROJECTS**

Over 200 projects are guided at the **post-graduate** and **undergraduate** level of Industrial and Systems Engineering in the areas of Supply Chain Management, Project Management, Information Systems, Human Resource Planning, Optimization and Heuristic Methods, and System Dynamics.

## **6. RESEARCH GUIDANCE**

12 research scholars are awarded PhD degrees under my guidance. Currently 10 other PhD students are being guided by me – among them six are under sole guidance.

### **Completed Ph.D. level Research Guidance**

1. *Studies on behavioral and organizational issues in software projects*  
Sole guidance, Veerendra Kumar Rai, 1999
2. *Studies on human resource planning and building growth scenarios for a public R&D organization - Guided jointly with Prof. K. Vizayakumar*  
C. Sivanagaraju, 1999
3. *Investigating the relationship between quality cost and business results - Guided jointly with Prof. V.N.A Naikan*  
Thuleswar Nath, 2003
4. *Dynamic modelling of bullwhip effects in supply chains - Sole guidance*  
Cherian Samuel, 2005
5. *Some studies on software project management issues in Indian software industry*  
Sole guidance, Padmanav Acharya, 2006
6. *Some studies on the sustainable growth of two-wheeler service sector in India*  
Sole guidance, Virupaxi Bagodi, 2006

7. *Technology Diffusion Studies in Indian Research Organisations – Sole guidance*  
Preethi Upamaka, 2008
8. *Automated Non-Contact Inspection of Engineering Products - Guided jointly with*  
*Prof. P.K. Ray. Deepayan Shome, 2009*
9. *An Exploratory Study of Subcontracting Relationship and the Growth of Small*  
*and Medium Enterprises in India in the Automotive Industry – Sole guidance*  
K V V Chandra Mouli, 2012
10. *Adoption of Enterprise Resource Planning System in Indian Army - Sole guidance*  
Name of Student: Lt. Colonel Lalit Mohan Jha, 2013
11. *Modeling the effects of energy efficiency improvements in personal transport*  
*sector in India – Sole guidance, Balagopal G. Menon, 2013*
12. *A System Dynamics Study on Onsite and Offshore Team Distribution and its*  
*Impact in Indian Outsourcing Software Projects, Debasisha Mishra, 2015*

**Ph.D level research works currently being carried out under sole supervision**

13. *Technology Management in the Defence Sector: Soumen Kumar Roy*
14. *Supply Chain Resilience: Thomas A Vempiliyath*
15. *Dual Channel Competition: Rofin T.M.*
16. *Knowledge Management: Supriya Ghatak*
17. *Food Supply Chain: Maheswar Sinha Mohapatra*
18. *Design of Bus Services: Supriya Kumari Singh*

**7. LIST OF JOURNAL AND BOOK PUBLICATIONS**

**LIST OF PUBLICATIONS IN JOURNALS IN LAST FIVE YEARS**

1. Roy S.K., A.K. Sarkar, and **B. Mahanty (2016)**, Fuzzy risk assessment for electro-optical target tracker, **International Journal of Quality & Reliability Management**, 33(6), pp. 830-851.
2. Menon B.G. and **B. Mahanty (2016)**, Modeling Indian four-wheeler commuters' travel behavior concerning fuel efficiency improvement policy, **Travel Behaviour and Society**, 4, pp. 11-21.
3. Mishra D. and **B Mahanty (2016)**, A study of software development project cost, schedule and quality by outsourcing to low cost destination, **Journal of Enterprise Information Management**, 29(3), pp. 454-478.

4. Awasthi A., P. Singh, P. Pujari, V.K. Manupati, **B. Mahanty**, M.K. Tiwari (2016), Vibration suppression of a tool in a lathe machine through contract-based design, **The International Journal of Advanced Manufacturing Technology**, DOI: 10.1007/s00170-015-8308-3, pp. 1-11.
5. Kotturu C.V.V. and **B. Mahanty** (2016), Subcontracting dimensions in the small and medium enterprises: Study of auto components' manufacturing industry in India, **Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture**, 230(2), pp. 364-375, Sage Publications.
6. Bagodi V. and **B. Mahanty** (2015), Shifting the burden archetype: developing a system dynamics game, **Journal of Modelling in Management**, 10(3), pp. 380-395.
7. Mishra D. and **B. Mahanty** (2015), Business knowledge requirements and onsite offshore work division in Indian software outsourcing projects, **Strategic Outsourcing: An International Journal**, 8(1), pp. 76-101.
8. Pratap S., Y. Daultani, M.K. Tiwari and **B. Mahanty** (2015), Rule based optimization for a bulk handling port operations, **Journal of Intelligent Manufacturing**, doi:10.1007/s10845-015-1108-7, pp. 1-25.
9. Menon B.G. and **B. Mahanty** (2015), Assessing the Effectiveness of Alternative Policies in Conjunction with Energy Efficiency Improvement Policy in India, **Environmental Modeling & Assessment**, 20(6), pp. 609-624. Springer.
10. Mishra D. and **B. Mahanty** (2014), The effect of onsite-offshore work division on project cost, schedule, and quality for re-engineering projects in Indian outsourcing software industry, **Strategic Outsourcing: An International Journal**, 7 (3), pp. 198-225. Emerald.
11. Bagodi V. and **B. Mahanty** (2013), Double Loop Learning in the Indian Two-Wheeler Service Sector, **The Learning Organization**, 20(4/5), pp. 264-278,
12. Mahanty B. and P. Rakshit (2013), A Genetic Algorithm for Optimizing Production in a Cold Rolled Steel Slitting Line, **Computer Methods in Materials Science - Informatyka w Technologii Materiałów**, 13(1), pp. 160-165.
13. Kumar S.K., RRM Roy Muddada, M.K. Pandey, **B. Mahanty**, and M.K. Tiwari (2013), Logistics Planning and Inventory Optimization using Swarm Intelligence: A Third Party Perspective, **International Journal of Advanced Manufacturing Technology**, 65, pp. 1535–1551, Springer-Verlag.
14. Menon B.G. and **B. Mahanty** (2012), Effects of Fuel Efficiency Improvements in Personal Transportation: Case of Four-Wheelers in India, **International Journal of Energy Sector Management**, 6(3), pp 397-416, Emerald.
15. **Mahanty B.**, V.N.A. Naikan, and T. Nath (2012), System Dynamics Approach for Modeling Cost of Quality, **International Journal of Performability Engineering**, 8(6), pp. 625-634.

16. Barari S., G. Agarwal, W.J. Zhang, **B. Mahanty**, and M.K. Tiwari (2012), A decision framework for the analysis of green supply chain contracts: an evolutionary game approach, **Expert Systems with Applications**, 39, pp. 2965–2976, Elsevier.
17. Bagodi V. and **B. Mahanty** (2011), Designing and Pre-Testing a Questionnaire for Two-Wheeler Services, **International Journal of Services and Operations Management**, 10(3), pp. 348-377.
18. Pal, A., F.T.S. Chan, B. Mahanty and M.K Tiwari (2011), Aggregate Procurement, Production, and Shipment Planning Decision Problem for A Three-Echelon Supply Chain Using Swarm-Based Heuristics, **International Journal of Production Research**, 49(10), pp. 2873-2905.
19. Nanda S.R., B. Mahanty, and M.K. Tiwari (2010), Clustering Indian Stock Market Data for Portfolio Management, **Expert Systems with Applications**, 37 (12), pp. 8793-8798.
20. Acharya P. and B. Mahanty (2010), Assessing Software Reuse in Indian Information Technology Firms: A Structural Equation Modeling Approach, **International Journal of Industrial and Systems Engineering**, Vol. 6, No. 3, pp. 255-275.

#### **RESEARCH MONOGRAPH/BOOK CHAPTERS PUBLISHED**

1. Tiwari M.K., **B. Mahanty**, S.P. Sarmah, and M.Jenamani (2012), **Modeling of Responsive Supply Chain**, CRC Press, Taylor and Francis Group, N.W., Print ISBN: 978-1-4665-1034-0.
2. Bagodi V. and **B. Mahanty** (2011), *Double Loop Learning in the Indian Two-Wheeler Service Sector*, in **Systems Thinking and System Dynamics**, M. Sahay (Ed), Macmillan Publishers India Ltd, New Delhi, pp.174-183.

#### **OTHER PUBLICATIONS**

1. 29-lecture video material on “Management Information System” as an NPTEL Phase-I initiative under “Basic Courses”(2010).
  - a) Published in youtube:  
<http://www.youtube.com/user/nptelhrd#g/c/E04B26C87FB0C0C6>
  - b) Published in nptel:  
<http://nptel.iitm.ac.in/video.php?subjectId=122105022>
2. 40-lecture video material on “System Analysis and Design” by Centre for Educational Technology, IIT Kharagpur (2005).

## **8. SPONSORED RESEARCH AND INDUSTRIAL CONSULTANCY**

### **SPONSORED RESEARCH**

- 1) **Strategic Modelling for Sustainable Food Security (SFF)** (MHRD, Rs. 50.72 Lakhs) PI: Prof. Biswajit Mahanty; CO-PIs: Prof. M.K. Tiwari.
- 2) **Segmentation and Design of Bus Service in Urban India: Kolkata as a Pilot Study (SKS)** (MHRD, Rs. 65.74 Lakhs) PI: Prof. B. Maitra, Prof. B. Mahanty; CO-PIs: Other Professors.
- 3) **Urban Governance; Sustainable Policies and Implementations (USP)** (MHRD, Rs. 38.12 Lakhs) PI: Prof. M. Jenamani; CO-PIs: Prof. B. Mahanty.
- 4) **Virtual Labs Phase II (VLT)** (MHRD, Rs. 539.37 Lakhs) PI: Prof. C.S. Kumar; CO-PIs: Prof. B. Mahanty and others.
- 5) **E Business Center for Excellence (ECO)** (MHRD, Rs. 407.42 Lakhs) PI: Prof. M. Jenamani; CO-PIs: Prof. B. Mahanty and Others.
- 6) **ERP System for the Institute (IER)** (IIT Kharagpur, Rs. 51.00 Lakhs) PI: Prof. R.N. Banerjee ; CO-PIs: Prof. B.K. Mathur, Prof. S Ghose, Prof. B. Mahanty, Prof. R. Mall, Prof. M. Jenamani and others.
- 7) April 2010 to Till Date: VLS21: **Virtual Laboratory on Gaming and Simulation:** (NMEICT): Associated as PI. Co-PI: Prof. M. Jenamani. (Amount 52 Lakhs).
- 8) September 2009 to December 2012: **FIST Project on Ergonomics and e-Business:** Associated as PI of this project work sponsored by MHRD (started in 2006) by virtue of being the Head of the Department, Industrial Engineering and Management.
- 9) April 2002 to March 2005: **Diffusion of Technology in Indian R&D:** Associated as the Principal Investigator of this three-year project work sponsored by MHRD.
- 10) October 2003 to September 2006: **Manufacturing and Systems Engineering (MSE):** Associated as Co-Principal Investigator for this three-year sponsored project work. Other PI: Prof. P.K. Ray).
- 11) February 1994 to January 1997: **Manpower Planning Support System for CSIR** (Council of Scientific and Industrial Research) Laboratories: Associated as Co-Investigator for this three-year sponsored project sponsored by CSIR.

### **INDUSTRIAL CONSULTANCY**

- 1) 2014 – 2016: **Process Improvement of 130-mm Shell Manufacturing by Analyzing the Design and its Ballistic Behaviour** at Ambajhari Plant of

- Ordnance Factory (PADS) (Client: Ordnance Factory Board (OFB), Value: 29.21 Lakhs; PI: Prof. P.K. Ray Co-PIs: Prof. P.L.Narasimhan and Prof. B. Mahanty.
- 2) 2012 - 2014: **Decision Support Model to Optimize Bulk Material Handling Operations** (Client: The Dhamra Port Company Ltd, Value: 10.73 Lakhs; PI: Prof M K Tiwari Co-PIs: Prof B Mahanty.
  - 3) 2012 - 2014: **Hazard Identification and Risk Assessment of Industrial Activities in ITR, Chandipur** (Client: ITR, Chandipur (DRDO), Value: 9.49 Lakhs; PI: Prof. J Maiti Co-PIs: Prof P K Ray, Prof B Mahanty, Prof V N A Naikan.
  - 4) May 2011 - December 2011: **Assessment of Future Human Capital Requirements in Agriculture** (Client: NAARM, Hyderabad, Value: 3.00 Lakhs): Associated as Principal Consultant for this consulting project.
  - 5) February 2007 - July 2008: **Manpower Study at Mines Division of IMFA LTD:** (Client: IMFA Limited, Bhubaneswar, Value: 7.86 Lakhs; Period: 4 months, PI: Prof. P.K. Ray; Co-PIs: Prof. Biswajit Mahanty, Prof. P.K.J. Mohapatra).
  - 6) January 2007 - November 2007: **Techno-Economic Feasibility of Hindustan Cables Limited:** (Client: Hindustan Cables Limited, Kolkata, Value: 39.28 Lakhs; Period: 6 months, PI: Prof. Biswajit Mahanty; Co-PIs: Prof. P.K. Ray, Prof. Saswata Chakraborti).
  - 7) August 2007 - December 2007: **POSCO Ancillary Development Study (SSPA):** (Client: POSCO Research Institute, Value: 26.00 Lakhs; Period: 5 months, PI: Prof. P.K.J. Mohapatra; Co-PIs: Prof. B. Mahanty, Prof. S. Chattopadhyay, Prof. G.C. Mitra).
  - 8) August 2004 - November 2004: **Technical Study for Hindustan Cables Ltd.,** Associated as the Consultant-in-Charge of this consultancy project. Other investigators are Prof. P.K. Ray and Prof. S. Chakraborti. Project cost: Approx Rs. 6.5 Lakhs. .
  - 9) July 2001 - June 2006: **Application Software Development for the Coal India Limited:** Associated as a co-consultant.
  - 10) December, 1999 - May, 2000: **Strategies for Reducing Overtime: A Study At The Smelter Plant, NALCO:** Associated as one of the Consultants-in-Charge.
  - 11) April 1999 - October 2001: **Computerisation of the Pension Function of the Coal Miners Provident Fund Organization (CMPFO):** Associated as Co-Consultant of this consultancy work.
  - 12) July 1999 - December 1999: **System Study for Payroll and Financial Accounting for the Coal Miners Provident Fund Organization:** Associated as Co-Consultant.

- 13) July 1997 - December 1997: **A Feasibility Study for the Computerisation of the Pension Function of the Coal Miners Provident Fund Organization (CMPFO)**: Associated as a Co-Consultant.
- 14) March 1997 - June 1997: **Strategic Option Study for NABARD Assistance for Rural Bridge Projects in Orissa**: Associated as a Co-consultant.
- 15) March 1997 - June 1997: **Strategic Option Study for NABARD Assistance for Road Projects in Orissa**: Associated as a Co-consultant.
- 16) September 1995 - February 1996: **Organisation and Market Study of Fishing Hooks**: Associated as Principal Consultant.
- 17) March 1995 - April 1995: **Project Management for the World Bank Sponsored Bridges in Orissa**: Associated as a Co-consultant.
- 18) May 1992 - March 1993: **Maintenance Management Information System for Hindustan Copper Limited**, Indian Copper Complex, Ghatsila, India: Associated as a Co-consultant.
- 19) January 1991 - December 1991: **Productivity Management System for Tata Iron and Steel Company (TISCO)**, Jamshedpur, India: Associated as a key member of this two-year consultancy project.

## **9. IMPORTANT ADMINISTRATIVE POSTS HELD**

- 1) **Dean, Planning and Coordination** (October 2013 to till date)
- 2) **Head of the Department, Industrial and Systems Engineering** (erstwhile Industrial Engineering and Management) from September 2009 to December 2012
- 3) **Coordinator QEDM Programme** since the inception of QEDM program in 2011.
- 4) **Professor In-charge, Central Timetable** for 3 years during 2006-2009.
- 5) **Organizing Vice-chairman, Joint Entrance Examination** during 1995-96
- 6) **RPEC Member** – from 2006 to 2010
- 7) **Joint Secretary, Technology Alumni Association** (2001 to 2005)
- 8) **Senate Committee member** on Continuing Education Policy during 2008-2010.
- 9) **Senate Committee Member on Scholarship** during 1999-2001.
- 10) **Member of PGPEC**, September 2009 to December 2012.
- 11) **Member of UGPEC**, 2006-2009.
- 12) **Election Officer**, TSG Election 2005



## **10. OTHER RELEVANT INFORMATION**

### **SEMINAR / CONFERENCE / WORKSHOP ORGANIZED**

- 1) As Chairman, SDSI: **Annual Workshop of System Dynamics Society of India**, Dept. of CS and E, IIT Bombay, October 23-24, 2015.
- 2) As Convenor: **One Day Conclave on System Dynamics**, Department of Industrial and Systems Engineering, IIT Kharagpur, August 2, 2014.
- 3) Chairing Session: **E-Business and Supply Chain Competitiveness (EBSCC 2016)**, IIT Kharagpur.
- 4) Co-coordinator: **One Day Workshop on Asset Management**, Ramkrishna Mission Institute of Culture, Kolkata, August 25, 2014.
- 5) Chairing Session on Appropriate Automation: **Seminar on Building Process Excellence in Manufacturing**, Bengal Chamber of Commerce and Industry, Kolkata, Jan 17-18, 2014 (Chairing a Session on Appropriate Automation) Participants: 80.
- 6) Principal Coordinator: **Workshop on Project Management** (Sept 4-7, 2012), McNally Bharat Engineering Co Ltd, Kolkata.
- 7) Patron: **International Conference on Advances in Supply Chain and Manufacturing Management**, IIT Kharagpur, 2011-12.
- 8) Principal Coordinator: **Workshop on Excellence in Manufacturing**, The Bengal Chamber of Commerce and Industry, Kolkata. 2011-12

### **SHORT-TERM COURSES ORGANIZED**

- 1) Co-ordinator: **ISWT on Engineering Asset Management**, IIT Kharagpur, June 9-20, 2014, Budget: 10 Lakhs.
- 2) Co-Ordinator: **Executive Training Programme on Project Management**, 11-14 May, 2013, Budget: 5 Lakhs.
- 3) Principal Co-ordinator: **Project Management Fundamentals**, Kolkata, 2-6 August, 2010.
- 4) Co-ordinator: **Industry Professional Training Program on Lean Manufacturing**, December 3-6, 2010.
- 5) Principal Co-ordinator: **Project Management Fundamentals**, Kolkata, 24-29 August, 2009.
- 6) Principal Co-ordinator: **Project Management Fundamentals**, Kolkata - August 27-31, 2008.

7) Co-ordinator: **3 week short-term course on Analytical Skill Development for the ACC Cements Ltd.** (Jointly with Prof. D. Acharya), June 24-July 12, 2002, Department of Industrial Engineering and Management, IIT Kharagpur.

8) Principal Co-ordinator: **2 week ISTE sponsored short-term course on System Analysis Techniques in Management.** January 31-February 10, 2000, Department of Industrial Engineering and Management, IIT Kharagpur.

### **INVITED LECTURES**

1) **Systems Perspective in Digital Manufacturing** at Pre-Conference workshop of PLMSS-2015, BITS-Pilani, Hyderabad (December 15, 2015).

2) Key-note address on **System Dynamics and Supply Chain Management** at Annual Workshop of SDSI, IIT Bombay (October 23, 2015).

3) **Systems Perspective in Information System Development** at Workshop on Product Design and Development, NIT Agartala (March 11-12, 2016).

4) **System Dynamics and Network Flows** – Dept. of Management Studies, IIT Delhi, (July 7-9, 2014).

5) **Intelligent Manufacturing** at ITR Chandipur (March 4, 2013).

6) **Hybrid Approach to Optimal Packing Using Genetic Algorithm and Coulomb Potential Algorithm** at Bengal Engineering and Science University, Shibpur, Howrah, India (January 2007).

7) **Development of SME as Ancillary and Downstream of Steel Industry in Orissa** at Hotel Swosti Plaza, Bhubaneswar, Distingusihed Speaker in the seminar organized by Industrial Promotion and Investment Corporation of Orissa Limited (IPICOL), October 18, 2008.

### **MEMBERSHIP OF PROFESSIONAL BODIES**

Life member and an active office-bearer of the **System Dynamics Society of India**. Presently I am the President of the Society.