



Impact of IEEE Conferences for Sections' Vitality Through the Experience of Section Chairs

Rodolfo Oliveira - Portugal Section



Importance of IEEE Conferences

- ▶ Conferences are key for knowledge sharing and technological advancement
- ▶ They provide platforms for members to present research and innovations
- ▶ Conferences enhance the global reputation and local relevance of IEEE sections

Sections' Vitality Defined

- ▶ Vitality refers to sections' activity level, engagement, and growth
- ▶ Measured by member participation, event frequency, and local impact
- ▶ Conferences are a major driver of this vitality

MELECON 2024 in Porto, Portugal

► Facts & Numbers:

– Attendance

- 353 Attendees
- 279 paid registrations

– Papers & Technical Sessions

- 331 submitted papers
- 241 technical presentations
- 11 Special Technical Sessions + 40 Technical Sessions

– Events

- 6 Workshops (meetings without papers in specific technical fields and/or related to European research projects)
- 7 IEEE events organized by the IEEE Portugal Section and/or IEEE Region 8
- 4 Keynotes
- 4 Tutorials



IEEE MELECON 2024

22nd IEEE Mediterranean Electrotechnical Conference

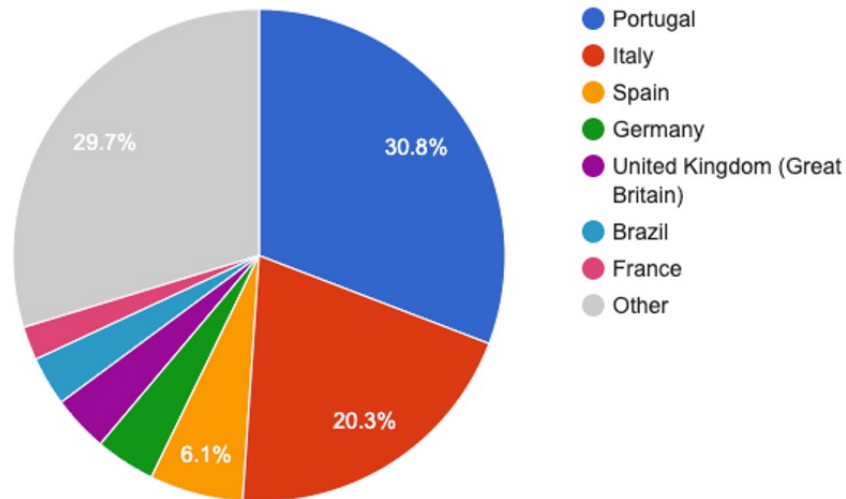
25 – 27 June 2024 ♦ Porto, Portugal



Impact on Community Engagement

- Conferences encourage more active participation in IEEE sections

Author distribution by country



Impact on Community Engagement

- ▶ Members gain a sense of belonging through these events
 - OUs can be involved in multiple activities
 - Chapters
 - Technical Sponsors
 - TPC/TP roles and duties
 - Organization of Technical Events
 - Affinity Groups
 - Great opportunity to organize thematic workshops
 - Student Branches
 - Volunteering activities, Competitions, Skill-building workshops



Impact on Community Engagement

- Increased visibility for local sections within the broader IEEE community



Women in Engineering

R8 WIE activities and best practices.

PANEL DISCUSSION: Glass Ceiling: Career Development & challenges

HOSTS AND MODERATORS:

- Paulo Ferreira, ISEP (IEEE Portuguese Chapter of Education Society)
- Eduarda Pinto Ferreira, ISEP
- Carolina Soares, Farfetch
- Margarida Trigo, WiE R8 committee (**Moderator**)

Student Branch Vitality – Administration, Programs and Recognition

STUDENT ACTIVITIES COMMITTEE TEAM: Abdullateef Aliyu – Region 8 Vice Chair of Student Activities, Chair R8 SAC; Vera Marković – Chair of the R8 AdHoc Committee on Contests, Awards and Recognitions – R8 SAC

ABSTRACT: Student branches serve as the dynamic hub of activities within their respective countries. However, they often require guidance on implementing best practices to maintain their active status and align with regional objectives. This workshop will provide valuable insights into essential yearly tasks for student branches and clarify student programs and awards through interactive demonstrations. Join us to discover the transformative potential that will elevate student branches into exceptional organizational units.

IEEE R8 Student Paper Contest 2024

SESSION CHAIR: Vera Markovic

PROGRAM:

- 14:00 – 14:10 Opening
- 14:10 – 14:30 Jan Popič, “Using Neural Networks in the Search of Low Auto-correlation Binary Sequences”
- 14:30 – 14:50 Loay Alfeqy, “BEVSORT: Bird Eye View LiDAR Multi Object Tracking”
- 14:50 – 15:10 Matea Marinova, “Accelerating Convergence in Split Learning for Time-Varying and Resource-Limited Environments”
- 15:10 – 15:30 Matic Pokorn, “Smart Homes, Smarter Savings: Energy Trading with Deep Reinforcement Learning”
- 15:30 – 15:50 Tim Bary, “Designing Pre-training Datasets from Unlabeled Data for EEG Classification with Transformers”
- 15:50 – 16:00 Jury's decision and conclusion

Networking Opportunities

- Conferences connect professionals, researchers, and students

- Promote inter-sectional, Region, and interdisciplinary collaboration



| | percentage |
|-----------------|------------|
| Academia | 77.90% |
| Industry | 11.23% |
| Research Center | 10.51% |
| Other | 0.36% |

Panel – From Lab Bench to Launch Pad!

PANELISTS: Fernando Moreira, Joana Pinto, Pedro Roseiro, João Paulo Cunha

HOST AND MODERATORS: Sohaib Sheikh (UK&I), Hugo Silva (Portugal) and Joao Ferreira (Portugal)

ABSTRACT: The panel discussion empowers researchers to unlock the commercial potential of their work. It brings together leading scientists, technology transfer specialists, and successful startup founders to guide the participants through the exciting journey of transforming their research into real-world products and startups.

The panel will address key questions on:

- How to identify commercially viable research
- Navigating the technology transfer process
- Building a strong founding team with complementary skills
- Securing funding and developing a business plan
- Embracing the challenges and rewards of bringing innovation to market

Networking Opportunities

► Research projects

e-Hospital4Future – Building future through an innovated and digital skilled hospital

Nuno Bettencourt, Susana Nicola, Ana Madureira

ISRC – Interdisciplinary Studies Research Center | ISEP ISEP, Polytechnic of Porto

ABSTRACT: Are you eager to know more about e-Hospital4Future project's activities and training course through an innovative and digital skilled hospital? On this workshop, participants will first get the opportunity to know the project's activities and training course. Through peer dynamics, participants will have the chance to know the project's activities and training course. Through peer dynamics, participants will have the chance to know the project's activities and training course.

I-SEAMORE Community Program & Stakeholders Engagement

Ana Madureira, Elisabete Carreira

INOV – INESC Inovação

PROGRAM: The I-SEAMORE project is a forward-thinking initiative, aiming to establish an integrated surveillance ecosystem for European Authorities responsible for Maritime Operations. Do you want to know more about I-SEAMORE project? The workshop "I-SEAMORE Community Program" intends to present and disseminate to scientific, industrial but also academic community members the I-SEAMORE Community Program. This platform was designed to be a lighter form of participation to foster engagement and involvement of stakeholders with the following benefits:

- Community Members (CMs) will have the opportunity to join us for dedicated events like conferences, workshops, webinars, and more, contributing with their perspectives to shape the future of our project.
- CMs can provide valuable input to project's development, staying informed about results and activity updates.
- As an I-SEAMORE CM, the name/logo will be featured on project webpage and can participate in social media campaigns. Plus, gain access to exclusive project mailing lists and collaboration platforms.

High Temperature Superconductivity for Accelerating the Energy Transition

João Murta-Pina¹, Anabela Pronto¹, Andrea Alimenti², Guilherme Telles³, Matteo Tropeano⁴, Wescley de Sousa⁵

¹Centre of Technology and Systems – UNINOVA, Portugal

²Roma Tre University, Italy

³Institute of Materials Science, Spain

⁴ASG Superconductors SpA, Italy

⁵Karlsruhe Institute of Technology, Germany

► Technology

Exploring Blockchain Applications: A Comprehensive Overview of the Current Landscape

João Carlos Ferreira

¹ISCTE – University Institute of Lisbon

²Instituto de Telecomunicações

GOALS: The workshop aims to provide an overview of the current landscape of blockchain applications and its impact on various industries.

Synergizing Phygital Marketing through Multimodal Artificial Intelligence, Virtual Reality and Augmented Reality

Ivo Pereira, Susana Nicola, Inês César, Rogério Silva, Ana Madureira

ISRC – Interdisciplinary Studies Research Center | ISEP ISEP, Polytechnic of Porto

Industry

What can You do with OutSystems?

José Teixeira

Low-Code Ambassador in Glinnt Global

PROGRAM: The workshop's goal is to explore the broad range of capabilities that are offered in the OutSystems platform, granting the participants from diverse backgrounds a unique opportunity to find out how they can become skilled in creating web and mobile applications quickly and securely, regardless of their academic background.

Key takeaways:

- Showcasing the platforms' power, despite the user's academic background.
- Understanding how OutSystems simplifies the creation of complex apps.
- Explore potential career paths in a market that values a broad range of skills.
- Network with colleagues and professionals passionate about technological improvement.

IEEE
Region 8

IEEE
PORTUGAL SECTION

IEEE MELECON 2024
22nd IEEE Mediterranean Electrotechnical Conference
25 – 27 June 2024 • Porto, Portugal



IEEE

Professional Development

- ▶ Workshops and seminars enhance members' skills
- ▶ Exposure to new technologies and industry trends
- ▶ Improves the competency and expertise within IEEE sections

IEEE
Region 8

IEEE
PORTUGAL SECTION

IEEE MELECON 2024
22nd IEEE Mediterranean Electrotechnical Conference
25 – 27 June 2024 • Porto, Portugal



IEEE Young Professionals: IoT Innovations and their Impact on Urban Development

OBJECTIVE:

- **Keynote Insights:** Gain valuable perspectives from industry leaders on the latest IoT trends and their implications for urban development.
- **Interactive Creative Hub:** Collaborate with experts in an engaging session to develop innovative IoT solutions for urban challenges.
- **Brainstorming Blitz:** Participate in dynamic brainstorming activities to generate and share groundbreaking ideas.
- **Networking Opportunities:** Connect with professionals, enthusiasts, and thought leaders to exchange ideas and forge new partnerships.

This event is your opportunity to be at the forefront of IoT innovation and its application in creating the cities of tomorrow. Don't miss out on the chance to learn, collaborate, and network with the best in the field.

PROGRAM:

- 16:00 – 16:15 Introduction – IEEE Portugal Young Professionals
- 16:15 – 16:45 Keynote – Rui Costa
- 16:45 – 17:30 Creative Hub – Led by Pedro Santos, Paula Graça, Marta Campos Ferreira, and Pedro Rito
- 17:30 – 18:00 Brainstorming Blitz
- 18:00 – 18:10 Closing Session – Carlos Ferreira

SUPPORTED/SPONSORED BY:



Professional Development



- ▶ 20 Special Sessions submitted (13 involving Portugal Section Members, from which 7 involved cross-section cooperation - PT+IT, PT+ES, PT+DE, PT+SL, PT+BR, PT+SE, PT+US)

SPECIAL SESSIONS

Session 1: Inclusive Electrifying Transportation

Session 2: Electronics in Smart Cities: Shaping Urban Innovation

Session 3: Enabling Electric Mobility for Sustainable Grids, Cities and Society

Session 4: Advanced Control of Grid-Connected Converters for Distributed Generation and Power Quality

Session 5: New Perspectives in Diagnosis and Control of Electrical Power Systems and Converters Based on Artificial Intelligence

Session 6: Strategies, Challenges, Modelling and Optimization of Electric Vehicles

Session 7: Intelligent Management of Electrical Power Systems

Session 8: Demand response techniques in Renewable Energy Communities (RECs) and smart grids: modelling and applications in a highly EV mobility penetrated scenarios

Session 9: Current Trends in Biomedical Signal Processing and Artificial Intelligence for Respiratory Health

Session 10: Harnessing the Power of Big Data in Healthcare: Transforming Insights into Action

Session 11: High-Temperature Superconductivity Technologies for a Sustainable Energy Transition

Session 12: Marine Electronic Systems

Session 13: Advanced Energy and Power Technologies for Future Power and E-mobility Sys

Session 14: Sustainable and Smart: Future Trend

Session 15: Empowering Healthcare: Patient-Centric Innovation and Technology Integration

Session 16: Massive Renewable Energy Deployment: Transition through Education and Skill Enhancement

Session 17: Advances in the internet of medical things

Session 18: Machine Learning in the Future of Healthcare

Session 19: Advancements in Radar-Based Human Monitoring

Session 20: Utility Scale and Distributed Storage for Sustainable and Efficient Power and Energy Systems

Impacts on IEEE Section's Vitality

- ▶ **High Organizational Workload:** Organizing a conference demands significant time and resources, potentially overwhelming volunteers and affecting their regular section activities and personal commitments
- ▶ **Volunteer Burnout:** The intensive work of organizing and managing conference activities can lead to volunteer burnout, reducing their motivation to engage in future section events or initiatives
- ▶ **Solution:** *enlarge the team and share/delegate the activities through an effective management plan and limited-scope roles*

Impacts on IEEE Section's Vitality

- ▶ **Financial Risks:** If a conference does not attract enough participants or sponsorship, the section may face financial losses, which can strain its budget and limit resources for other activities
- ▶ **Solution:** *bring experienced people in organizing conferences to help the organizing team on the financial decisions*
- ▶ **Participation Costs:** Conferences can be expensive to attend (registration, travel, accommodation), which might discourage members from participating, especially if they are students or early-career professionals
- ▶ **Solution:** *organize special events for students and early-career professionals offered at lower registration fees (or even partially paid by the Section if the business model allows it)*



Impacts on IEEE Section's Vitality

- ▶ **Overemphasis on Conferences:** If sections focus too heavily on conferences as their primary activity, other valuable initiatives (such as local outreach or workshops) may receive less attention, affecting the section's overall balance and appeal
- ▶ **Solution:** *organize other valuable initiatives and not only conferences*
- ▶ **Potential for Low Local Engagement:** Large international conferences may focus more on global networking, potentially reducing engagement with local members and diluting the benefits for the section's immediate community
- ▶ **Solution:** *technical events with a broad focus are preferred because they tend to attract a larger audience and increase the engagement with local members*

Impacts on IEEE Section's Vitality

- ▶ **Enhanced Professional Networking:** Conferences bring together industry professionals, academics, and students, enabling valuable networking opportunities that can lead to collaborations, mentorship, and career advancement for section members
- ▶ **Increased Visibility and Reputation:** Hosting or participating in conferences raises the section's profile, attracting recognition and potentially increasing membership by showcasing the section's contributions to the IEEE community
- ▶ **Knowledge Sharing and Skill Development:** Conferences provide access to the latest research, technical tutorials, and industry trends, which help section members stay current and improve their technical skills
- ▶ **Financial Benefits:** Sections involved in organizing conferences may receive sponsorship, registration fees, and grants, which can fund future section activities, scholarships, or other initiatives, supporting long-term vitality



Impacts on IEEE Section's Vitality

- ▶ **Student Engagement and Recruitment:** Conferences often draw student attendees, providing sections with a platform to engage with young professionals, recruit new student members, and nurture future IEEE leaders
- ▶ **Community and Industry Connections:** Conferences can facilitate partnerships with local industry and community organizations, which may support ongoing section initiatives, internships, and collaboration opportunities
- ▶ **Motivation for Active Participation:** Conferences can inspire members to take on active roles within the section, such as volunteering or organizing, creating a more engaged and motivated community
- ▶ **Access to Research and Innovation:** Sections benefit from direct exposure to cutting-edge research and technology presented at conferences, potentially inspiring local innovation initiatives and interdisciplinary projects

Conclusions

- ▶ Summary of the initiatives to increase the vitality of the IEEE Portugal Section due to organization of the IEEE MELECON 2024
- ▶ Summary of the impacts of conferences on IEEE sections' vitality

Acknowledgements

A special acknowledgement to the Past-Chairs of the IEEE Portugal Section and IEEE MELECON 2024 Conference Co-Chairs

- Ana Madureira
- Catarina Silva

to recognize their commitment and efforts in strengthening the impact of the conference for the Section vitality



THANK YOU FOR YOUR ATTENTION

Rodolfo Oliveira – rado@ieee.org