



Xavier Canals-Riera

Personal Information	<ul style="list-style-type: none"> ▪ Date of birth : 31 / January / 1958 ▪ Place of birth : Ibiza, Balearic Islands, Spain ▪ Nationality: Spanish ▪ Passport # : 41438869-E
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Academic grade	<ul style="list-style-type: none"> ▪ Telecommunication Engineer, specialist in electronics – Barcelona Superior Technical College of Telecommunication Engineers. Polytechnic University of Catalonia. (1983). Final project: “Study of the interference in the electrocardiogram (ECG) attributed to respiration”. • Eur Ing European Engineer FEANI app. n.09890ES
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Professional Career:		
Dates	Company	Position
1995 - ...	Tecno-med Ingenieros, S.L. Barcelona - Spain	Director <ul style="list-style-type: none"> ▪ Medical Devices Consultant
1991-1995	Electromedicina y Afines, S.A. Barcelona – Spain	Technical Director <ul style="list-style-type: none"> ▪ Electromedicine manufacturer
1990-1991	Electromedicina y Afines, S.A. Barcelona – Spain	Research and Development Director <ul style="list-style-type: none"> ▪ Electromedicine manufacturer
1987-1990	Nuevas Tecnologías del Espacio, S.A. Corporación Hospitalaria Group Barcelona - Spain	Head of Ultrasound Department <ul style="list-style-type: none"> ▪ Electromedicine manufacturer and projects for ESA
1985-1986	Bioingeniería, S.A. Barcelona - Spain	Product Engineer – Echocardiograph for cardiology and gynecology. <ul style="list-style-type: none"> ▪ Electromedicine manufacturer
1984	Seville University Biology Faculty – Animal Physiology Dept. Sevilla - Spain	Collaborator as research assistant <ul style="list-style-type: none"> ▪ University Dept. - visual study tests
1982-1983	Polytechnic University of Catalonia Superior Technical School of Telecommunications Engineers Bioengineering Dept. Barcelona - Spain	Collaborator as research assistant <ul style="list-style-type: none"> ▪ University Biomedical Dept. – ECG studies

PROFESSIONAL MERITS:

- EUR ING – European Engineer FEANI app. n.09890ES
 - Professional Engineer n.2912 of the Colegio Oficial de Ingenieros de Telecomunicación
 - President of the Spanish Chapter of the Engineering in Medicine and Biology Society IEEE.
 - President of the Spanish subcommittee SC209 (electromedical products) from AENOR
 - Member of the executive committee of the Sociedad Española de Electromedicina e Ingeniería Clínica (Clinical Engineering and Electro-medicine Spanish Society)
 - Scientific Evaluator for the ANEP (Agencia Española de Evaluación y Prospectiva / M^o Ciencia e Innovación – Spanish Agency of Evaluation & Prospective / Ministry of Science & Innovation)
 - Author of several divulgation articles about quality and regulatory for medical devices and the contribution to the “Fundamentals of EU Regulatory Affairs 2004” with the chapters “4. Medical Device Premarket Requirements”, “5. Medical Devices Conformity Assessment Procedures and Notified Bodies” and “6. Medical Device Compliance: Postmarket Requirements” ISBN 0-9673115-6-X . RAPS Regulatory Affairs Professionals Society.
 - Professor of the courses “Quality Systems in Medical Devices manufacturing”, “Clinical Equipment Maintenance Management” and “Medical Technologies Evaluation” of the Biomedical Engineering Master of the Catalonia Polytechnic University and Barcelona University 2007 -2010
 - Professor of the course “Medical Technologies Maintenance” and “Risk assessment for EMC in medical systems. Bus IEEE” of the European Master of Telemedicine and Bioengineering applied to Telemedicine 2007 & 2008 CATAI University of La Laguna Tenerife Spain.
 - Professor of the course “Medical Devices Regulatory requirements and CE marking” of the Bio nanotechnology Master of the Autonomous University of Barcelona - 2008
- Appearance in the Who is Who (Personatges de Catalunya - 2006) “Scientific research, Academic training and Pharmaceutical sector” Angel Font Ed. Publi Corinti Barcelona 2006

PROFESSIONAL EXPERIENCE:**Current position – Director (Tecno-med Ingenieros)****A. General Experience**

- Consultancy for the application of the requirements of the Medical Devices Directive 93/42/EEC and the In Vitro Diagnostic Medical Devices Directive 98/79/EEC for manufacturers of these devices established within Spanish territory. Hands-on tasks include:
 - Classification of medical devices
 - Format and preparation of Technical Documentation for conformity assessment. (MEDDEV & STED)
 - Determination of standards applicable to particular medical devices and establishment of test protocols in accordance with these standards.
 - Clinical evaluation of medical devices including research of appropriate bibliography and comparison of similar devices available on the market acc EN ISO 14155-1 & 2, MEDDEV 2.7.1 and annex X
 - Risk management plans and periodic reports for particular medical devices previously in accordance with standard EN ISO 14971.
- Consultancy for the establishment and implementation of Quality Management Systems for subsequent certification to standards EN ISO 9001; EN ISO 13485 and QSR GMP (21CFR820). Hands-on tasks include:
 - Development of quality policies, manuals and objectives.
 - Development of process maps, diagrams and indicators.
 - Development of procedures, work instructions and test methods.
 - Follow-up monitoring of system implementation through internal audits.
- Consultancy for the validation of special and/or automated processes used in the manufacture of medical devices. Hands-on tasks include:
 - Establishment of process specifications including URS for software-controlled processes.
 - Development of validation plans and protocols.
 - Assessment of test methods used to implement validation protocols and review of the results obtained.

- Consultancy for the application of national Spanish requirements for the commercialization of medical devices in accordance with Royal Decree 1591/2009 (MD), Royal Decree 1616/2009 (AIMD) and Royal Decree 1662/2000 (IVD). Tasks performed include:
 - Preparation, presentation and follow-up of applications for manufacturing / importing licenses.
 - Communication / register of medical devices and IVDs to be placed on the market in Spain.
 - Publicity authorizations.
 - Clinical trials authorizations.
- Professor of training seminars on topics specific to medical devices:
 - Sterilization processes of medical devices. Validation and routine control - TMI
 - EN ISO 14971:2007 Risk Management - TMI
 - EN ISO 13485:2003 - TMI
 - Validation of Computerized Systems, 21CFR11 - TMI
 - CE Marking Requirements – TMI
 - ISO 13485 Quality Systems applied to Hospitals – SEEIC
 - CE marking – CIDEM
- Auditor expert in medical technology in CE Certification audits in Spain for Notified Bodies 0434 Det Norske Veritas, 0088 Lloyds and 0843 UL.
- Presence and assistance during quality system audits performed by Notified Bodies for medical device CE marking.

B. Product Experience

Consultancy tasks included the review of device and test specifications, applicable standards, labeling, instructions for use, intervention in risk analysis and clinical evaluation of the following product lines:

- Active implantable medical devices: cardiac pacemakers, urinary stimulator for disabled people
- Anesthetic and respiratory devices: oxygen masks, nebulizers, flowmeters, anesthesia breathing circuit,
- Assistive products for persons with disability: assistive walking devices, foot orthosis and prosthesis
- Biologically derived devices: no experience in this category
- Complementary therapy devices: arm mud bath,
- Dental devices: dental implant systems (CE mark and FDA 510k submission), burs, abutments, filling materials, cements, amalgam mixers, dental motors and turbines, dental aspirator
- Diagnostic and therapeutic radiation devices: RX tables, RX generators, RX detectors
- Electro medical mechanical devices: dental chairs and accessories, hearing aids, electrical suction pumps EN 10079-ff, physiotherapy stimulation devices, TENS, non-invasive sphygmomanometers EN 1060, devices and software for neuro navigation, laser therapy devices, haemodialysis equipment, aphaeresis equipment, electrical patient chair and stretcher, PACS, ultrasonic echograph, mammography equipment.
- Healthcare facility products: medical gas pipeline systems, barcode id readers, sterilizers (steam and ETO)
- Hospital hardware: Ambulance stretcher, instrument tables,
- In vitro diagnostic devices: specimen containers, reagents for detection of herpes, LIMS for blood glucose monitoring,
- Laboratory equipment: special centrifuges (platelet separation), blood refrigerators
- Non active implants: intravascular implants, otologic implants, neurosurgery implants, ophthalmic implants, dental implants
- Ophthalmic and optics devices: ophthalmic frames and lenses, sunglasses with corrective lenses, contact lenses, intraocular lenses, PPE optical spectacles with corrective lenses
- Reusable devices: surgical instruments, protective cover,
- Single-use devices: surgeons gloves EN 455-1, gauze dressings, bandages, blood lines, fistulae needles, suction catheters, nasogastric enteral feeding tubes, haemodialysis devices, vacuum suction sets, intravascular catheters EN ISO 10555-1 (sterilization methods: ETO, moist heat, plasma, irradiation gamma and electron beam)

C. Technology Experience

Consultancy tasks included the review of process specifications and process validation for the following technologies:

- sterilization processes (application of standards for the validation and routine monitoring of ethylene oxide, irradiation and moist heat sterilization processes).
- packaging processes for terminally sterilized medical devices (application of ISO 11607)
- clean room conditions (application of EN ISO 14644ff and annex I EU GMP's and particular requirements for microbiological conditions)
- automated assembly processes for non-active medical devices (application of IQ, OQ, PQ methods and relevant guidance documents for software validation)

D. Auditing

ISO 13485 internal audits participating as leader auditor for:

- Active implantable medical devices
- Anesthetic and respiratory devices
- Assistive products for persons with disability
- Complementary therapy devices
- Dental devices including dental implant systems
- Diagnostic and therapeutic radiation devices
- Electro medical mechanical devices
- Healthcare facility products
- Hospital hardware
- In vitro diagnostic devices
- Laboratory equipment
- Non active implants
- Ophthalmic and optics devices
- Reusable devices
- Single-use devices including sterilization methods: ETO, moist heat, plasma, irradiation gamma and electron beam

Evaluation of conformity MD CE marking audits as product expert for:

- Ophthalmic intraocular lenses, class IIb
- Contact lenses, class IIa
- Ethylene oxide sterilization processes
- Dental implant systems, class IIb
- Ophthalmic implants, class IIb
- Dental units, class IIa
- Dental amalgam, class IIa
- Dental filling materials, class IIa
- Disinfectants for surgical instruments, class IIb
- Dental motors and turbines, class IIa
- Contraceptive devices, class III
- Rehabilitation devices, class IIa
- Neonatal incubators, class IIb

FDA inspections participating as consultant of the auditee for:

- Sterile, single-use medical devices, class II
- Surgical gloves, class II

- Dental implants systems, class II

Position: - Technical Director / Research & Development Director (Electromedicina y Afines, S.A.)**A. General Experience**

- Responsible for the development of a new line of products oriented to clinical and diagnostic instruments for the ENT (Ear, Nose, Throat) specialist.
- Responsible for the CDTI project "Development of a clinical audiometer" (Ref:910058)
- Responsible for the CDTI project "Development of a clinical impedance-meter" (Ref: IT92/80)
- Responsible for the CIRIT project "Development of a high frequency audiometer" (Ref: IT93)
- Responsible for the CIRIT project "Development of a speech audiometer" (Ref: IT94)
- Design and development of a software controlled clinical audiometer – AudiLAB.
- Design and development of a software controlled impedance meter – InmiTRON.
- Design and development of a audiometer with extended frequency range.

B. Product Experience

Design, development, transfer to production and production monitoring of the following electromedical devices:

- Audiometers (screening, diagnostic and clinical models)
- Equipment for collective audiometry
- Impedance-meters (diagnostic and clinical models)
- Software for controlling all company developed models.
- Software for patient data management.

C. Technology Experience

Technologies used in the development and small-scale production of the above-mentioned devices, including hand-on experience of:

- Printed circuit board design, debugging and implementation.
- Electronic assembly, debugging and implementation.
- Use of appropriate instrumentation for electrical safety testing.
- DOS-based programming using C programming language and standard data bases such as FoxPro and Clipper.

D. Intellectual Property

Elaboration of the documentation and registering of the products:

- Intellectual Property Register – "AudiLAB" Program, May 1995
- Intellectual Property Register – "InmiTRON" Program, May 1995

Position: - Head of Ultrasound Dept. (Nuevas Tecnologías del Espacio, S.A.)**A. General Experience**

- Project Engineer for the development of an Ionopheresis System with cytotstatic circulation for oncology. CICYT ref. 100/85.
- Person responsible for internal documentation with access to the data base host DIALOG and ESA-IRS.
- Consultant for the project "Study of fetal lung maturity using ultrasound" with Dr. A. Torres. Gynecology and Hemodynamic Service. Tri-dimensional echography. CDTI.
- Technician responsible for the project "Space Medical Facility" for the company MATRA. c.3E86301L.
- Technician responsible for the project "Space Medical Facilities: 3D Echograph (task 1)" for the company MATRA. This project also included collaborators from the ULTRASOUND department of the ACOUSTICS INSTITUTE and the company MECANEX (Nyon, Switzerland, experts in precision micromechanics), as NTE subcontractors.
- Consultant for the project "Echographic tissular characterization of the placenta. Correlation with gestational

age, foetal lung maturity and Grannum classification. Study of texture.” with Dr. A. Vela. Gynaecology and Obstetrics Service – S.Juan de Dios Hospital.

Position: - Product Engineer – Echocardiograph for cardiology and gynecology (Bioingeniería, S.A.)

A. General Experience

- Development of electronics for emission / reception of ultrasound pulses.
- Quality control studies for the production of ultrasound transducers, acceptance testing and manufacturing technology feedback.
- Development of a monoelement, mechanical ultrasound transducer at 3.5 MHz for echocardiograph imaging.
- Design of an acoustic calibration process in accordance with ISO 389 for Telephonics earphones for aural stimulation.
- Fourier Transform Analysis of the doppler signal from the foetal umbilical cord. In collaboration with the Santa Cruz y San Pablo Hospital.
- Responsible for the participation of Bioingeniería, S.A. in the project “Biomedical and Biological Analysis Facility (BBAF)” developed for the company DORNIER under contract with the European Space Agency.
- Concept, pre-design and design of a screening audiometer for preventive medicine.

Position: - Collaborator (Seville University – Biology Faculty – Animal Physiology Dept.)

A. General Experience

- Development of instrumentation for recording neurophysiological signals.
- Training provider – Seminars “Electronic Instrumentation: Application to biologic signals.”, “Introduction to digital processing of biological signals.”
- Development of a system for monitoring animal activity, temperature and light cycle for the study of biological rhythms of captive animals and posterior analysis using FFT.

Position: - Collaborator (Polytechnic University of Catalonia – Superior Technical School of Telecommunications Engineers – Bioengineering Dept.)

A. General Experience

- Development of electronics for recording electrocardiograms and their posterior analogic processing (filtering, modulation/demodulation, synchronism extraction, detection of noise and artefacts.)

OTHER PROFESSIONAL SKILLS:

Software	<u>Current every-day use:</u> <ul style="list-style-type: none"> - Microsoft Office (Word, Excel, Access, Outlook, Powerpoint) - Project - Visio - Microsoft Internet Explorer, Front-Page Publisher
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Languages	Native: Spanish and Catalan Speak / understand / read: English and French
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Professional	▪ Euroingeniero EUR ING, FEANI app. n.09890ES
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Membership	<ul style="list-style-type: none">▪ Member of the Official College of Telecommunication Engineers, Member No. 2192.▪ Member of the Spanish Society of Telecommunication Engineers▪ Member of the Spanish Society of Bioengineering (affiliated to the International Federation of Biomedical and Biological Engineering)▪ President of the Spanish Chapter of the Engineering in Medicine and Biology of the Institute of Electrical and Electronic Engineers IEEE.▪ Member of the Institute of Electrical and Electronics Engineers No. 7840127, participating in the following sections:<ul style="list-style-type: none">- Engineering in Medicine and Biology.- Instrumentation.▪ Scientific evaluator for R+D projects promoted by the National Agency for Evaluation ANEP pertaining to the Interministerial Commission for Science and Technology CICYT.▪ Member of the Association for the Advancement of Medical Instrumentation AAMI USA.▪ Senior member of the ASQ society▪ Member of the RAPS▪ Member of the Spanish society SEIB▪ Member of the Spanish society SEGCI▪ Member of the Spanish society AEC▪ Member of the Spanish society CEDEST
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Training courses	<ul style="list-style-type: none">▪ New Royal Decree 1591/2009. AEFI Barcelona January 2010.▪ New Spanish Medical Devices Royal Decree. AEMPS Madrid December 2009▪ Quality Systems applied to medical devices. AEFI – FENIN 21 to 23 July 2009▪ Spanish licenses for manufactures and importers of medical Devices AEMPS (Madrid, September 2008)▪ Test according UNE EN 60601-1:2008. USA and Canada Deviations SGS Spain (Madrid, September 2008)▪ Spanish Vigilance System and new MEDDEV 2.12.1 rev5 2007 guideline. AEFI Carmen Valls Spanish Health Authorities Vigilance Responsible. (Barcelona, April 2008)▪ Update of the changes in the Royal Decree 414/1996 (Spanish transposition of the directive 93/42/EEC). AEFI. Cristina Batlle Ministerio Sanidad y Consumo. (Barcelona, Mars 2008)▪ New standard EN IEC 60601-1:2006. Lab. Intertek (Dusseldorf, Nov 2007)▪ Validation of Computerized Systems used in manufacturing. AEFI (May 2007 – Madrid)▪ Medical Devices Biocompatibility. Laboratory BIOLAB Sept 2007 – Barcelona)▪ Adverse incidents communication and investigation. SEEIC (June 2006 – Santiago)▪ Course ISO 13485:2003. Meddevnet. (Feb 2006 – Barcelona)▪ Work-shop safety in medical systems. SEEIC. (Sep 2005 – Zaragoza)▪ Work-shop control of sterilization. SEEIC (June 2005 – Canarias)▪ Work-shop sterilization. CEDEST (Spanish Sterilization Society). (May 2005 – Merida)▪ Course ISO 14971, Meddevnet (May 2005 – Barcelona) (May 2005 – Barcelona)▪ Course ISO 13485:2003. Medical Forum Expo. (May 2005 – Barcelona)▪ Quality in Healthcare Organizations DNV Spain, (Nov 2004 – Barcelona)▪ Course specialization electromedicine and clinical engineering SEEIC (Spanish society of electromedicine and clinical engineering), (Sep 2004 – Cordoba)▪ Training course NB 0843 (UL UK), (May 2004 – London)▪ ISO 13485:2003 (Yasushi Murayama, TÜV Product Service Japan, Düsseldorf, November 2003)▪ Revised Japanese Regulation Outlines (Yasushi Murayama, TÜV Product Service Japan, Düsseldorf, November 2003)▪ Quality Management in the Clinical Laboratory – ISO 15189 (TQM Services Inc., Düsseldorf, November 2003)▪ Professional workshop on Aesthetic Medicine (Barcelona College of Medicine,
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- Barcelona, October 2003).
- Computerized System Validation. 21 CFR Part 11 - Electronic Records and Signatures (Management Forum, London, July 2003)
 - Speaker at the course on CE-Marking of In Vitro Diagnostic Medical Devices (Underwriters Laboratories, Barcelona, May 2003)
 - Statistics – Medical Device Clinical Trials (Management Forum, London, December 2002)
 - Medical Devices Risk Management and Risk Analysis (Underwriters Laboratories, November 2002)
 - Electromedicine Convention / Jornadas de electromedicina (SEEIC, Cuenca, Mayo 2002)
 - FDA 510(k) Approval for the USA (Underwriters Laboratories, November 2001)
 - IVD Directive (Underwriters Laboratories, November 2001)
 - Electromedicine Convention / Jornadas de electromedicina (SEEIC, Seville, Mayo 2001)
 - RAPS Convention, Madrid, May 2001.
 - Presentation of the White Book on the Medical Device Industry - Presentación del Libro Blanco del Sector de Productos Sanitarios (FENIN, Madrid, Abril 2001)
 - Master in European Registration of Medicinal Substances – Module 9: Medical Devices - Master en Registro Europeo de Medicamentos – Módulo 9: Productos Sanitarios (U.A.B., Barcelona, Marzo de 2001).
 - ISO 9001:2000 (Det Norske Veritas, Barcelona, Febrero 2001).
 - Informative workshop on legislation applicable to In Vitro Diagnostic Medical Devices - Jornadas Informativas sobre Legislación de Aplicación a los productos sanitarios para el Diagnóstico In Vitro (FENIN, Barcelona, Mayo 2001)
 - Workshop on Royal Decree 1662/2000 concerning In Vitro Diagnostic Medical Devices - Jornada Real Decreto 1662/2000 relativo a productos sanitarios para diagnóstico in vitro. (FENIN, Madrid, Noviembre 2000)
 - Electromedicine Convention - Jornadas de Electromedicina. (SEEIC, Zaragoza, Junio 2000)
 - Quality and Hospital Management - Calidad en la Gestión Hospitalaria (LRS, Madrid, Junio 2000)
 - Workshop on New Legislation concerning Packaging and Packaging Waste - Seminario Nueva Legislación de Envases y Residuos de Envases. (Barcelona Activa, Barcelona, julio 1999)
 - ISO 9001, versión 2000. (Barcelona Activa, Barcelona, junio 1999)
 - GMP – Quality in the pharmaceutical, cosmetic and medical device industries - Curso Normas GMP. Calidad en la industria farmacéutica, cosmética y material sanitario. (Barcelona Activa, Barcelona, abril 1999).
 - Bioengineering Network Workshop Jornadas de la Xarxa Temática de Bioenginyeria (Barcelona, junio 1997)
 - Course on the impact of legal requirements concerning the environment - Curso Impacto de las exigencias del medio ambiente (Barcelona, junio 1997)
 - Workshop “Design – factor for competitiveness” - Jornadas “Diseño – factor de competitividad” (Barcelona, octubre 1996)
 - Workshop on Royal Decree 414/1996 concerning Medical Devices - Seminario Real Decreto 414/1996 que regula los productos sanitarios (FENIN, octubre 1996)
 - Presentation of research activities in biomedical engineering (UPC, Barcelona, septiembre 1995)
 - XIII Annual Congress of the Spanish Society of Biomedical Engineering. (Barcelona 1995)
 - Seminar “Regulation of Healthcare Technology and Equipment”, FDA, Barcelona, October 1992
 - Course on Quality Assurance, Catalan Institute of Technology (ICT), Barcelona, 1991
 - Ultrasound International Convention, Madrid, 1989
 - Biomedical Engineering Convention, Madrid 1987.
 - IEEE Mediterranean Electrotechnical Conference MELECON, Madrid, 1985.

- "Medical Imaging Tutorial", Prof. Newhouse et al, Madrid, 1989
- "Sonoquímica: Application of ultrasound to compound synthesis.", Chemical Science Faculty, Barcelona.
- "Trends in cardiovascular Instrumentation", "Biopotential Amplifiers and interferences", "Skin electrodes and motion artifacts", "Trends in Pulmonary Instrumentation", Prof. Dr. J.G. Webster, University of Wisconsin with CSIC, Barcelona.
- Post-graduate course "Biomedical Instrumentation" with Prof. Dr. R. Pallas, Superior Technical School of Telecommunication Engineers, UPC, Barcelona.
- Post-graduate course "Analysis and modelling of biological systems" with Prof. Dr. P. Caminal, Superior Technical School of Industrial Engineers, UPC, Barcelona.

Congresses
and
Exhibitions

- Regular attendance at commercial exhibitions and congresses specific to the medical device industry:
 - Medica – Dusseldorf, Germany
 - ExpoOptica – Madrid Spain
 - ExpoDental – Madrid Spain
 - IDS – Cologne – Germany
 - FDM – Barcelona – Spain
 - COSMOBELLEZA – Barcelona Spain
 - SEEIC – Electromedicine and clinical engineering
 - CEDEST – Sterilization society congress
 - SEIB – Biomedical engineering congress
 - SEGCI – Spanish Society of Research Quality (Pharma)

Technical
Publications

"Quality standards for medical devices". JC Fernandez-Aldecoa and X. Canals-Riera
CATAI 2006 pp.133-140, ISBN:84-611 4628X

"Fundamentals of EU Regulatory Affairs 2004" with the chapters "4. Medical Device Premarket Requirements", "5. Medical Devices Conformity Assessment Procedures and Notified Bodies" and "6. Medical Device Compliance: Postmarket Requirements" ISBN 0-9673115-6-X . RAPS Regulatory Affairs Professionals Society.

"ISO 13485:2003 Quality Management Systems for Medical Devices", Medical Devices Net, Barcelona, November 2003 / February 2004.

"Electronic Records and Signatures – Safety and Confidentiality", Medical Devices Net, Barcelona, April 2003.

"UNE EN ISO 13485:2001 Standard – Quality Systems for Medical Devices", Medical Devices Net, Barcelona, October 2002.

"Validation of Manufacturing Proceses – Medical Technology", Medical Devices Net, Barcelona, October 2002.

"Vigilance System Procedures for Manufacturers, Importers and Distributors of Medical Devices", Medical Devices Net, Barcelona, Sept 2002.

"Medical Device Classification", Medical Devices Net, Barcelona, Aug 2002.

"Directive 98/79/EC: CE-Marking of In Vitro Diagnostic Medical Devices" - "Directiva 98/79/CE: Marcado CE de Productos Sanitarios para Diagnóstico In Vitro." Canals X., Murphy C. Puntex Todo Hospital, núm 157, Junio 1999

"ISO 9000 Quality System Standards" - "Normes de Qualitat ISO 9000." Canals X., Murphy C., Revista Associació Catalana de Enginyers de Telecomunicació ACET, Enero 1997.

"CE-Marking of Medical Devices" - "Marcado CE de Productos Sanitario." Canals X, Murphy C., Riu P., Silva F., Mundo Electrónico 1997.

"Directive 93/42/EEC: CE-Marking of Medical Devices" - "Directiva 93/42/CEE: Marcado CE de Productos Sanitarios." Canals X., Murphy C., Riu P., Silva F., Puntex Todo Hospital, núm 134, 1997.

"Measurement of Hearing Loss using Collective Audiometry" - "Medida de Pérdidas Auditivas mediante Audiometría Colectiva." Canals X., Murphy C., Actas XIII Congreso Anual de Sociedad Española de Ingeniería Biomédica, pp5-6, 1995

"Off-line analysis of myocardial Backscattered signal for ultrasonic tissue characterization" Canals X., Arrojo LL., Montserrat G. et alt. Porc. Ultrasonics 1989

"Three-Dimensional Echographic system for NDT" X. Canals Riera y F. R. Montero de Espinosa. Proc Ultrasoncis 1989.

"Medical images with ultrasound"- "Imágenes en medicina mediante ultrasonidos" M.J. García Hernandez & Javier Canals Riera. Capítulo XIII of the book "INTRODUCCIÓN A LA BIOINGENIERIA" pp 167-184. Editorial Boixareau 1988.

"First stages of the development of 3d Echocardiographic System for Aerospace purposes" F.R. Montero de Espinosa y j. Canals Riera.- Proc IEEE Ultrasonics Symposium 1988

"Estudio de la madurez pulmonar fetal mediante caracterización tisular por ecografía" proc. III Simp.Int.Ingenieria Biomedica pp 777-780 Madrid (1987)

"Obtención del ritmo respiratorio a partir del Electrocardiograma" R. Pallas, J. Canals. Mundo Electrónico n.164 pp 49-54 (1986)

"Analysis of the fluctuations in the interspike intervals of abduceus nucleus neurons during ocular fixation in the alert cat" C.Gomez, J. Canals, B. Torres y J.m Delgado. Brain Research vol 381 pp 401-404 (1986).

"A probabilistic approach to the modelling of abduceus nucleus behaviour during eye movements in the alert cat" C. Gomez, J. Canals. European Neuroscience Meeting 1985

"Ánalisi no invasivo del electrocardiograma del Haz de His: Consideraciones para el desarrollo de un sistema de diagnostico automatizado" J. Rodríguez Alvarez, J.R. Seco Vasco y J. Canals Riera. Comunicación en el Congreso Español de Cardiología

"Recovering the respiratory rhythm out of the ECG" R.Pallas y J.Canals. Medical & Biological Engineering & computing vol 23 supp. part 1 pp 338-9 (1985)

"Estudio de las interferencias en el electrocardiograma (ECG) atribuibles a la respiración". P.F.C.ETSETB (1983)

Barcelona, 10 mars 2010

