

## ***Divakar Singh Yadav***

Professor

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**1. Full Name** Divakar Singh Yadav

**2. Nationality** Indian

**3. Address for Communication**

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**4. Administrative Assignments:**

- ❑ Director, Rajkiya Engineering College, Banda. (21 Jan 2015- 20 Jan 2018)
- ❑ Director, Bundelkhand Institute of Engineering & Technology, Jhansi (02 April 2016- 23 Dec 2016) (additional charge)
- ❑ Pro. Vice Chancellor, Uttar Pradesh Technical University, Lucknow ( 8 March 2013 – 02 December 2014)
- ❑ Chairperson, Department of Computer Science, Faculty of Mathematics and Computer Science, South Asian University (A university established by SAARC Nations), Akbar Bhawan, Chanakyapuri, New Delhi (July 2012- March 2013)
- ❑ Assistant Dean of Student Welfare, South Asian University (A university established by SAARC Nations), Akbar Bhawan, Chanakyapuri, New Delhi (Sept 2011- Mar 2013)
- ❑ Head, Department of Computer Science and Engineering, IET Lucknow (Aug.2003–Oct.2004)
- ❑ Head, Department of Computer Science and Engineering, IET Lucknow (Oct.2010 – July.2011),
- ❑ Training and Placement Cell, Institute of Engineering and Technology, Lucknow (Aug 2008- Jul 2011)

## 5. Educational Qualifications:

DEGREE	SUBJECT	BOARD / UNIVERSITY	YEAR / CGPA / DIVISION
Ph.D.	Computer Science	University of Southampton, Southampton, U.K.	2004-2007 Awarded
M.Tech.	Computer Science & Engineering	Indian Institute of Technology (IIT), Kharagpur, India	1996-1997 8.67/10, First
B.Tech.	Computer Engineering	G B Pant University of Agriculture & Technology, Pantnagar, India	1985-1989 4.05/5.0, First
Intermediate (10+2)	PCM Group	U P Board, Allahabad, India	1984 65.6 %, First
High School (10)	Science, Math Group	U P Board, Allahabad, India	1982 65.%, First

## 6. Employment History

Designation	Organization	From	To
Professor	Institute of Engineering & Technology, Lucknow	June 2009	Contd.
Associate Professor	Institute of Engineering & Technology, Lucknow	June 2006	June 2009
Assistant Professor	Institute of Engineering & Technology, Lucknow	June 2003	June 2006
Lecturer (Senior Grade)	Institute of Engineering & Technology, Lucknow, 226021 UP India	Mar 1998	June 2003
Lecturer	Institute of Engg & Technology, Lucknow, 226021 UP India	Jan 1992	Mar 1998

## 7. Awards / Membership/ Project:

### 7.1. Awards

- Commonwealth Scholarship Award (2004-2007), offered by Commonwealth Scholarship Commission in the United Kingdom, London.
- Young Scientist Award (2003) of Government of Uttar Pradesh for year 2002-2003 under "Science Awards-2002-2003" announced by Council of Science and Technology, Department of Science & Technology, Government of Uttar Pradesh, Lucknow.

- ❑ Distinguished Author Award (2008) of The Federation of Educational Publishers in India, India Education Conference-2008, 1 Dec. 2008, India Habitat Centre, New Delhi.
- ❑ College Merit Certificate (1989) for UG studies at G. B. Pant University of Agriculture and Technology, Pantnagar, UP India.

## **7.2. Reviewer / Membership (Past & Present)**

- ❑ Member, Executive Council, Rajiv Gandhi Prodyogiki University (RGPV), Bhopal.
- ❑ Member, Advisory Committee (Information Technology), Council of Science & Technology, Government of Uttar Pradesh.
- ❑ Member, Executive Council, Uttar Pradesh Technical University, Lucknow.
- ❑ Member, Academic Council, Uttar Pradesh Technical University, Lucknow
- ❑ Member, Academic Council, South Asian University, (A university jointly established by SAARC Nations), Chanakapuri, New Delhi.
- ❑ Member, Board of Studies, Computer Science, South Asian University (A university jointly established by SAARC Nations), New Delhi.
- ❑ Member, University Admission Committee, South Asian University, New Delhi.
- ❑ Member, Standing Advisory Committee, South Asian University, New Delhi.
- ❑ Member, Board of Studies, Computer Science, Gautam Buddha Technical University, (Formerly UP Technical University), Lucknow
- ❑ Member, TPC and Advisory Committee, Intl conf on Data, Engineering and Application, IDEA-2K17, Springer-Verlag, 28-29 Oct, 2017.
- ❑ Organizing Secretary, International workshop on Data and Text Analytics (08 December 2014- 13 December 2014) jointly by South Asian University, New Delhi and U P Technical University, Lucknow.
- ❑ Member, Editorial Board, Journal of Computer Technology and Application.
- ❑ Member, Technical Program Committee, Second International Conference on Data Analytics (Data Analytics 2013), September, 2013, Porto, Portugal
- ❑ Member, Technical Program Committee, The First International Conference on Data Analytics (Data Analytics 2012), September 23-28, 2012 - Barcelona, Spain
- ❑ Member, Program Committee, 2<sup>nd</sup> Intl. Workshop on Data Mining with Graphs and Matrices (WDGM'11), August 29 - September 2, 2012, Toulouse, France
- ❑ Member, Program Committee, 3<sup>rd</sup> International Conference on Computer and Communication Technology (ICCCT 2012),IEEE, Nov 23-25, 2012, NIT Allahabad.
- ❑ Reviewer, Formal Aspects of Computing(J), Springer-Verlag, London
- ❑ Member, Technical Program Committee, International Multi-topic Conference, (IMTIC'12) Mehran University, 28-30 march 2012, (Proc. In CCIS Springer Verlag)
- ❑ Workshop Co-Chair, Workshop on Data Mining with Graphs and Matrices (WDGM'10), July 30, 2010, Tiruchirappalli, India. ( Proc. in Vol 6411 of Lecture Notes in Computer Science, Springer Verlag )

- ❑ Member, Advisory Committee, International Conference on Artificial Intelligence and Soft Computing, 7-9 December 2012, IIT BHU.
- ❑ Reviewer, 2012 IEEE Conference On Control, Systems & Industrial Informatics (ICCSII 2012), Hyatt Hotel, Bandung, Sept 23-26, 2012, Indonesia.
- ❑ Reviewer, IEEE Symposium on Industrial Electronics and Application, (ISIEA 2012), Bandung, Sept 23-26, 2012, Indonesia
- ❑ Member, National Advisory Committee, 3<sup>rd</sup> IEEE International Advance Computing Conference, Feb 22-23, 2013, India
- ❑ Member, International Advisory Committee, Confluence 2012, 27-28 Sept 2012, Amity University, Noida
- ❑ Member, Program Committee, 2<sup>nd</sup> International Conference on Computer and Communication Technology (ICCCT 2011), IEEE, Sept 15-17, 2011, NIT Allahabad.
- ❑ Reviewer, IEEE Symposium on Wireless Technology & Application, (ISWTA 2012), Bandung, Sept 23-26, 2012, Indonesia
- ❑ Member, Program Committee, National Conf. on Research and Development Trends in ICT, Feb 12-13, 2010, University of Lucknow. U.P.
- ❑ Member, Program Committee, First International Multi-topic Conference, (IMTIC 2008), April 11-12, 2008 Jointly organized By Mehran University and Aalborg University Esbjerg, Denmark. (Proceedings in CCIS, Springer Verlag)
- ❑ Reviewer, Methods, Models and Tools for Fault Tolerance, Volume 5454 of Lecture Notes in computer Science, Springer-Verlag, Berlin-Heidelberg, 2009.
- ❑ Reviewer, Workshop on Methods, Models and Tools for Fault Tolerance (MeMoT 2007) , July 3, 2007, Oxford, UK.
- ❑ Reviewer, Workshop on Rigorous Engineering of Fault-Tolerant Systems (REFT 2005), July 19, 2005, Newcastle upon Tyne, UK.
- ❑ Reviewer, Rigorous Development of Complex Fault-Tolerant Systems, Volume 4157 of Lecture Notes in computer Science, Springer-Verlag, Berlin-Heidelberg 2006.
- ❑ Reviewer, Integrated Formal Methods, Volume 4591 of Lecture Notes in computer Science, Springer-Verlag, Berlin-Heidelberg 2007.
- ❑ Reviewer, Mc Millan, Pearson Education and Tata-McGraw Hill.
- ❑ Member, International Association of Engineers, Hong Kong, IAENG, Membership No. 102791.

### **7.3. Research Supervision:**

- ❑ Ph.D. : 04 (Awarded), 04 (In Progress)
- ❑ M.Tech/M.S. : 15 (Awarded), 02 (In Progress)

#### **7.4. Ph.D. Supervision (Awarded):**

1. Sanjay Kumar (2014), Replication control protocols for distributed databases, Sam Higginbottom Institute of Agriculture, Science and Technology, Allahabad.
2. Raghuraj Singh Suryavansi (2015), Verification of Protocols for replicated databases: understanding issues in Group Communication, Data Management and Fault Tolerance, Uttar Pradesh Technical University, Lucknow.
3. Girish Chandra (2015), Formal Development of Trustworthy Electronic Payment Systems, Uttar Pradesh Technical University, Lucknow.
4. Arun Kumar Singh (2015), Formal Specifications and Verification of Routing Protocols in MANET, Uttar Pradesh Technical University, Lucknow.

#### **8. Publications :**

##### **8.1 Text Books**

1. D.S. Yadav, "Foundations of Information Technology", 506 pages, 3rd Edition, New Age International Publishers (Formerly Wiley Eastern), New Delhi, 2001. ISBN : 81-224-1490-7.
2. D. S. Yadav, R Khanna, "Computer Concepts and Programming in C", 517 pages, New Age International Publishers (Formerly Wiley Eastern), New Delhi, 2008. ISBN: 978-81-224-2571-0.
3. D. S. Yadav, Girish Chandra, N Chelmaiah, "Information Technology and Numerical Methods" 384 Pages, New Age International Publishers (Formerly Wiley Eastern), New Delhi, 2008. ISBN : 978-81-224-1423-3.
4. D. S. Yadav, A. K. Singh, "Microcontrollers: Features and Application", 282 pages, New Age International Publishers (Formerly Wiley Eastern), New Delhi, 2006, ISBN : 978-81-224-1811-8.

##### **8.2. Thesis / Dissertations**

5. D.S.Yadav, "Rigorous Design of Distributed Transactions", PhD Thesis, Dependable Systems and Software Engineering research group, School of Electronics and Computer Science, University of Southampton, UK, 2008.  
Thesis Supervisor : Prof. Michael Butler, University of Southampton, U.K.  
Thesis Examiner: Prof. Alexander Romanovsky, University of Newcastle, U.K.
6. D.S.Yadav, "Performance Analysis of Long-lived Cooperative Transactions in Active Database Management Systems", M.Tech Thesis, Department of Computer Science and Engineering, Indian Institute of Technology (IIT), Kharagpur, 1997.  
Thesis Supervisor: Prof. A K Majumdar, IIT, Kharagpur.  
Co-Supervisor: Dr. P. Kangsabanik, IIT Kharagpur.

### **8.3. Journals Articles/Chapters/Technical Reports:**

7. Bal Krishna Saraswat, Raghuraj Suryavanshi, D.S. Yadav,” A Comparative Study of Checkpointing algorithms for distributed systems”, International Journal of Pure and Applied Mathematics,118(20):1595-1603, 2018, ISSN 1314-3395
8. Heeralal and Divakar Yadav, “ICT in Governance; Study of ICT Projects in governance in India”, International Journal of Academic Research and Development”, 2(2):110-115, ISSN: 2455-4197, March 2017.
9. Sanjay Kumar, Gurmit Singh and Divakar Yadav, “Analysis of a Database Replication Algorithm under load sharing in network”, Journal of Engineering Science and Technology, (11)2 :193-211 (2016). ISSN: 1823-4690
10. Girish Chandra and Divakar Yadav, “Formal Development of Basic Timestamp Concurrency Control Mechanism using Event-B”, International Journal of Computer Application, 123(8):7-11, 2015. ISBN: 973-93-80888-85-9, Foundation of Computer Science (FCS), New York, USA.
11. Singh, A.K, Divakar Yadav and V K Singh, “Formal development of path discovery in AODV Routing Protocol using Event-B”, International Journal of Computer Applications (IJCA), volume 124(5):24-30, 2015 Published by Foundation of Computer Science (FCS), NY, USA. ISBN: 973-93-80889-00-2.
12. Girish Chandra, Raghuraj Suryavansi and Divakar Yadav, “Formal verification of Distributed Checkpointing using Event-B”, International Journal of Computer Science and Information Technology (IJCSIT), 7(5):59-73, DOI:10.5121/ijcsit.2015.7504 October 2015. ISSN :0975-4660
13. Singh, A.K. and Divakar Yadav, “Formal specifications and verification of total order broadcast through destination agreement using Event-B”, International Journal of Computer Science and Information Technology, 7(5): 85-95, DOI:10.5121 /ijcsit.2015.7506, October 2015. ISSN :0975-4660
14. Singh, A.K, Divakar Yadav and V K Singh., “Modeling of DSDV Routing Protocol for Ad Hoc networks Using Event-B”, International Journal of Computer Engineering & Technology (IJCET), 5(2):108-116, 2014. ISSN : 0976 – 6367
15. Sanjay Kumar, Gurmit Singh and Divakar Yadav,“Analysis of Database Replication Algorithm in Local and Global Networks”, International Journal of Computer Applications 84(6):48-54, December 2013, New York, USA. ISBN: 973-93-80879-26-7
16. Sanjay Kumar, Gurmit Singh and Divakar Yadav,“Throughput and Delay Analysis of Database Replication Algorithms” International Journal of Modern Education and Computer Science (IJMECS), 5(12):47-53, 2013. ISSN:2075-0161

17. Sanjay Kumar, Gurmit Singh and Divakar Yadav, "Mathematical Framework for a Novel Database Replication Algorithm," International Journal of Modern Education and Computer Science (IJMECS), 5(9):1-10, 2013, ISSN:2075-0161
18. N Phulmare, P Chakravorty and Divakar Yadav, "Understanding and Estimation of Emotional Expression using acoustic analysis of natural speech", International Journal on Natural Language Computing (IJNLC), 2(4):37-46, 2013. ISSN:2278-1307
19. Girish Chandra and Divakar Yadav, "Verification of Money Atomicity in Digital cash based Payment Systems", Information System Security, Lecture Notes in Computer Science, Volume 7671 of LNCS, pp 249-264, Springer-Verlag, Berlin-Heidelberg, 2012.
20. Raghuraj Suryavansi and Divakar Yadav, "Rigorous design of Lazy Replication System Using Event-B", Contemporary Computing, Communications in Computer and Information Sciences(CCIS), Volume 306, pp 407-418, Springer-Verlag, Berlin-Heidelberg, 2012
21. Raghuraj Suryavansi and Divakar Yadav, "Rigorous Design of Partition-Aware Total Order Broadcast System using Event-B", International Journal of Computer Applications 26(8):35-39, New York, 2011. ISBN: 978-93-80864-34-9.
22. Divakar Yadav, Michael Butler, "Formal Development of a Total Order Broadcast for Distributed Transactions using Event-B", Method, Models and Tool for Fault-Tolerance, Lecture Notes in Computer Science, Vol. 5454 of LNCS, pp 152-176, Springer-Verlag, Berlin-Heidelberg, 2009. ISSN : 0302-9743
23. Girish Chandra, Divakar Yadav, "Analyzing Data Flow in Trustworthy Electronic Payment Systems using Event-B", Data Engineering and Management, Lecture Notes in Computer Science, Volume 6411 of LNCS, pp 325-332, Springer-Verlag, Berlin-Heidelberg, 2010. ISSN 0302-9743
24. Raghuraj Singh, Divakar Yadav, "Formal Development Of Byzantine Immune total order broadcast system using Event-B", Data Engineering and Management, Lecture Notes in Computer Science, Volume 6411 of LNCS, pp 317-324, Springer-Verlag, Berlin-Heidelberg, 2010. ISSN 0302-9743
25. Divakar Yadav, Michael Butler, "Verification of Liveness Properties in Distributed Systems", Communications in Computer and Information sciences (CCIS), Vol 40, pp 625-636, Springer-Verlag, Berlin-Heidelberg, 2009. ISSN : 1865-0929
26. J Pandey, S Joshi, D S Yadav, " ANN Based Crop Yield Forecasting Model Using Remote Sensing and Surface Parameters", International journal of Emerging Technologies and Applications in Engineering, Technology and Sciences, 2(2) : 724-727, India, 2009. ISSN: 0974-3588



27. Michael Butler, Divakar Yadav, "An incremental development of the Mondex System in Event-B", *Formal Aspects of Computing (J)*, Springer-Verlag, London, 20(1): 61-77, 2008. ISSN : 0934-5043
28. P Kangsabanik, D S Yadav, R Mall, A K Majumdar, "Performance Analysis of Long-Lived Cooperative Transactions in active DBMS", *Data and Knowledge Engineering (J)*, Elsevier B.V Amsterdam, 62(3) : 547-577, 2007. ISSN: 0169-023X
29. Divakar Yadav, Michael Butler, "Rigorous Design of Fault-tolerant Transactions for Replicated Databases", Final Report on Methodology, European Union IST project 511599, RODIN Deliverable D29 (Public Document), Editors CB Jones, MJ Butler, E Troubitsyana, A Rezazadeh, pp 31-33, 30 October 2007, Newcastle upon Tyne, UK
30. Divakar Yadav, Michael Butler, "Formal Specifications and Verifications of Message Ordering Properties in a Broadcast System using Event B", Technical Report, School of Electronics and Computer Science, University of Southampton, 2007.
31. Divakar Yadav, Michael Butler, "Rigorous Design of Fault-Tolerant Transactions for Replicated Database System using Event-B", *Rigorous Development of Complex Fault Tolerant Systems*, volume 4157 of Lecture Notes in Computer Science (LNCS), pp 343-363, Springer-Verlag, Berlin Heidelberg, 2006. ISSN : 0302-9743
32. Divakar Yadav, Michael Butler, "Development of Distributed Transaction in Event-B", Intermediate Report on Methodology, European Union IST project RODIN Deliverable D19 (Public Document), Editor Cliff Jones, pp 58-65, August 2006., Newcastle upon Tyne, UK.
33. D S Yadav, V S Yadav, RC Saraswat, "Maintaining Legal Requirement of Digital Signature through public key cryptographic system", *IETE Journal of Education*, New Delhi, Vol 44, No 3, pp. 131-142 , July -Sep 2003 , ISSN : 0970-1664.

#### **8.4 Refereed Conference Proceedings**

34. P Bahadur and Divakar Yadav, "Computer Forensics: Digitized Science", 2015 SAI Intelligent Systems Conference (IntelliSys 2015), 10-11 Nov 2015, London, U.K. In Proc. IEEE Digital Library DOI: 10.1109/IntelliSys.2015.7361269
35. Sunil Kumar, D S Yadav, "Analysis of lane detection techniques using open CV", 2015 Annual IEEE India Conference (INDICON), In Proc. IEEE Digital Library, pp 1-4, 17-20 Dec. 2015, Delhi, DOI: 10.1109/INDICON.2015.7443166
36. N Singh, M Chandra, D Yadav, "Formal Specifications of Asynchronous checkpointing using Event-B", 2015 International Conference on Advances in



- Computer Engineering and Applications, In Proc. IEEE Digital Library, 19-20 March 2015, DOI: 10.1109/ICACEA.2015.7164773.
37. Subodh Kumar, Girish Chandra, Divakar Yadav, "Formal Verification of Security Protocol using B Method", Proc. 5<sup>th</sup> IEEE Intl. Conference on Computer and Communication Technology (ICCCT-2014), 26-28 Sept 2014, Allahabad, IEEE Digital Library, pp 161-167, ISBN : 978-1-4799-6757-5, 2014.
  38. Raghuraj Suryavanshi and Divakar Yadav, "Modeling of Distributed Mutual Exclusion System Using Event-B" in Third International Conference on Computer Science and information (CCSIT-2013), Jan Zizka Editor, Computer Science & Information Technology (CS & IT), pages 477-491, LNI CST, Springer, Bangalore, 2013
  39. Raghuraj Suryavanshi and Divakar Yadav, "Modeling of Multiversion Concurrency Control System Using Event-B", FEDCSIS 2012, Sept 9-12, 2012, Wroclaw, Poland. IEEE Digital Library, ISBN 978-83-60810-48-4, 2012.
  40. Nilima Phulmare, Divakar Yadav, "Rigorous Analysis of Byzantine Causal Order Using Event-B", ICWET 2010, ACM New York, ACM Digital Library, ISBN : 978-1-60558-812-4, 2010.
  41. Raghuraj Singh, Divakar Yadav, "Formal Development of Lazy Replication System Using Event-B", In Proc Nat. Conf. Research and Development Trends in ICT, RDICT-2010, University of Lucknow, 12-13 Feb 2010.
  42. Divakar Yadav and Michael Butler, "Formal Development of Fault Tolerant Transactions for a replicated Database using Ordered Broadcasts", In Proc. of Workshop on Methods, Models and Tools for Fault Tolerance, MeMoT 2007, pp 33-42, 3 July 2007, Oxford, UK
  43. Divakar Yadav, "Rigorous Design of Distributed Transactions for Replicated Database System using Event B", (Poster), Post Graduate Research Showcase, School of Electronics and Computer Science, University of Southampton, December 2006, UK
  44. Divakar Yadav, "Knowledge Transfer", Commonwealth Scholarship News, Commonwealth Commission, Issue 2, November 2006, London, U.K.
  45. Divakar Yadav and Michael Butler "Formal Development of Distributed Transactions for Replicated Databases using Event B", Dagstuhl Seminar Number 06121, 'Atomicity : Unifying concept in computer science', Seminar Report, Editors CB Jones, D Lomet, A Romanovsky, G Weikum, Schloss Dagstuhl - Leibniz-Zentrum für Informatik GmbH, Dagstuhl, 19.3.2006 - 24.3.2006, Germany.
  46. Divakar Yadav, Michael Butler, "Application of Event-B to Global causal Ordering for Fault-Tolerant transactions, In Proc. of Workshop on Rigorous

- Engineering of Fault Tolerant Systems, REFT-2005, pp 93-103, 19 July 2005, University of Newcastle, Newcastle upon Tyne, U.K.
47. D S Yadav, Rajeev Agrawal, A K Majumdar, "Modeling long duration transaction with time constraints in Active Database", International Conference on Information Technology : Coding and Computing, ITCC 2004, Volume-1, IEEE Computer Society , PP 497-501, April 5-7, 2004, Las Vegas, Nevada, USA. ISBN: 0-765-2108-8.
  48. D.S. Yadav, Rajeev Agrawal, R.C. Sarswat, "Analysis of Cooperation Semantics for Transaction Processing with Full and Partial Aborts in Active Database", Proceedings 4<sup>th</sup> IEEE International Pacific Rim Conference on Multimedia, Information, Communication and Signal Processing, IEEE ICICS/PCM-2003, Singapore, 18-20 December 2003, ISBN:0-7803-8186-6
  49. D.S. Yadav, R.C. Sarswat, G. Chandra, R. Agrawal, "An approach to reduce resource contention while scheduling time constrained long running activity in Active Database System",5th International Workshop on Computer & Information Technologies ,CSIT 2003, 16-18 Sept 2003 ,Ufa , Russia, In Proceeding , Vol 1 , pp 162-166 , Russia. ISBN : 5-86911-420-9
  50. S. Agrawal, B.N. Mishra, D.S. Yadav, G. Chandra, R. Goel, S. Misra, A.K. Khare, "Recent Trends in Drug Design: A Bioinformatics Approach", 5th International Workshop on computer & Information Technologies ,CSIT 2003, 16-18 Sept 2003, Proceedings , Vol 1 , pp 49-53, Ufa , Russia. ISBN : 5-86911-420-9.
  51. D S Yadav, S K Shukla,"Technical and Legal Aspects of Digital Signatures", Proc. National Conference on advancement in Information Technology and Management", AIM -2002, Dehradun, India, Feb 2002.
  52. D S Yadav, S S Soam, S K Bajpai , "On Concurrency Control Mechanism to achieve parallism in Real Time Transaction Databases", Proc. National Conference on advancement in Information Technology and Management", AIM 2002, Dehradun , India, Feb 2002.
  53. DS Yadav, AK Majumdar, RC Saraswat, DS Chauhan," Towards a Model of Concurrency to achieve Temporal Consistency in Long Duration Transaction Processing in Real Time Active Database System", In Proc. 3rd International Conference on Information, Communication and Signal Processing (ICICS 2001), 15-18 Oct 2001, Singapore, ISBN : 981-04-5149-0
  54. D S Yadav, S S Soam ,S K Bajpai , "An Elegant way to Achieve Parallelism in Real Time Transaction Databases" In Proc. National Conference on Data Communication ( NCDC-2000), 7-8 April 2000 , Chandigarh , India.
  55. D S Yadav , "Digital Signatures", PWD Annual Review 2000, Government of UP, Lucknow, India.

56. D S Yadav, P Kangasabanik, A K Majumdar, "Scheduling Long Duration Transaction in Real Time Active DBMS", ICICS'99, 2nd Intl. Conf. On Information, Communication & Sig. Processing, 7-10 Dec 1999, Singapore.
57. D S Yadav, "An Execution Model for Long Duration Transaction Processing in Active Database Management System" VII Annual Conference of Vijnana Parishad of India, Lucknow ,15-17 Dec 1998.
58. D S Yadav, S K Bajpai," A Model for Transaction Scheduling & Concurrency Control in Real Time Database System "VII Annual Conference of Vijnana Parishad of India, Lucknow,15-17 Dec 1998.
59. D. S. Yadav, Onkar Singh ,"Real Time Query Processing in Distributed System", Proc. National Symposium on Computer Applications in Engineering & Technology ,ReTCA'96, March 8-9,1996, PP 49-57 Punjab , India 1996.

#### **9. Workshop/Seminars presentations and Invited Lecture (Abroad)**

1. "Modeling of Multiversion Concurrency Control System Using Event-B", Federated Conference on Computer Science and Information Systems 2012, Sept 9-12, 2012, Wroclaw, Poland.
2. "Formal Development of Fault Tolerant Transactions for a Replicated Database using Ordered Broadcasts", Methods, Models and Tools for Fault Tolerance (MeMoT 2007), July 3, 2007, Oxford, UK.
3. "Formal Development of Fault Tolerant Transactions for Replicated Database using Ordered Broadcasts" Group Seminar, Dependable Systems & Software Engineering research group, School of Electronics and Computer Science, University of Southampton, UK, 14 May 2007.
4. "Incremental development of Mondex using Event-B", Mondex case study workshop, 4th VSR-net meeting, 5-6 October 2006, University of York, Yorkshire, UK. (The meeting was a part of Grand Challenge 6 on dependable systems evolution set by UK Computing Research Council.)
5. "Knowledge Transfer at Grass Root Level", Seminar on making university research work for poor, A seminar held at the University of the West of England, Bristol, UK, 16th - 17th September 2006.
6. "Incremental development of Mondex using Event-B", Mondex case study workshop, 3rd VSR-Net(Verified Software Repository) meeting, Cosener's House,25-26 May 2006, Abingdon, Oxford, UK. (Presented by Professor Michael Butler )
7. "Incremental Development of Distributed Transaction in Event-B", RefineNet Workshop, May 4-5, 2006, Chilworth Manor, Southampton, UK.
8. "Formal Specifications of Distributed Transactions using Event-B", Group Seminar, DSSE research group, School of Electronics and Computer Science, University of Southampton, UK , 15 March 2006.

9. "Formal Development of Distributed Transactions using Event-B", Dagstuhl Seminar Series no 06121 on 'Atomicity: Unifying concept in computer science', 19.3.2006 - 24.3.2006, Schloss Dagstuhl, Germany.
10. "Application of Event-B to Global Causal Ordering for Fault Tolerant Transactions", Rigorous Engineering of Fault Tolerant System (REFT2005), July 19, 2005, Newcastle upon Tyne, UK.
11. "Application of Event-B to Global Causal Ordering for Fault Tolerant Transactions", Group Seminar, DSSE research group, School of Electronics and Computer Science, University of Southampton, UK , 22 June 2005.
12. "Concurrency Control Schemes for Real Time Active Database System ", April 11, 2000, Invited Talk at Advanced Computing Research Center ,University of South Australia , Adelaide , Australia.
13. "Transaction Management in Real Time Active Database System", Invited Talk at Multimedia University, Kuala Lumpur, Malaysia. Apr 14, 2000.
14. "Capturing the business processes and their customization on AXAPTA 2.0: an Integrated ERP Tool", Sanomed Medizintechnik, Hamburg, Germany, 10 Dec, 1999.
15. "Transaction Processing in Active Database Management System", Sanomed Medizintechnik , Hamburg, Germany, Oct 3, 1998.

**10. Invited Lecture/Inaugural Address/Key Note/FDP Presentations( India)**

16. Key Note Address, "Rigorous Design of Dependable System", National Conference on Artificial Intelligence, Research, Innovations and Its Applications", (Sponsored by Springer & IET UK), Abstract In Proc CAIRIA 2019, 30-31 January 2019, Amity University, Lucknow. ISBN 978-93-5346-375-5.
17. Invited Lecture, Innovation and Start-Up summit 2019, 28-30 January 2019 at Government Medical College, Banda organized by Council of Science and Technology, Govt. of U.P.
18. One day workshop on social media and data breach, 28 April 2018, organized by UP Police, UP ATS Headquarters, Lucknow
19. Session Chair, Workshop on Digital India-Altering Landscapes, Smart Governance-Impact and implementation challenges, DIAL 2018, 08 December 2018, PNB IIT Auditorium, Lucknow organized by Computer Society of India.
20. Inaugural Address, All India Workshop on "Skill Development in Renewable Energy Sector", 4 March 2017, Institution of Engineers (India), UP State Centre, River Bank, Lucknow.
21. Session Chair, Workshop on Digital India-Altering Landscapes, Tracking the journey of Digitally empowered India, DIAL 2017, 9-10 December 2017, PNB IIT Auditorium, Lucknow organized by Computer Society of India.

22. Inaugural Address, International Seminar on Sources of Planet Energy, Environmental and Disaster Science (Speed 2016), 19-20 November 2016, SMS Lucknow.
23. Welcome Address as Director, BIET Jhansi, Faculty Development Program on Advances in Thermal Engineering, Sponsored by TEQIP-III, Convener, Prof. N P Yadav, 17-21 October 2016, Bundelkhand Institute of Engineering & Technology, Jhansi (U.P.)
24. Welcome Address as Director, BIET Jhansi, International Conference on Recent Trends in Electrical and Electronics Engineering, RTEECE 2016, Conference Chair Prof. D.C.Dhubkarya, Sponsored by TEQIP-III, 15-16 October 2016, Bundelkhand Institute of Engineering & Technology, Jhansi (U.P.)
25. Welcome Address as Director, BIET Jhansi, International Conference on Bio Medical Engineering & Supportive Technologies, BEST 2016, Conference Chair Prof. Shahnaj Ayub, Sponsored by TEQIP-III, 2-3 September 2016, Bundelkhand Institute of Engineering & Technology, Jhansi (U.P.)
26. Welcome Address as Director, BIET Jhansi, Faculty Development Program on Signal and Image Processing, SIP-2016, Convener Prof. Shahnaj Ayub, Sponsored by TEQIP-III, 18-22 July 2016, Bundelkhand Institute of Engineering & Technology, Jhansi (U.P.)
27. Key Note Address, "Seminar on Recent Trends in Engineering", Ansal Technical Campus, Lucknow, March 3, 2015
28. Inaugural Address, "National Seminar on Mobile Technology & Cloud Computing", In association with PHD Chambers of Commerce, New Delhi IMS Ghaziabad, 01 Nov 2014.
29. Inaugural Address, Workshop on Tourism, World Tourism Day, RBS Technical Campus, Agra, 27 Sept 2014.
30. Welcome Address as Pro Vice Chancellor, UPTU, Lucknow, Directors Conference, Uttar Pradesh Technical University, Lucknow, SGIT, Ghaziabad (07 March 2014)
31. Invited Talk, "Transactions in Banking", Maharana Pratap Engineering College, Kanpur, Feb 11, 2014.
32. Invited Lecture, "Rigorous Design of Distributed Transactions", 101th Indian Science Congress, University of Jammu, Jammu, Feb 3-7, 2014.
33. Inaugural Address, Two days Workshop on Matlab and its applications, Agra College, Agra (28 Feb-01 March 2014)
34. Key note address as Pro Vice Chancellor of Uttar Pradesh Technical University, Lucknow, "Vision2020:UPTU", Directors Conference, RGEC, Meerut. 21Feb, 2014.
35. Key Note Address, Workshop on Software Development and Recent Trends, Amity University, Lucknow, 26-27 Sept 2013.

36. Inaugural Address, 2nd Intl Conf on Emerging Trends in Intelligent Computing and Communication EICC-2013”, Galgotias College, Greater Noida, April 26-17, 2013.
37. ‘Rigorous Design of Dependable Software Systems’, Invited Talk, “National Workshop on Recent Trends in ICT”, SIT Mathura, 30 Sept 2012.
38. ‘Employment Opportunities’, Key Note, Workshop on Role of Training and Placement Cells in Universities, Univ. of Kanpur, Kanpur, 16 March 2012.
39. ‘Rigorous Design of Dependable Broadcast Systems”, Invited Lecture, National Seminar on Emerging Applications on Next generation Networks (IETE), January 23-34, 2010 Taj Residency, Lucknow.
40. ‘Development of Dependable Software Systems”, Invited Lecture, National Conference on Research and Development Trends in ICT, University of Lucknow, Lucknow, Feb 13,2010.
41. ‘Requirement Engineering’, Key Note, National Conference on Emerging Trends in Information/ Network Security (ETINS- 2010)”,Amity University, Lucknow Campus and Computer Society of India, Lucknow Chapter, 21st October, 2010.
42. ‘Recent Trends in Information Technology. Key Note, Techno-Quest 10, in association with Computer Society of India, Lucknow Christian College, Lucknow, 28 October 2010.
43. Session Chair,” Int. Conf. Data Engineering & Management” (Springer), ICDEM 2010, Bishop Heber, Tiruchirapalli, July 29-31, 2010.
44. “Formal Development of Distributed Systems using Event-B”, Invited Lecture, AICTE assisted Faculty Development Program(FDP) on Issue in Distributed Systems, 31 January 2009, Motilal National Institute of Technology, Allahabad, UP, India.
45. “Verification of Critical Properties in Transactional Information Systems”, Invited Lecture, Workshop and Faculty Development Program on RDBMS,19-26 Feb 2009, Ambedkar Institute of Technology for Handicapped, Kanpur UP, 23 Feb 2009.
46. “Verification of Ordering Properties in Broadcast Systems”, Invited Lecture, Faculty Development Program(FDP) under TEQIP on “Wireless Communication Technologies & Its Applications”, March 2-6,2009, College of Technology, G B Pant university of Ag. & Technology, Pantnagar, March 06, 2009.
47. “Challenges in Information and Communication Technology”, Key Note Address, National Conference, LBS Institute of Management and Development Studies, Lucknow, March 27,2009.
48. “Challenges in Information and Communication Technology”, Key Note Address, Students Symposia in Computing, SRM College of Engineering and Management, April 04, 2009.

49. "Verification and Validation of Requirements", Key Note, Faculty Development Program on Software Project Management, LBIMDS, Lucknow, 24 June 2009.
50. "Development of Reliable Software (A case study of Total Order Broadcast) ", Invited lecture, Seminar on Advancement in Computing and Technology, BBDNITM, Lucknow, Nov 14,2009.
51. "Broadcast Protocols for Business Critical Systems", Invited Lecture, AICTE Sponsored workshop on Information Security and Its applications, 02 Dec 2009, Indian Institute of Information Technology (IIIT), Allahabad.
52. "Blogging, Tweeting – Bane or Boon", Invited Lecture, IETE Foundation Day Celebration-2009, Lucknow, Institution of Electronics and Telecommunication Engineers, Lucknow Chapter, 12 Dec 2009.
53. "Specifying the programs and Requirements", key note address, Faculty development workshop on Java and its Application, Sagar Institute of Technology and Management, 9-11 July, 2008.
54. "Specifying dependable distributed system", Key Note Address, National Seminar on Distributed Computing and Network, Sponsored by AICTE, LBSIMDS, Navin Bhawan Auditorium, September 12, 2008, Lucknow.
55. "Information System Control ",Key Note, Seminar on 'Information System Control' organized by LBS Institute of Management Studies, Lucknow, India, March 20, 2004.
56. "Working together for IT Development", Meeting of Minds, Organized by Tata Consultancy Services, TCS New Delhi, 21 Feb 2014.
57. "Confirmation of Legal Requirement of Digital Signature ", Seminar and R & D Report of IET Lucknow, India, 2002.
58. "Issues in Real Time Database System ", Seminar, R&D Report of IET Lucknow, 2002.
59. "Technical & Legal aspects of Digital Signatures", International Workshop and Training Program on "Cyber Laws, Crimes and Intellectual Property Right "for Judicial Officers of SAARC Countries. Dec 1, 2001 - Dec,13,2001, Judicial Training & Research Institute , Lucknow, India.
60. "Issues in Real Time Database Design", Two Week Summer Course on "Foundations of Information Technology", July 2, 2001-July14, 2001, Academic Staff College, U P Technical University, Lucknow, India.
61. "Electronic Commerce", Key Note, National Seminar on "Emerging Trends in Information Technology", Regional Science Center, LBSIMS, Lucknow, Dec 15, 2001.
62. "Legal Issues in Digital Signature", Training Program of Judicial Officers of Govt. of Uttar Pradesh, May 25, 2001, Judicial Training and Research Institute, Lucknow.



63. "Word Processing & Management of Data", International Workshop and Training Program on "Cyber Laws, Crimes and Intellectual Property Right" for Judicial Officer of South Asian Countries, Jan 6 - Jan 18, 2001, Judicial Training & Research Institute, Lucknow.
64. "Internet Working", One week training program on " Basic Computer Awareness and Internet", Senior Officers of Trade Tax Department , Govt of UP , Institute of Management Development , Govt. of UP , Jun 7 , 2000.
65. "Interactive Session on E Commerce", One week training program on "Basic Computer Awareness and Internet", Senior Officers of Trade Tax Department, Govt. of UP, Institute of Management Development, Govt. of UP, Jun 8, 2000.

**11. Significant Contributions to Knowledge and Profession :**

- 11.1 As first and founder Director at Rajkiya Engineering College, Banda (2015-2018) appointed by the Government of Uttar Pradesh in Jan 2015, played a significant role in establishment of engineering institute with modern facilities for welfare of students, state of the art computing laboratories (250 nodes over LAN with state of the art servers), laboratories in Electrical Engineering department (15Nos), Mechanical Engineering (14Nos), Workshop with seven shops, state of the art Language Laboratory and RFID based Electronic Library. The institute is fully residential with full wifi access, LAN with optical fiber and 100 Mbps leased line connectivity and a virtual classroom. All electronic class rooms are equipped with modern teaching-learning assisted tools alongwith audio/visual and video conferencing facilities alongwith recreational activities such as Gymnasium, indoor sports, canteen and fully developed playground. An ERP for monitoring of various academic, administrative and financial activities has been fully implemented. First approval of the AICTE for all courses obtained within a year. In the second year of establishment the institute has been selected for World Bank assisted TEQIP-III by MHRD, Govt. of India.
- 11.2 As Pro-Vice Chancellor of Uttar Pradesh Technical University, Lucknow,(2013-14) supervised all academic, admissions UG, PG and Ph.D. level and chaired and formed all RDCs and BOSs. The major step to bring IT in governance, first online counseling for admission to student through UPSEE in 2013 was planned and executed successfully wherein approximately 1.5 lacks candidate participated. Unique measures to curb impersonation like fingerprints, photograph etc was introduced for first time in conduction of UP State Entrance Examination. We also introduced online counseling for M.Tech and PhD admission for first time in UPTU. We are also successful in getting MOUs with premier industrial players such as Intel, Microsoft, Auto Desk and organized training programs for benefit of students and faculty.

- 11.3 As Director of Bundelkhand Institute of Engineering & Technology, Jhansi (2016) a one of the premier fully residential engineering institute established by Government of Uttar Pradesh in 1986 over 270 Acre of land. As principal administrative and academic officer, supervised Work Bank assisted TEQIP program, AICTE accreditation activities and establishment of electronic classrooms, organization of conferences and FDP and resolved many perennial problems related with infrastructure Electricity, Water and Roads in addition to several steps for strengthening of academic ecosystem.
- 11.4 Participated in World Wide Grand Challenge on Dependable Systems Evolution (GC6) (2005-2008) instituted by the UK Computing Research Council (UKCRC), Engineering and Physical Research Council (EPSRC) and British Computer Society. This challenge was to achieve a significant body of verified programs that have precise specifications and machine-checked proofs of correctness. The first pilot project in the challenge was to mechanise the proof of correctness of the Mondex smart-card for electronic finance. Eight international research groups tackled the problem. Experience and research outcome of all international groups appeared in a special issue of prestigious computer science journal Formal Aspects of Computing published by British Computer Society and Springer-Verlag.
- 11.5 Participated in European Union IST project RODIN (2004-2007) (Rigorous Open Development Environment for Complex Systems), a joint research project of leading European universities and industrial partners from UK, Germany, Finland, France and Switzerland. The objective of the project was to develop a methodology and supporting open tool platform for the cost effective rigorous development of dependable complex software systems and services.
- 11.6 Participated in various knowledge dissemination activities to masses, professionals; and government and judicial officers relating IT awareness, systems, tools and practices by organizing workshops, training programs, tutorials, and talks.
- 11.7 Served as Project Coordinator (2009-2011), 'Virtualization of Technical Education', sponsored by Ministry of Communications and Information Technology (MCIT), (Project Outlay Rs 300.00 Lacks) Govt. of India. The main objective of the project is to create an infrastructure for IT enabled teaching and learning; and to provide quality technical education to the students studying at Institutions located in rural and remote areas in state of UP and Uttrakhand.

## **12 Current Research Interests**

- 12.1 *Software Verification and Validation*: Our current research focuses on development of methodologies for verification of software requirements at

design phase. It includes application of formal techniques for software system modelling, verification of critical properties, which leads to increase in the dependability and trustworthiness of software.

- 12.2 *Verification and Reasoning about distributed database systems using Event-B.* In modern commercial applications, data is usually replicated on different sites to improve performance. This involves use of various complex mechanisms for controlling and propagating changes. The design of such systems is usually complex and difficult to get right. In this line of work our emphasis is on developing an abstract understanding of distributed transactions and reasoning about the abstract view and the complex mechanisms found in distributed database designs.

### **13. Other Information on Professional Activities**

1. Visited Wroclaw University of Technology, Poland to participate in the conference FEDCSIS 2012. (09-12 Sept 2012).
2. Visited University Grant Commission, Colombo, Srilanka in relation to examination work of South Asian University, New Delhi. (24-29 May 2012).
3. Worked at School of Electronics and Computer Science, University of Southampton, UK on a commonwealth scholarship. (Sept 2004 – Feb 2008).
4. Visited University of Oxford, U.K. to participate in the workshop on Methods, Models and Tools for Fault Tolerance, July 3, 2007, Oxford, UK.
5. Visited Bristol Business School, University of West England, U.K. to participate in Seminar on making university research work for poor, University West England, Bristol , UK, 16th - 17th September 2006.
6. Participated in the workshop on Refinement Methods (RefineNet), May 4-5, 2006 at Chilworth Manor, Southampton, UK.
7. Visited Dagstuhl, Germany to participate in Dagstuhl Seminar Series no 06121 on 'Unifying concept in computer science', 19.3.2006 - 24.3.2006, Schloss Dagstuhl, Oktavie-Allee, 66687 Wadern, Germany.
8. Visited University of York, Yorkshire to participate in Mondex case study workshop, 4th VSR-net meeting, 5-6 October 2006, University of York, Yorkshire, UK.
9. Participated in 3rd VSR-net (Verified Software Repository) meeting, 25-26 May 2006, Cosener's House, Abingdon, Oxford, UK.
10. Visited University of Newcastle, U.K. to participate in workshop Rigorous Engineering Tolerant System July 19, 2005, Newcastle upon Tyne, UK
11. Visited Hamburg, Germany to deliver a talk in the symposium held in Hamburg, Germany in October 1998 on "Transaction Processing in Real Time Active Database Management System".

12. Visited Germany on invitation of a German Company Sanomed Medizintechnik , Hamburg , Germany during Nov 1999 - Jan 2000 for following jobs related with their ongoing project of automation of Business Processes.
  - Evaluation of Business Processes using Powerdesigner 6.2.
  - Integration with ERP product AXAPTA 2.1.
  - Customization the requirement using AXAPTA 2.1
13. Visited Multimedia University, Kuala Lumpur, Malaysia in April 2000.
14. Visited School of Computer & Information Science, University of South Australia, Adelaide in the month of April 2000 to discuss the research issues related with Transaction Processing in Real Time Active Database System and a talk on the subject, April 11, 2000.
15. Attended Microsoft .NET Curriculum workshop, 23-28 August, 2003 at Putra World Trade Center at Kuala Lumpur, Malaysia.
16. Organized Two Week Summer Course on "Foundations of Information Technology" July 2,2001 - July 14,2001 for academic staff of Engineering Colleges/Institutes affiliated to UP Technical University at KIET Ghaziabad under the aegis of Academic Staff College, U P Technical University, Lucknow.
17. Worked as Assistant Coordinator for Admission Committee, U P State Engineering Admission Test (Formerly Combined Entrance Examination) for four years in 1994, 1995, 1996 and 1999 conducted by Institute of Engineering & Technology, Lucknow.
18. Invitation as Session Chair, Database and Software Engineering for 3<sup>rd</sup> International Conference on Information , Communication and Signal Processing (ICICS 2001) , 15-18 Oct 2001 , Singapore. ( But I could not attend)
19. Served as Convener, Core Group of Computer Science & Information Technology, UP Technical University, Lucknow. (2001-2004).
20. Reproiteur,VII Annual Conf. of Vijnana Parishad of India, Lucknow ,15-17 Dec 1998.
21. Recipient of 'College Merit Certificate' for achieving academic standard in B.Tech, as prescribed by Academic Council, G B Pant University of Ag. & Technology, Pantnagar.
22. Certificate of Achievement awarded as Coach for ACM International Collegiate Programming Contest at IIT Kanpur for Asia Programming Contest 1999.
23. Served as External Examiner/Paper Setter with Allahabad University, Bundelkhand University, RML University, Faizabad, DDU University, Gorakhpur, Kanpur University, Purvanchal University, Jaunpur, Kumaon University, Nainital, Meerut University, University of Lucknow, BRA

- University, Agra ,U P Technical University ,Lucknow, REC Allahabad, IIT Allahabad and IITM Gwalior.
24. Head Examiner, Computer Science and Information Technology at U P Technical University, Central evaluation at Ghaziabad UP held on Apr 8- Apr 26, 2002.
  25. Head Examiner, Computer Science and Information Technology at U P Technical University, Central evaluation at Mathura held from Jan 24 – Feb 04, 2003.
  26. Member, Board of Studies, Computer Sc. & Engineering, UP Technical University, Lucknow. (2008-2011)
  27. Asst. Dean of Students, South Asian University, New Delhi. (Oct. 2011-March 2013)
  28. Member, Board of Studies, Faculty of Mathematics and Computer Science, South Asian University, New Delhi (2011- onwards)
  29. Coordinator, Modular M.Tech. program in Computer Science, Institute of Engineering and Technology, Lucknow (June 2008- July 2011)
  30. Served as member of several Expert Committees for affiliation of Institution, Counseling software verification etc. set up by UP Government, U P Technical University Lucknow.
  31. Organized “Regional Workshop on Scaling Higher Technical Education: Many Facets”,16-18 Feb 2009 at IET Lucknow jointly with Directorate of Employment and Training, Government of UP and Employment Information Bureau, U P Technical University, Lucknow.
  32. Organized one day Microsoft Faculty Development Workshop at UPTU Noida on June 5, 2009 where 128 faculty members from 52 institutions affiliated to UP Technical University attended the workshop.
  33. Organized one day Microsoft Faculty Development Workshop at IET Lucknow on June 9, 2009 where 66 participants from 28 institutions participated.

#### **14. Countries Visited:**

Australia, Belgium, France, Germany, Italy, Malaysia, Netherland, Poland, Russia, Sri Lanka, Switzerland, UK and USA.

**(Prof D S Yadav)**