

# SUDIP MISRA

## **Official Address:**

DEPARTMENT OF COMPUTER SC & ENGG  
INDIAN INSTITUTE OF TECHNOLOGY  
KHARAGPUR-721302  
WEST BENGAL, INDIA

## **Address for Correspondence:**

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KHARAGPUR-721302  
WEST BENGAL, INDIA  
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## **SUMMARY**

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- Elected as IEEE Senior Member
- Authored over 290 publications (including 160+ journal papers).
- Won several **academic/research awards** at the National/International levels.
- Won **9 research paper awards**, two of which are *single-authored*.
- *Editor-in-Chief* of an UK-based international journal.
- *Invited as Editors/Editorial Board Members* of many international journals.
- *Invited for keynote lectures* in over a dozen international conferences held in North America, Europe, Asia and Africa.
- *Invited as Program Chair, Publications Chair, Publicity Chair, and Session Chair* in many conferences.

## **RESEARCH INTERESTS**

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- Wireless Ad Hoc and Sensor Networks
- Internet of Things (IoT)
- Communication Networks

## **AWARDS/HONOURS RECEIVED**

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- Received the **Careers360-Outstanding Faculty Award** in Computer Science for the year 2018.
- Batteryless IoT Sensing Nodes project/prototype by Anandarup, Arijit, and Sanku (under my guidance) received the **Gandhian Yong Technological Innovation (GYTI) Award** at the **Rastrapati Bhawan**, India.
- Elected as **National Academy of Sciences, India (NASI) Fellow** by National Academy of Sciences, India, 2017.
- Won **Faculty excellence Award** at IIT Kharagpur, 2017.
- Received the **2<sup>nd</sup> Prize** in **IBM Day Product Demo** at IIT Kharagpur, on September 24, 2016, for the exhibit "Batteryless Sensing for IoT".
- Received the **Distinguished Service Award** in IEEE CITS 2016, July 6-8, Kunming, China
- Won the **Best Paper Award** in IEEE CITS 2015, Gijon, Spain, July 15-17, 2015.
- Guided the project "Big-Sensor-Cloud Infrastructural Framework for Persuasive and Pervasive Virtualization of Physical Sensors into Renderable Real-time Services", which won the "**Honorary Certificate of Appreciation**" at the **IEEE Communications Society 2014 Student Competition** for being adjudged as one of the best 9 projects worldwide.
- Won the 3<sup>rd</sup> Prize in **Samsung Innovation Awards 2014** for the product Big-Sensor-Cloud. The award was judged based on the "*degree of innovation, feasibility, usability, relevance and market impact*". The award ceremony was held on October 28, 2014 at IIT Kharagpur.
- Won the **IETE-Biman Behari Sen Memorial Award-2014**. Given by the Institution of Electronics and Communication Engineers (IETE), India, in recognition of "*valuable contribution on a wide range of fundamental and applications oriented problems in emerging communication network technologies*".
- Won the **Best Paper Award** in IEEE HEALTHCOM 2013, Lisbon, Portugal, October 2013.
- Won the **Best Paper Award** in CITS 2013 (Computer Systems Track), Piraeus-Athens, Greece, May 7-8, 2013.
- Won the **IEEE ComSoc Asia Pacific Outstanding Young Researcher Award**, 2012. Awarded during IEEE GLOBECOM 2012, Anaheim, California, USA.
- Was felicitated by Director, IIT Kharagpur, in a ceremony named "The Court" held at IIT Kharagpur in April 2012, for his **distinction in research** during the past year.
- Won the **Young Systems Scientist Award**, Systems Society of India (SSI), 2010. Awarded at Surathkal, India.

- Won the **Humboldt Fellowship Award**, Alexander von Humboldt Foundation, Germany, 2010-2011.
- Won the **Young Scientist Platinum Jubilee Award** in Physical Sciences of the National Academy of Sciences, India (NASI), 2010. Awarded at Jaipur, India.
- Won the **Young Engineers Award**, The Institution of Engineers (India), 2010. Awarded at Bangalore, India.
- Won the **First Best Paper Award** in the 7<sup>th</sup> ACS/IEEE AICCSA International Conference, Rabat, Morocco. (2009).
- Was conferred **The National Academy of Sciences, India – Swarna Jayanti Puraskar (Golden Jubilee Award) 2008**. Awarded at Chandigarh, India.
- Won the extremely prestigious (**Canadian**) **Governor General's Academic Gold Medal**. This award was given at Carleton University on behalf of the Governor General of Canada for distinguished academic and research contributions. (2006).
- Won the prestigious **University Medal for Outstanding Graduate Work**. This award is given at Carleton University to the *best* PhD student from all disciplines in the University. (2006).
- Selected as one of top three finalists of the very prestigious **OCRI Student Researcher of the Year Award**. (2006).
- Recipient of the *prestigious* and highly competitive **NSERC Post-Doctoral Fellowship**, Natural Sciences and Engineering Council of Canada, tenable for 2 years. (2006-2007)
- Recipient of **Best Technical Paper Award** (Communications Session), ICUE 2004, Toronto, Canada. (2004).
- Recipient of **ACM SIGART/AAAI Doctoral Consortium Travel Award**, San Jose, California, USA. (2004).
- Recipient of **Best Paper Award Nomination**, IEA/AIE 2004, Ottawa, Canada. (2004).
- Recipient of **Outstanding Student Paper Award**, BIS 2003, Colorado, USA. (2003).
- Recipient of the **Science Aptitude and Talent Search Certificate**, India. (1988)
- Recipient of the **Best Scientific Model Award** at the Indian Institute of Technology (IIT), Kharagpur. (1991)
- Selected for the State Level competition of the National Talent Search Examination, India. (1992).
- Recipient of prize and certificate in Eureka Science Competition, IIT Kharagpur. (1990).
- Awarded certificate in UNESCO general knowledge competition for remarkable performance.
- Awarded Research and Teaching Assistantships based on merit during graduate studies. (1997-1999).

## **DISTINGUISHED RECOGNITIONS**

- Dr. Misra's paper entitled "Wireless Sensor Networks for Agriculture: The State-of-the-Art in Practice and Future Challenges", published in Computers and Electronics in Agriculture (Elsevier), is one of the **most downloaded articles** of the Journal, as on May 2016.
- Dr. Misra's paper, entitled "SMART-EVAC: A Big Data-based Decision Making System for Emergency Evacuation", was adjudged as the **Featured Article** of IEEE Cloud Computing in the May/June 2015 issue.
- News item on S. Misra and his award on *Big-Sensor-Cloud* appeared in several newspapers (such as **Times of India, Telegraph, MoneyLife, and Business Wire India News**) on October 30, 2014.
- **S. Misra, N. Islam, J. Mahapatro, J. J. P. C. Rodrigues**, "Green Wireless Body Area Nano-networks: Energy Management and the Game of Survival", IEEE Journal of Biomedical and Health Informatics, Vol. 18, No. 2, pp. 467-475, 2014. [**Selected as IEEE Communications Society "Best Readings" paper**].
- Was invited as the **Chief Guest** for Inaugurating the DRDO-sponsored National Seminar on "Language based formal methods and verification techniques for security", held at National Engineering College, Tamil Nadu, India, August 2-3, 2013. News item featured in the **Defence Research & Development Organisation (DRDO) Newsletter**, Vol. 33, No. 10, 2013, Page 8. Also, appeared in **Indian Express Newspaper**, dated August 4, 2013, Page 2.
- Dr. Misra's paper entitled "A Simple, Least-Time, Energy-Efficient Routing Protocol with One-Level Data Aggregation for Wireless Sensor Networks", Journal of Systems and Software (Elsevier), Vol. 83, No. 5, 2010, pp. 852-860, listed among **Top 25 Hottest Papers** of the Journal published between April-June 2010.
- Dr. Misra's paper entitled "Security in Mobile Ad-Hoc Networks Using Soft Encryption and Trust-Based Multi-Path Routing", Computer Communications (Elsevier), Vol. 31, No. 4, 2008, pp. 760-769, listed among **Top 25 Hottest Papers** of the Journal published between January-March, 2008.
- Dr. Misra's paper entitled "UWSim: An Underwater Sensor Network Simulator", published in the SIMULATION: Transactions of the Society for Modeling and Simulation International, **ranked No. 12 in the 50 Most-Frequently Read Articles** in the 84 volumes of the Journal, according to the October 2008 statistics.
- Dr. Misra's paper entitled "REEP: A Data-Centric, Energy-Efficient and Reliable Routing Protocol for Wireless

Sensor Networks”, published in the IET Communications Journal (formerly, IEE Proceedings in Communications), has been adjudged as the **Featured Paper** in the September 2008 issue of the Journal.

- Dr. Misra’s paper entitled “A Secure Data-Centric Scheme for Group-Based Routing in Heterogeneous Ad-Hoc Sensor Networks and Its Simulation Analysis”, published in the SIMULATION: Transactions of the Society for Modeling and Simulation International, **ranked No. 16 in the 50 Most-Frequently Read Articles** in the 84 volumes of the Journal, according to the July 2008 statistics.
- Dr. Misra’s biography selected for inclusion in *Marquis Who’s Who in the World*, 25<sup>th</sup> Silver Anniversary Edition, 2008, California, USA.
- Article on Dr. Misra published in the *Ottawa Citizen* newspaper on November 4, 2006.
- Dr. Misra’s biography selected for inclusion in *Marquis Who’s Who in Science and Engineering*, 2006-2007 Edition, California, USA.
- Referred/named by OCRI as a “*Top Technology Star*” of the Ottawa-Carleton Region in 2005-2006.

## JOURNAL EDITORSHIP

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### EDITORIAL BOARD ACTIVITIES

- **Associate Editor**, *IEEE Transactions on Vehicular Technology* (Jan 2018-Present)
- **Associate Editor**, *IEEE Transactions on Mobile Computing* (2016-Present)
- **Associate Editor**, *International Journal of Communication Systems*, John Wiley & Sons. (2007 – Present).
- **Editorial Board Member**, *IET Networks*. (October 2011 – Present).
- **Editorial Board Member**, *IET Wireless Sensor Systems*. (2010 – 2016).
- **Associate Editor**, *Telecommunication Systems Journal* (Springer SBM). (2007 – 2015).
- **Associate Editor**, *EURASIP Journal on Wireless Communications and Networking*, European Association for Signal Processing (EURASIP). (2007 – 2015).
- **Associate Editor**, *Security and Communication Networks* (John Wiley & Sons). (2007 – 2015).
- **Editorial Board Member**, *IET Communications* (2008–2012) [Tenure complete in April 2012].
- **Editorial Board Member**, *Computers & Electrical Engineering Journal* (Elsevier). (2007–2012) [Tenure complete in April 2012].
- **Editorial Board Member**, *Journal of High Speed Networks* (IOS Press, Netherlands). (2007–2011) [Resigned in May 2011].

### GUEST EDITORIAL ACTIVITIES

- **Co-Guest Editor**, *IEEE Communications Magazine*, Special Issue on "Ambient assisted living communications", Vol. 53, No. 1, pp. 24-25, 2015.
- **Lead Guest Editor**, *Telecommunication Systems* (Springer), "Challenges in next-generation and resource-constrained networks", Vol. 52, No. 2, 2013.
- **Lead Guest Editor**, *Multimedia Tools and Applications Journal* (Springer), Special issue on Multimedia Computing and Its Embedded Systems, Vol. 56, No. 2, 2012.
- **Lead Guest Editor**, *Mathematical and Computer Modelling* (Elsevier), "Recent advances in simulation and mathematical modeling of wireless networks", Vol. 53, Nos. 11-12, 2011.
- **Lead Guest Editor**, *Wireless Personal Communications* (Springer), Special Issue on "Adaptive Communication in Wireless Networks", Vol. 56, No. 3, 2011.
- **Lead Guest Editor**, *Wireless Communications and Mobile Computing* (Wiley), Special Issue on "Wireless Mesh and Other Emerging Wireless Network Technologies", Vol. 11, No. 5, 2011.
- **Lead Guest Editor**, *Security and Communication Networks* (Wiley), "Security challenges in emerging and next-generation wireless communication networks", Vol. 4, No. 9, 2011.
- **Co-Guest Editor**, *IEEE Transactions on Systems, Man, and Cybernetics – Part B*, Special Issue on "Adaptive and Learning Systems", Vol. 40, No. 1, 2010.
- **Lead Guest Editor**, *IET Communications*, Special Issue on "Wireless Ad Hoc Networks", Vol. 3, No. 5, 2009.
- **Lead Guest Editor**, *Computer Communications* (Elsevier), Special Issue on "Algorithmic and theoretical aspects of wireless ad hoc and sensor networks", Vol. 31, No. 4, 2008.

## CHIEF EDITORIAL ACTIVITIES

- **Editor-in-Chief**, International Journal of Communication Networks and Distributed Systems, Inderscience Publishers, U.K. (2007 – 2017)

## DISTINGUISHED LECTURES

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### NORTH AMERICA

- **Invited Keynote Lecture**: "Inspirations from Multiple Race Track Athletics for Traffic Engineering in Networks", World Congress on Engineering and Computer Science (WCECS'07) – International Conference on Communication Systems and Technologies (ICCST'07), San Francisco, California, USA, October 24-26, 2007.
- **Invited Keynote Lecture**: "Inspirations from Multiple Race Track Athletics for Multimedia Communications Traffic Engineering: Opportunities and Challenges", The Second International Conference on Digital Telecommunications (ICDT 2007), Silicon Valley, California, USA, July 1-6, 2007.
- **Invited Keynote Lecture**: "Biological Inspirations for Cooperation in Ad Hoc Networks and Systems: Opportunities and Challenges", IEEE 27<sup>th</sup> ICDCS 2007 Workshop: The IEEE International Workshop on Cooperative Distributed Systems, Westin Harbour Castle, Toronto, Ontario, Canada, June 25-29, 2007.

### EUROPE

- **Invited Lecture**, "Jamming in Wireless Sensor Networks", Department of Informatics, Aristotle University of Thessaloniki, Thessaloniki, Greece, April 4, 2011.
- **Invited Lecture**, "Jamming in Wireless Sensor Networks: Problems and Selected Solutions", Computer Science and Communications Research Unit, Université du Luxembourg, Luxembourg, February 25, 2011.
- **Invited Plenary Lecture**: "Message Security in Mobile Ad Hoc Networks", WSEAS International Conference on Applied Computer Science (ACS 2007), Venice, Italy, November 21-23, 2007.

### ASIA

- **Invited Keynote Speaker**: "Internet of Things: Hype to Reality", IEEE CITS, Kunming, China, July 6-8, 2016.
- **Invited Talk**: "Internet of Things: Hype to Reality", University of Electronic Science and Technology, Chengdu, China, July 8, 2016.
- **Invited Talk**: "Building Internet-of-Things with Cloud and Big Data", International Workshop on Cloud and Big Data, Nanyang Technological University (NTU), Singapore, Sept. 21-22, 2015.
- **Invited Talk**: "Big-Sensor-Cloud: A Paradigm Shift in Sensor Networking & Convergence Towards IoT", India Research Network (IRN) Meeting on Internet of Things (IoT), Samsung R&D, Bangalore, India, December 1, 2014.
- **Invited Talk**: "Introduction & Applications of Wireless Sensor Networks", National Workshop on "Wireless Sensor Networks for Health Care and Environmental Monitoring" (WSNHCEM), GMRIT, Rajam, Andhra Pradesh, India, November 14-15, 2014.
- **Invited Talk**: "Virtual Labs on Networking & Software Engineering", NMEICT Workshop on "Recent Trends in Education System", NIT Uttarakhand, India, November 29-30, 2014.
- **Keynote Speaker**: "Opportunistic Mobile Networks: Challenges and Research Trends", 2<sup>nd</sup> National Conference on Innovative and Emerging Technologies (NCIET - 2014), Gujarat, India, January 3, 2014.
- **Invited Lecture**: "Recent Research Trends in Underwater Sensor Networks", National Seminar on Wireless Sensor Networking: The Recent Challenges, Bhubaneswar, India, December 13, 2013.
- **Expert Lecture**: "Opportunistic Mobile Networks: Challenges and Research Trends", Advanced Wireless Communications and Networking Workshop, NIT Durgapur, India, Oct. 29, 2013.
- **Invited Speaker**: "Research Trends in Underwater Sensor Networks", National Workshop on Wireless Sensor Network Applications for Environmental Monitoring (WSNAEM'13), Andhra University, Visakhapatnam, India, March 25-26, 2013.
- **Invited Talk**: "Cooperation in Ad Hoc and Sensor Networks", International Workshop on Ad Hoc Networks, University of Delhi, New Delhi, India, March 5-6, 2012.

- **Invited Talk:** "Research Trends in Wireless Sensor Networks", National Workshop on Next-Generation Wireless Communication & Networking (WNWCN-2012), Bhubaneswar, India, February 25, 2012.
- **Invited Keynote Speaker:** "Recent Research Trends in Wireless Sensor Networks", 2<sup>nd</sup> National Conference on Information and Communication Technology (NCIT 2011), Nagpur, India, December 23-24, 2011.
- **Invited Keynote Lecture:** "Recent Research Trends in Wireless Sensor Networks", 4<sup>th</sup> International Conference on Recent Trends in Computing, Communication and Information Technologies (ObCom 2011), Vellore, India, December 9-11, 2011.
- **Invited Keynote Address:** "Wireless Sensor and Ad Hoc Networks: Opportunities and Challenges", International Conference on Recent Advances in Electrical Sciences (ICRAES'10), Tiruchengode, Tamil Nadu, India, January 8-9, 2010.
- **Invited Keynote Address:** "Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks", National Conference on Computer Networks (NCCN 2009), Bangalore, Karnataka, India, February 20-21, 2009.
- **Invited Lecture,** "Wireless Ad Hoc and Sensor Networks: Past, Present and Future", Government Engineering College, Trivandrum, India, 2009.
- **Invited Talk:** "Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks", Fourth International Conference on Wireless Communication and Sensor Networks, Indian Institute of Information Technology (IIIT), Allahabad, Uttar Pradesh, India, December 26-29, 2008.
- **Invited Keynote Speech:** "Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks", National Conference on Wireless Communication and Applications, SV National Institute of Technology (NIT), Surat, Gujarat, India, December 18-19, 2008.
- **Invited Keynote Address:** "Biological Inspirations Driving Research on Wireless Ad Hoc Networks", International Conference on Computing, Communication and Networking (ICCCN-2008), Karur, Tamil Nadu, India, December 18-20, 2008.
- **Invited Keynote Lecture:** "Learning Automata and Problem Solving in Computer Networks: Opportunities and Challenges", National Conference on Computational Learning Theory (NCLT-2008), Bhubaneswar, Orissa, India, September 27-28, 2008.
- **Invited Keynote Lecture:** "Inspirations from Multiple Race Track Athletics for Internet Traffic Engineering", Second International Conference on Resource Utilization and Intelligent Systems (INCRUIS 2008), Erode, Tamil Nadu, India, January 3-5, 2008.
- **Invited Keynote Speech:** "Biological Inspirations Driving Research on Wireless Ad Hoc Networks", International Conference on Systemics, Cybernetics, and Informatics (ICSCI 2008), Hyderabad, India, January 2-5, 2008.
- **Invited Keynote Lecture:** "Biological Inspirations for Cooperation in Wireless Sensor and Related Ad Hoc Networks", International Conference on Sensors and Related Networks (SENNET 2007), Vellore, Tamil Nadu, India, December 12-14, 2007.
- **Invited Keynote Address:** "Biological Inspirations for Cooperation in Wireless Ad Hoc and Sensor Networks", International Conference on Advances in Information and Communication Technologies (ICICOT07), Manipal, Karnataka, India, December 28-30, 2007.
- **Invited Keynote Lecture:** "Wireless Ad Hoc Networks: Past, Present and Future", 14<sup>th</sup> International Conference on Advanced Computing and Communications (ADCOM 2006), Mangalore, India.
- **Invited Keynote Lecture:** "Wireless Ad Hoc Networks: Opportunities and Challenges", International Conference on Mobile, Ubiquitous and Pervasive Computing (ObCom 2006), Vellore, India.

#### AFRICA

- **Invited Keynote Speech:** "Message Security in Mobile Ad Hoc Networks: Using Trust-Based Multi-Path Routing Approach", International Conference on Computer Engineering and Systems (ICCES'07), Cairo, Egypt, November 27-29, 2007.

#### CONFERENCE CHAIRMANSHIP

- **Technical Program Co-Chair,** IEEE ANTS 2016, Bangalore, India, November 2016. [IEEE ANTS is a premier conference of the IEEE Communications Society].
- **Technical Program Co-Chair,** IEEE ANTS 2015, Kolkata, India, December 2015. [IEEE ANTS is a premier

- conference of the IEEE Communications Society].
- **Program Vice-Chair**, Modeling and Evaluation in Communication Systems Track, 14<sup>th</sup> IEEE International Conference on Scalable Computing and Communications (ScalCom-2014), Bali, Indonesia, December 9-12, 2014.
  - **Technical Program Co-Chair**, The New Internet Symposium (NIS 2013), August 22-24, 2013, Mysore, India. Held in conjunction with the 2<sup>nd</sup> International Conference on Advances in Computing, Communications and Informatics (ICACCI 2013).
  - **Session Chair**, IEEE International Conference on Communications (IEEE ICC'13) – 3<sup>rd</sup> IEEE International Workshop on Smart Communication Protocols and Algorithms (SCPA 2013), Budapest, Hungary, June 9-13, 2013.
  - **Registration Chair**, 4<sup>th</sup> International Conference on Intelligent Human Computer Interaction (IHCI 2012), Kharagpur, December 2012.
  - **General Co-Chair**, International Conference on Security in Computer Networks and Distributed Systems (SNDS 2012), Trivandrum, Kerala, October 2012.
  - **Technical Program Co-Chair**, 6<sup>th</sup> IEEE International Symposium on Wireless Pervasive Computing, Hong Kong, February 16-18, 2011.
  - **Tutorial Chair**, 29<sup>th</sup> IEEE International Symposium on Reliable Distributed Systems (SRDS 2010), November 1-3, 2010, New Delhi, India.
  - **Workshop Co-Chair**, 4<sup>th</sup> International Workshop on Broadband Wireless Internet and Next Generation Networks Access (BWINA 2010), in conjunction with WiMob 2010, October 11-13, 2010.
  - **Finance Chair**, 5<sup>th</sup> International Conference on Information Systems Security (ICISS 2009), Kolkata, India, December 14-18, 2009.
  - **Program Co-Chair**, Fourth International Conference on Embedded and Multimedia Computing (EM-Com 2009), Jeju, Korea, December 10-12, 2009.
  - **General Co-Chair**, 3<sup>rd</sup> International Workshop on Broadband Wireless Internet Access (BWIA 2009), Marrakech, Morocco, October 12-14, 2009.
  - **Program Vice-Chair**, 2009 International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2009), Istanbul, Turkey, July 2009.
  - **Track Co-Chair**, ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2009), Pattern Recognition and Image Processing Track, Rabat, Morocco, May 2009.
  - **Session Chair**, Optical Communications Sessions, International Conference on Computing, Communication and Networking (ICCCN-2008), Karur, Tamil Nadu, India, December 18-20, 2008.
  - **Track Chair**, IEEE Region 10 Colloquium and 3<sup>rd</sup> International Conference on Industrial and Information Systems (ICIIS 2008), Communications and Information Systems Engineering Track, IIT Kharagpur, December 2008.
  - **Registration Chair**, IEEE Region 10 Colloquium and 3<sup>rd</sup> International Conference on Industrial and Information Systems (ICIIS 2008), IIT Kharagpur, December 2008.
  - **General Chair**, 2007 International Workshop on Broadband Wireless Access (BWIA'07), Ottawa, Ontario, Canada, 2007.
  - **Publicity Chair**, 15<sup>th</sup> International Conference on Advanced Computing and Communications (ADCOM 2007), Guwahati, India, 2007.
  - **Session Chair**, Performance of Mobile and Wireless Networks Session, International Conference on Mobile, Ubiquitous and Pervasive Computing (ObCom 2006), Vellore, India, 2006.
  - **Session Chair**, Routing Session, International Symposium on Ad Hoc and Ubiquitous Computing (ISAHUC'06), Mangalore, India, 2006.
  - **Program Chair**, International Symposium on Ad Hoc and Ubiquitous Computing (ISAHUC'06) Mangalore, India, 2006.
  - **Publications Chair**, 14<sup>th</sup> International Conference on Advanced Computing and Communications (ADCOM 2006), Mangalore, India, 2006.
  - **Session Chair**, Traffic Engineering Session, 8<sup>th</sup> International Conference on Telecommunications, IEEE Communications Society, Croatia, 2005.
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## WORK EXPERIENCE

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### CURRENT EXPERIENCE

Feb 2018- Present

*Professor*

Department of Computer Science & Engineering

Indian Institute of Technology, Kharagpur, West Bengal, India

Feb 2013 – Feb 2018

*Associate Professor*

Department of Computer Science & Engineering

(formerly, School of Information Technology)

Indian Institute of Technology, Kharagpur, West Bengal, India

### PREVIOUS EXPERIENCE

Dec 2007 – Feb 2013

*Assistant Professor*

School of Information Technology

Indian Institute of Technology, Kharagpur, West Bengal, India

Dec 2010 – May 2011

May 2012 – July 2012

May 2013 – July 2014

*Alexander von Humboldt Fellow*

Department of Informatics

University of Hamburg, Hamburg, Germany

March 2006 – August 2010

*Adjunct Professor*

School of Computer Science

Ryerson University, Toronto, Ontario, Canada

Oct 2006 – Dec 2007

*Visiting Fellow*

Department of Computer Science

Yale University, New Haven, Connecticut, USA

May 2007 – Aug 2007

*Instructor*

Ryerson University, Toronto, Ontario, Canada

Jan 2006 – Sept 2006

*Visiting Scientist/Researcher*

Wireless Networks Lab.

Cornell University, Ithaca, New York, USA

Jan 2006 – Apr 2006

*Instructor*

Ryerson University, Toronto, Ontario, Canada

April 2005 – Dec 2005  
*Consultant (IT Architect)*  
ChartWELL, Inc., Toronto, Ontario, Canada

Jan 2005 – Apr 2005  
*Instructor*

Ryerson University, Toronto, Ontario, Canada

July 2002 – March 2005  
*Information Architect (Jr.)*, Community Services IT Cluster  
*IT Project Management Analyst*, Management Board Secretariat  
*Business/Systems Analyst*, Community Services IT Cluster  
*IT Planning and Architecture Analyst*, Community Services IT Cluster  
*Health Data and Decision Support Analyst*, Ministry of Health and Long Term Care  
Government of Ontario, Toronto, Ontario, Canada

Feb 2001 – Aug 2001  
*R&D Product Support Specialist*, GuestLINK Telecom. System Development  
Atreus Systems Corporation, Ottawa, Ontario, Canada

Aug 1999 – Feb 2001  
*R&D Software Designer*, Spectrum SNMP Development  
*R&D Software Designer*, PRESIDE Policy Services Development  
NORTEL NETWORKS, Ottawa, Ontario, Canada

Feb 1999 – Apr 1999  
*System Designer*, Electronic Chargeback System  
Graphic Services, University of New Brunswick, Fredericton, New Brunswick, Canada

Jan 1998 – Apr 1999  
*Research Assistant*  
University of New Brunswick, Fredericton, New Brunswick, Canada

Sept 1997 – Apr 1999  
*Teaching Assistant* (various courses in Algorithms, Data Structures, Programming)  
University of New Brunswick, Fredericton, New Brunswick, Canada

## **TEACHING**

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### **FULL-SEMESTER COURSES**

#### **Spring 2018**

- Software Engineering. (CS20006), IIT Kharagpur, India.
- Software Engineering Laboratory. (CS29006), IIT Kharagpur, India. (Jointly with Prof. R. Mall)

#### **Autumn 2017**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Embedded Software Design and Validation (AT60003), IIT Kharagpur, India. (Jointly with Prof. C. R. Mondal)

#### **Spring 2017**

- Software Engineering. (CS20006), IIT Kharagpur, India.



- Software Engineering Laboratory. (CS29006), IIT Kharagpur, India. (Jointly with Prof. D. Samanta)

#### **Autumn 2016**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Programming and Data Structures Tutorial and Lab. (CS19101), IIT Kharagpur, India. (Jointly with Prof. S. P. Pal).

#### **Spring 2016**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.
- Internet and Web-based Technologies (IT60102), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).
- Internet Technologies Lab (IT60192), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

#### **Autumn 2015**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. R. R. Sahay).

#### **Spring 2015**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.
- Internet and Web-based Technologies (IT60102), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).
- Internet Technologies Lab (IT60192), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

#### **Autumn 2014**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. D. Samanta and Prof. R. R. Sahay).

#### **Spring 2014**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

#### **Autumn 2013**

- Information System Design (IT60105), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. D. Samanta).

#### **Spring 2013**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

#### **Autumn 2012**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Software Engineering (IC80122), IIT Kharagpur, India. (Jointly with Prof. R. Mall).
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

#### **Spring 2012**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.
- Seminar (IT68102), IIT Kharagpur, India (Jointly with Prof. K. S. Rao).

#### **Autumn 2011**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India.
- Information System Design (IT60105), IIT Kharagpur, India.
- Software Engineering (IC80122), IIT Kharagpur, India. (Jointly with Prof. R. Mall).
- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. K. S. Rao).

#### **Autumn 2010**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India. (Jointly with Prof. A. Gupta).
- Information System Design (IT60105), IIT Kharagpur, India. (Jointly with Prof. S. K. Ghosh).
- Software Engineering (IC80122), IIT Kharagpur, India. (Jointly with Prof. R. Mall).

- System Design Lab. (IT69103), IIT Kharagpur, India. (Jointly with Prof. S. K. Ghosh).

#### **Spring 2010**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

#### **Autumn 2009**

- Wireless Ad Hoc and Sensor Networks (IT60119), IIT Kharagpur, India. **(New course proposed, designed and taught by Dr. Misra first time at IIT Kharagpur)**.
- Information System Design (IT60105), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India.

#### **Spring 2009**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.

#### **Autumn 2008**

- Information System Design (IT60105), IIT Kharagpur, India.
- System Design Lab. (IT69103), IIT Kharagpur, India.

#### **Spring 2008**

- Advanced Network Technologies (IT60106), IIT Kharagpur, India.
- Programming and Data Structures Lab. (CS13002), IIT Kharagpur, India.
- Internet Technology (IT60004), IIT Kharagpur, India.

#### **2007**

- Logical Database Analysis and Design (CITM 500), Ryerson University, Toronto, Canada.
- Internet Applications Development (CITM 405), Ryerson University, Toronto, Canada.

#### **2006**

- Internet Applications Development (CITM 405), Ryerson University, Toronto, Canada.
- Systems Analysis and Design (CITM 305), Ryerson University, Toronto, Canada.

#### **2005**

- Internet Applications Development (CITM 405), Ryerson University, Toronto, Canada.

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

- Course: Network Security – Theoretical and Practical Perspective (Security in Wireless Sensor Networks), Semester: Autumn 2010 (August 2-7, 2010), Duration: 2 hours, Audience: College Faculty, Venue: IIT Kharagpur.
- Course: Programming in C++ and Java, Semester: Summer 2009, Duration: 6 hours theory and 10.5 hours lab., Audience: University students, Venue: IIT Kharagpur.
- Course: Advanced Networking (Network Management Module), Semester: Summer 2009, Duration: 4 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.
- Course: Information Security (Internetworking Module), Semester: Autumn 2008, Duration: 3 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.
- Course: Advanced Application Security, Semester: Spring 2008, Duration: 4 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.
- Course: Advanced Networking (Network Management Module), Semester: Spring 2008, Duration: 4 hours, Audience: Indian Defence Officers, Venue: IIT Kharagpur.

## CONTINUING EDUCATION COURSE ORGANIZATION

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- **Coordinator & Instructor**, “*Underwater Sensor Networks: Theory and Simulations*”, NPOL, Ministry of Defence, Kochi, April 18-20, 2016.
- **Coordinator & Instructor**, “Internet of Things: Convergence of Sensing, Cloud, and Big Data Networking”, Sponsored by All India Council for Technical Education (AICTE), Government of India, July 13-26, 2015.
- **Coordinator & Instructor**, “*Enabling Internet of Things with Cloud and Big Data Networking*”, International Summer and Winter Term (ISWT), May 25-June 7, 2015.
- **Coordinator & Instructor**, “*Wireless Sensor Networks and Internet of Things*”, IIT Kharagpur’s Knowledge Development Programme (KDP) under TEQIP-II, May 11-15, 2015.
- **Coordinator & Instructor**, “*Wireless Ad Hoc and Sensor Networks*”, Faculty Staff Development Programme, Sponsored by the Ministry of Human Resources Development (MHRD) / All India Council for Technical Education (AICTE), Government of India, February 2-15, 2010.

## RESEARCH GRANTS

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### *Sponsored Projects*

1. **Principal Investigator**, “*Development of Digital Mine Using Internet of Things*”, DeitY, Govt. of India, Grant Amount: Rs. 46.3 Lakhs, for 2.5 years (2016-2018).
2. **Principal Investigator**, “*Development of Cloud Network, Drone Assisted Sprayer*”, ICAR, Govt. of India, Grant Amount: Rs. 21.82 Lakhs, for 2 years (2016-2018).
3. **Principal Investigator**, “*Development of Robotic Precision Planter*”, ICAR, Govt. of India, Grant Amount: Rs. 16.34 Lakhs, for 2 years (2016-2018).
4. **Principal Investigator**, “*An Indigeneous Framework for Authenticity, Integrity, and Non-Repudiation in Data Communication*”, DRDO, Govt. of India, Grant Amount: Rs. 60.414 Lakhs, for 3 years (2015-2018).
5. **Principal Investigator**, “*Cloud-Assisted WBAN Based Ubiquitous Healthcare Management System & its Application in Telemedicine*”, MHRD, Govt. of India, Grant Amount: Rs. 39 Lakhs, for 3 years. [With Dr. S. Sarkar, Calcutta Medical College (CMC), Kolkata, and Dr. I. Banerjee, B. C. Roy Technology Hospital, IIT Kharagpur].
6. **Co-Investigator**, “*Virtual Labs – Phase II*”, MHRD, Govt of India, Grant Amount: Rs. 539.37 Lakhs, for 3 years (September 2014-September 2017).
7. **Co-Investigator**, “*Measurement to Management (M2M): Improved Water Use Efficiency and Agricultural Productivity Through Experimental Sensor Network*”, ITRA, Media Lab Asia, Grant Amount: Rs. 320.95 Lakhs (IIT Kharagpur component: INR 155.64 Lakhs), for 3 years (2013-2016). [With N. S. Raghuwanshi, V. Mishra, R. Singh, C. Chatterjee and A. Mishra, Agriculture & Food Engineering, IIT Kharagpur; V. Mishra, IIT Gandhinagar; M. P. Tripathy, Indira Gandhi Agricultural University, Raipur]
8. **Principal Investigator**, “*Development of Feasibility Assessment Model for Adaptation of Underground Coal Gasification Technology in the North-East Region of India*”, Department of Information Technology (DIT), Government of India, Grant Amount: INR 2,17,93,000 (IIT Kharagpur Component: INR 32,14,000), for 2.5 years (2012-2014).
9. **Principal Investigator**, “*Target Tracking in Distributed Wireless Sensor Networks in the Presence of Misbehaving Nodes*”, ISIRD, IIT Kharagpur, Grant Amount: INR 5,00,000, for 3 years (2011-2014).
10. **Principal Investigator**, “*Towards Robust, Efficient and Secure Data Acquisition in Underwater Sensor Networks*”, Department of Information Technology (DIT), Government of India, Grant Amount: INR 54,22,000, for 3 years (2010-2013).
11. **Principal Investigator**, “*Virtual Labs: Advanced Network Technology*”, Ministry of Human Resources Development (MHRD), Government of India, Grant Amount: INR 35,52,000, for 2 years (2010-2012).

12. **Co-Principal Investigator**, "*Virtual Labs: Software Engineering*", Ministry of Human Resources Development (MHRD), Government of India, Grant Amount: INR 35,52,000, for 2 years (2010-2012). [With D. Samanta, SIT, IIT Kharagpur]
13. **Principal Investigator**, "*Adaptive Learning-Based Fault-Tolerant Routing in Adversarial Wireless Ad Hoc and Sensor Networks*", Council of Scientific and Industrial Research (CSIR), India, Grant Amount: INR 15,92,000, for 3 years (2009-2012).
14. **Principal Investigator**, "*Bio-inspired and Nature-inspired Solutions in Wireless Ad hoc and Sensor Networks*", Department of Science and Technology (DST), Government of India, SERC Fast Track Project for Young Scientists, Grant amount: INR 7,20,000, for 3 years (2009-2012).

### **Consultancy Projects**

1. **Co-consultant**, "*Checking Border Violation by Civilians Through Technological Solution*", Border Security Force (BSF), Govt. of India, Grant Amount: INR 3,06,743, for 12 weeks (2014). [With Prof. S. Mukhopadhyay, E&ECE, IIT Kharagpur].

### **RESEARCH LABORATORY DEVELOPMENT**

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- **Principal Developer**, "Smart Wireless Applications and Networking (SWAN) Laboratory", School of Information Technology, IIT Kharagpur, 2014-2015.
- **Co-Developer**, "Safety Analytics Laboratory", Department of Industrial and Systems Engineering, IIT Kharagpur (Laboratory in-charge: Professor J. Maiti), 2015.

### **STUDENT SUPERVISION**

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#### **Ph.D. Thesis**

##### **Completed/Thesis Submitted**

1. Barun Saha, "*Opportunistic Mobile Networks*", Ph.D. Thesis, IIT Kharagpur, 2014-2018.
2. Soumen Moulik, "*MAC in WBANs*", Ph.D. Thesis, IIT Kharagpur, 2013-2017 [Co-Supervisor: Dr. Chandan Chakraborty (SMST)]
3. Prasenjit Bhavathankar, "*Target Tracking in Wireless Sensor Networks*", Ph.D. Thesis, IIT Kharagpur, 2009 - 2017.
4. Subhadeep Sarkar, "*Analysis of Delay in Wireless Communication for Healthcare Systems*", Ph.D. Thesis, IIT Kharagpur, 2013-2017 [Co-Supervisor: Dr. Chandan Chakraborty (SMST)].
5. Subarna Chatterjee, "*Sensors-as-a-Service: Towards the Conceptualization of Sensor-Cloud*", Ph.D. Thesis, IIT Kharagpur, 2013-2017.
6. Nabiul Islam, "*Characterizing Collision and Optimizing Energy Consumption in Nanoscale Communication Networks*", Ph.D. Thesis, IIT Kharagpur, 2011-2016.
7. Goutam Mali, "*Cooperation-Aided Distributed Topology Management and Resource Allocation in Wireless Multimedia Sensor Networks*", Ph.D. Thesis, IIT Kharagpur, 2010-2016.
8. Sumit Goswami, "*Behavioral and Security Analysis of Next-Generation Networks*", Ph.D. Thesis, IIT Kharagpur, 2012-2016.

9. Bhaskar Das, "*Cooperative Transmission in Vehicular Ad-Hoc Network*", Ph.D. Thesis, Visva-Bharati University, 2011-2015 [Co-supervisor: Dr. U. Roy (Visva-Bharati)].
10. Pushpendu Kar, "*Temporary Node-Misbehavior in the Presence of Environmental Effects in Wireless Sensor Networks*", Ph.D. Thesis, IIT Kharagpur, 2012-2016.
11. Sankar Narayan Das, "*Correlation-Aware Network Management of Wireless Sensor Networks*", Ph.D. Thesis, IIT Kharagpur, 2009-2016.
12. Sujata Pal, "*Cooperation in Opportunistic Mobile Networks*", Ph.D. Thesis, IIT Kharagpur, 2011-2016.
13. Manas Khatua, "*Analysis of Contention-Based Wireless networks*", Ph.D. Thesis, IIT Kharagpur, 2011-2016.
14. Judhistir Mahapatro, "*Interference Mitigation and QoS Provisioning in Wireless Body Area Network Equipped Patients*", Ph.D. Thesis, IIT Kharagpur, 2010-2015. [Co-Supervisor: Dr. M. Manjunatha (SMST)].
15. Amit Mandal, "*Simulation of the Effects of Bubble Plumes, Internal Solitons, and Mobility of Nodes on the Performance of Underwater Wireless Acoustic Sensor Networks*", Ph.D. Thesis, IIT Kharagpur, 2010-2014 [Co-Supervisor: Dr. Mihir K. Dash (CORAL)].
16. Bibudhendu Pati, "*Learning Outcomes Using Virtual Software Engineering Laboratory*", Ph.D. Thesis, IIT Kharagpur, 2011-2014 [Co-Supervisor: Dr. Atasi Mohanty (CET)].
17. Ranjit Singh, "*Jamming in Wireless Sensor Networks: Detection, Mapping, Localization and Tracking*", Ph.D. Thesis, IIT Kharagpur, 2008-2011.

#### **In Progress**

18. Abhishek Bera, "*AUV Networks*", IIT Kharagpur, 2016-Present.
19. Satendra Kumar, "*Convergence in Internet of Things*", IIT Kharagpur, 2016-Present.
20. Sumana Maity, "*Security of Internet of Things*", IIT Kharagpur, 2016- Present.
21. Samaresh Bera, "*Software Defined Internet of Things*", IIT Kharagpur, 2014- Present.
22. Ayan Mondal, "*Big Data Networking*", IIT Kharagpur, 2014- Present.
23. Ilora Maiti, "*Big Data Networking*", IIT Kharagpur, 2015- Present [Co-Supervisor: Prof. C. R. Mandal (CSE)]
24. Arijit Roy, "*Sensor-Cloud for Internet of Things*", IIT Kharagpur, 2015- Present.
25. Anandarup Mukherjee, "*Internet of Things for Agriculture*", Ph.D. Thesis, IIT Kharagpur, 2014- Present [Co-Supervisor: Prof. N. S. Raghuwanshi (AgFE)] (Current).
26. Tamoghna Ojha, "*Mobile Cloud Computing in Agriculture*", Ph.D. Thesis, IIT Kharagpur, 2014-Present [Co-Supervisor: Prof. N. S. Raghuwanshi (AgFE)].

#### **M. S. (By Research) Thesis**

##### **Completed**

1. Amit Samanta, "*MAC in WBANs*", M.S. Thesis, IIT Kharagpur, 2014-2017.
2. Tuhin Chakraborty, "*User Interface Mechanisms for People with Visual Impairment to Access Mobile Phones*", M.S. Thesis, IIT Kharagpur, 2011-2016 [Co-Supervisor: Dr. D. Samanta].

3. Arijit Roy, "*Dumb Nodes in Sensor Networks*", M.S. Thesis, IIT Kharagpur, 2012-2015. [Co-Supervisor: Dr. D. Samanta].
4. Snigdha Das, "*Resource Management in Mobile Cloud Environments*", M.S. Thesis, IIT Kharagpur, 2013-2015.
5. Ayan Mondal, "*Distributed Energy Management in Smart Grid*", M.S. Thesis, IIT Kharagpur, 2013-2015. (Enrolled in the Joint M.S./Ph.D. Program)
6. Samaresh Bera, "*Distributed Pricing Policy and Energy Management in Smart Grid*", M.S. Thesis, IIT Kharagpur, 2013-2015. (Enrolled in the Joint M.S./Ph.D. Program)
7. Tamoghna Ojha, "*Architecture and Localization for Underwater Sensor Networks*", M.S. (By Research) Thesis, IIT Kharagpur, 2011-2014.
8. Barun Saha, "*Human Aspects and Heterogeneity in Mission-Oriented Opportunistic Networks*", M.S. (By Research) Thesis, IIT Kharagpur, 2011-2014 [Co-Supervisor: Dr. D. Samanta].
9. Farhana Zabin, "*REEP: A Data-Centric, Reliable and Energy-Efficient Routing Protocol for Wireless Sensor Networks*", M. Sc. Thesis, Ryerson University, 2005-2007 [Co-Supervisors: Dr. I. Woungang and Dr. B. Ma].

#### **In Progress**

10. Niloy Saha, "SDN for IoT", M. S. Thesis, IIT Kharagpur, 2016-Present.
11. Aishwariya Chakraborty, "Sensor-Cloud for IoT", M. S. Thesis, IIT Kharagpur, 2016-Present.
12. Sanku Kumar Roy, "*Interoperability in Internet of Things*", M. S. Thesis, IIT Kharagpur, 2015-Present [Co-Supervisor: Prof. N. S. Raghuvanshi (AgFE)]

#### **M.Tech. Thesis/Project**

##### **Completed**

1. Satyadeep Mishra, "*Social Sensing-based Duty Cycle Management for Wireless Sensor Networks*", M. Tech. (ICT) Thesis, IIT Kharagpur, 2011-2013.
2. Sukhchain Singh, "*A Learning Automata based Method for Estimation of Mobility Model of a Target in Wireless Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
3. Reena Tirkey, "*Optimal Gateway Selection in Sensor-Cloud Framework*", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
4. Saketi Ajay Babu, "*A Quality-of-Security-Based Distance Vector Routing Protocol for 6LoWPAN using Weak Estimation Learning Automata*", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
5. Shukla Banik, "*Residential Energy Management in Smart Grid*", M. Tech. Thesis, IIT Kharagpur, 2011-2013.
6. Romil Barthwal, "*Community Detection in Integrated Internet of Things and Social Networks*", M. Tech. Thesis, IIT Kharagpur, 2010-2012.
7. Chejerla Rajesh, "*Transport Protocol for Underwater Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2010-2012.
8. Tanmay Saha, "*Mobility Model for Underwater Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2010-2012.
9. Ashim Alok Ghosh, "*The Effects of Variable Sound Speed on Localization in Underwater Sensor Networks*",

M. Tech. Thesis, IIT Kharagpur, 2009-2011.

10. A. P. Sagar P., "*MAcoSim: A Matlab Based Underwater Acoustic Sensor Network Simulator*", M. Tech. Thesis, IIT Kharagpur, 2009-2011.
11. Suresh Bollabathula, "*Fault-tolerant Routing in Underwater Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2009-2011.
12. Ashish Chalak, "*Cluster-Head Selection Algorithm for Wireless Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2008-2010.
13. Pankaj Chandra, "*TBCH: Tier-Based Energy-Efficient Cluster Head Selection Method for Wireless Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2008-2010.
14. Patel Manishkumar Manilal, "*Key Management in Heterogeneous Wireless Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2008-2010.
15. B. Balaji, "*Optimization of 1-Address Code*", M. Tech. Thesis (CSDP), IIT Kharagpur, 2008-2010. [Co-Supervisor: Dr. P. Kumar, Mathematics]
16. Rahul Joshi, "*Cognitive Radio Wireless Networks*", M. Tech. Thesis (CSDP), IIT Kharagpur, 2008-2010 [Co-Supervisor: Dr. P. V. S. N. Murthy, Mathematics].
17. Sudip Das, "*Cognitive Radio Wireless Networks*", M. Tech. Thesis (CSDP), IIT Kharagpur, 2008-2010. (CSIR Junior Research Fellow) [Co-Supervisor: Dr. P. Panigrahi, Mathematics].
18. Manojit Kundu, "*Bipartite Overlay Construction for Gnutella Networks*", M. Tech. Thesis, IIT Kharagpur, 2007-2009.
19. Dias Thomasianous, "*A Simple Least Time, Energy-Efficient Routing Protocol, With One-Level Data Aggregation in Wireless Sensor Networks*", M. Tech. Thesis, IIT Kharagpur, 2007-2009.

#### **Other Students (Visiting Students and Summer/Co-Op Students)**

1. Anirban Roy, "*Design of Low Cost Underwater Acoustic Modem*", Intern from Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (16<sup>th</sup> January to 15<sup>th</sup> February 2015)
2. Nidhi Pathak, "*Integration of Smartphone Sensors*", Intern from University of Engineering & Management, Jaipur, India, duration: 30 days (16<sup>th</sup> January to 15<sup>th</sup> February 2015)
3. Khadija Chowdhary, "*Analysis of delay and starvation in IEEE 802.15.6*", Summer Intern from NIT Durgapur, India, 8<sup>th</sup> May - 7<sup>th</sup> July, 2014
4. Ranjana Ladia, "*Pricing in sensor-cloud*", Summer Intern from NIT Durgapur, India, 8<sup>th</sup> May - 7<sup>th</sup> July, 2014
5. Rachit Data, "*Big data networking*", Summer Intern from NIT Durgapur, India, 8<sup>th</sup> May - 7<sup>th</sup> July, 2014
6. Manmeet Singh Bhogal, "*Big-sensor-cloud infrastructure development*", Summer Intern from NIT Durgapur, India, 8<sup>th</sup> May - 7<sup>th</sup> July, 2014
7. Abhishek Gaurav, "*Cloud pricing for WBANs*", Summer Intern from IIT BHU, India 8<sup>th</sup> May - 7<sup>th</sup> July, 2014
8. Durba Chatterjee, "*Smart grid*", Summer Intern from NIT Durgapur, India, 8<sup>th</sup> May - 7<sup>th</sup> July, 2014
9. Abhishek Basu, "*Smart grid*", Summer Intern from RCC Institute of Information Technology, West Bengal, India, May - July, 2014
10. Suman Kumar Ghosh, "*Smart grid*", Summer Intern from RCC Institute of Information Technology, West

Bengal, May - July, 2014

11. Soumyajit Pal, "*Smart grid*", Summer Intern from RCC Institute of Information Technology, West Bengal, May - July, 2014
12. Manajit Chakraborty, "*Bandwidth-Aware Jamming in Sensor Networks*", Summer Intern from Indian School of Mines (ISM), Dhanbad, India, 2013.
13. S. L. S. R. Kishore, "*Performance Evaluation of Underwater Sensor Networks*", Summer Intern from Indian Institute of Technology (IIT), Bhubaneswar, India, 2013.
14. Madhurya Gandhi, "*Performance Evaluation of Underwater Sensor Networks*", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2013.
15. Nayan Ranjan Kapri, "*Target Tracking in WiMAX Networks*", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2011.
16. Nishant Kumar, "*Delay-Tolerant Routing in Underwater Acoustic Networks*", Summer Intern from National Institute of Technology (NIT), Jamshedpur, India, 2011.
17. Tushar Ghosh, "*Traffic Engineering in WiMAX Mesh Networks*", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
18. Shankha S. Chatterjee, "*Cognitive Radio for WiMAX Mesh Networks*", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
19. Bhaswar Banerjee, "*Medium Access in WiMAX Mesh Networks*", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
20. Jayita Bhattacharya, "*Fault Tolerant Routing in Wireless Networks*", Summer Intern from National Institute of Technology (NIT), Durgapur, India, 2010.
21. Abhishek Jain, "*Delay Tolerant Routing in Underwater Sensor Networks*", Summer Intern from Birla Institute of Technology and Science (BITS), Pilani, India, 2010.
22. Suraj Dash, "*Jamming in Underwater Sensor Networks*", Summer Intern from National Institute of Technology (NIT), Rourkela, India, 2010.
23. M. Gayathri, "*Development of Virtual Labs*", Summer Intern from Madanapalle Institute of Science and Technology, Andhra Pradesh, India, 2010.
24. Ankur Jain, "*Topology Management in Wireless Sensor Networks*", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2009.
25. Sweta Singh, "*Target Tracking in Wireless Sensor Networks*", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2009.
26. Pavan Kumar, "*Coverage in Wireless Sensor Networks*", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2009.
27. Prateek Agrawal, "*Bio-Inspired Mobility Model for Mobile Ad Hoc Networks*", Visiting Student from Birla Institute of Technology and Science (BITS) Pilani, Summer Project, IIT Kharagpur, 2009.
28. G. Rajesh, "*Bio-Inspired Solutions for Routing in Mobile Ad Hoc Networks*", Visiting Student from Indian Institute of Information Technology (IIIT) Allahabad, Summer Project, IIT Kharagpur, 2009.
29. Ankur Vaish, "*Access Control in Wireless Sensor Networks*", Visiting Student from Indian Institute of Information Technology (IIIT) Allahabad, Summer Project, IIT Kharagpur, 2009.



30. Chandni Agrawal, "*Planning for Development of a Wireless Sensor Network Testbed*", Visiting Student from National Institute of Technology (NIT) Raipur, Summer Project, IIT Kharagpur, 2009.
31. Sanchita Roy, "*Secured Routing in Wireless Sensor Networks*", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2008.
32. Debashish Mohanta, "*Medium Access Control With Coordinated Adaptive Sleeping in Wireless Sensor Networks*", Visiting Student from Indian School of Mines University Dhanbad (ISMU), Summer Project, IIT Kharagpur, 2008.
33. Y. Sreekeerthy, "*Learning Automata-Based Transport Protocol for Data Networks*", Visiting Student from Kalinga Institute of Industrial Technology (KIIT) Bhubaneswar, Summer Project, IIT Kharagpur, 2008.
34. Vivek Tiwari, "*Congestion Control in Wireless Sensor Networks*", Visiting Student from National Institute of Technology (NIT) Durgapur, Summer Project, IIT Kharagpur, 2008.

### CONFERENCE TUTORIALS

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- **S. Misra** and I. Woungang, "Wireless Ad Hoc Networks", 7<sup>th</sup> International Conference for Upcoming Engineers, Toronto, Ontario, Canada, May 28-29, 2007.
- I. Woungang and **S. Misra**, "Applications of Error-Control Coding Theory in Telecommunication and Cryptography", 7<sup>th</sup> International Conference for Upcoming Engineers, Toronto, Ontario, Canada, May 28-29, 2007.

### CONFERENCE PROGRAM COMMITTEES

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#### 2014

- *Program Committee Member*, IEEE CloudCom 2014, The 6<sup>th</sup> IEEE International Conference on Cloud Computing Technology and Science, "IoT on Cloud" Track, Singapore, Dec 15-18, 2014.
- *Program Committee Member*, IEEE ICC 2014, 3<sup>rd</sup> Workshop on Multimedia Communications & Services, Sydney, Australia, June 10-14, 2014.
- *Technical Program Committee Member*, 15<sup>th</sup> International Conference on Distributed Computing and Networking (ICDCN 2014), Amrita University, Coimbatore, India, January 4-7, 2014.

#### 2013

- *Program Committee Member*, IEEE CloudCom 2013, The 5<sup>th</sup> IEEE International Conference on Cloud Computing Technology and Science, "IoT on Cloud" Track, Bristol, UK, Dec 2-5, 2013.
- *Technical Program Committee Member*, 7<sup>th</sup> Workshop des GI / ITG Messung, Modellierung und Bewertung von Rechensystemen (MMBnet 2013), Universität Hamburg, September 5-6, 2013.
- *International Program Committee Member*, 4<sup>th</sup> International Conference on Data Communication Networking, Reykjavik, Iceland, July 29-31, 2013.
- *Technical Program Committee Member*, 14<sup>th</sup> International Conference on Distributed Computing and Networking (ICDCN 2013), Tata Institute of Fundamental Research, Mumbai, India, January 3-6, 2013.

#### 2012

- *Technical Program Committee Member*, IEEE ICC 2012 – CSSMA (Communication Software Services and Multimedia Applications Symposium), Ottawa, Canada, June 10-15, 2012.
- *International Advisory Committee Member*, 7<sup>th</sup> International Symposium on Wireless and Pervasive Computing (ISWPC 2012), Dalian, China, 2012.
- *Technical Program Committee Member*, International Conference on Computing, Networking and Communications, Communication Software and Services Symposium (ICNC '12 – CSS), Maui, Hawaii, USA, 30 Jan-2 Feb, 2012.

#### 2011

- *Program Committee Member*, 3rd International Conference on Computer Science and its Applications (CSA-11), Mobile and Ubiquitous Computing Track, Jeju, Korea, December 12-15, 2011.
- *Technical Program Committee Member*, IEEE GLOBECOM 2011 – Communication Software, Services, and Multimedia Applications Symposium, Houston, Texas, USA, December 5-9, 2011.

- *Technical Program Committee Member*, 4<sup>th</sup> IEEE International Workshop on Internet and Distributed Computing Systems (IDCS 2011), in conjunction with the 11<sup>th</sup> IEEE International Conference on Algorithms and Architecture for Parallel Processing (ICA3PP 2011), Melbourne, Australia, October 24-26, 2011.
- *Technical Program Committee Member*, IEEE/ACM International Conference on Internet of Things (IoT), Dalian, China, October 19-22, 2011.
- *Technical Program Committee Member*, 6. Workshop des GI / ITG Messung, Modellierung und Bewertung von Rechensystemen (MMBnet 2011), Universität Hamburg, September 15-16, 2011.

## 2010

- *Technical Program Committee Member*, IEEE GLOBECOM 2010 Symposium on Communications Software, Services and Multimedia Applications (CSSMA 2010), Miami, Florida, Nov. 26 - Dec. 3, 2010.
- *International Program Committee Member*, International Conference on Computer Technology (ICCT 2010), Bhubaneswar, India, December 2010.
- *Technical Program Committee Member*, 2010 IEEE 72<sup>nd</sup> Vehicular Technology Conference (VTC 2010-Fall), Wireless Access Track, September 6-9, 2010, Ottawa, Canada.
- *Technical Program Committee Member*, International Conference on Advances on Computer, Communications Technology and Applications (ACCTA 2010), Bhubaneswar, India, August 3-5, 2010.
- *Technical Program Committee Member*, IEEE Wireless Communications and Networking Conference (IEEE WCNC), Sydney, Australia, April 18-21, 2010.

## 2009

- *Program Committee Member*, 5<sup>th</sup> International Conference on Information System Security (ICISS 2009), Kolkata, West Bengal, India, December 15-20, 2009.
- *Technical Program Committee Member*, International Workshop on Scalable Ad Hoc and Sensor Networks (SASN 2009), collocated with The International Conference on Ultra-Modern Telecommunications, St. Petersburg, Russia, October 12-14, 2009.
- *Technical Program Committee Member*, GLOBECOM 2009, AHSN (Ad Hoc, Sensor and Mesh Networking Symposium), Honolulu, Hawaii, USA, November—December 2009.
- *Technical Program Committee Member*, IEEE 24th International Conference on Advanced Information Networking and Applications (AINA-2010), Perth, Australia, Pervasive/Ubiquitous Computing and Services Track, Perth, Australia, April 2010.
- *Technical Program Committee Member*, 11<sup>th</sup> IEEE International Conference on High Performance Computing and Communications (HPCC-09) – Pervasive/ubiquitous computing and intelligence track, Seoul, Korea, June 25-27, 2009.
- *Program Committee Member*, 5<sup>th</sup> International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (TridentCom 2009), Washington D. C., USA, March/April, 2009.
- *Technical Advisory Committee Member*, National Conference on Computer Networks (NCCN 2009), Yelahanka, Bangalore, Karnataka, India, February 20-21, 2009.
- *Technical Program Committee Member*, 6<sup>th</sup> Annual IEEE Consumer Communications and Networking Conference (IEEE CCNC 2009) - Wireless Networking for Consumer Electronics Track, Las Vegas, Nevada, USA, January 2009.

## 2008

- *Technical Program Committee Member*, 1<sup>st</sup> International Workshop on Sensor Networks and Applications (SNA'08), Hainan Island, China, December 13-15, 2008.
- *Program Committee Member*, International Workshop on Internet and Distributed Computing Systems (IDCS'08). In conjunction with the 11th IEEE International Conference on Computer and Information Technology (ICCIT 2008), Khulna, Bangladesh, December 25-27, 2008.
- *Program Committee Member*, 10<sup>th</sup> International Conference on Enterprise Information Systems (ICEIS 2008), Barcelona, Spain, June 2008.
- *Program Committee Member*, International Workshop on Mobile Systems (WOMS 2008), Kolkata, India, July 11-12.
- *Technical Program Committee Member*, 2008 IEEE International Conference on Communications (ICC 2008) – Communications QoS, Reliability, and Performance Modeling Symposium, Beijing, China, May 2008.
- *Scientific Committee Member*, 9<sup>th</sup> International Conference on Artificial Intelligence and Soft Computing (ICAISC 2008), Zakopane, Poland, June 2008.
- *Technical Program Committee Member*, IEEE International Workshop on Data Management for Wireless and

Pervasive Communications (DMWPC 2008), Ginowan, Okinawa, Japan, March 2008.

- *Program Committee Member*, 7<sup>th</sup> International Conference on Networking (ICN 2008), Cancun, Mexico, April 2008.
- *Program Committee Member*, IEEE International Conference on Information and Communication Technologies (ICTTA'08), Damascus, Syria, April 2008.
- *Technical Program Committee Member*, 5<sup>th</sup> Annual IEEE Consumer Communications and Networking Conference (IEEE CCNC ) – Network Access and Communications Track, Las Vegas, Nevada, USA, January 2008.

#### **2007**

- *Technical Program Committee Member*, IEEE GLOBECOM 2007 – Ad Hoc and Sensor Networking Symposium, Washington DC, USA, 2007.
- *Technical Program Committee Member*, 3<sup>rd</sup> International Conference on Networking and Services (ICNS 2007), Athens, Greece, June 2007 (IEEE Computer Society sponsored).
- *International Technical Program Committee Member*, 6<sup>th</sup> International Conference on Networking (ICN 2007), Martinique, French Caribbean, 2007.
- *Technical Program Committee Member*, IEEE Wireless Communications and Networking Conference (IEEE WCNC) – Networking Program, Hong Kong, 2007.

#### **2006**

- *Program Committee Member*, 14<sup>th</sup> International Conference on Advanced Computing and Communications (ADCOM 2006), Mangalore, India, December 2006.
- *Program Committee Member*, 2<sup>nd</sup> IEEE International Conference on Information and Communication Technologies (ICTTA'06), Damascus, Syria, 2006.
- *Scientific Committee Member*, 8<sup>th</sup> International Conference on Artificial Intelligence and Soft Computing (ICAISC 2006), Zakopane, Poland, 2006 (IEEE sponsored).
- *Steering Committee Member* in the 8<sup>th</sup> International Conference on Advanced Communication Technology (ICACT 2006), Phoenix Park, Korea, 2006 (IEEE sponsored).
- *Technical Program Committee Member*, International Conference on Networking and Services (ICNS 2006), Silicon Valley, USA, 2006 (IEEE Computer Society sponsored).
- *Technical Program Committee Member*, 8<sup>th</sup> International Conference on Advanced Communication Technology (ICACT 2006), Phoenix Park, Korea, 2006 (IEEE sponsored).
- *International Advisory Committee Member*, 5<sup>th</sup> International Conference on Networking (ICN 2006), Mauritius, 2006 (IEEE/IEE sponsored).
- *Program Committee Member*, 8<sup>th</sup> International Conference on Enterprise Information Systems (ICEIS 2006), Paphos, Cyprus, 2006.

#### **TECHNICAL REFEREE (NOT UPDATED)**

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#### REVIEW OF PAPERS IN JOURNALS, CONFERENCES & BOOK CHAPTERS

- *Journal of Parallel and Distributed Computing* (Elsevier) (2010)
- *Journal of Network and Computer Applications* (Elsevier) (2009).
- *IEEE Systems Journal* (2008).
- *Security and Communication Networks Journal*, Wiley (2008).
- *IEEE Transactions on Systems, Man, and Cybernetics – Part B* (2008).
- *Computer Communications Journal* (Special Issue – SPECTS), Elsevier (2008)
- *IEEE INFOCOM* (2008).
- *IEEE CCNC (2008) – Network Access and Communications Track*.
- *IET Communications* (formerly *IEE Proceedings – Communications*) (2007).
- *IEEE Wireless Communications Magazine* (2007).
- *IEEE GLOBECOM ASNS* (2007).
- *IEEE International Conference on Communications* (2006).
- *Encyclopedia of Information Science and Technology* (book), 2<sup>nd</sup> edn., Idea Group (2006).
- *International Journal of Systems Science*, Taylor & Francis (2005-2006)
- *Neurocomputing Journal*, Elsevier (2005).
- *Journal of Supercomputing*, Springer SBM. (2005)
- *Web Services and E-Business Security* (book), Idea Group (2005).

#### REVIEW OF GRANT PROPOSALS

- Science and Engineering Research Council (SERC), Department of Science and Technology (DST), Govt. of India, <http://www.serc-dst.org/>. Area of the proposal: Mobile Ad Hoc Networks (Exact title: Confidential) (March 2010).
- Air Force Office of Scientific Research (AFOSR), USA. <http://www.afosr.af.mil/>. Area of the proposal: Security in Wireless Networks (Exact title: Confidential). (May 2007).

#### REVIEW OF BOOK PROPOSALS

- Springer, London, U.K., <http://www.springer.com/uk/>. Area of the proposal: Wireless LAN (Exact title: Confidential). (2008).
- Springer, London, U.K., <http://www.springer.com/uk/>. Area of the proposal: Wireless Sensor Networks (Exact title: Confidential). (August 2007).
- John Wiley & Sons, Chichester, U.K. <http://eu.wiley.com/WileyCDA/>. Area of the proposal: Information and Communication Technologies (ICT) (Exact title: Confidential). (June-July 2007).

#### COUNTRIES VISITED

USA, Canada, UK, Germany, France, Italy, Switzerland, Netherlands, Luxembourg, Greece, Croatia, Poland, Malaysia, Singapore, Egypt, Tanzania.

## INSTITUTE/DEPARTMENTAL ACTIVITIES

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- **Assistant Warden**, Meghnad Saha Hall of Residence, IIT Kharagpur (September 2014 – Present).
- **Program Officer**, National Service Scheme (NSS), IIT Kharagpur (2010-2015)
- **Faculty Advisor**, M. Tech First Year, CSE, IIT Kharagpur, 2016.
- In-Charge, Departmental Society, CSE, IIT Kharagpur, 2016.
- Centre Representative (In Charge), GATE Examination, Haldia, 2016.
- Centre Representative (In Charge), GATE Examination, Techno India University, Kolkata, 2015
- Centre Representative (In Charge), GATE Examination, Maris Stella College, Vijaywada, 2012.
- Annual and Convocation Report In-Charge, SIT, IIT Kharagpur, 2011-2012, 2014-2016.
- Anti-Ragging Vigilance, IIT Kharagpur, 2011-2012.
- IIT Kharagpur Diamond Jubilee Celebration Curtain Raiser Committee, 2011.
- Departmental ERP Representative, SIT, IIT Kharagpur, 2010-2016.
- Centre Representative (In Charge), IIT Joint Entrance Examination, Bhilai Institute of Technology, Durg, 2010.
- Centre Representative, GATE Examination, Delhi Public School, Ruby Park, Kolkata 2010.
- Centre Representative (In-Charge), IIT Joint Entrance Examination, Shatabdi Public School, Gaya, 2009.
- Doctoral Scrutiny Committee Member, Student: Soumya Maiti, School of IT, 2009-Present.
- Doctoral Scrutiny Committee Member, Student: Sajal Sarkar, Department of ECE, 2009-Present.
- Doctoral Scrutiny Committee Member, Student: Sayan Sarcar, School of IT, 2008-Present.
- Anti-Ragging Vigilance, IIT Kharagpur, 2008-2009.
- Doctoral Scrutiny Committee Member, Student: Debashish Kundu, School of IT , 2008-Present.
- Time-Table and Progress Report In-Charge, SIT, IIT Kharagpur, 2008-2009.
- Counselling, Graduate Aptitude Test in Engineering, 2008-2009.
- Centre Representative (In-Charge), IIT Joint Entrance Examination, Muzaffarpur MDDM College Centre, 2008.

## OTHER ACTIVITIES

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- Executive Committee Member, IEEE Kharagpur Section (2009-Present)
- Treasurer, IEEE Kharagpur Section (2015)
- IEEE Senior Member (Membership No. 90613632)
- IEEE Communications Society Member (2010-Present)
- ACM Member (Membership No. 6295194) (2011-Present)
- Events Chair (Invited), Engineering Practice TAB, International Communication Sciences and Technology Association (ICST) (<http://www.icst.org>). (2007-2010).
- Executive Member, Spectrum ESAT, Nortel Networks, Canada (2000).
- Vice President (Communications), Graduate Students' Association (GSA), UNB (1998).
- Chair, Graduate Students' Orientation, UNB, Canada (1998).
- President, Indian Students' Association, UNB, Canada (1998).

*“List of Publications” overleaf ...*

# LIST OF PUBLICATIONS & PATENTS

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## JOURNAL PAPERS

1. A. Roy, **S. Misra**, P. Kar, A. Mondal, "Topology Control for Self-Adaptation in Wireless Sensor Networks with Temporary Connection Impairment," *ACM Transactions on Autonomous and Adaptive Systems*, Vol. 11, No. 4, January 2017, pp. 21:1-21:34.
2. **S. Misra** and M. Khatua "Packet-Centric Trade-off and Unfair Success Region in IEEE 802.11 WLANs", *IEEE Transactions on Vehicular Technology*, Vol. 66, No. 5, May 2017, pp. 4223–4230.
3. S. Bera, **S. Misra**, D. Chatterjee, "C2C: Community-Based Cooperative Energy Consumption in Smart Grid", *IEEE Transactions on Smart Grid*, 2017, DOI: 10.1109/TSG.2017.2653245.
4. S. Sarkar, S. Chatterjee, **S. Misra**, R. Kudupudi, "Privacy-Aware Blind Cloud Framework for Advanced Healthcare", *IEEE Communication Letters*, Vol. 21, No. 11, 2017, pp. 2492-2495.
5. P. Bhavathankar, S. Chatterjee, **S. Misra**, "Link-Quality Aware Path Selection in the Presence of Proactive Jamming in Fallible Wireless Sensor Networks," *IEEE Transactions on Communications*, 2017, DOI: 10.1109/TCOMM.2017.2736550.
6. S. Moulik, **S. Misra**, D. Das, "AT-MAC: Adaptive MAC-frame Payload Tuning for Reliable Communication in Wireless Body Area Networks", *IEEE Transactions on Mobile Computing*, Vol. 16, No. 6, 2017, pp. 1516 – 1529.
7. **S. Misra**, S. Bera, Achuthananda M.P., S. K. Pal, M. S. Obaidat, "Situation-Aware Protocol Switching in Software-Defined Wireless Sensor Network Systems", *IEEE Systems Journal*, 2017, DOI: 10.1109/JSYST.2017.2774284.
8. S. Pal, B. K. Saha, **S. Misra**, "Game Theoretic Analysis of Cooperative Message Forwarding in Opportunistic Mobile Networks", *IEEE Transactions on Cybernetics*, Vol. 47, No. 12, 2017, pp. 4463 – 4474.
9. S. Moulik, **S. Misra**, A. Gaurav, "Cost-Effective Mapping Between Wireless Body Area Networks and Cloud Service Providers Based on Multi-Stage Bargaining", *IEEE Transactions on Mobile Computing*, Vol. 16, No. 6, 2017, pp. 1573 – 1586.
10. S. Bera, **S. Misra**, A. V. Vasilakos, "Software-Defined Networking for Internet of Things: A Survey", *IEEE Internet of Things Journal*, Vol. 4, No.6, 2017, pp.1994-2008.
11. A. Mondal, **S. Misra**, L. S. Patel, S. K. Pal, M. S. Obaidat, "DEMANDS: Distributed Energy Management Using Non-cooperative Scheduling in Smart Grid," *IEEE Systems Journal*, 2017, DOI: 10.1109/JSYST.2017.2723961.
12. P. Bhavathankar, S. Sarkar, **S. Misra**, "Optimal Decision Rule-Based Ex-ante Frequency Hopping for Jamming Avoidance in Wireless Sensor Networks," *Elsevier Computer Networks Journal*, Vol. 28, 2017, pp. 172-185.
13. G. Mali and **S. Misra**, "Topology Management-Based Distributed Camera Actuation in Wireless Multimedia Sensor Networks", *ACM Transactions on Autonomous and Adaptive Systems*, Vol. 12, No.1, 2017, pp. 2:1-2:33.
14. T. Ojha, **S. Misra**, N. S. Raghuvanshi, "Sensing-cloud: Leveraging the benefits for agricultural

- applications", *Computers and Electronics in Agriculture (Elsevier)*, vol. 135, 2017, pp. 96-107.
15. M. Khatua and **S. Misra** "Exploiting Anomalous Slots for Multiple Channel Access in IEEE 802.11 Networks", *Journal of Network and Computer Applications*, Vol. 74, August 2016, pp. 56–65.
  16. **S. Misra**, S. Singh, M. Khatua, "MIRACLE: Mobility Prediction Inside a Coverage Hole Using Stochastic Learning Weak Estimator", *IEEE Transactions on Cybernetics*, Vol. 46, No. 7, July 2016, pp. 1486–1497.
  17. M. Khatua and S. Misra, "D2D: Delay-aware Distributed Dynamic Adaptation of Contention Window in Wireless Networks", *IEEE Transactions on Mobile Computing*, Vol. 15, No. 2, 2016, pp. 322–335.
  18. P. Bhavathankar, A. Mondal, **S. Misra**, "Topology Control in the Presence of Jammers for Wireless Sensor Networks", *International Journal of Communication Systems (Wiley)* (Manuscript ID: D IJCS-16-0774.R1; Accepted on December 12, 2016).
  19. S. Das, M. Khatua, **S. Misra**, "Cheating-Resilient Bandwidth Distribution in Mobile Cloud Computing", *IEEE Transactions on Mobile Computing*, 2016, DOI: 10.1109/TCC.2016.2638909.
  20. S. Bera, **S. Misra**, S. Roy, M. S. Obaidat, "Soft-WSN: Software-Defined WSN Management System for IoT Applications", *IEEE Systems Journal* (Manuscript ID: ISJ-RE-16-04794; Accepted on October 4, 2016).
  21. **S. Misra**, S. Bera, T. Ojha, H. T. Mouftah, A. Anpalagan, "ENTRUST: Energy Trading Under Uncertainty in Smart Grid Systems", *Computer Networks (Elsevier)*, Vol.110, No. 9, 2016, pp. 232-242.
  22. N. Islam, **S. Misra**, "Catch the Pendulum": The Problem of Asymmetric Data Delivery in Electromagnetic Nanonetworks", *IEEE Transactions on NanoBioScience*, Vol. 15, No. 6, 2016, pp. 576 – 584.
  23. S. N. Das, **S. Misra**, B. E. Wolfinger, M. S. Obaidat, "Temporal-Correlation Aware Dynamic Self-Management of Wireless Sensor Networks", *IEEE Transactions on Industrial Informatics*, Vol. 12, No. 6, 2016, pp. 2127 – 2138.
  24. B. K. Saha and **S. Misra**, "Named Content Searching in Opportunistic Mobile Networks", *IEEE Communication Letters*, Vol. 20, No. 10, 2016, pp. 2067 – 2070.
  25. **S. Misra**, S. Goswami, C. Taneja, "Multivariate Data Fusion Based Learning of Video Content and Service Distribution for Cyber Physical Social Systems", *IEEE Transactions on Computational Social Systems*, Vol. 3, No. 1, 2016, pp. 1 – 12.
  26. C. Sarkar, V. S. Rao, R. V. Prasad, S. N. Das, **S. Misra**, A. Vasilakos, "VSF: An Energy-Efficient Sensing Framework Using Virtual Sensors", *IEEE Sensors Journal*, Vol. 16, No. 12, 2016, pp. 5046 – 5059.
  27. P. Kar, **S. Misra**, "Reliable and Efficient Data Acquisition in Wireless Sensor Networks in the Presence of Transfaulty Nodes", *IEEE Transactions on Network and Service Management*, Vol. 13, No. 1, 2016, pp. 99 – 112.
  28. S. Sarkar, **S. Misra**, "From Micro to Nano: The evolution of wireless sensor-based health care", *IEEE Pulse Magazine*, January/February 2016.
  29. S. Sarkar, **S. Misra**, "Theoretical Modeling of Fog Computing: A Green Computing Paradigm to Support IoT Applications", *IET Networks* (Manuscript ID: NET-2015-0034.R1; Accepted on October 16, 2015)
  30. S. Sarkar, **S. Misra**, "Assessment of the Suitability of Fog Computing in the Context of Internet of Things", *IEEE Transactions on Cloud Computing*, DOI: 10.1109/TCC.2015.2485206, 2015.

31. S. Chatterjee, **S. Misra**, S. U. Khan, "Optimal Data Center Scheduling for Quality of Service Management in Sensor-cloud", *IEEE Transactions on Cloud Computing*, 2015, DOI: 10.1109/TCC.2015.2487973.
32. N. Kumar, R. Iqbal, **S. Misra**, J. J. P. C. Rodrigues, M. S. Obaidat, "Bayesian Cooperative Coalition Game as-a-Service for RFID-Based Secure QoS Management in Mobile Cloud", *IEEE Transactions on Emerging Topics in Computing*, DOI: 10.1109/TETC.2016.2529850 (Manuscript ID TETCSI-2015-03-0117.R1; Accepted on September 7, 2015).
33. S. Pal, **S. Misra**, "DISIDE: Distributed Strategy Identification in Opportunistic Mobile Networks", *Computer Communications (Elsevier)*, Vol. 71, November 2015, pp. 119–128.
34. N. Kumar, **S. Misra**, J.J.P.C. Rodrigues, J.-H. Lee, M. S. Obaidat, N. Chilamkurti, "Playing the Smart Grid Game: Performance Analysis of Intelligent Energy Harvesting and Traffic Flow Forecasting for Plug-In Electric Vehicles", *IEEE Vehicular Technology Magazine*, Vol. 10, No. 4, December 2015, pp. 81-92.
35. P. Kar, A. Roy, **S. Misra**, "Connectivity Re-establishment in Self-organizing Sensor Networks with Dumb Nodes", *ACM Transactions on Autonomous and Adaptive Systems*, Vol. 10, No. 4, 2016, pp. 28:1-28:30.
36. T. Ojha, **S. Misra**, N. S. Raghuvanshi, "Wireless Sensor Networks for Agriculture: The State-of-the-Art in Practice and Future Challenges", *Computers and Electronics in Agriculture (Elsevier)*, Vol. 118, October 2015, pp. 66–84. [**One of the most downloaded articles of the Journal, as in May 2016**].
37. A. Samanta, S. Bera, **S. Misra**, "Link Quality-Aware Resource Allocation with Load Balance in Wireless Body Area Networks", *IEEE Systems Journal*, 2015, DOI: 10.1109/JSYST.2015.2458586.
38. S. Das, M. Khatua, **S. Misra**, M. S. Obaidat, "Quality-assured Secured Load Sharing in Mobile Cloud Networking Environment", *IEEE Transactions on Cloud Computing*, 2015, DOI: 10.1109/TCC.2015.2457416
39. G. Mali, **S. Misra**, "TRAST: Trust-based Distributed Topology Management for Wireless Multimedia Sensor Networks", *IEEE Transactions on Computers*, DOI: 10.1109/TC.2015.2456026, July 2015.
40. S. Chatterjee, R. Ladia, **S. Misra**, "Dynamic Optimal Pricing for Heterogeneous Service-Oriented Architecture of Sensor-cloud Infrastructure", *IEEE Transactions on Services Computing*, 2015, DOI: 10.1109/TSC.2015.2453958.
41. A. Mandal, **S. Misra**, T. Ojha, M. K. Dash, M. S. Obaidat, "Effects of Wind-induced Near-surface Bubble Plumes on the Performance of Underwater Wireless Acoustic Sensor Networks", *IEEE Sensors Journal*, 2015, DOI: 10.1109/JSEN.2015.2443012.
42. B. Saha, **S. Misra**, S. Pal, "Utility-based Exploration for Performance Enhancement in Opportunistic Mobile Networks", *IEEE Transactions on Computers*, 2015, DOI: 10.1109/TC.2015.2441700.
43. **S. Misra**, S. Goswami, C. Taneja, A. Mukherjee, M. S. Obaidat, "A PKI Adapted Model for Secure Information Dissemination in Industrial Control and Automation 6LoWPANs", *IEEE Access Journal*, Vo. 3, 2015, pp. 875-889.
44. **S. Misra**, S. Bera, T. Ojha, L. Zhou, "ENTICE: Agent-Based Energy Trading with Incomplete Information in the Smart Grid", *Journal of Network and Computer Applications (Elsevier)*, Vol. 55, September 2015, pp. 202–212.
45. N. Kumar, J. P. Singh, R. S. Bali, **S. Misra**, S. Ullah, "An intelligent clustering scheme for distributed intrusion detection in vehicular cloud computing", *Cluster Computing (Springer)*, Vol. 18, No. 3, 2015,



pp. 1263-1283.

46. P. Kar, **S. Misra**, "Detouring Dynamic Routing Holes in Stationary Wireless Sensor Networks in the Presence of Temporarily Misbehaving Nodes", *International Journal of Communication Systems (Wiley)*, 2015, DOI: 10.1002/dac.3009.
47. S. Moulik, **S. Misra**, M. S. Obaidat, "SMART-EVAC: A Big Data-based Decision Making System for Emergency Evacuation", *IEEE Cloud Computing*, May/June 2015, pp. 58-65 (Selected as "**Featured Article**").
48. **S. Misra**, A. Singh, S. Chatterjee, A. K. Mandal, "QoS-Aware Sensor Allocation for Target Tracking in Sensor-Cloud", *Ad Hoc Networks (Elsevier)*, Vol. 33, October 2015, pp. 140–153.
49. A. Mondal, **S. Misra**, M. S. Obaidat, "Distributed Home Energy Management System with Storage in Smart Grid Using Game Theory", *IEEE Systems Journal*, 2015, DOI: 10.1109/JSYST.2015.2421941.
50. **S. Misra**, P. V. Krishna, V. Saritha, H. Agrawal, A. V. Vasilakos, M. S. Obaidat, "Learning Automata based Fault-Tolerant System for Dynamic Autonomous Unmanned Vehicular Networks", *IEEE Systems Journal* (Manuscript ID: ISJ-RE-14-03204.R2; Accepted on March 24, 2015).
51. N. Kumar, **S. Misra**, N. Chilamkurti, J.-H. Lee, J. J. P. C. Rodrigues, "Bayesian Coalition Negotiation Game as a Utility for Secure Energy Management in a Vehicles-to-Grid Environment", *IEEE Transactions on Dependable and Secure Computing*, March 2015, DOI: 10.1109/TDSC.2015.2415489.
52. S. N. Das, **S. Misra**, "Correlation-Aware Cross-Layer Design for Network Management of Wireless Sensor Networks", *IET Wireless Sensor Systems*, UK (Manuscript ID: WSS-2014-0110.R1; Accepted on February 18, 2015).
53. L. Ferdouse, A. Alpanagan, **S. Misra**, "Congestion and Overload Control Techniques in Massive M2M Systems: A Survey", *Transactions on Emerging Telecommunications Technologies (Wiley)*, March 2015, DOI: 10.1002/ett.2936.
54. S. N. Das, **S. Misra**, "Event-Driven Probabilistic Topology Management in Sparse Wireless Sensor Network", *IET Wireless Sensor Systems*, UK, 2015, Vol. 5, No. 4, pp. 210–217.
55. S. Chatterjee, S. Sarkar, **S. Misra**, "Evacuation and Emergency Management Using a Federated Cloud", *IEEE Cloud Computing*, Vol. 1, No. 4, 2014, pp. 68-76.
56. **S. Misra**, S. Moulik, H.-C. Chao, "A Cooperative Bargaining Solution for Priority-based Data-rate Tuning in a Wireless Body Area Network", *IEEE Transactions on Wireless Communications*, Vo. 14, No. 5, 2015, pp. 2769-2777.
57. S. Sarkar, **S. Misra**, B. Bandyopadhyay, C. Chakraborty, M. S. Obaidat, "Performance Analysis of IEEE 802.15.6 MAC Protocol Under Non-ideal Channel Conditions and Saturated Traffic Regime", *IEEE Transactions on Computers*, Vol. 64, No. 10, 2015, pp. 2912–2925.
58. S. Bera, P. Gupta, **S. Misra**, "D2S: Dynamic Demand Scheduling in Smart Grid Using Optimal Portfolio Selection Strategy", *IEEE Transactions on Smart Grid*, Vol. 6, No. 3, May 2015, pp. 1434-1442.
59. N. Kumar, **S. Misra**, J. J. P. C. Rodrigues, M. S. Obaidat, "Coalition Games for Spatio-Temporal Big Data in Internet of Vehicles Environment: A Comparative Analysis", *IEEE Internet of Things Journal*, Vol. 2, No. 4, August 2015, pp. 310-320.
60. **S. Misra**, N. R. Kapri, B. E. Wolfinger, "Selfishness-Aware Target Tracking in Vehicular Mobile WiMAX

- Networks", *Telecommunication Systems (Springer)*, Vol. 58, No. 4, 2015, pp. 313-328.
61. A. Roy, P. Kar, **S. Misra**, M. S. Obaidat, "D3: Distributed Approach for the Detection of Dumb Nodes in Wireless Sensor Networks", *International Journal of Communication Systems (Wiley)*, 2015, DOI: 10.1002/dac.2913.
  62. A. Mondal, **S. Misra**, "Game-Theoretic Energy Trading Network Topology Control for Electric Vehicles in Mobile Smart Grid", *IET Networks*, UK, Vol. 4, No. 4, July 2015, pp. 220–228.
  63. B. Das, **S. Misra**, U. Roy, "Coalition Formation for Cooperative Service-based Message Sharing in Vehicular Ad Hoc Networks", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 27, No. 1, 2016, pp. 144-156.
  64. **S. Misra**, S. Goswami, C. Taneja, A. Mukherjee, "Design and Implementation Analysis of a Public Key Infrastructure-enabled Security Framework for Zigbee Sensor Networks", *International Journal of Communication Systems (Wiley)*, November 2014, DOI: 10.1002/dac.2893.
  65. N. Kumar, R. Iqbal, **S. Misra**, J. J. P. C. Rodrigues, "Bayesian Coalition Game for Contention-Aware Reliable Data Forwarding in Vehicular Mobile Cloud", *Future Generation Computer Systems (Elsevier)*, Vol. 48, July 2014, pp. 60-72.
  66. **S. Misra**, S. Chatterjee, M. S. Obaidat, "On Theoretical Modeling of Sensor-Cloud: A Paradigm Shift From Wireless Sensor Network", *IEEE Systems Journal*, 2014, DOI: 10.1109/JSYST.2014.2362617.
  67. N. Kumar, R. Iqbal, **S. Misra**, J. J. P. C. Rodrigues, "An Intelligent Approach for Building a Secure Decentralized Public Key Infrastructure in VANET", *Journal of Computer and System Sciences (Elsevier)*, Vol. 81, No. 6, 2015, pp. 1042-1058.
  68. N. Islam and **S. Misra**, "Collision Bottleneck Throughput in Bacterial Conjugation-based Nanonetworks", *IEEE Transactions on NanoBioScience*, Vol. 14, No. 1, 2015, pp. 112-120.
  69. N. Kumar, **S. Misra**, M. S. Obaidat, J. J. P. C. Rodrigues, B. Pati, "Networks of Learning Automata for Vehicular Environment: A Performance Analysis Study", *IEEE Wireless Communications*, Vo. 21, No. 6, 2014, pp. 41-47.
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  71. R. P. Barnwal, S. Bharti, **S. Misra**, M. S. Obaidat, "UCGNet: Wireless Sensor Network-Based Active Aquifer Contamination Monitoring and Control System for Underground Coal Gasification", *International Journal of Communication Systems (Wiley)*, October 2014, DOI: 10.1002/dac.2852
  72. **S. Misra**, M. Khatua, "Semi-Distributed Backoff: Collision-Aware Migration from Random to Deterministic Backoff", *IEEE Transactions on Mobile Computing*, 2014, DOI: 10.1109/TMC.2014.2341613.
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75. S. Chatterjee and **S. Misra**, "Target Tracking Using Sensor-Cloud: Sensor-Target Mapping in Presence of Overlapping Coverage", *IEEE Communication Letters*, Vol. 18, No. 8, 2014, pp. 1435-1438.
76. **S. Misra**, P. V. Krishna, V. Saritha, H. Agarwal, A. Ahuja, "Learning Automata-based Multi-constrained Fault-Tolerance Approach for Effective Energy Management in Smart Grid Communication Network", *Journal of Network and Computer Applications (Elsevier)*, Vol. 44, September 2014, pp. 212–219.
77. N. Kumar, **S. Misra**, M. S. Obaidat, "Collaborative Learning Automata-Based Routing for Rescue Operations in Dense Urban Regions Using Vehicular Sensor Networks", *IEEE Systems Journal*, DOI: 10.1109/JSYST.2014.2335451, 2014 (Manuscript ID: isj\_1969; Accepted on May 29, 2014).
78. **S. Misra**, S. Chatterjee, "Social Choice Considerations in Cloud-Assisted WBAN Architecture for Post-Disaster Healthcare: Data Aggregation and Channelization", *Information Sciences (Elsevier)*, Vol. 284, 2014, pp. 95-117.
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