UNIQUE PROCESS CONTROL & OPTIMIZATION CREDENTIALS of Prof. Deshpande and SAC

SIX SIGMA & ADVANCED CONTROLS, INC.

http://www.sixsigmaquality.com
e mail: sac@sixsigmaquality.com

Profile of Prof. Pradeep B. Deshpande

- Founder President and Chief Executive Officer of Louisville-based Six Sigma and Advanced Controls, Inc. (SAC), a firm that specializes in six sigma and advanced control training and project executions for industry.
- Professor Emeritus and former chairman of the department of chemical engineering at the University of Louisville.
- Thirty plus years of academic and full-time industrial experience including brief stints at IIT Kanpur, IIT Madras, UDCT, and NCL.
- Supervised twenty doctoral scholars and over forty Master's scholars.
- Published or presented over 100 papers in reputable journals and authored six textbooks.
- His teaching skills are internationally recognized. Recipient of numerous awards for teaching, research, and professional excellence, including ISA's Donald P. Eckman Award in Process Control Education. Dr. Deshpande is a Fellow of ISA and is listed in the Who's Who in the World.
- Conducted numerous process control and optimizatiom training programs in India, Middle East, Latin America, Europe, and the United States.
- SAC's client list is prestigious. Among its past and present clients are Du Pont, Du Pont-Dow, Colgate-Palmolive, Frito Lay, Pidilite Industries, Ltd., Providian Bancorp, Zeon Chemicals, Oil & Natural Gas Corporation, Ltd., HPCL, An Agency of the US Department of Defense, Kuwait Petroleum Corporation, Private Universities Council, Ministry of Higher Education, Kuwait, University of Kentucky Gatton College of Business and Economics, Lexington, TEI Piraeus, Athens, Greece, among others.
- Developed extensive interactions with Exxon Chemicals. These included Exxon-funded research projects, unsolicited Exxon research grants, joint publications, summer assignments at Exxon, recruitment of his Ph. D. Graduates, and placement of U of L's Co-Op. interns.
- Developed extensive interactions with DuPont. These included DuPont-funded research projects, unsolicited DuPont research grants, joint publications and a textbook, summer assignments at DuPont, and recruitment of his Graduates.
- Developed strong ties with India. Joint research, publications, textbook with staff of National Chemical Laboratory, conducted training programs for process industries, served as visiting professor at NCL, IIT/ Kanpur, University of Bombay (UDCT), and IIT/Madras. Served on NRI Committee for meetings with Government of India officials and late Prime Minister, Rajiv Gnadhi.
- Developed extensive interactions with a Foundation in Abu Dhabi. With major funding from the Foundation, advanced the state of the art relating to advanced control and optimization of RO and MSF desalination plants. These activities resulted in several doctoral graduates, numerous technical papers, including one that received the best paper award at a IDA Conference in Abu Dhabi.
- Developed extensive ties with Kuwait. Conducted training programs for petroleum industries, served as External Evaluator of Kuwait University's Graduate Program in Chemical Engineering, joint publications, exchange of visits of students and faculty, Co-Editor of a Workshop on Control Systems Frontiers sponsored by the Kuwait Foundation for Advancement in Sciences.

Prof. Deshpande is credited with pioneering process control and optmization publications. Here is partial list.

1. Deshpande, P. B., **"On Enhancing Chemical Engineering Curriculum and Competitiveness of Chemical Industries"**, Chemical Weekly, 22 June 2010.
2. Deshpande, P. B. and Tantalean, R. Z., **Unifying Framework for Six Sigma and Process Control**, Hydrocarbon Processing, June 2009.
3. Burden, A. C., Tantalean, R. Z., and Deshpande, P. B., **Control and Optimize Nonlinear Processes**, Chemical Engineering Progress, 99, 2, February 2003. pp. 63-73.
4. Leffew, K. W., Yerrapragada, S. S., and Deshpande, P. B., ***Six Sigma* and Solid-state Polymerization**, Chemical Engineering Communications, 188, October 2001, pp. 109-114.
5. Burden, A. C., Deshpande, P. B., and Watters, J. C., **Advanced process Control of a B-9 Permasep Permeater Desalination Pilot Plant**, Desalination, 133, 2001 pp. 271-283.
6. Deshpande, P. B., Makker, S. L., and Goldstein, M., **Boost Competitiveness via *Six Sigma***, Chemical Engineering Progress, 95, 9, September 1999. pp. 65-70.
7. Deshpande, P.B., **Emerging Technologies and Six Sigma**, Hydrocarbon Processing, April 1998.
8. Assef, J. Z., Watters, J. C., Deshpande, P. B., and Alatiqi, I. M., **Advanced Control of a Reverse Osmosis Desalination Unit**, Journal of Process Control, 7, 4, 1997.
9. Deshpande, P. B., Ramasamy, S., and Yerrapragada, S. S., **Neural Nets Improve Batch Quality**, Control Engineering, April 1996. pp. 53-56.
10. Meziou, A.M., Deshpande, P.B., and Alatiqi, I. M., **Dynamic Matrix Control of an Industrial Gas Reformer**, International Journal of Hydrogen Energy, 20, 3, 1995. pp. 187-192.
11. Deshpande, P. B., Bhalodia, M. A., Caldwell, J. A., and Srinivas, Y. S., **Should You Use Constrained Model Predictive Control**?, Chemical Engineering Progress, 91, 3, 1995. pp. 65-72.
10. Deshpande, P. B., Hannula R. E., Bhalodia, M., and Hansen, C. W., **Achieve Total Quality Control of Continuous Processes**, Chem. Eng. Progress, 89, 7, 1993.
12. Maniar, V. M. and Deshpande, P. B., **Advanced Controls for Multistage Flash (MSF) Plant Optimization**, Journal of Process Control, 6, 1, 1996. pp. 49-66.
13. Meziou, A.M., Deshpande, P.B., Cozewith, C., Silverman, N.I., and Morrison, W., **Dynamic Matrix Control of an Industrial Ethylene-Propylene-Diene Polymerization Reactor**, Industrial & Engineering Chemistry Research, 35, 1, 1996. pp. 164-168.
14. Deshpande, P.B., **Improve Quality Control On-line with PID Controllers**, Chemical Engineering Progress, 88, 5, 1992.

Prof. Deshpande's Textbooks and Proceedings

1. Deshpande, P. B., **Six Sigma for Karma Capitalism**, Six Sigma and Advanced Controls, Inc., 2011.
2. Deshpande, P. B. and Tantalean, R. Z., **Process Control and Optimization**, Six Sigma and Advanced Controls, Inc., 2011.
3. Deshpande, P. B., **A Small Step for Man: Zero to Infinity with Six Sigma**, Six Sigma and Advanced Controls, Inc., 2009.
4. Deshpande, P. B. and Alatiqi, I. M., Editors, **Proceedings of the Workshop on Control Systems Frontiers for the Petroleum, Power, and Water Production Industries**, Kuwait Foundation for the Advancement in Sciences, November 11-15, 2000.
5. Tambe, S., Kulkarni, B. D., and Deshpande, P. B., **Elements of Artificial Neural Networks with Selected Applications in Chemical Engineering, and Chemical & Biological Sciences**, Simulation and Advanced Controls, Inc., 1996.
6. Schork, F.J., Deshpande, P. B., and Leffew , K.W., **Control of Polymerization Reactors**, Marcel-Dekker, Inc., New York, 1993.
7. Deshpande, P.B., **Multivariable Process Control**, Instrument Society of America, 1989.
8. Deshpande, P. B., Ash, R. H., **Computer Process Control with Advanced Control Applications**, Instrument Society of America (ISA), Prentice-Hall, Inc. 1983; 2nd Ed., 1988.
9. Ramkrishna, D., Deshpande, P. B. Kumar, R., Sharma, M. M., Ed., **Proceedings of U.S.-India Conference: Chemical Engineering Curricula for the Future**, Bangalore Press, 1988.
10. Deshpande, P. B., **Distillation Dynamics and Control**, (I.S.A.), Arnold Press, London, England, 1985.

Prof. Deshpande has contributed to developing stronger US-India Ties

I. Served as a visiting professor at two of India's most prestigious educational institutions (Indian Institutes of Technology). Also served as Dr. G. P. Kane Visiting Professor, University of Bombay.

II. Established ties between the National Chemical Laboratory, Pune, India, and Speed Scientific School, University of Louisville. Several visits from each side have materialized. Published numerous papers and a textbook.

III. Conducted numerous intensive short courses in advanced process control for engineers in Indian industries including refineries, EIL, L& T, IPCL, NOCIL, and others.

IV. Served as an UNDP (United Nations Development Program) consultant in India.

V. Participated as a member (only one from Kentucky) of a high-level delegation for meetings with the Prime Minister, the Late Mr. Rajiv Gandhi and Government of India officials. About twenty delegates from top industrial and academic organizations in the United States participated in the meetings. The writer's recommendations on improving quality, productivity, and competitiveness of Indian process industries were recorded in the position paper. The writer's suggestion to Mr. Rajiv Gandhi that NRIs (non resident Indians) be given long term visa was accepted and implemented by the Government of India.

VI. Initiated the Pune-Ville project to establish academic, cultural, and joint business interactions between the cities of Louisville and Pune. A copy of the proposal is enclosed. Initially, progress was slow for two reasons: (1) Kentucky industries were not convinced about the scope of opportunities in India, (2) It understandably took time for Indian industries to get accustomed to the new rules of the game of global free enterprise. Progress appears to be picking up. The following are the accomplishments of the Pune-ville project to date.

- Dr. B.R. Sabade, Secretary General, Mahratta Chamber of Commerce and Industries, Pune, Maharashtra State, visited Louisville. He presented a seminar outlining the types of industries operating in Pune and was given a key to the City of Louisville by the Offices of the Mayor and the County Judge Executive.
- Dean Robert Taylor, Dean of the School of Business and Public Administration, University of Louisville, presented lectures on Leadership Development at Pune.
- Dr. Yash Gupta, now Dean of the School of Business, University of Washington at Seattle, presented lectures on Total Quality Management at Pune.
- Dr. Babu Nahata, Professor and former chair of the Economics Department, University of Louisville, presented lectures on Conducting International Business at Pune.

Mrs. Ranju Kayarker, faculty member, Maharashtra State Institute for Catering Technology, Pune, conducted workshops on Indian cuisine at Louisville, Kentucky.

- Dr. Suhas Bhawalakar of the Bhawalkar Research Institute, Pune, conducted a seminar on Vermiculture for converting biodegradable waste into fertilizer.

VII. Served as a member of the Advisory Board of the Office of Economic Development, Commonwealth of Kentucky, to expand Kentucky-Maharashtra business interactions. One visit of a delegation of business and Government leaders from each side has taken place to date. Joint business activities have materialized.

VIII. Co-organized NSF sponsored U.S.-India Conference on Chemical Engineering Education for the Future. Twenty world-renowned educators and industry leaders from the U.S. side participated in the conference.

Other Interesting Contributions

An investigation of the theory of rise and decline of cultures spanning four decades led to the prediction in the early nineties that the rise of China and India was imminent. Prof. Deshpande's recent book, "**A Small Step for Man: Zero to Infinity with Six Sigma**", offers fascinating insights into achieving global competitivenss with six sigma, improving health with Pranayam, and making sense out of the continuing violence resulting from intolerance and sheds light on interfaith understanding, racial harmony, and global peace. Prof. Deshpande enlisted a group of about 20 professionals including doctors, professors, engineers, and company executives in Louisville to ascertain the health benefits of Pranayam breathing exercises using six sigma principles. The results are promising. His new text new ideas on how to be our best. They combine several thousand years of Indian wisdom and the modern six sigma concepts.