



<https://site.ieee.org/spain-ims/>

# Reunión Anual Capítulo

15 de julio de 2020

# Programa

- ▶ Apertura Reunión
- ▶ Autopresentaciones
- ▶ Informe del Capítulo
- ▶ Charla I: Ciberseguridad en dispositivos IoT (Antoni Ballesté)
- ▶ Descanso
- ▶ Charla II: IMS Faculty Course Development Award (Marco Azpúrua)
- ▶ Coloquio final

# Informe del Capítulo

- Miembros
- Actividades
- Senior and Fellow Member
- Programa DL
- Publicaciones
- Premios

# Directiva Capítulo (2019-2020)

- **Presidente:** Francisco Ferrero. Universidad de Oviedo
- **Vicepresidente:** Jesús Ureña. Universidad de Alcalá
- **Secretario:** José García Souto. Universidad Carlos III
- **Tesorera:** Susana Borrromeo. Universidad Rey Juan Carlos



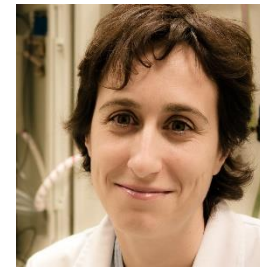
Francisco Ferrero



Jesús Ureña



José García Souto



Susana Borrromeo

# Members and Affiliates

**2019**

Grade	Total
Associate Member	1
Graduate Student Member	4
Life Fellow	1
Life Member	4
Life Senior	1
Member	27
Senior Member	21
Student Member	2
	61
	61
	61
	61

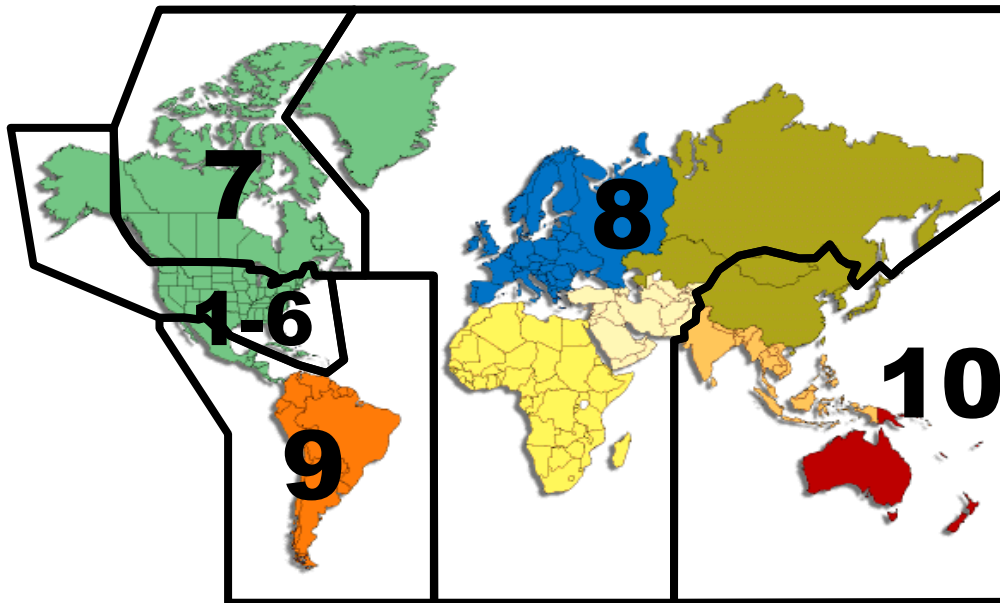


**2020**

Grade	Total
Associate Member	1
Graduate Student Member	3
Life Fellow	1
Life Member	4
Life Senior	1
Member	27
Senior Member	20
Student Member	1
	58
	58
	58
	58

\*Accessed 08/07/2020

# Membership data



Region	2019/2020 variation
R1	-8,8%
R2	-7,2%
R3	-8,9%
R4	-2,4%
R5	-4,8%
R6	-2,8%
R7	-0,7%
<b>R8</b>	<b>-2,7%</b>
R9	-7,6%
R10	-4,7%

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# Workshop on Smart Sensing and Instrumentation (29/07/2019)

## Agenda

09:00	Reception
09:15	Introduction
09:30	<b>Octavian Adrian Postolache; IEEE IMS Distinguished Lecturer</b> Instituto Universitario de Lisboa/ ISCTE-IUL Lisbon Smart Sensors and Tailored Environments for Neuro-Motor Rehabilitation Monitoring in IoT Era
10:00	<b>Zhongliang Zhu; Shanghai Maritime University</b> General Situation and Application of Automated Container Terminal
10:30	<b>Joaquín Chacón Guadalix; CEO Albufera Energy Storage</b> Smart Sensing on the Batteries of the Future
11:30	Coffee Break
12:00	<b>José Ramón Blanco; CEO Twave S.L.</b> Predictive Maintenance 4.0: Web Technologies Applied to the Analysis of Vibrations
12:30	<b>Yuri Álvarez López; Associate Professor, University of Oviedo</b> Microwave Imaging and its Applications for Non-Destructive Testing
13:00	<b>Alberto López Martínez, PhD; Telefónica R&amp;D</b> Electrooculography: Challenges and Opportunities in the Design of Medical Care Systems
13:30	<b>Iván Fernández Suárez; Graduate student</b> Wireless Monitoring of Rescue Batteries for Electric Vehicles
15:00	Lunch Break
17:00	Guided tour organized by the Cimadevilla neighbourhood and Gijón port





# Seminario: Optical Sensing in Bioinstrumentation (02/09/2019)

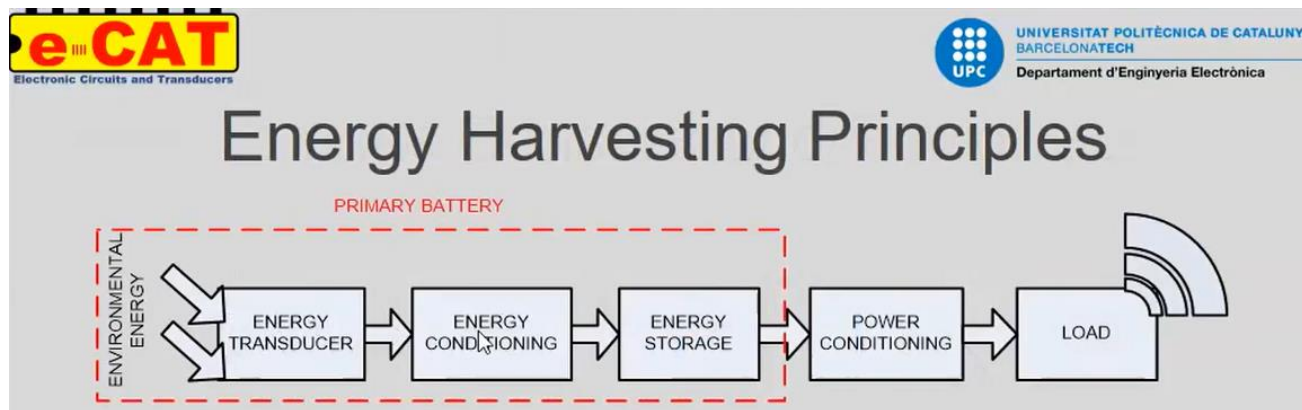
**Andrew Taberner**, Associate Director (Research), Auckland Bioengineering Institute Senior Member, IEEE, Distinguished Lecturer IEEE Instrumentation and Measurement Society Chair, New Zealand IEEE Instrumentation and Measurement Society



# Webinar

# Energy Harvesting For Autonomous Sensors (12/12/2019)

**Manel Gasulla Forner** received the Engineer (MEng) and Doctor Engineer (PhD) degrees in Telecommunications from the Universitat Politècnica de Catalunya (UPC Barcelona Tech), Barcelona, in 1992 and 1999, respectively. Since 1993 he has been with the UPC, where he is an associate professor, engaged in teaching on Analog and Power Electronics and Electronic Instrumentation.



# Sponsorization and collaboration with the conference SAAEI'2020:



## Organizadores



## Patrocinadores y colaboradores



- Although there will not be a face-to-face edition, accepted articles will be published in a **book of proceedings** with ISBN.
- **Virtual sessions** will be organized, as a pilot experience, on 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> of September 2020 and participation will be voluntary.

Collaboration in the track of "Instrumentation and Measurement. Sensors", together with the **National Network of Indoor Positioning**.

# Curso: Introducción a la soldadura manual (31/03/2020)



Weller®



EPI  
UNIVERSIDAD DE OVIEDO

Trainer: Luca Conte  
Market Development Manager Southern Europe  
Application Engineer  
IPC Certified Specialist

## Agenda

Fundamentos de la soldadura manual

Definición de soldadura blanda

- Propiedades de las uniones de soldadura
- Requerimientos de una soldadura
- Mojabilidad y difusión
- Formación y crecimiento de la zona de difusión
- Temperatura
- Flux y sus tipologías
- Espesores intermetálicos de una unión soldada

El control térmico durante las fases de soldadura manual

- Cómo escoger las herramientas más adecuadas
- La punta del soldador
  - Composición de la punta
  - Espesor de hierro
  - Selección de la punta adecuada
  - Mojabilidad de la punta y parámetros que la disminuyen
  - Sistemas de limpieza: ventajas y desventajas
  - Duración de la punta de soldadura
  - Resultados de los test de duración efectuados

Pruebas prácticas de soldadura

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# IEEE Senior Member

- A candidate shall be an engineer, scientist, educator, technical executive or originator in IEEE-designated fields
- Candidates shall have been in professional practice for at least **ten years**
- Candidates shall have shown significant performance over a period of at **least five of those years**
- In addition, candidates for Senior Member grade must supply **three references** from current IEEE members holding the grade of Fellow, Senior Member, or Honorary Member.

# IEEE Fellow

- Individual contributions
- Evidence of technical accomplishment
- IEEE activities
- Non-IEEE activities
- Awards
- References (3 - 5)
- Endorsements

# Distinguished Lecture Program (DLP)

- ▶ Distinguished Lecturer (DL) es un experto de IEEE en un tema específico de I&M.
- ▶ Las solicitudes se realizan enviando un PDF con:
  - Título de la presentación
  - Nombre y afiliación del presentador
  - Resumen del tema de la presentación (entre 500 y 1000 palabras)
  - Una biografía del presentador (máximo 150 palabras)
- ▶ Las evaluaciones de DL se realizan en persona cada año en I2MTC. La duración máxima de la presentación es de 12 minutos (15 con Q&A)



# Distinguished Lecture Program

## Suggested topics for DL presentations include (but are not limited to):

- Laser/Optics (including Fiber Optic Sensing)
- Measurement Precision, Sensitivity, and Noise
- Measurement Fundamentals (accuracy, trueness, repeatability, resolution, etc.)
- Calibration and Calibration Periodicity
- DC Measurements
- Biomedical Instrumentation and Measurements
- Robotics/Automated Measurements
- Nanotechnology in Instrumentation and Measurement
- Big Data and Metrology
- Measurement for Food Safety
- State-of-the-Art of Traditional Measurements and Instrumentation (Digitizers, Voltmeters, Spectrum Analyzers, etc.).

# Distinguished Lecture Program



**Andrew Taberner**  
Distinguished Lecturer (2019 to 2022)

- ▶ Talk Title: Optical sensing in bioinstrumentation
- ▶ Talk Title: A dynamometer for the heart



**Degang Chen**  
Distinguished Lecturer (2018 to 2021)

- ▶ Talk Title: Accurate linearity testing for high performance data converters using significantly reduced measurement time and relaxed instrumentation



**Jacob Scharcanski**  
Distinguished Lecturer (2018 to 2021)

- ▶ Talk Title: Computer Vision in Medical Imaging Measurements: Making Sense of Visual Data



**Reza Zoughi**  
Distinguished Lecturer (2018 to 2021)

- ▶ Talk Title: Evolution of Microwave and Millimeter Wave Imaging for NDE Applications



**Marco Mugnaini**  
Distinguished Lecturer (2017 to 2020)

- ▶ Talk Title: Advanced Reliability, Availability and Safety Design Tools for Industrial Applications



**Octavian Adrian Postolache**  
Distinguished Lecturer (2017 to 2020)

- ▶ Talk Title: Unobtrusive Smart Sensing and Pervasive Computing for Healthcare
- ▶ Talk Title: Smart Tailored Environments for Neuro-Motor Rehabilitation Monitoring in IoT Era



**Mihaela Albu**  
Distinguished Lecturer (2016 to 2022)

- ▶ Talk Title: High Reporting Rate Measurements for Smart[er] Grids

# Publicaciones

## IEEE Transactions on Instrumentation and Measurement

Impact Factor	3.658
Quartile, Electrical and Electronic Engineering	Q1
Quartile, Instruments and Instrumentation	Q1

## I&M Magazine

- Mar 21: Instrumentation and measurement in the Nanoscale (deadline: June 2020).
- May 21: Measurement in Robotics (deadline: September 2020)
- Jun 21: Optical Measurement (deadline: October 2020)
- Sep 21: Measurement systems for Cognitive / well-being assessment within Smart Homes (deadline: December 2020)
- Oct 21: Acoustic Measurement and Information Retrieval (deadline: January 2021)
- Nov 21: Overview of I&M Technical Committees activities (deadline: February 2020)
- Dec 21: Measurement in Nuclear systems (deadline: March 2021)

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# I&M Society Awards

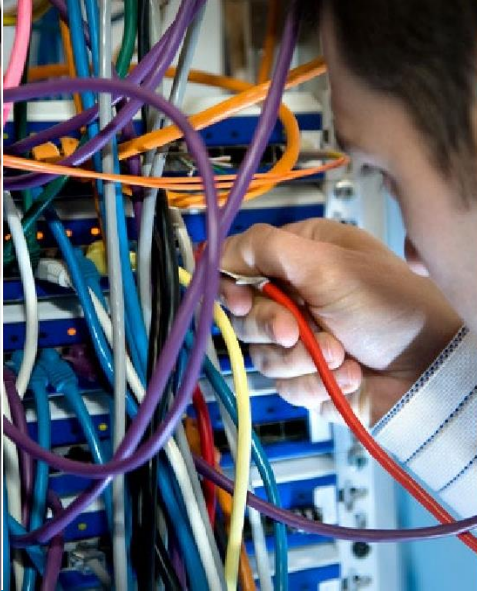
- 1. IEEE Instrumentation & Measurement Society Outstanding Chapter Award**
- 2. Career Excellence Award**
- 3. Best Application in Instrumentation & Measurement Award**
- 4. Outstanding Young Engineering Award**
- 5. J. Barry Oakes Advancement Award**

# I&M Society Awards

6. Outstanding Technical Committee Award
7. Technical Award
8. Graduate Fellowship Award
9. Andy Chi Best Paper Award
10. Distinguished Service Award
11. Faculty Course Development Award

# Technical Committees

- ▶ TC-1 - Nondestructive Evaluation and Industrial Inspection (NDE&II)
- ▶ TC-2 - Impedance Spectroscopy
- ▶ TC-3 - Condition Monitoring & Fault Diagnosis Instrument
- ▶ TC-4 - High Frequency Measurement and Connector
- ▶ TC-6 - Emerging Technologies in Measurements
- ▶ TC-7 - Signals And Systems in Measurement
- ▶ TC-9 - Sensor Technology
- ▶ TC-10 - Waveform Generation, Measurement & Analysis
- ▶ TC-13 - Wireless & Telecommunications in Measurements
- ▶ TC-17 - Materials in Measurements
- ▶ TC-18 - Environmental Measurements
- ▶ TC-19 - Imaging Measurements and Systems
- ▶ TC-20 - Transportation Systems in Measurements
- ▶ TC-22 - Intelligent Measurement Systems
- ▶ TC-25 - Medical and Biological Measurements
- ▶ TC-32 - Fault Tolerant Measurement Systems
- ▶ TC-34 - Nanotechnology in Instrumentation and Measurement
- ▶ TC-37 - Measurements and Networking
- ▶ TC-39 - Measurements in Power Systems
- ▶ TC-40 - Secure and Dependable Measurement
- ▶ TC-41 - Traffic Enforcement Technologies
- ▶ TC-42 - Photonic Technology in Instrumentation and Measurement



# Charla I

## Ciberseguridad en Dispositivos IoT (Antoni Martínez-Ballesté)



# Ciberseguridad en Dispositivos IoT



**Antoni Martínez-Ballesté** (Tarragona, Catalonia, Spain, 1976). Associate professor in the Department of Computer Engineering and Mathematics in URV, since 2003. Engineer in Computer Science and Technology (URV, 2002). He obtained a PhD in Telematics Engineering (Universitat Politècnica de Catalunya, 2004). Member of Crises research group (2001-2014). Visiting junior researcher in the LAAS-CNRS in Toulouse (summer 2004). Visiting professor in Shanghai Maritime University (September 2018). Member of the IEEE. He is a researcher in the Smart Technologies research group in Universitat Rovira i Virgili. His research interests are electronic/mobile health and smart scenarios (interaction with the smart city and cognitive scenarios). He is also interested in security and privacy in the Internet of Things. He was the principal investigator in the SIMPATIC project (Intelligent System for Private and Autonomous Monitoring based on Information and Communications Technologies) funded by Fundació La Caixa under the Recercaixa programme. He has served as a program committee member in several IEEE conferences as well as session chair. He has also served as a reviewer in a number of scientific journals.



## Charla II

# IMS Faculty Course Development Award (Marco A. Azpúrua)

# IMS Faculty Course Development Award



**Marco A. Azpúrua** (S'07-M'13-SM'-19) en 2008 recibió el grado en Ingeniería de Telecomunicaciones y en 2013 el M.Sc. en Ingeniería Eléctrica por la Universidad Central de Venezuela, Caracas, en 2013. Desde 2018 es Doctor por la Universitat Politècnica de Catalunya (UPC), Barcelona, España, por sus contribuciones a las medidas de Interferencias Electromagnéticas de dominio a tiempo y sus aplicaciones en situaciones complejas. Actualmente, trabaja como investigador en el Grupo de Compatibilidad Electromagnética (GCEM) de la UPC. Anteriormente, fue investigador en el Laboratorio de Electromagnética Aplicada, Instituto de Ingeniería (FII), Caracas-Venezuela. Sus intereses de investigación incluyen compatibilidad electromagnética, tecnologías de medición de antenas y microondas, estimación de la incertidumbre de medición en sistemas complejos y métodos de validación.



# Coloquio

- **Experiencias e impresiones durante el último curso (COVID-19, incluida)**
- **Sugerencias de actividades a futuro**
- **Nuevos vocales, compromisarios, delegados, etc., para áreas específicas.**



# IMS chapter responsibilities (foundational)

## Responsabilidades del Coordinador del Capítulo (CC)

- El Capítulo **debe mantener un mínimo de 10 Miembros**.
- El CC debe informar anualmente a la Sección y a la Sociedad.
- El Capítulo debe informar de todas las reuniones anualmente a la sede de IEEE y a la Sección utilizando el formulario L-31 <http://www.ieee.org/L31>  
**Se requiere un mínimo de dos reuniones técnicas por año para mantener la viabilidad.**
- Se recomienda que **el Capítulo configure y mantenga actualizado un sitio web** con la información más relevante sobre la vida del Capítulo. Consultar la sección 4.4.
- El CC debe enviar, al menos una vez al año y antes del 1 de Abril, un informe de las actividades llevadas a cabo durante el año anterior. El informe se enviará al Coordinador de Capítulos de IMS-. <http://ieee-ims.org/membership/chapter-activities>
- El CC debe cumplir con los deberes y responsabilidades descritos en la descripción del trabajo del CC.

# IMS chapter objectives (fundational)

During the first year the aim is to achieve the following objectives:

- a) Create the [Chapter's website](#).
- b) Hold [two local meetings](#) per year.
- c) Promote the Chapter in [local Congresses and Seminars](#).
- d) Explore the possibility of [holding in Spain one of the IMS congresses](#)
- e) Encourage the [holding of educational activities](#) (e.g. summer school)
- f) Promote the [promotion of its members to Senior and Fellow Members](#).
- g) Promote the [figure of the "Distinguished Lecturer"](#).
- h) Promote [relations with related IEEE Societies](#).

# IMS expected activities (chair report) and need for coordinators

## Activities

	Attendance	Description	Notes
Executive meetings			
General meetings			<p>Ejemplos de posibles actividades que pueden requerir un <b>Coordinador</b>:</p> <ul style="list-style-type: none"> <li>▶ Relación con empresas</li> <li>▶ Convocatorias de proyectos</li> <li>▶ Educativas</li> <li>▶ Curso de verano</li> <li>▶ Curso online</li> <li>▶ Workshop</li> <li>▶ Web del Capítulo</li> </ul>
Social events			
DL seminars			
Breakfast/dinner with speaker			
IEEE Standard meetings			
Field trips to industries			
Other Education meetings			
Other Technical meetings			
<b>Total</b>			

# IMS chapter possible activities

## Algunas propuestas (a discutir):

- ▶ Web y **comunicación en redes sociales**: Tweeter, LinkedIn, ...
- ▶ Experiencia **COVID-19 en el ámbito IMS**
  - Investigación (discusión de impacto y nuevas propuestas)
  - Educativas (impacto, enseñanza semipresencial, ...)
- ▶ **Organización** de webminars, cursos de verano, premios, ...
- ▶ **Workshops o Congresos**:
  - Posible organización de congresos IMS (I2MTC, MeMeA, etc.)
  - Technical co-sponsorship (IPIN2021)
- ▶ **Otras** (vinculación con REDES, otros capítulos, Plataformas, etc.).