

Prof. ORAZIO MIRABELLA

1. General Informations

Master Degree in Physics, received on July 1971 at the Physics Department, University of Catania.

From January 1972 to April 1973 he served in the Italian Army.

From April 1973 to November 1987 he has taught at the Technical Industrial Institute in Catania

During the same period, Prof. Mirabella carried out research activities, under contract at both the Institute of Human Physiology and the institute of electrical engineering, University of Catania.

From December 1987 to October 1994 he has been "Associate Professor" of Programming languages at the Engineering Faculty, University of Catania.

From 1994 Orazio Mirabella is "Full Professor" of "Computer Networks" at the Engineering Faculty of the University of Catania.

2. Teaching experience.

From 1973 to 1987 Prof. Mirabella has taught "Applied Electronics" at the Technical Industrial Institute in Catania.

Since 1987 and over, Prof. Orazio Mirabella has provided lectures, seminars and exercises for under and post-graduated students and Masters in the following areas:

- Programming languages
- Computer architectures
- Industrial Informatics
- Computer networks

During several years Professor Mirabella has also taken courses at the Kore University of Enna and Agrigento on the premises of the University of Palermo.

During the years of activity Prof. Mirabella took care of the development of many research degree theses in the area of computer Engineering.

From 1994 to 2000 Professor Mirabella has been the Chief of the Educational Activities in the area of Computer Science courses at the University of Catania.

From 1999 he is the Co-ordinator of the PhD courses on Computer science and Telecommunications at the University of Catania

From 1999 he is responsible for the cooperation between the University of Catania and the State University of Aerospace Instrumentation of St. Petersburg. During many years Prof. Mirabella has cooperated in both the organization of Student exchanges between the two Universities and in the organization of International Seminars.

From 1997 he is Faculty Advisor of the International Society for Automation (ISA) Student Section. Under this role he has organized several activities for students, by organizing student's workshops

and Expositions.

3. Research Experience

The main research activities of Prof. Orazio Mirabella are in the area of real-time communication systems and hard real-time process control systems. In such a context Prof. Mirabella has studied problems related to the integration of Fieldbuses into process control systems, has evaluated the ability of Fieldbuses for supporting communications in industrial plants, and has developed some scheduling algorithms for process control. Prof. Mirabella has also studied problems related to wireless networks and their use into Process Control Systems with particular reference to Bluetooth and WiFi.

Prof. Orazio Mirabella, in his research activity, has also investigated the use on non conventional methods such as Neural networks, and Genetic algorithms into both automated control systems and communication systems.

During the many years of activity Prof. Mirabella participated as an expert, to the activity of several standardization bodies both national "Comitato Elettrotecnico Italiano" (CEI) and international "International Electrotechnical Committee (IEC) with regard to activities' associated with computer networks for application in process control. In this context, Prof. Mirabella has participated in the work of the IEC Technical Committee for Standardization TC65C/WG3 network Proway, organizing meetings in Italy, producing useful scientific contributions for the advancement of the standard, participating in the plenary sessions of the Subcommittee SC65C as Italian representative. The activity regarding computer networks has been specialized into "Networks for Process Control" and in particular, Fieldbus. In this context, Prof. Mirabella has participated since 1986 to the work of the Technical Committee TC65/WG6 for the definition and standardization of Fieldbus, presenting useful scientific contributions to the advancement of the standard.

Currently Prof. Mirabella participates in the activities of international standardization committees as a member of the IEC SC65C "Digital communications for control systems" and of the IEC SC65C WG10, 11.

Prof. Mirabella has been Associate Editor of the journal IEEE Transactions on Industrial Informatics and has been the organizer of several IEEE international conferences. He is currently a member of the ADCOM of the IEEE Industrial Electronics Society.

Prof. Mirabella is senior member of the International Society of Automation (ISA) as an expert in issues related to process control networks and Senior Member of IEEE. In the Year 2008 Prof. Mirabella received the Don W. Thompson Award from ISA in recognition of the educational activities performed during many years.

All research activities have been performed under grants with ENEL-Centro Ricerche di Automatica in Cologno Monzese, with ST-Microelectronics in Catania and inside EU projects, such as Esprit project 6188 PRIAM, Esprit project 8244 EIAMUG, Esprit Project EP26951 NOAH.

This is a short list of the main projects which Prof. Mirabella participated:

International Projects:

1992 -Project ESPRIT III- 6715 -CONNY Robot Control Based on Neural Networks Systems

1992 - Project ESPRIT IIM n. 6188 PRIAM "Prenormative Requirements for Intelligent Actuation and Measurement"

1996 - Project ESPRIT III Accompanying Measure n. 8244 EIAMUG "European Intelligent Actuation and Measurement User Group"

1998 - Project ESPRIT 26951 NOAH – Network Oriented Architecture Harmonization.

2007 – FlexWare project (Funded under Seventh Framework Programme) : Flexible Wireless Automation in Real-Time Environments.