

Automation and Control


Conducted by Indian Institute of Technology (IIT), Bombay



The objective of this program is to cover key facets of industrial technology, related to Automation and Control. The program modules cover in depth fundamentals and high end technology. The course aims at a pragmatic and practical industry oriented outlook for which IIT, Bombay is well recognized.

► **Interactive contact mode course with interpersonal attention**

► **Certification by IIT Bombay after clearance of mandatory examination held post-course**

Faculty	Topics									
<p>Prof. P.S.V. Nataraj, Ph.D Professor and Convener, Systems and Control Engineering Group, IIT Bombay Ph.D from IIT, Madras</p>	<ul style="list-style-type: none"> ◆ Control Fundamentals Feedback and Feed-forward Systems, P, I & D actions, PID control of single and multi capacity processes, Control of processes with dead time. Tuning process control loops, Auto-tuning, Multi-loop Process Control, Cascade, Ratio control, Model Predictive Control, Robust Control, Adaptive Control. ◆ Control Applications Process Control Systems for Temperature Control of Heaters, Reactors, Heat Exchangers, Distillation Columns, Boilers. ◆ Automation Programmable Logic Controllers- Architecture, Ladder development, PLC programming, PLC selection, Application system integration. Introduction to Distributed Control System (DCS), Configuration Software as per IEC-61131-3 Standard, SCADA, MMI / HMI Programming, Industrial Communications and Communication Protocols. 									
<p>Mr. Vilas Shripad Chitnis Vice-President and CEO Control & Solutions (India) Pvt Ltd Mumbai</p>	<p style="text-align: center;">Program features</p> <ul style="list-style-type: none"> ◆ Industry specific modules ◆ Practical relevance to work ◆ Knowledge as well as skill based approaches ◆ Exposure to state of the art technology 									
Target Industries	<table border="1" style="width: 100%;"> <tr> <td style="background-color: #ffffcc; text-align: center;">Proposed course dates</td> <td style="background-color: #ffffcc;">May 14 to May 19, 2009</td> </tr> <tr> <td style="background-color: #ffffcc; text-align: center;">Course duration</td> <td style="background-color: #ffffcc;">6 days / 30 hours</td> </tr> <tr> <td style="background-color: #ffffcc; text-align: center;">Timings</td> <td style="background-color: #ffffcc;">Evenings to suit working professionals</td> </tr> <tr> <td style="background-color: #ffffcc; text-align: center;">Course fee</td> <td style="background-color: #ffffcc;">Course fee USD 1750 Registration fee USD 100 (not refundable) 20% discount for first 10 registrations 10% discount for next 10 registrations</td> </tr> </table>		Proposed course dates	May 14 to May 19, 2009	Course duration	6 days / 30 hours	Timings	Evenings to suit working professionals	Course fee	Course fee USD 1750 Registration fee USD 100 (not refundable) 20% discount for first 10 registrations 10% discount for next 10 registrations
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<p>PINNACLE KNOWLEDGE GROUP Block 2B, G08 Dubai Knowledge Village, Dubai Phone: +971 4 375 5526 Fax : +971 4 429 3664 www.pinnacleknowledge.com</p>	<p>Partner</p> 									

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Faculty Profiles

Prof. P.S.V. Nataraj, Ph.D

Professor and Convener,
Systems and Control Engineering Group,
IIT Bombay
Ph.D from IIT, Madras

Prof. P. S. V. Nataraj is currently the Chairman and Professor of Systems and Control Engineering Group at IIT Bombay. He obtained his Ph.D. from IIT Madras in process dynamics and control in 1987. He then worked in the CAD center at IIT Bombay, India for about one and half years before joining the faculty of the Systems and Control Engineering Group at IIT Bombay in 1988.

His current research interests are in the areas of Chemical Process Control, Optimization, Robust Stability and Control, Nonlinear System Analysis and Control, and Reliable Computing. He has guided more than 100 Masters and Doctoral students in these areas, and published more than 100 papers in leading international journals and conferences. He is an editor of two international journals - International Journal of Automation and Control (Inderscience), and Opsearch (Springer).

He was invited as a "very high quality professor" by Spain in 2004-2005, and gave numerous invited talks in North and South America, Europe, and Africa in areas such as optimization, reliable computing, and control. Some of his papers received the best paper award at international conferences. In particular, his paper received the NASA / US Navy commendation and memento for the "Best Applied Research paper" at the International Symposium on Air Breathing Engines (ISOABE), Cleveland, Ohio, in 2003.

Prof. Nataraj was the chairman or co-chairman of several international conferences sponsored by IEEE and other societies. He also chaired and co-chaired several sessions in various international conferences in India and abroad.

Prof. Nataraj has given many control related courses to various industries and organizations, such as BHEL, L & T, ONGC, Reliance, Nuclear Power Corporation, and Defense Research organizations. He worked on several projects for the Aerospace, Nuclear, Defense organizations, and Chemical industries. He also worked on the technology development mission project "Integrated Design and Competitive Manufacturing (IDCM)", for the Indian planning commission.

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Faculty Profiles

Mr. Vilas Shripad Chitnis

Vice-President and CEO
Control & Solutions (India) Pvt Ltd
Mumbai

Mr. Vilas Shripad Chitnis is currently the Vice-President and CEO of Control & Solutions (India) Pvt Ltd (CSIL). Mr. Chitnis has more than 25 years of experience in the field of instrumentation and process control. Mr. Chitnis is a senior member of ISA, and senior member of the Instrument Expert Club (IEC) Mumbai. He is also on the management committee of IEC.

Mr. Chitnis has made significant contributions to training and education. He started the "Finishing School of Automation" with VIT Engineering college and DY Patil engineering college. The finishing school is basically for graduate students aspiring for jobs in multinational companies. During his tenure at RCF, he started a diploma college in Chemical, Instrumentation, Electrical, and Mechanical Engineering. He developed computer based training (CBT) programs on Field Bus, PLC configuration, Microcontrollers, and SCADA.

He is a visiting faculty of College of Engineering Pune, VIT Pune, DY Patil College of Engg Pune, IDEMI institute, IAEC, and a guest faculty of CARIMO Cell of IIT Bombay. He served as a member of the board of studies for Mumbai and Pune universities in the areas of instrumentation and control. Mr. Chitnis has conducted more than fifty courses for various industries on Distributed Control Systems and PLCs, SCADA and its applications, Microprocessors and Microcontrollers, and instrumentation courses for measurement and control.

Mr. Chitnis started his career as the Maintenance Manager in Rashtriya Chemical and Fertilizers (RCF). He then moved to Emerson Process Control (Emerson is a Fortune 500 company) as the General Manager and head of the DCS and PLC divisions. He later became the Vice-President of Emerson Network Power.

Through his present company CSIL, Mr. Chitnis has initiated several new activities through international collaborations in the field of Automation, Embedded Technology, Electrical Distribution Systems, Terminal Automation and Pipeline SCADA. CSIL is a well-known knowledge-based company in the field of automation of process Industries, providing consultancy and training for total automation, as well as cost effective solutions for integrated management for process control and project engineering.

Some of these industries are Indian Oil Corporation, Oil and Natural Gas Corporation, Lupin, Lubrizol, National Fertilizer, ISPAT Steel industries, Bharat Petroleum, Hindustan Petroleum, Cipla, Ranbaxy, Reliance Industries, Mazgaon Dock, Klocner & Windsor, Indian Aluminum company, and Century Rayon.

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Continuing Education Programs (CEP)

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The Continuing Education Program (CEP) at IIT Bombay has been set up to meet the manpower training and knowledge up gradation needs of the industry. They are conducted for working professionals and teachers to enhance their skills and meet industry requirements.

OVER 100 CANDIDATES FROM 35 COMPANIES HAVE BENEFITED IN UAE IN LAST ONE YEAR BY PARTICIPATING IN OUR CEP COURSES

Feedback from past participants of the various courses

- ◆ The course provides us with guidelines and ideas about how to effectively plan, schedule, monitor our projects and tackle our daily activities efficiently. This course has made me more confident in managing my projects—**Richard Bautista, Zebian Aluminium** on Project Management
- ◆ Very well put together course with excellent content. Was really impressed with how much I learned in such a short time. **Saju Parameswaran, Grayloc** on Piping Engineering
- ◆ Course covered is very useful in our field since it covers the major planning and management. It gives a clear idea of major tools and points to stress on. It's our honor to attend a class conducted by such a senior professor. The knowledge and examples given to us are invaluable —**Sachin Sharma, Kaefer LLC** on Project Management
- ◆ The piping engineering course was very useful from the practical point of view. I would say upon completion of the course the level of confident to work as a piping engineer is very high. **Ananthakrishnan, Dubai Petroleum** on Piping Engineering

Some of the key CEP courses

- ◆ Piping Engineering
- ◆ Project Management
- ◆ Industrial Corrosion
- ◆ Welding
- ◆ Automation and Control
- ◆ Six Sigma
- ◆ Logistics & Supply Chain Management
- ◆ Offshore Structures
- ◆ Sheet Metal Engineering
- ◆ Maintenance Management
- ◆ Paint, Coating, Inspection & Quality Control
- ◆ Energy Auditing

Key programs conducted in UAE

- ◆ Piping Engineering — November 2007
- ◆ Piping Engineering — April 2008
- ◆ Piping Engineering — June 2008
- ◆ Project Management — October 2008
- ◆ Piping Engineering — February 2009



Course in session

Our CEP course participants come from



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