Pankaj Jalote
Distinguished Professor
Indraprastha Institute of Information Technology Delhi (IIIT-Delhi)
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Education

- Ph.D., Computer Science, University of Illinois at Urbana-Champaign, October 1985.
- M.S., Computer Science, Pennsylvania State University, University Park, October 1982.
- B.Tech., Electrical Engineering, Indian Institute of Technology, Kanpur, India, May 1980.

Employment History

- Sept 2018 – current: Distinguished Professor, IIIT-Delhi.
- 2008 – 2018: Founding Director, IIIT-Delhi (www.iiitd.ac.in).
- 2014 – 2014: (6 months) Vice Chancellor (interim, additional charge), DTU, Delhi.
- 2006 – 2008: Microsoft Chair Professor, Dept of CSE, IIT Delhi, India
- 2003 – 2004: Visiting Researcher, Microsoft Co., Redmond, USA. (on leave from IITK)
- 1998 – 2002: Head of the Department, Dept of Computer Science and Engg., IIT Kanpur.
- 1996 – 1998: Vice President (Quality), Infosys, Bangalore (on leave from IIT Kanpur).
- 1989 – 2008: Professor (95 onwards), Assoc. Prof. (91-95), Asst. Prof. (89-91), Dept. of Comp. Sc. and Engineering; Indian Institute of Technology; Kanpur.
- 1985 – 1989: Asst. Professor; Dept Computer Science, University of Maryland, College Park, with joint Appt., UM Institute of Advanced Computer Studies (UMIACS).

Awards and Recognition

- Fellow, IEEE (Institute of Electrical and Electronics Engineers), 2003, "for contributions to software process, fault tolerant computing, and software engineering education".
- Fellow, INAE (Indian National Association of Engineering), 2011.
- Fellow, Computer Society of India (CSI), 2012.
- Fellow, Institution of Electronics and Telecommunications Engineers (IETE), 2002.
- Silver Jubilee Award for *Best Selling Author* by Narosa 2002 for *An Integrated Approach to Software Engineering.*
- Infosys Managerial Award, 1997-98, for spearheading the quality efforts.

Research Interests

Software Engineering (AI in Software Engineering, Open Source Software Engineering, Software process, Empirical Software Engineering, …), Higher Education (maintains a blog Higher Education in India: https://jalote.wordpress.com/)

Books

1. ***Building Research Universities in India***, SAGE, Nov 2020. The book is based on the experience of building IIIT-Delhi into a respected research university.
2. P. Jalote, *A Concise Introduction to Software Engineering*, Springer, 2008, Indian edition published by Wiley India.
3. P. Jalote, *An Integrated Approach to Software Engineering*, Springer, *Third Edition, 2005.* (*Indian Edition* by Narosa. Recognized as **best selling CS book** by Narosa in 2002.)

4. P. Jalote, ***Software Project Management in Practice**,* Addison Wesley, 2002 (*Low Priced Edition by Pearson India*, 2002, *French translation*, Sept 2002, *Chinese translation*, 2003.)
5. P. Jalote, ***CMM in Practice: Processes for executing software projects at Infosys,*** Addison Wesley, 1999. (*Low Priced Edition by Pearson India*, 2000, *Chinese translation*, Sept 2002, *Korean Translation*, Sept 2002, *Japanese Translation,* Oct 2002.)
6. P. Jalote, ***Fault Tolerance in Distributed Systems***, Prentice Hall , Englewoods Cliffs, NJ, ISBN: 0-13-301367-7, 1994.

Edited Volumes / Reports:
1. Proceedings of 13th Asia Pacific Software Engineering Conference (APSEC2006), IEEE Press, 2006.
2. Proceedings of 15th IEEE Requirements Engineering Conference (RE07), IEEE Press 2007 (with Alistair Sutcliffe)
3. Proceedings of 1st India Software Engineering Conference, ISEC2008, ACM Press 2008, (with Sriram Rajamani)
4. Proceedings of 1st India Software Engineering Conference, ISEC2009, ACM Press 2008, (with Sriram Rajamani)

Book Chapters:
1. P. Jalote, A. Palit, P. Kurien, "The Timeboxing process model for iterative software development", in *Advances in Computers,* 2004, Vol 62, pp 67-103.
2. P. Jalote, "Knowledge Infrastructure for Project Management", in *Managing Software Engineering Knowledge,* A. Aurum, R. Jeffery, et. al. (eds), Springer Verlag, 2004.

Articles in Refereed Journals
1. Jalote, P., Jain, B.N. & Sopory, S. Classification for research universities in India, *Higher Education* (2019). https://doi.org/10.1007/s10734-019-00406-3
2. Pankaj Jalote, India's quest for world-ranked universities, *Current Science*, Vol 116, No 9, May 2019 (General Article). https://www.currentscience.ac.in/Volumes/116/09/1479.pdf
A shorter version appeared in International Higher Education as "India's Research Universities and Global Rankings", No 99, Fall 2019, https://ejournals.bc.edu/index.php/ihe/article/view/11659/9723
3. Pankaj Jalote and Damodaram Kamma, Studying Task Processes for Improving Programmer Productivity, *IEEE Transactions on Software Engineering*, March 2019.
4. P. Jalote, B. Murphy, V. S. Sharma, Post-Release Reliability Growth in Software Products, *ACM Transactions on Software Engineering and Methodology,* Vol 17:4, Aug 2008.
5. P. Jalote, A.K. Mittal, R.G. Prajapat, On Optimum Size for Software Inspections, *International Journal of Reliability, Quality and Safety Engineering*, Vol. 14, No. 3 (June 2007) 283-295.
6. A. Gupta, P. Jalote, "An Approach for Experimentally Evaluating Effectiveness and Efficiency of Coverage Criteria for Software Testing", *Journal of Software Tools for Technology Transfer (STTT),* 2008.
7. P. Jalote, R. Munshi, T. Probsting, "The when-who-how analysis of defects for improving the quality control process" *Journal of Systems and Software,* Vol 80(4), pp 584-589, Apr 2007.
8. P.Jalote, G.Jain, "Assigning tasks in 24-hour software development model", *Journal of Systems and Software,* 2006, vol 79, 904-911.
9. D. Sanghi, P.Jalote, et. al. "A testbed for performance evaluation of load balancing strategies for web server systems", *Software Practice and Experience,* 2004, 34:339-353.
10. R. Jain, S. Kumar, P. Jalote, S.Biswas, "An Interactive Method for Extracting Grammar from Programs", *Software Practice and Experience,* 2004, 34:433-447.

11. P. Jalote, A. Palit, P. Kurien, V.T. Peethamber, "Timeboxing: A process model for iterative software development", *Journal of Systems and Software*, 70 (2003):117-127.
12. P. Jalote and A. Saxena, "Optimum control limits for employing statistical process control in software processes", *IEEE Transactions on Software Engineering,* Vol 28:12, pp. 1126-1134, Dec 2002.
13. P. Jalote, "Use of Metrics in High Maturity Organizations*", Software Quality Professional* (American Society for Quality), Vol 4, No. 2, March 2002.
14. P. Jalote, ``The success of the SPI efforts in India", *Software Quality Professional* (American Society for Quality), Vol 3, No 2, March 2001.
15. S. Rangarajan, S. Yajnik, Pankaj Jalote: WCP - a Tool for Consistent On-Line Update of Documents in a WWW Server. *Computer Networks*, 30(1-7): 327-336 (1998)
16. D. Gupta, P. Jalote, and G. Barua, ``A formal framework for on-line software replacement", *IEEE Transactions on Software Engineering* , Feb 1996.
17. G. Agarwal and P. Jalote ``Coding-based replication schemes for distributed systems", *IEEE Tran. on Parallel and Distributed Systems* , Vol 6, no. 3, March 1995, pp 240-251.
18. D. Gupta and P. Jalote, ``On-line software version change using state transfer between processes", *Software Practice and Experience* , Vol 23, no. 9, Sept 1993, pp 949-964.
19. S. Rangarajan, P. Jalote and S. K. Tripathi, ``Capacity of voting systems"*, IEEE Tran. on Software Engineering* , Vol 19, no. 7, July 1993, pp. 698-706.
20. K. Fujimura and P. Jalote, ``On robustness of B-tress", *IEEE Tran. on Knowledge and Data Engg.*, Vol 5, no. 3, April 1993, pp. 530-534.
21. Y. Huang and P. Jalote, ``Effect of fault tolerance on response time - analysis of the primary site approach", *IEEE Transactions on Computers* , Vol 41, no. 4, April 1992, pp 420-428.
22. P. Jalote, ``Specification and testing of abstract data types"*, Computer Languages* , Vol. 17, no 1, 1992, pp. 75-82.
23. J. Purtilo and P. Jalote, ``An environment for developing fault tolerant software", *IEEE Transactions on Software Engg.*, Vol. 17, no. 2, Feb 1991.
24. J. Purtilo and P. Jalote, ``An environment for prototyping distributed applications", *Computer Languages* , Vol. 16, no. 3/4, 1991, pp. 197-207.
25. J. C. Bolot and P. Jalote, ``Functional Semantics of programs with exceptions", *Computer Languages* ,Vol. 15, no. 4, 1990, pp. 251-265
26. D. Sanghi, A. U. Shankar, O. Goldsmund, and P. Jalote, ``A TCP instrumentation and its use in evaluating roundtrip-time estimators"*, Journal of Internetworking: Research and Experience* , Vol 1, 1990, pp. 77-99.
27. Y. Huang and P. Jalote, ``Analytic models for the primary site approach to fault tolerance", *Acta Informatica* , Vol. 26, 1989, pp. 543-557.
28. P. Jalote, ``Fault tolerant processes", Distributed Computing , Vol. 2, 1989, pp. 187-195.
29. P. Dikshit, S. K. Tripathi and P. Jalote, ``Sahayog - a testbed for evaluating load distribution strategies", *Software Practice and Experience* , 19:5, May 1989, pp. 411-435.
30. P. Jalote, ``Testing completeness of specifications", *IEEE Transactions on Software Engineering* , Vol. 15, no. 4, May 1989, pp. 526- 531.
31. P. Jalote, ``Functional refinement and nested objects for object-oriented design", *IEEE Transactions on Software Engineering* , Vol. 15, No. 3, March 1989, pp. 264-270.
32. P. Jalote, ``Resilient objects in broadcast networks", *IEEE Transactions on Software Engineering* , Vol. 15, No. 1, Jan 1989, pp. 68-72.
33. P. R. Chintamaneni, P. Jalote, Y. B. Shieh, S. K. Tripathi, ``On fault tolerance in manufacturing systems", *IEEE Networks* , Vol. 2, no. 3, May 1988, pp. 32-39.
34. P. Jalote, ``Synthesizing implementation of abstract data types from axiomatic specifications", *Software Practice and Experience* , 17:11, Nov. 1987, pp. 847-858.
35. P. Jalote and R. H. Campbell, ``Atomic Actions for Fault Tolerance Using CSP", *IEEE Transactions on Software Engineering*, Vol. SE-12, no. 1, Jan 1986, pp. 59-68.

Articles in Refereed Conferences

1   D Kamma, P Jalote, High productivity programmers use effective task processes in unit-testing, Asia-Pacific Software Engineering Conference (APSEC), 2015.

2   Damodaram Kamma, P. Jalote, Effect of Task Processes on Programmer Productivity in Model-Based Testing, 6th India Software Engg Conference (ISEC), New Delhi, Feb 2013.

3   P. Jalote and A. Gupta, Using Global Pairs for Software Development Time, 4th India Software Engineering Conference (ISEC-2011), Feb 2011, Thiruvananthpuram.

4   V. Agarwal and P. Jalote. Enabling End-to-End Support for Non-Functional Properties in Web Services. In Proceedings of the IEEE International Conference on Service-Oriented Computing and Applications (SOCA'09), Taipei, Taiwan, 2009.

5   D Mukherjee, P Jalote, and M Gowri Nanda. Determining QoS of WS-BPEL Compositions, Sixth Int. Conf on Service Oriented Computing (ICSOC), Sydney, Australia, 2008.

6   A. Gupta, P. Jalote, "An Experimental Evaluation of the Effectiveness and Efficiency of the Test-Driven Development", International Symposium on Experimental Software Engineering (ESEM 2007), Madrid, Sept 2007

7   Uttam K. Tripathi, P. Jalote, "Automated approach for developing and changing SOA-based business process implementation", Business Process Management Workshops, BPM 2007, Brisbane, Sept 2007, LNCS 4928, pp. 257-269.

8   A. Gupta, P. Jalote, "Test Inspected Unit or Inspect Unit Tested Code?", International Symposium on Experimental Software Engineering (ESEM 2007), Madrid, Sept 2007

9   L. Raghu, A. Gupta, P. Jalote, A multipurpose code coverage tool for java, 40th Hawaii International Conference on System Sciences (HICSS-07), Hawaii, 2007, 261-270.

10 V. S. Sharma, P. Jalote, Stabilization Time - A Quality Metric for Software Product, IEEE's Int. Symp. On Software Reliability (ISSRE2006), Nov 2006.

11 A. Aggarwal, P. Jalote, Monitoring the security health of software systems, IEEE's Int. Symp. On Software Reliability (ISSRE2006), Nov 2006.

12 A. Aggarwal, P. Jalote, Integrating static and dynamic analysis for detecting vulnerabilities, COMPSAC 2006, Chicago, 2006.

13 V. S. Sharma, P. Jalote, K. S. Trivedi, A Performance engineering tool for tiered systems, COMPSAC 2006, Chicago, 2006.

14 P. Jalote, R. Munshi, Todd Probsting, Components have Test Buddies, 9th Int. SIGSOFT Symposium on Component Based Software Engineering (CBSE2006), Sweden, July 2006.

15 P. Jalote et. al., Program Partitioning – A framework for combining Static and Dynamic Analysis, 4th Int. Workshop on Dynamic Analysis (WODA2006), Shanghai, May 2006.

16 A. Gupta and P. Jalote, An Experimental Comparison of the Effectiveness of Control Flow Based Testing Approaches on Seeded Faults, 12th Intl. Conf. on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2006), Vienna, April 2006. (Proceedings as Lecture Notes in Computer Science.)

17 A. Dubey, P. Jalote, S.K. Aggarwal, A deterministic technique for extracting keyword based grammar rules from programs, Proceedings of 21st Symposium on Applied Computing, April 2006, Dijon, 1631-1632.

18 A. Dubey, P. Jalote, S.K. Aggarwal, Inferring Grammar Rules of Programming Language Dialects, 8th International Colloquium on Grammatical Inference, Sept 2006, Tokyo, 201-213.

19 P. Jalote and N. Agrawal Using Defect Analysis Feedback for Improving Quality and Productivity in Iterative Software Development, *Invited paper,* 3rd Int. Conf. on Information and Communication Technology, ICICT, 2005., Cairo, Dec 2005

20 V. Sharma, P. Jalote, K. S. Trivedi, "Evaluating Performance Attributes of Layered Software Architecture", 8th Intl. SIGSOFT Symposium on Component-based Software Engineering (CBSE), St. Louis, May 2005.

21 A. Dubey, S.K. Aggarwal, P. Jalote, A Technique for Extracting Keyword Based Rules from a Set of Programs. Proc. 9th European Conference on Software Maintenance and Reengineering (CSMR), Machester, March 2005, 217-225.

22 Vipindeep V., P. Jalote, Efficient Static Analysis With Path Pruning Using Coverage Data, Workshop on Dynamic Analysis (WODA-2005) at ICSE2005, St Louis.

23 P.Jalote, G.Jain, "Assigning tasks in 24-hour software development model", Proc. Asia Pacific Sw Engg Conference (APSEC2004), Busan, Korea, 2004.

24 P.Jalote, B. Murphy, "Reliability growth in software products", Int. Symp. on Sw Reliability (ISSRE-2004), Saint Melo, France, Oct 2004.

25 P.Jalote, B.Murphy, M.Garzia, B.Erez, "Measuring reliability of software products", Industrial track in Int. Symp. on Sw Reliability (ISSRE-2004), Saint Melo, France, Oct 2004.

26 A.Kumar, P.Jalote, D.Gupta, "Caching in Distributed Object Systems", IEEE's Int. Conf. on Distributed Computing Systems (DCS), Tokyo, Japan, 2003.

27 P.Jalote, B.Vishal, "Optimal resource allocation for the quality control process", Int. Symp. on Sw Reliability (ISSRE-2003), Denver, Colorado.

28 P. Jalote, "Lessons learned in framework-based software process improvement", Proc. 9th Asia Pacific Conference on Software Engineering, ASPEC2002, Gold Coast, Australia, 2002.

29 D. Sanghi, P. Jalote, P. Agarwal, "A testbed for evaluating load balancing strategies", First WWW/Internet conference, Portugal, Nov 2002.

30 S. Varadarajan, A. Kumar, P. Jalote, D. Gupta, "ComponentXchange: An E-exchange for software components", First WWW/Internet conference, Portugal, Nov 2002.

31 A. Kumar, P. Jalote, and D. Gupta, "Accessing CORBA objects on the web", First WWW/Internet conference, Portugal, Nov 2002.

32 D. Sanghi, P. Jalote, and P. Agarwal, "Using proximity information for load balancing in geographically distributed web server systems", First The First Eurasian Conference on Advances in Information and Communication Technology, Tehran, Oct 2002, LNCS.

33 P. Jalote, S. Raghavan, M. R. Bhashyam, K. Dinesh, and S. Ramakrishna, "Quantitative quality management through defect prediction and statistical process control", 2nd World Quality Congress for Software, Japan, September 2000.

34 P. Jalote "Use of Metrics in High Maturity Software Organizations in India", Invited Paper, ISSIDec, World Computer Congress, Beijing, Aug 2000.

35 P. Jalote, "Use of Metrics in High Maturity Organizations", SEPG 2000, Seattle, Washington, 2000.

36 P. Jalote, S. Raghavan, M. R. Bhashyam, and K. Dinesh, "Managing the Transition from ISO9000 to Higher Level of the CMM", Quality Week Europe '99, Brussels, Nov 99.

37 P. Jalote ``Moving from ISO to Higher levels of the CMM", Software Engineering Process Group Conference, SEPG'99 , Atlanta, March, 1999.

38 P. Jalote, ``Efficient ordered broadcasting in CSMA/CD networks", 18th Int. Conf. on Distributed Computing Systems , Netherlands, May 1998.

39 S. Rangarajan, S. Yajnik, and P. Jalote, ``WCP - A tool for maintaining consistency of documents on the Web", 7th Int. Conf. on WWW , Brisbane, Australia, April, 1998.

40 P. Jalote and M. Haragopal, ``Overcoming the NAH syndrome for inspection deployment", Int. Conf. On Software Engineering , Kyoto, Japan, April 1998.

41 D. Gupta and P. Jalote, ``Increasing reliability of software through on-line update", Pacific Rim Conference on Fault Tolerant Computing Systems , Taiwan, Dec. 1997.

42 G. A. Kiran, S. Haripriya, and P. Jalote, ``Effect of object orientation on maintainability of software", Int. Conf. on Software Maintenance , Bari, Italy, Oct 1997.

43 P. Jalote, ``Message recovery in distributed systems", 1995 Asian Computing Science Conference, Lecture Notes in Computer Science, Vol. 1023 , pp. 187-194.

44 D. Venkaiah and P. Jalote, ``An integer programming approach for vote assignment in distributed systems'', 14th IEEE Symp. on Reliable Distributed Systems , Sept 1995, Bad Neuenahr, Germany.

45 P. Jalote, Y. Huang, and C. Kintala, ``A Framework for understanding and handling transient software failures'', 2nd ISSAT Int. Conf. on Reliability and Quality in Design , Orlando, March, 1995, pp.230-236.

46 Y. R. Muralidhara and P. Jalote, ``A software to aid reliability estimation'', 1st Int. Conf. on Sw Testing, Rel. and Quality Assurance , New Delhi, Dec 1994, pp. 54-58.

47 P. Jalote and Y. R. Muralidhara, ``A coverage based model for software reliability estimation'', 1st Int. Conf. on Sw Testing, Rel. and Quality, N Delhi, Dec 1994, pp. 6-10.

48 D. Gupta and P. Jalote, ``Increasing system availability by on-line software replacement'', 23rd Int. Conf. On Fault Tolerant Comput. Sys , Toulouse, France, June 1993, pp. 30-35.

49 S. P. Ghatare and P. Jalote, ``Efficient multicasting in point-to-point networks'', Networks - 92 , Decemeber 1992, Trivendrum, India, published by North Holland .

50 P. Jalote, ``Dynamic reconfiguration of CSP programs for fault tolerance'', 22nd Int. Conf. on Fault Tolerant Computing Systems (FTCS-22) , Boston, 1992, pp. 50-56.

51 G. Agarwal and P. Jalote, ``An efficient protocol for voting in distributed systems'', Int. Conf. on Dist. Comput. Sys. , Yokohoma, Japan, 1992, pp. 640-647.

52 P. Jalote and G. Agarwal, ``Using coding to support data resiliency in distributed systems'', IEEE Conf. On Data Engg. , Tempe, Arizona, 1992, pp. 192-199.

53 P. Jalote, "Efficient Management of replicated data in unreliable CSMA/CD networks'', Proc. of INDOLAN - 90 , Madras, India, 1990, by North-Holland , pp. 13-27.

54 Y. Huang and P. Jalote, ``Availability analysis of the primary site approach to fault-tolerance'', 8th. Symposium of Reliable Distributed Computing Systems , October 1989.

55 J.-C. Bolot and P. Jalote, ``Formal verification of programs with exceptions'', 19th Int. Symp. on Fault-Tolerant Computing , Chicago, June 1989.

56 J. Purtilo and P. Jalote, ``A system for allowing multi-language versions for software fault tolerance'', 19th Int. Symp. on Fault-Tolerant Computing , Chicago, June 1989.

57 J. Purtilo and P. Jalote, ``An environment for prototyping distributed applications'', 9th Int. Conf. on Distributed Computing Systems , Newport Beach, CA, June 1989, pp. 588-594.

58 S. Ming and P. Jalote, ``Fault tolerant commit protocols'', 5th Int. Conf. on Data Engineering , Los Angles, Feb. 1989, pp. 280-286..

59 P. Jalote, M. Caballero, ``Automated testcase generation for data abstraction'', COMPSAC 88 , Chicago, Oct. 1988, pp. 205-210.

60 K. Fujimura and P. Jalote, ``Robust search methods for B-trees'', 18th Int. Symp. on Fault Tolerant Computing (FTCS-18) , Tokyo, Japan, June 1988, pp. 194-199.

61 M. Yap, P. Jalote and S. K. Tripathi, ``Fault tolerant remote procedure call'', 8th Int. Conf. on Distributed Computing Systems , San Jose, California, June 1988, pp. 48-54.

62 P. Jalote, ``Using Broadcasting for Multiprocess recovery'', Proc. 6th International Conference on Distributed Computing Systems , May 1986, pp. 582-589.

63 P. Jalote and R. H. Campbell, ``Atomic Actions in Concurrent Systems'', Proceedings of the 5th International Conference on Distributed Computing Systems , Denver, Colorado, May 1985, 184-191.

64 P. Jalote and R. H. Campbell, ``Fault Tolerance using Communicating Sequential Processes'', Digest of papers, 14th International Conference on Fault-Tolerant Computing (FTCS-14) , Orlando, Florida, June 1984, pp. 347-352.

65 M. D. Mickunas, P. Jalote and R. H. Campbell, ``The Delay/Re- Read Protocol for Concurrency Control'', Proceedings of the First International Conference on Data Engineering , Los Angles, April 1984, pp. 307-314.

66 P. Jalote, ``Specification and Testing of Abstract Data Types'', Proceedings of the 7th International Computer Software and Applications Conference (COMSAC83) , Chicago, Nov 1983, pp. 508-511.

Newspaper / General Articles

1. How to have great universities: NEP has some useful suggestions towards this. They must be elaborated and acted upon, TOI Oped, Dec 19, 2019, Link.
2. How to do autonomy: To foster excellence in Indian universities, here are a few essential steps, TOI Oped, Sept 7, 2017. Link.
3. Unshackling our thinkers - Government's attributed towards research funding must change for our researchers to compete globally, TOI, Feb 21, 2012 (with M. Balakrishnan). Link.
4. Learning How To Teach: Getting governance model for our universities right is a must (with Gautam Barua), Times of India, Edit Page, Apr 13, 2011
5. Ideate and Innovate: The Weak R&D System in India must be fixed if we are to compete in the global economy (with Jitendra Malik), Times of India, Edit Page, Nov 16, 2011
6. One size does'nt fit all: We need to revisit the issue of entrance tests for better selection of candidates, Times of India, Edit Page, Sept 30, 2011.
7. Education through entrance tests, (with Adit Singh), Economic Times, May 15, 2010
8. In Search for Excellence, Times of India, Edit Page, Jan 08, 2010.
9. Private not the same as for profit, Economic Times, Dec 26, 2009.
10. Who is afraid of foreign Universities, Economic Times, Oct 29, 2009.
11. Reform affiliating varsity model, Economic Times, Sept 30, 2009.
12. Research-led institutes are not cheap, Economic Times, 18 Jul 2009.
13. Faculty selection must be done on merit alone, Times of India, 5 Jul 2008.
14. Break the Shackles – centralized universities need to be done away with, Lead article, Times of India, editorial, Apr 17, 2008.
15. Think it through (on applying queuing theory to Guragaon toll), Times of India, Edit page, Feb 4, 2008.
16. Pump priming with US horsepower – Editorials Opinion – Economic Times, Sept 17, 2007.
17. Slip sliding away – why IITs have fallen in global rankings, Times of India, Lead article, Edit page, Nov 30, 2006.
18. Opening new IITs, Times of India, edit page, March 2007 (with BN Jain and others)
19. An opportunity to scale up the IITs, Economic Times, April 26, 2007
20. Appraisals to promote R&D in IITs, Economic Times, Edit Page, Jan 13, 2007.
21. Slip Sliding Away – why IITs have fallen in global rankings, Lead Article, Editorial Page, Times of India, Nov 30, 2006.
22. Lots of bleeding little edge (A note on China's strategy for upgrading its Universities), Economic Times, July 17, 2006.
23. Opportunity with quality (A note on reservations), Economic Times, May 1, 2006.
24. Don't shy away from Ivy, Economic Times, July 31, 2006.
25. What autonomy means, Economic Times, Jan 23, 2006.
26. The research Edge, Economic Times, Nov 8, 2005.
27. Hidden benefits of outsourcing, Guest Editorial, System design frontier, Vol 2:10, Oct 2005.
28. R&D is more than just a cost center, Financial Express, Aug 05.
29. Research in IT, Times of India (Education Times), July 05.
30. What does the future hold for the IITs, Economic Times, June 30, 2005.
31. The Education Raj, Economic Times, April 18, 2005.
32. "Needed a Capability Maturity Model for Engg Education", Economic Times, May 5, 2003
33. "Research is for geeks ... Says who?", Economic Times, June 23, 2003.
34. "Blind Leading the Blind", Economic Times, March 3, 2003

35. "Mental Faculty", Economic Times, March 10, 2003.
36. "Faculty to the Test", Economic Times, March 24, 2003.
37. "Its quality that has done the trick – developing nations in Asia and Latin America want to replicate India's story", Economic Times, Oct 26, 2000.
38. ``Manpower shortages still plague the industry", Economic Times, Feb, 1998.
39. ``Software industry is abetting brain drain", Economic Times, June 24, 1997.
40. ``The importance of preserving IITs", Economic Times, Apr 1, 1997.
41. ``Lets fight it out on their turf", Economic Times, Nov. 26, 1996.
42. ``Reprogramming to upgrade", The Economic Times, May 6, 1996.
43. ``Facts about software usage", The Economic Times, Feb 20, 1996.
44. ``Software in India - The manpower myth", The Economic Times, April 22, 1995.
45. ``Survey of Computer professionals residing abroad about taking up employment in India", Current Science, 1994.
46. ``Student-Faculty Ratio - Bettering the balance", The Economic Times, Nov 8, 1993.
47. ``Student-faculty ratio at IITs and its impact", Current Science, 1993. Also in Economic Times, 1993.
48. ``Computer Technology in China", Communications of the CSI, 1993.

Professional Service (major ones)

Chair, AICTE Curriculum Committee for model CS Curriculum for India, 2021 (curriculum recommendations submitted to AICTE, July 2022)
Member, Steering Committee, ACM 202X Curriculum Committee for CS, 2021 – onwards
Chair, Steering Committee of ACM India Awards, 2019-2022
Member, ACM Council, SGB Representative, 2020-2022
Member, ACM Prize committee (the 2nd highest prize of ACM globally), 2017-2021
Member of the ACM Task Force for starting ACM India, ~2008
Member, ACM India Council, for two terms
Member of SIGSOFT EC-extended (2005 for ˜4 yrs)
Chair, India Chapter of SIGSOFT (ISOFT), 2012 onwards.
Member, Board of Governors, LN Mittal IIT (2016 onwards), Brij M Lal University, Gurugram (2018 onwards), IP University (˜2 yrs), NSIT (˜2 yrs)
Started the PhD production report for ACM India (this survey is still done every other year.)

Member, Editorial Board, Journal of Systems and Software (JSS), 2008 onwards.
Member Editorial Board, Int. Journal of Empirical Software Engineering, 2004 to 2008.
Associate Editor, IEEE Transactions on Software Engineering, 2003 to 2006.
Associate Editor, IEEE Trans. On Services Computing, 2008 to 2010.

Chair, Steering Committee of ISEC (Innovations in Software Engineering), 2008 (˜4 yrs)
General Chair, 36th International Conference on Software Engineering, ICSE2014.
Program Chair, Int. Conf. on Software Reliability, ISSRE 2009.
Program Chair, CS Education and Training, CSEET 2009
Program Chair, India Software Engg. Conf, ISEC2008 and ISEC2009
Coordinator, E-Governance Innovation Lab (EGIL), IIT Delhi
Steering Committee member, IEEE's Int. Symp on Software Reliability (ISSRE)
General Chair for IEEE's Reliability Engineering, RE2007.
Program Chair for 13th Asia Pacific Software Engineering Conference, APSEC 2006.
PC Member of conferences like: ICSM, APSEC, ISSRE, ICSE, SRDS, FTCS, etc.

Grants and Contracts

1. Improving Computer Science Education in Colleges, Google India, Rs 10 Lac, ˜2015.
2. Software Engineering Innovation Foundation (SEIF) Awards from Microsoft Research, An Integrated Approach for Software Engineering Projects using Visual Studio Platform, 2010, ($25,000)
3. Indo-US Workshop on Effective Teaching in Engineering and CS/IT Programs, with Dr. Jason N. Adsit of Buffalo, IUSSTF, Appx. $36,000, 2010.
4. "Leveraging global software development for reducing the cycle time", SAP Labs, Rs 11L, 2008
5. "E-Governance Innovation Lab", NISG, Rs 24,00,000 (P. Jalote is coordinator for the lab), 2007.
6. "SOA based architectures for E-Governance", NISG, Rs 7,20,000, 2007.
7. "Building a CMM-like model for assessing the maturity of E-Governance and providing guidance for moving to higher levels", NISG, Rs 7,20,000, 2007.
8. Facilitating building policies for higher education, Nasscom (Consultancy), Rs 3,60,000, 2008.
9. "R&D Collaboration", Adobe India, Rs 1,20,000 (consultancy project), 2007.
10. "R&D in software services", IBM India Ltd, Rs 2,40,000 (consultancy), 2006.
11. "Performance analysis of software architectures", Microsoft Corporation, $30K., 2005.
12. "Software checking through static and dynamic analysis", Microsoft, $30K, 2006.
13. "Working with .NET", Microsoft Corporation, Seattle, USA, $10,000, 2002.
14. "Internal Automation and Student Activities", Microsoft, Seattle, $10,000, 2002.
15. ``Microsoft technologies and .NET'', Microsoft Research, Seattle, USA, 2001: $30,000, 2003: $30,000 (with D. Sanghi, S. Biswas, M. Agarwal, H. Karnick).
16. ``Replication and performance of web servers", MHRD, 2002-2003, Rs 8 Lakhs (with Dheeraj Sanghi).
17. ``A scalable architecture for servers on the Web", R&D/Consultancy project, Avaya Labs, 2001-2002, USA, $30,000 (with D. Sanghi).
18. ``Distributed objects on the Web", Sun Microsystems Equipment Grant , Amount: Appx. $20,000 (with D. Gupta).
19. ``High performance replicated systems", National Science Foundation under the Indo-US program, Amount: 15,000 + Rs. 500,000 (with S. K. Tripathi).
20. ``Tools for software quality assurance and prediction", ARDB , 1996, Amount: Appx. Rs. 3.5 Lakhs (with S. K. Aggarwal).
21. ``Workshop on Integrated approach for fault tolerance", Office of Naval Research, Amount: 3,000 (with S. K. Tripathi).
22. ``Equipment grant", National Science Foundation, Amount: 50,000 (with Agrawala et. al.).
23. ``Methodologies for real time distributed systems", Office of Naval Research, Jan 87-Jan 89, Amount: 256,000 (with Agrawala et.al.).
24. ``Modeling recoverability and atomicity of actions in concurrent systems", National Science Foundation, Aug. 86-Aug 88, Amount: 87,235.

Others

Patents

- U.S. Patent Number 6138152 for "Technique For Effectively Serving Information Objects Through A Communication Network", issued on 10/24/2000 (jointly with Shalini Yajnik, Sampath Rangarajan)

- US Patent filed for "Timeboxing process for Iterative Software Development"

Courses Taught

Recent: Software Development using Open Source (SDOS), AI in Software Engineering, Intro to Programing (Python), Effective Teaching.
Earlier: Software Engineering, Quantitative Methods in Software Engineering, Fault Tolerant Computing, Operating Systems, Computer Networks, Computer System Organization, Foundations of Computer Programming.

PhD Students
1. Deepak Gupta, IITK (1994), On Line Software Version Change, Earlier a faculty in IITK, now CTO in AirtightNetworks,
2. Atul Kumar, IITK (2004), Supporting Dependable Distributed Objects on the Web, Scientist at ABB research
3. Alpana Dubey, IITK (2007), Inferring Grammar Rules from Programs, Scientist, ABB Research
4. Vibhu Sharma, IITK (2007), Performance and Reliability Analysis of Software Architectures, Manager (Research), Accenture Technology Labs, Bangalore
5. Atul Gupta, IITK (2008), Unit Testing of Object-Oriented Programs, Associate Professor, IIITDM, Jabalpur, http://sites.google.com/site/atulkg/
6. Vikas Agarwal, IITK (2013), Supporting Non-Functional Properties in Web Service Compositions, Researcher, IBM Research
7. Apurva Kumar, IIT Delhi (2013), Modeling and Analyzing Web Protocols for Trust and Secrecy (2013), Researcher IBM Research
8. Damodaram Kamma, IIIT-Delhi, 2017, Study of Task Processes for Improving Programmer Productivity, Bosch India Ltd.
9. Ayushi Rastogi, IIIT-Delhi, 2017, Empirical Analyses of Software Contributor Productivity, Postdoc, Univ of California Irvine
10. Monika Gupta, IIIT-Delhi, 2019, Improving Software Maintenance Using Process Mining and Predictive Analytics Researcher, IBM Research

M.Tech Students
About 30 Masters thesis.

Keynotes, Invited/Plenary Talks
- Learning and Teaching, ACM Compute 2018
- A career in research, ACM India, Pune 2017
- A career in research in Engineering, Defense Sciences Forum, Delhi, 2014.
- Engaging Practitioners in Software Engg Research, Keynote, Microsoft TechVista, 2013.
- Engaging practitioners in Software Engineering Research, Keynote, ISEC, 2012, IIT Kanpur.
- Crowd Researching: Engaging Practitioners in Software Reliability Research, Keynote, 29th IEEE International Symposium on Reliable Distributed Systems (SRDS), 2010.
- Teaching introductory software engineering course in a computer science program, ASEET (Part of IEEE's CSEET), Hyderabad, 2009
- Future of software engineering, Plenary Panel, COMPSAC 2008, Turku, Finland.
- Tracking projects with globally distributed teams, Keynote in Workshop on Global Software Engg. In 14th APSEC, Dec 2007, Nagoya, Japan.
- Using Architecture based performance analysis for autonomic systems, Keynote, Workshop on Autonomic computing, IBM IRL, April 2007.

- "Lessons learned in framework-based software process improvement", Keynote talk, Asia Pacific Conference on Software Engineering, Gold Coast, Australia, Dec 2002.
- "Software Industry in India – Reflections and Lessons Learned", Mexico City, March, 2001.
- "Beyond level 5", Plenary talk, SEPG in Asia, New Delhi, Feb, 2001.
- "Use of Metrics in High Maturity Software Organizations in India", ISSIDec, Beijing, 2000.
- "Why is level 5 above level 4", Plenary talk, SEPG in India, 2000, Bangalore.
- ``In pursuit of software quality'', Int. Conf. on Sw. Engg (CONSEG), Chennai, 1997.
- ``Some problems with current software engineering processes'' Int. Conf. on Software Engg. (CONSEG), 1995, New Delhi.

Industrial Interaction and Consultancy:
- Visiting researcher, Microsoft Corporation, Redmond, USA, 2003-2004.
- Vice President (Quality), Infosys Technologies Ltd, Bangalore, 1996-1998.

- Visiting researcher, Philips Research Center, Bangalore, June 2005.
- Member, Board of Directors, CMC Ltd., New Delhi, 1999-2002.
- Member, Board of Advisors, QAI India Ltd, New Delhi, 1999 onwards.
- Member, Board of Advisors, Xavor Software Systems, Irvine, California, 1999 onwards.
- Member, Board of Advisors, MeriTrac, Bangalore, 2001 onwards.

- Mexican companies on Software Process Improvement and CMM – Softek, Monterrey; Neoris, Monterrey; Gedas, Puebla; IBM Guadalahara; Certum, IDS, IMP in Mexico City.
- E-Runway, Boston, MA, USA, process, quality, and strategy, 2001.
- Xavor systems, Irvine, LA, USA, Software process definition and improvement, 2000.
- HCL Infosystems, NOIDA, Software Requirements Management, 1998.
- AT T Bell Labs, New Jersey - Distributed systems and web, 1997, 1998.
- Riverrun Software, NOIDA - software metrics, 1994.
- Eurolink software, New Delhi - software standards, 1993.
- CDOT, New Delhi - Software quality assurance, 1991.
- CMC, Hyderabad - Software practices, 1990.
- Tata Consultancy Services, Bombay - Software process improvement, 1989.