

Prashant Shingare

Flat No. 1, Uday Residency, Opp. IT Employees Quarters, Nigadi Pradhikaran, Pune - 411044
Mobile: +91 9881135104; e-Mail: shingare@hotmail.com

Technocrat with about 16 years of cross functional experience in engineering and management. Technical expertise in control system development, wind and solar energy technology, Power electronics, signal processing, process Instrumentation, Chemical process control etc. Management of Product development as well as improvement, R&D management

PROFESSIONAL ACCOMPLISHMENTS

CREDITS

- ☆ Proven **Technocrat and Business Leader**
- ☆ Customer interaction across the continents **extensively travelled across Europe, Asia and America** continents for Professional reasons
- ☆ **Published research papers and Books in international/Nationals Journals and Conference proceedings.**
- ☆ **Professional association with leading technical institutes/universities, Member CII task force on higher education**

CONTRIBUTIONS

- ☆ **Started new initiative in wind/solar power converter business** from scratch. Within 2 years, got it into an US\$10M business from nothing. Established brand **Emerson** in India wind and solar Industry.
- ☆ **Business/marketing strategy** for market penetration to establish US \$ 50 M business for Emerson wind and solar power products in India market.
- ☆ Technical project manager for **Suzlon's Wind power projects at Dhule, Sangli, Coimbatore, Bhuj etc sites. Directly contributed in setting up more than 1000 MW wind farm projects.**
- ☆ Successful **evaluation of projects in USA** (Texas, Oklahoma, Minnesota, Missouri, Iowa etc) resulting in significant reduction in balance of projects for ongoing projects.
- ☆ **Wind turbine Control System development - Suzlon's S-88/2.1MW, S-52/600KW and S-82 1.5 MW wind turbine prototypes.**
- ☆ As the **Key Contributor**, developed the **Documentation and Presentation** during **Accreditation of VIT, Pune** by National Board of Accreditation (NBA) constituted by AICTE New Delhi.
- ☆ Successfully **developed and submitted the AICTE proposal** and was entitled to commence **ME (Instrumentation) program** at VIT, Pune. Facilitating generation of additional revenue and research resources. It was complete Vision to reality project.
- ☆ Successfully **developed and installed the Modelling and Simulation and Process Instrumentation Laboratory** at Vishwakarma Institute of Technology Pune

COMPETENCE

- ☆ Strong **Leadership** abilities in **controlling, guiding, mentoring, motivating, and coaching** large team as well as individuals to achieve excellence
- ☆ Excellent skills in **project and people management, networking, negotiations and liaison.**
- ☆ Cohesive **Team Player** with very strong **Analytical, Problem Solving, Trouble Shooting, Communication, Presentation, Documentation and Interpersonal** skills
- ☆ Complemented with core competence in **Teaching in Technical Education, Research on Control Engineering** as well as **Management of Engineering**
- ☆ **Specialist technical insights (R&D) in to –**
 - Wind Turbine **power electronics**
 - Diagnosis and prognosis of **Pitch and Yaw control algorithm for wind turbine performance improvement and load reduction.**
 - Wind Turbine **DCS and SCADA** systems
 - **Wind turbine safety and reliability** analysis and improvement
 - Pareto analysis of wind turbine performance
 - **Analysis of pitch and yaw error on turbine performance and tower vibration**

CAREER PROFILE

Director (Engineering Project Management)

EMERSON NETWORK POWER INDIA PVT LTD, THANE (Nov 12-Till date)

Responsibilities:

- Responsible for Order-To-Cash cycle for 1200 Crores business: R&D, AOP, S&OP, resource allocation planning, MFG, logistic, commissioning and cash collection plan and timely execution
- Deliver our products and services efficiently while constantly striving to improve the quality of the customer experience

Marketing Director (Renewable Power Solutions)

EMERSON NETWORK POWER INDIA PVT LTD, PUNE (AUGUST 2008-Nov 2012)

Responsibilities:

- Started wind/solar power business from scratch. Responsible for P&L management for a new established business within 2 years, build it into an US\$10M business from nothing
- Develop a high growth and profitability driven business vision and strategy to establish US \$ 50 M business by 2014
- Customer Insights, New Product development, Product Management
- Marketing Strategy: Market research, Competitor analysis, B2B marketing, Segmentation, Targeting, positioning, Brand Promotion, PR, Pricing, Negotiations etc
- Development of product plan and strategy for next generation releases
- Prioritize technology and product development activities
- Developed revenue plan and strategies to increase revenues
- Joined as Sr Manager - elevated to Director

Manager - Electrical Engineering

SUZLON ENERGY LTD, PUNE (DEC 2005-AUGUST 2008)

Responsibilities:

- Project management of prototype testing, performance evaluation and performance improvement
- Principally responsible for Engineering Management of the Electrical Control Systems aspect of the product.
- Managing the development of Wind Turbines in terms of design and quality and technology change management
- Preparation of project documentation, work instruction and design review
- Leading the root cause analysis team and technical audit activity of various Suzlon wind turbines
- Installation and commissioning of wind turbine generators, turbine stabilization and optimization
- Project management and Technical audit of wind farm projects
- Reporting to VP - Engineering, VP - Project and Suzlon group global CTO

Researcher – Systems and Control Engineering

Indian Institute of Technology Bombay Mumbai (Jan 2002-NOV 2005)

Responsibilities:

- Research in Systems and Control Engineering
- Publishing research, Participation as well as organization of Conferences

Previous Employments

Organization	Duration
Various Assignments in Teaching and Research	July 1997 to Jan 2005

TRAINING AND ACADEMIA

- Received management trainings such as **Project Management, Emerson Communicative leadership, Consultative selling, Managing Departments, IMS internal auditor** etc.
- Sound knowledge and experience of C, C++, PLC programming, word processor LaTeX, Excel, OS, Windows NT, Linux, MATLAB, SPSS, Simulink, LabVIEW, SAP
- Participated in more than 25 National and International conferences of repute in India and abroad.

MBA (Marketing, Finance, Economics and Strategy), Symbiosis International University, 2012

PMP (Project Management) PMI USA, 2009

MTech, PhD (Systems and Control Engineering), from IIT Bombay, in 2002 and 2007

B. E. (Instrumentation), from Dr. B. A. M. University, 1997. Secured First Rank in the University.

Achievements / Recognitions

- Felicitated by JNEC Aurangabad on annual social gathering RAZZMATAZ-1998 to recognize my best performance in academics at university level and for my co-curricular contributions to the college during my undergraduate studies.
- Awarded gold medal by Late Honorable Shri. Vilasrao Deshmukh, for securing first rank in BE (Instrumentation) Examination in the Dr. BAM University-1997.
- Selected as Scientist-C at Indian Space Research Organization's- ISRO Satellite Center Bangalore (March 98).
- Recognized as Post Graduate Teacher by Pune University, Oct 2004
- Publication Chair for First National Conference On Signal Processing, Communication and Control, VIT, Pune, July 2005.
- Acted as referee/auxiliary referee for ME/PhD thesis and conference/Journal papers.
- Member on UGC interview panel for university recruitments.
- Served as session chair in national and International conferences
- Member CII task force on higher education
- Board member of Academic Advisory Board, Rajiv Gandhi Institute of Technology, Mumbai
- Received government (AICTE New Delhi) and corporate research grants (Suzlon).
- Member Board of Study in Electronics Engineering (BOS) Dr BAM University Aurangabad
- Member Faculty of Engineering, Dr BAMU Aurangabad
- Member BOS in Electrical, Instrumentation, Electronic Engineering, Mumbai University

Professional Society Memberships

- Member IEEE, LMISTE, LMSSI, LMIITBAA, Member PMI

Software Training

- Experience in design and simulation with MATLAB, SPSS, Simulink, LabVIEW
- Sound knowledge and experience of C, C++, PLC programming, word processor LaTeX, Excel, OS, Windows NT, Linux

Publications

Books:

1. Prashant Shingare, B Bandyopadhyay and H K Abhyankar, Model Reduction Techniques Using Interval Analysis and Optimization with Control System Applications, ISBN:3639158792, VDM Verlag, Germany, 2009.

Publications in Journals:

1. Ajay V. Deshmukh, Vatti Rambabu and Prashant Shingare (2003), A Time Frequency Signal Analyzer for Condition Monitoring of Machines, *Annul Technical Journal of Institution of Engineers*.
2. Prashant Shingare, B. Bandyopadhyay and H. K. Abhyankar (November 2004), A Model Order Reduction Technique based on Interlacing Property and Pade Approximation, *Journal of System Science and Engineering-Paritantra, Vol. 10, pp 1-7, 2004*. (This paper was **adjudged as the best theoretical research paper presented at 27th NSC, IIT Kharagpure** and recommended for publication in journal.)
3. B. Bandyopadhyay and Prashant Shingare, An Improvement in Stable Pade Approximation using Constrained Minimization, *Systems Science Journal, Vol. 32. pp 1-17, 2006*.
4. B. Bandyopadhyay V. Sreeram and Prashant Shingare, Stable Gamma-Delta Routh Approximation of Interval Systems using Kharitonov Polynomials, *International Journal of Information Systems Science, Vol. 4, pp 348-361, 2008*.
5. Prashant Shingare and B. Bandyopadhyay (2007), Accurate Computation of Interval Routh Table for Robust Stability Analysis of Interval Systems, **Recommended for publication in International Journal of Robust and Nonlinear Control**. (This paper is extended version of the paper presented in the 11th IFAC Symposium on Large Scale Systems Theory and Applications-LSS 07, Gdansk, Poland and recommended for publication by Prof Mitek Brdys International Program Chair LSS 07.)
6. B. Bandyopadhyay and Prashant Shingare, Stable Routh-Pade Model Reduction of Interval systems using Interval Arithmetic, *has been considered for publication in Journal of Reliable Computing (under revision)*.

7. Prashant Shingare, B. Bandyopadhyay, V. Sreeram and H. K. Abhyankar, Passivity based Control of Higher Order System through Reduced Order Model, *under preparation for communication to international journal of information systems science.*

Publication in Conference Proceeding:

1. P. S. Shingare and P. S. V. Nataraj (2001), Robust Design of Conventional Controllers Using Quantitative Feedback Theory, *Proc. of International Conference on Quality, Reliability and Control, Bombay.*
2. P. S. Shingare and P. S. V. Nataraj (2001), Design of Robust PID Controllers by Quantitative Feedback Theory, *Proc. of National Systems Conference, Coimbatore.*
3. Prashant Shingare, Pratibha Shingare and H. K. Abhyankar (2003), System Reduction Preserving Stability, *Proc. of International Conference on CAD / CAM, Robotics and Autonomous Factories, Delhi.*
4. P. S. Shingare, B. Bandyopadhyay and H. K. Abhyankar (2003), Model Order Reduction Technique based on Interlacing Property and Pade Approximation, *Proc. of National Systems Conference, IIT Kharagpur.*
5. Prashant Shingare, A. B. Gund, J. A. Gaikwad and M. N. Parihar (2004), A Feasibility Study of Instrumentation System for Fuel Quality Indication, *Proc. Of 10th National Seminar on Physics and Technology of Sensors, Pune, India.*
6. Pratibha Shingare, Prashant Shingare and V. K. Kokate (2004), Underground Water Sensing Using Advanced Conductivity Measurements for Bore wells Suitable for Maharashtra Geographical Conditions, *Proc. of 10th National Seminar on Physics and Technology of Sensors, Pune, India.*
7. B. Bandyopadhyay, P. S. Shingare and H. K. Abhyankar (2004), Stabilizing Control for Higher Order System via Reduced Order Model – A Passivity Based Approach, *Proc. of 1st IEEE/IFAC International Conference on Informatics in Control, Automation and Robotics, Setubal, Portugal.*
8. S. Janardhanan, B. Bandyopadhyay and Prashant Shingare (2004), Multirate Output Feedback based Discrete Sliding Mode Control for a Class of Nonlinear System, *Proc. of 1st IEEE/IFAC International Conference on Informatics in Control, Automation and Robotics, Setubal, Portugal.*
9. T. C. Manjunath, Prashant Shingare and S. Janardhanan (2004), Simulation, Design and Practical Implementation of a Mobile Surveillance System, *Proc. of 1st IEEE/IFAC International Conference on Informatics in Control, Automation and Robotics, Setubal, Portugal.*
10. Pratibha Shingare, Prashant Shingare and Madhuri Joshi (2005), Robust PI Controller for Plants with Significant Plant/Model Mismatch, *International Conference on Multidisciplinary Aspects of Engineering, Pune, India.*
11. Prashant Shingare, B. Bandyopadhyay and H. K. Abhyankar (2005), Model Order Reduction of Minimum Phase Interval Systems using Kharitonov Polynomials and Interlacing property, *First National Conference On Signal Processing, Communication and Control, Pune.*
12. Prashant Shingare (2006), Site Specific Optimization of Wind Turbine Parameters for Improved Machine Availability and Life Cycle, *5th World Wind Energy Conference - cum-Exhibition, Delhi, India.*
13. Prashant Shingare and B. Bandyopadhyay (2007), Accurate Computation of Interval Routh Table for Robust Stability Analysis of Interval Systems, *11th IFAC Symposium on Large Scale Systems Theory and Applications, Gdansk, Poland.*
14. Prashant Shingare and B. Bandyopadhyay (2007), Improvement to the gamma-delta Routh Approximation of Interval Systems using Interval Arithmetic, *11th IFAC Symposium on Large Scale Systems Theory and Applications, Gdansk, Poland.*
15. Prashant Shingare and B. Bandyopadhyay (2008), Design of Low Order Stable Controller for High Order System, **Invited paper** for *International Conference on Sensors, Signal Processing, Communication, Control and Instrumentation, Pune, India.*

List of Main Conferences Participated

1. 25th National Systems Conference, PSG College of Technology, Coimbatore, December 2001.
2. International Conference on Quality Reliability and Control, IIT Bombay, Mumbai, December 2001.
3. International Conference on CAD/CAM, Robotics and Autonomous Factories, IIT Delhi, August 2003.
4. 27th National Systems Conference, IIT Kharagpure, Dec. 2003.
5. 10th National Seminar on Physics and Technology of Sensors, Pune, India, January 2004.
6. IEEE/IFAC 1st International Conference on Informatics in Control, Automation and Robotics, Setubal, Lisbon, Portugal, August 2004.
7. International Conference on Multidisciplinary Aspects of Engineering, Pune, India, January 2005.
8. CHEMTECH-2005, 22nd International Conference and Exhibition, Mumbai, India, February 2005.
9. First National Conference On Signal Processing, Communication and Control, VIT, Pune, July 2005.

10. IEEE International Conference on Industrial Technology, Mumbai, India, 15-17 December, 2006.
11. 11th IFAC Symposium on Large Scale Complex Systems: Theory and Applications, Gdansk, Poland, July, 22-25, 2007 .
12. International Conference on Sensors, Signal Processing, Communication, Control and Instrumentation, Pune, 3-5 January, 2008, Pune, India.
13. IEEE Conference on AI Tools in Engineering, Pune, India, February, 2008.
14. China Hi-Tech Conference and Exhibition, Schenzhen, China, October, 2008.
15. National Symposium on sustainable energy, Pune, September 2008.
16. Wind India 2008, Chennai, November 2008.
17. RenewTech conference and Exhibition, Pune, March 2009.
18. Renewable Energy Chennai, October 2009
19. RE Regulation India 2010, Pune, February 2010.
20. International Conference on Wind Energy WE 20 BY 2020, New Delhi, February 2010
21. RenewTech Conference and Exhibition, Pune, March 2010.
22. 2nd Renewable Energy Conference, Chennai, August 2010.
23. Delhi International Renewable Energy Conference, October 2010.
24. 5th Renewable Energy India 2011 Expo, August 2011

List of Main Formal Short Term Training Programs Attended

1. AICTE-ISTE sponsored 'Induction Training Programme for Engineering College Teachers' conducted by TTTI Bhopal and University of Pune, at VIT Pune, November-December 1998.
2. 'State Level Seminar on Calibration' two days Training Programme conducted by ERTL Mumbai at VIT Pune.
3. 'PLC Programming and Maintenance' one day Training Programme conducted by Emerson India Pune at VIT Pune.
4. AICTE-ISTE sponsored STTP 'Applications of Advanced Digital Signal Processing in Instrumentation' conducted at VIT Pune.
5. 'Control of Critical Systems` Workshop conducted at IIT Kharagpur by ISRO, December 2003.
6. Workshop on 'Artificial Neural Network` conducted at Escola Superior de Tecnologia de Setúbal, Portugal, August 2004.
7. One week training program on 'Managing Departments' conducted by NITTR Bhopal at its Pune Extension centre, May 2005.
8. One week training program on 'Fundamentals of Wind Energy Generation' conducted by Corporate Learning Centre, Suzlon Energy Ltd, Pune-Dec 2005.
9. Basic training program on FMEA for Improving Reliability and Safety of Suzlon WTG, conducted by Corporate Learning Centre, Suzlon Energy Ltd, Pune-Sept 2006.
10. DNV certified IMS internal auditor, certification cum training program conducted by Det Norske Veritas at Suzlon Pune.
11. CEP on 'Wind Energy Technology' at IIT Bombay, Mumbai, April 14-18, 2008.
12. Accelerated Project Management Professional training by PMSOFT Consultancy Pvt Ltd, Pune, May 27-30, 2008.
13. Two days Training program on Decision Making, Creativity and innovation conducted by TUV at Suzlon Pune, June 30- July 3, 2008.
14. One month extensive training program on 'wind power research and business' conducted by Emerson Network Power China at Shenzhen, Xian and Changchun China, October 2008.
15. Training on 'UPS Basics and applications' conducted by Emerson Network Power, December 29, 2008.
16. management training program on team building and performance management - Emerson Communicative Leaders - 10th - 12th June'09
17. 2 day Corporate training program on - Art of Talkmatics (The art of corporate presentations), May 2010 at Emerson India
18. 2 day corporate training program on - Consultative Selling, Door Consulting, August 2010 at Emerson India

MTech Thesis Work

Title: Robust Design of Industrial Controllers using Quantitative Feedback Theory

Thesis Advisor: Prof. P S V Nataraj, Systems and Control, IIT Bombay.

Abstract: In this report a procedure for designing conventional industrial controllers (P, PI, PID) based on Quantitative Feedback Theory (QFT) approach is presented with examples. Unlike other conventional tuning methods this method is robust and ensures stable operation of the plant despite plant uncertainty. The QFT approach to design conventional controllers is demonstrated on several examples. In these examples controllers designed by QFT gives better performance than other conventional tuning methods.

PhD Thesis Work

Title: Fixed and Interval Model Reduction Techniques for Control System Design

Thesis Advisor: Prof. B. Bandyopadhyay, Systems and Control, IIT Bombay.

Abstract: Existing model order reduction techniques for lower order controller design have certain limitations in terms of their applicability, reliability and accuracy. The main objective of this work is to develop tools that help overcome these limitations for a large class of linear time invariant fixed and uncertain systems. The contributions of this report are two folds. First, the improved model order reduction methods are proposed for linear time invariant non-interval and interval systems. The proposed model order reduction methods are based on Kharitonov and Hermite-Biehler stability theory. The model reduction techniques for interval systems are developed in the frame work of Moore's interval analysis. The proposed methods not only preserve the stability of the system in the reduced order model but also perform better than the available methods in the literature. Second, suppose a reduced order controller is designed from the reduced order model for the original higher order system, it does not guarantee the stability of the resulting closed loop system. Thus, the problem of stabilization of the original system when controller is designed from the reduced order model is addressed using the theory of passivity. Theoretical results concerning key properties of the proposed techniques such as stability, accuracy are derived. The proposed methods are demonstrated on several difficult examples, including those that can not be readily solved by the existing techniques.

Keywords: Global and constrained optimization, Interlacing property, Interval analysis, Kharitonov polynomials, Low order controller, Model reduction, Pade approximation, Passivity based control, Robust control, Routh array, Time moments.

List of Main Subjects Taught

List of subject taught at undergraduate and post graduate degree level program at VIT Pune.

1. Automatic Control System
2. Digital Control
3. Control System Design Technique
4. Process Control
5. Process Instrumentation
6. Power Electronics
7. Basic Instrumentation
8. Modeling and Optimization
9. Unit Operations
10. Digital Computer Control
11. Mechanical Measurements
12. Instrumentation and Automatic Control