

SUMMARY



Surname: Manuel	Given Name: Castro
Date of birth: 03/27/1958	Place of birth: Caracas, Venezuela
Profession: Industrial Engineer	Nationality: Spanish
DNI: 36.025.191 S	Languages: Spanish, English and French
NRP: 3602519168 A0500	Married to: Carmen
e-mail: mcastro@ieec.uned.es	Daughters: Marta and Iria
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Other activities: padel, ski, travel	
Knowledge area: Electronics Technology (UNESCO 3307)	

Manuel Castro took a first degree in Industrial Engineering in 1983 at E.T.S.I.I. (Industrial Engineering School) of the Polytechnic University of Madrid been specialized in Electrical Engineering (Electronic and Control), and a doctorate (PhD) in Industrial Engineering at the same University, with the study of technical and social impact of solar renewal central electric grid integration.

From 1984 to 1988 he teaches different courses of electronics in the Electronic Engineering Division of the Industrial Engineering School of the Polytechnic University of Madrid. He teaches basic and general electronics, analog and digital electronics, instrumentation as well as microprocessors in the Electronics and Control Engineering degree and basic electronics in non-specialist degrees. He joined the Electrical and Computer Engineering Department (DIEEC) of the Spanish University for Distance Education (UNED) in 1984 to teach analog and digital electronics in the Industrial Engineering degree and to participate in technical research and development.

From 1989 to 2002 Dr. Castro is Associate Professor of this Department, complementing his researching activities with doctoral courses and other teaching activities, as are courses at UNED's Open Education Programs and others outside the UNED, and working as system integration consultant for different companies as Euro Four and Micromouse, being Professor on 2002.

From 1988 to 1993 Dr. Castro joined Digital Equipment Corporation in Madrid, Spain, sharing the working time dedicated to the University. During this period Dr. Castro had been involved as Senior System Engineer from 1988 to 1991 and from 1991 to 1993 as Senior Technical coordinator, basically in the Finance Group, having a strong relationship in the technical definition and selling of highly integrated solution (systems, components and networks) for the different large accounts of the Finance Group (BBV, Banesto, Popular, Privanza, etc.).

Since 1993 Dr. Castro comes back to the University in full time. He was working in different projects of R&D in the different Spanish and European Community initiatives, serving from basic research (1981) to project manager and responsible from 1997. He acts as Research and Doctorate Vice-director of the UNED's Industrial Engineering School in 1995 and 1996, as UNED's Computing and Communication Service Department director from 1996 to 1999, and as Academic Vice-director of the UNED's Industrial Engineering School from 1999 to 2002. From 2002 to 2004 he serves as Vice-Rector of New Technologies at the UNED. He served as Head of the Electrical and Computer Engineering Department of the Spanish University for Distance Education from 2005 to 2010.

Dr. Castro speaks Spanish, English and French, and is member of the professional associations: IFAC, ISES, board member (has been vice-president) of AEDES (Spanish Section of ISES), ASEE, AACE and Fellow Member of IEEE. Since 1996 he is included in the Who's Who in the World, since 1997 in

the Who's Who in Science and Engineering and in the 2000 Outstanding Scientist of the 20th Century. The next pages include a resume of the activities developed and focused during his professional career.

Current job title:

- Full Professor in Electronics Technology at the Electrical and Computer Engineering Department of the Spanish University for Distance Education.

Details of education:

- Higher Bachelor at Coya Institute, Vigo, Spain, 1975.
- Industrial Engineering (Electrical Engineering and specialized in Electronic and Control) degree (ETSII/UPM, Madrid, Spain), 1983.
- Doctor (PhD) in Industrial Engineering, (ETSII/UPM, Madrid, Spain), 1988.

Career to date:

2002-now, Full Professor, at ETSII/UNED, Madrid, Spain.

2005-2010, Head of the Department at DIEEC/UNED, Madrid, Spain.

2002-2004, Vice-Rector of New Technologies at ETSII/UNED, Madrid, Spain.

1999-2002, Academic Vice-director at ETSII/UNED, Madrid, Spain.

1997-1999, Director at Computing and Communication Service Department, at UNED, Madrid, Spain.

1996-1997, Research and Doctorate Vice-director at ETSII/UNED, Madrid, Spain.

1993-now, Engineering and Computing Consultant, Madrid, Spain.

1989-2002, Associate Professor, at ETSII/UNED, Madrid, Spain.

1988-1992, Senior System Engineer, at Digital Equipment Corporation, Madrid, Spain.

1986, Digital Equipment Corporation external teacher qualification, Madrid, Spain.

1983-1989, Lecturer, at ETSII/UNED, Madrid, Spain.

1984-1989, Lecturer, at ETSII/UPM, Madrid, Spain.

1983, Basic researcher fellowship at DIE/UPM, Madrid, Spain.

1981-now, Research and projects development, Madrid, Spain.

Honours and Awards:

- Extraordinary award of Ph Degree Thesis, 1988, ETSII/UPM, Madrid, Spain.
- VIESGO 1988 Award (best Doctoral Thesis in Electrical Engineering Applications) to the best Doctoral Thesis for scientific research in electrical industrial process applications of electricity
- 1997 UNED's Social Board Award for the Best Didactic Materials in Experimental Sciences for the "Physic Elements for Computer Science".
- 1999 UNED's Social Board Award for the Best Didactic Materials in Experimental Sciences for the "Circuit Simulation Guide".
- 2001 Award for the "Innovative Excellence in Teaching, Learning & Technology" from the "Center for the Advancement of Teaching and Learning".
- 2003 IEF (International Energy Foundation) Fellow.
- 2006 UNED's Social Board Award Accesit for the Best Didactic Materials in Experimental Sciences for the "Basic Electronic Materials Simulation, Examples and Practices".
- 2006 IEEE Education Society Distinguished Chapter Leadership Award.
- 2006 IEEE Education Society President Certificate of Appreciation.
- 2008 IEEE Fellow.
- 2009 IEEE Education Society Edwin C. Jones, Jr. Meritorious Service Award.
- 2010 Distinguished Member Award of the IEEE Education Society.
- IEEE EDUCON 2011 Meritorious Service Award (jointly with Edmundo Tovar), of the EDUCON 2011 conference.

Quality criteria, evaluation and research subjects:

- Four research six year periods (all presented).
- Five teaching five year periods (all presented).
- Positive evaluation on the UNED's specific complement.
- Electrical and Electronic Engineering:
 - Electronic Engineering.
 - Electrical Engineering focused to Renewable systems.
- Energy Sources and Technology:
 - Alternative and renewable sources of energy. Solar energy.
 - Energy conversion systems.
- Computers and Information Technology:
 - Technology-Enhanced Learning.
 - Multimedia systems. Distance learning technology and tools.
 - Digital systems and technology.
 - Simulation modeling.
 - Computer communications networking. Internet. Electronic Commerce applications.
 - Computer Science and technology. Advanced processors and simulation.
- Communications:
 - Data communications systems and networks. Simulation.
 - Signal processing, signals and communication electronics.

Main publications:

- US-Spain evaluation of the Solar One and CESA-I receiver and storage systems, Ed. Sandia National Laboratories, 1989.
- Micro: aprendizaje de microprocesadores, vol. 1 and 2. Ed. Marcombo, 1994 and 1996.
- Elementos de física para informática, U. D. 3. Ed. UNED, 1995.
- Problemas resueltos y prácticas por ordenador de elementos de física para informática. Ed. UNED, 1996.
- Simulación y electrónica analógica. Problemas y prácticas. Ed. RA-MA, 1998.
- Edificios Fotovoltaicos. Técnicas y Programas de Simulación (con CD-ROM). Ed. Progensa, 2004.
- Electrónica Digital. Intro. a la Lógica Digital: Teoría, Problemas y Simulación. Ed. RA-MA, 2002.
- Electrónica General: Teoría, Problemas y Simulación. Ed. UNED, 2005.
- Electrónica General: Prácticas y Simulación. Ed. UNED, 2005.
- Electrónica Digital: Prácticas y Simulación. Ed. UNED, 2006.
- Electrónica Digital: Lógica Digital Integrada. Teoría, problemas y simulación. Ed. RA-MA, 2006.
- Comunicaciones Industriales: Principios Básicos. Ed. RA-MA, 2007.
- Comunicaciones Industriales: Sistemas Distribuidos y Aplicaciones. Ed. RA-MA, 2007.
- Redes de Comunicaciones Industriales. Ed. UNED, 2013.
- "Technology Innovation and Integration in Distance Learning", IEEE Press, Melecon Conference, Tel Aviv, May 1998.
- "Enhancing the Performance of a Virtual Campus for DE: Impacts and Achievements", EDEN Conference, Bologna, Italy, June 1998.
- "Modernising through Technological Applications – UNED", Mega Universities Summit Conference, South Africa, November 1997.
- "An Experience in UNED on Building up a Virtual Campus", The Virtual campus: Trends for Higher Education and Training Working conference at IFIP, Madrid, November 1997.
- "Examples of Distance Learning Projects in the European Community", in "IEEE Trans on Education". November 2001.

- "Grid-Connected PV Buildings: Analysis of Future Scenarios", ISES 2001 Solar World Congress, Adelaide, Australia, December 2001.
- "Experiences with Fuzzy Logic and Neural Networks in a Control Course". In "IEEE Trans on Education". May 2002.
- "On-line Energy Analysis in PV Buildings Connected to the Utility Grid", IEEE IECON 28th International Conf. on Industrial Electronics, Control and Instrumentation, Sevilla, November 2002.
- "University Study Evaluation of Use of Web Platform in Distance Learning", IEEE FIE Frontiers in Education Conference, Boston, USA, November 2002.
- "Software Modelling of Grid-Connected Photovoltaic Buildings". In "Progress in Photovoltaics: Research and Applications". June 2003.
- "Towards an European Global Higher Education Area: Its Effects in Spain". "The Interface - IEEE ES y ASEE ECED". November 2004.
- "Grid-Connected PV Buildings: Analysis of Future Scenarios with an Example of Southern Spain". In "Solar Energy", Julio de 2005.
- "Characterization and Measuring in Test Facilities PV Grid Connected Inverters", ISES 2005, ISES 2005 Solar World Congress, ISES (International Solar Energy Society), ISES (International Solar Energy Society), Orlando, FL (USA), August 2005.
- "A Review on the Accreditation Bodies and Processes in Europe. A Vision from the Engineering", IEEE FIE Frontiers in Education Conference, Indianapolis, USA, October 2005.
- "Building Common Spaces in Engineering Education: A Review from ICECE05". In "IEEE Trans on Education". February 2007.
- "On the Calculation of Energy Produced by a PV Grid-Connected System". In "Progress in Photovoltaics: Research and Applications". April 2007.
- "Application and Validation of Algebraic Methods to Predict the Behavior of Crystalline Silicon PV Modules in Mediterranean Climates". In "Solar Energy". November 2007.
- "On the Complexity of Radiation Models for PV Energy Production Calculation". "Solar Energy". February 2008.
- "Learning based on Collaborative Activities: A Virtual and Distributed Robotics group Joined by IEEE Student Branch". "IEEE MEEM – IEEE Multidisciplinary Engineering Education Magazine". June 2008.
- "Development and Interaction between LMS Services and Remote Labs". "iJOE – International Journal of OnLine Engineering". July 2008.
- "Mobility through Location-based Services at University". "iJIM – International Journal of Interactive Mobile Technologies". July 2008.
- "Energy Payback Time of Grid Connected PV Systems: Comparison between Tracking and Fixed Systems". "Progress in Photovoltaics: Research and Applications". March 2009.
- "Reutilización de Objetos Educativos para el Estudio de Circuitos Electrónicos". "Revista Iberoamericana de Tecnologías del/da Aprendizaje/Aprendizagem (IEEE-RITA). A Latin American Learning Technologies Journal". April 2009.
- "A Methodology to teach Advanced A/D Converters, Combine Digital Signal Processing and Microelectronics Perspectives". "IEEE Transactions on Education". August 2010.
- "Enabling Innovations in Mobile-Learning: A Context-aware and Service-based Middleware". "The International Journal on Advances in Software". September 2010.
- "A Method based on Petri nets and a Matrix Model to Implement Reconfigurable Logic Controllers". "IEEE Transactions on Industrial Electronics". November 2010.
- "Industrial Tele-Maintenance: Remote Management Experience from Subway to Industrial Electronics". "IEEE Transactions on Industrial Electronics". March 2011.

- “Proposals for Postgraduate Students to Reinforce Information Security Management Inside ITIL ®”. ”International Journal of Human Capital and Information Technology Professionals (IJHCITP)”. April-June 2011.
- “State of the Art of Frameworks and Middleware for Facilitating Mobile and Ubiquitous Learning Development”. “Journal of Systems and Software”. November 2011.
- “Use E-Learning Functionalities and Standards: The Spanish Case”. “IEEE Transactions on Education”. November 2011.
- “New Technology Trends in Education: Seven Years of Forecasts and Convergence”. “Computers & Education”. December 2011.
- “Potential Energy Savings from Cool Roofs in Spain and Andalusia”. “Energy”. February 2012.
- “Tri-generation system to couple production to demand in a combined cycle”. “Energy”, April 2012.
- “EU Plans for Renewable Energy. An Application to the Spanish Case. “Renewable Energy”. July 2012.
- “Virtual Instrument Systems in Reality (VISIR) for Remote Wiring and Measurement of Electronic Circuits on Breadboard”. In “IEEE Transactions on Learning Technologies”. January-March 2013.
- “Fingerprint Verification System in Tests in Moodle” .In “IEEE Latin-American Learning Technology Journal”. February 2013.
- “Expanding the Boundaries of the Classroom. Implementation of Remote Laboratories for Industrial Electronics Disciplines”. In “IEEE Industrial Electronics Magazine”. March 2013.

Summary publications, R&D projects and courses:

- More than *thirty* books, twenty of them including multimedia CD and tools.
- More than *twenty* articles in indexed international journals.
- More than *thirty* articles in Spanish journals.
- More than *fifty* papers in international peer-to-peer reviewed conferences and workshops.
- More than *seventy* papers in Spanish reviewed conferences and workshops.
- More than *fifty* research and developing projects, sponsored by different companies and public agencies.
- More than *ninety* technical conference attendances, most of them international ones.
- More than *fifty* courses and seminars taken.
- More than *seventy* courses and seminars given.
- Tutoring of *twelve* research scholarship holders and *five* visiting teacher.
- Direction of *twenty* Doctoral Thesis and 5 more developing.
- Direction of more than *sixty* End Term Projects in Industrial and Computer Engineering as well as end term works on Grade and Master. 5 more developing.

Membership of Associations, Institutes, congress and workshops organization:

- IEEE (Institute of Electric and Electronic Engineering) fellow since 2008. Senior Member since 1994. Member since 1987. Fellow since 2008.
 - Member of the Chapters Committee of the IEEE Education Society. Form October of 2003 to October of 2004.
 - Vice-Chair of Chapters Committee of the IEEE Education Society. Since October of 2004.
 - Vice-Chair of Meetings Committee of the IEEE Education Society. Since October of 2009.
 - Election as Member at Large of the Administrative Committee (AdCOM) of the IEEE Education Society. October of 2004.
 - Member at Large of the Administrative Committee (AdCOM) of the IEEE Education Society. Since January of 2005 to now (election since December of 2006).

- Founder Chairman of the Spanish Chapter of the IEEE Education Society, founded with 120 (160 now) members. Past Chairman since 2008.
- Chair of the IEEE Spain Section (2010-2011). Past Chairman since 2012.
- ISES (International Solar Energy Society) Member since 1984.
- AEDES (Asociación Española de Energía Solar) Member since 1992.
 - Board Member of AEDES (Asociación Española de Energía Solar) from 1992 to 2000.
 - Vice-president of the Board Member of AEDES (Asociación Española de Energía Solar), from 2000 to 2012.
 - Board Member of AEDES (Asociación Española de Energía Solar) since 2012.
- AACE (Association for the Advancement of Computing in Education) since 2005.
- ASEE (American Society for Engineering Education) since 2006.
- Chairman in more than *forty* international conferences, and in more than *twenty* Spanish ones.
- Technical reviewer on journals and conferences (international and Spanish).
- Vice President of the Editorial Committee of the Electronic Journal IEEE-RITA (Latin-American Learning Technologic Journal)
- Technical and Organizing Committee in the Spanish TAEF conferences (1998, 2000, 2002, 2004, 2006, 2008 y 2012).
- Technical and Organizing Committee in the Spanish CIES conferences (1995, 2000, 2004).
- Co-Chair and organizer of the international conference ICECE 2006.
- International Chairman (Europe) and Organizing Committee in the IEEE FIE Frontiers in Education (2000, 2001, 2002, 2003, 2004, 2005, 2006) (USA).
- Co-Chair and organizer of the international conference IEEE EDUCON 2010 and TAEF 2010.
- Co-Chair and organizer of the international conference FIE 2014 in Madrid.