

## CURRICULUM VITAE

of

*Antonio VICINO*

Professor of Control Systems  
Università di Siena, Siena (Italy)  
E-mail: vicino@ing.unisi.it  
IEEE Fellow No. 1138536

Birthdate : 25 July, 1954.  
Birthplace: Torre Orsaia (SA) - Italy

Web: <http://www.dii.unisi.it/~vicino/>

### Education

- Laurea Degree in Electrical Engineering (Honors), Politecnico di Torino, 1978.
- 1979 - 1980 Fellowship CSS (Centro Studi Sistemi)-ATA (Associazione Tecnica dell'Automobile).
- 1981 - 1982 Fellowship ENEL-Politecnico di Torino.

### Academic Positions

1999-2005	Dean of the Engineering Faculty, University of Siena, Siena, Italy
2000-present	Head of the Center for Study of Complex Systems, University of Siena, <a href="http://csc.unisi.it">http://csc.unisi.it</a> , Siena, Italy
1996-1999	Head of the 'Dipartimento di Ingegneria dell'Informazione', University of Siena, Siena, Italy
1993-present	Professor of Control Systems, University of Siena, Siena, Italy
1990-1993	Professor, Dipartimento di Ingegneria Elettrica, Università di L'Aquila, Italy and Dipartimento di Automatica e Informatica, Politecnico di Torino, Italy
1987-90	Associate Professor, Dipartimento di Sistemi e Informatica, Università di Firenze, Italy
1983-87	Assistant Professor, Dipartimento di Automatica e Informatica, Politecnico di Torino, Italy

## Professional Interests

- Control and systems theory.
- Robust control.
- Mathematical modeling and robust identification of dynamic systems.
- Mobile robotics and vision based control systems.
- Nonlinear dynamic systems analysis.
- Time series analysis: filtering and prediction.

## Teaching Experience

- Gave lectures and seminars at the Politecnico di Torino from 1983 to 1987 on courses of Control Systems, System Theory, Automation.
- Taught courses of Control Systems at the University of Florence (1987-1990), University of L'Aquila (1990-1993), University of Siena (1993-present).
- Supervisor of 70 Laurea Degree Theses in the areas of mathematical modeling and identification, robust control of uncertain systems, time series analysis, mobile robotics, vision based systems.

## Professional and Organizing Scientific Activities

- Consultant for ENEL (Italian National Agency for Production and Dispatching of Electrical Energy)- CRA (Automation Research Center), Milan, 1980-1986 (refer to joint papers of the Publication List).
- Consultant for VETROEUROPA-SIV (on glass heating process modeling and simulation and furnaces design).
- Co-organizer of the *International Workshop on Robustness in Identification and Control*, held in Turin, Italy, June 1988; co-editor of the Proceedings Book 'Robustness in Identification and Control', Plenum, 1989.
- Chairman of several regular sessions on System Identification and Robust Control at *IEEE Conferences on Decision and Control*, 1988-present.
- Organizer and Chairman of the session 'Robust Analysis and Control of Systems with Non-linearly structured Perturbations ', at the *28-th IEEE Conference on Decision and Control*, Tampa (USA), 1989.

- Invited panelist at the Discussion Session *Robustness in Control Theory*, 11-th IFAC World Congress, Tallinn (USSR), 1990.
- Guest Lecturer at the Tutorial Workshop on ‘Robust Control’, *29-th IEEE Conference on Decision and Control*, Honolulu (USA), 1990.
- Co-organizer of the session ‘Robust Identification and Control of Dynamic Systems with Bounded Uncertainty’ at the *9-th IFAC/IFORS Symposium on Identification and System Parameter Estimation*, Budapest (H), 1991.
- Chairman of several regular sessions at *IFAC/IFORS Symposia on Identification and System Parameter Estimation*, 1991-present.
- Co-organizer of the International Conference ‘L’analisi e la previsione delle serie storiche’, Torino, Villa Gualino, 1992.
- Member of the Conference Editorial Board of the *IEEE Conferences on Decision and Control and American Control Conferences*, 1993-2000.
- Member of the Program Committee of the *IFAC-IFIP-IMACS Conference on Control of Industrial Systems*, Belfort (F), 1997.
- Organizer of the invited session ‘Control of Robotic Systems’, at *IFAC-IFIP-IMACS Conference on Control of Industrial Systems*, Belfort (F), 1997.
- Organizer of the invited session ‘Tools for Robustness Analysis of Control Systems with Structured Uncertainties’, *IFAC Symposium on Robust Control Design*, Budapest (H), 1997.
- Organizer of the invited session ‘Design of Low Complexity Robust Controllers for Uncertain Systems’, *IFAC Symposium on Robust Control Design*, Budapest (H), 1997.
- Organizer and chairman of the invited session ‘Identification for Control: Consistency, Complexity and Optimality’, *36th IEEE Conference on Decision and Control*, San Diego (USA), 1997.
- Organizer and Coordinator of the *International Workshop ‘Robustness in Identification and Control’*, Siena (Italy), July 30-August 2, 1998.
- Member of the Int. Program Committee of the *13th IFAC Symposium on System Identification*, Rotterdam, 2003.

## Awards and scientific/academic appointments

- *Fellow* of the IEEE (Institute of Electrical and Electronic Engineers) since 2000.
- *Fellow* of the IFAC (International Federation of Automatic Control) since 2008.
- *Associate Editor* of *IEEE Transactions on Automatic Control*, 1993-1997.
- Guest Editor (with Andrea Garulli) of the *International Journal of Robust and Nonlinear Control* Special Issue ‘Robustness in Identification and Control’, June 2001.
- *Associate Editor* of *Automatica*, 1995-present.
- *Associate Editor at Large* of *IEEE Transactions on Automatic Control*, 1998-present.
- *Guest Editor* (with Lennart Ljung ) of the *IEEE Transactions on Automatic Control* Special Issue ‘System Identification’, October 2005.
- *Associate Editor* of *IEEE Transactions on Circuits and Systems, Part II*, 2006-2007.
- *Program Chair* of the *15th IFAC Symposium on System Identification*, France, 2009.
- Opening lecturer of the Academic Year 1996/97 at the University of Siena, ‘From the waterclock of Ktesibios to the automated highway’, Siena, November 20, 1996.
- Who’s Who in the World, 1997.
- *Head of the Dipartimento di Ingegneria dell’Informazione*, University of Siena, 1996-1999.
- *Dean of the Engineering Faculty*, University of Siena, 1999-2005.
- *Head of Center for Study of Complex Systems*, University of Siena, (<http://csc.unisi.it>), 2000-present.
- Director of the Master Program ‘Economia Digitale & E-business’, University of Siena, 2001-2006.
- Member of the Executive Board and Vice President of the Conference of Deans of Italian Engineering Faculties, 2003-2005.
- Member of the Scientific Steering Board of ARCO (Association for Research on Complexity).
- President of the Italian Automatic Control research community, 2004-present.

## Main Research Grants and Projects

- Enel (National Agency for Production and Dispatching of Electrical Energy): “Analysis and Prediction of Active Load Variations in a Node of Distribution Network”, 1980-1984, (Co-proponent).

- National Research Council: “Integration of Mathematical Modeling and AI Techniques”, Special Project on ‘Informatics and Parallel Computing’, 1989-1991, (Co-proponent).
- National Government: “Control of Uncertain Systems”, 1988-1989, (First Proponent).
- National Research Council “Analysis and Robust Control of Uncertain Dynamic Systems”, 1990, (First Proponent).
- National Government (Ministry of Research) “Control of Uncertain Systems”, 1990-1992, (First Proponent).
- National Research Council , National Project: “Algorithms and Architectures for Identification, Robust and Adaptive Control”, 1991, 1992 (First proponent and coordinator of the University of L’Aquila Team).
- ASI (Italian Space Agency) “Robust and Adaptive Design Techniques in Spatial Applications”, 1993-1994, (First proponent and coordinator of the University of Siena).
- National Government: “ Robust Identification and Control of Uncertain Systems”, 1993-1998, (First Proponent).
- National Research Council: “Algorithms for Identification and Robust Control of Uncertain Systems”, 1995-1997 (First Proponent and National Coordinator).
- ASI (Italian Space Agency): “Dynamic Models and Estimation Techniques for Constructing and Updating Navigation Maps for Mobile Robots”, 1996-1999, (National project, First Proponent of the Un. of Siena Team).
- UE Project INTAS-93-1034: “Robust control with nonlinear dependence on uncertain parameters” – in cooperation with DLR-Munich (Germany), University of St. Petersburg (Russia), Accademy of Sciences of Moscow (Russia), 1996-1998 (General Coordinator and local scientific responsible of the University of Siena).
- National Government: “Robustness techniques for control of uncertain systems”, (PRIN National Project, First Proponent and National Coordinator), 2000-2001.
- University of Siena, “Team based exploration of outdoor unstructured environments by mobile robots”, 2000 (First Proponent).
- ASI (Italian Space Agency): “TEMA: Team-based Exploration by Mobile Agents, 2000-2002, (National project, First Proponent of the Un. of Siena Team) .
- University of Siena, “Environmental monitoring in lakes and lagoons: modeling, prediction and data acquisition with autonomous mobile sensors” 2001 (First Proponent).
- National Government: “Methods and optimization techniques for identification and robust control of uncertain systems”, (PRIN National project, First Proponent of the Un. of Siena Team), 2003-04; 2005-06; 2007-08.

- FIRB: “Techniques and algorithms for identification and robust control of dynamic systems”, 2002-2004 (National Project, First Proponent).
- UE Project: “DITTY: Development of an Information Technology Tool for the Management of European Southern Lagoons”, 2003-2005 (First Proponent of the Un. of Siena Team).
- MPS Foundation: “Research activities at the CSC: Center for the Study of Complex Systems, University of Siena”, 2000-2007 (First Proponent).
- MPS Foundation: “Innovative engineering techniques based on haptic interfaces for advanced medical applications, 2003-2004 (First Proponent).

## Research activity and labs

Author of more than 220 publications in referenced international journals and conferences, co-editor of 2 international books and 2 Special Issues in the *Int. J. of Robust and Nonlinear Control* and *IEEE Transactions on Automatic Control* on the following research topics:

1. Robust control of uncertain systems.
2. System identification.
3. Time series analysis and prediction.
4. Mathematical modeling, analysis and simulation of dynamical processes.
5. Mobile robotics.
6. Nonlinear systems stability.

Advisor of 11 PhD students and 7 Research Associates. Advisor for more than 100 Laura Degree Dissertations.

He has visited several Universities and delivered lectures and short courses; he activated several research group collaborations (e.g., UC at Santa Barbara, Texas A&M University, Linköping University, Columbia University, Stanford University, Cambridge University).

Since 1996, his group (<http://control.dii.unisi.it>) has set up 4 research labs:

Mobile Robotics Lab (<http://control.dii.unisi.it/MobileRoboticsPage>).

The research lines active in this lab regard coordination and control of teams of autonomous agents performing exploration tasks in cooperation.

Haptics and medical robotics Lab (<http://sirslab.dii.unisi.it/>).

The research lines active in this interdisciplinary lab regard medical problems, like ocular motility, simulation of the interaction with human organs, etc.

Process Control Lab.

In this lab several applicative research lines are developed on automation and instrumentation for process control, in cooperation with enterprises and industries.

Automatic Control Telelab (ACT) (<http://act.dii.unisi.it>).

This Telelab, which is covered by a copyright, is a remote lab for process control and mobile robotics. It is basically finalized to teaching. It obtained several international recognitions, the most important being the front cover of the Journal IEEE Control Systems Magazine, June 2004. It is presently used by students and classes from several international universities.