IEEE RTSI 2018 – Track 3 – 3.2

SENSOR NETWORKS

Sensor networks are a significant technology attracting considerable research interest (about 80,000 papers on IEEE Xplore). Recent advances in wireless communications, electronics and sensor technology have enabled the development of low-cost, low-power wireless sensor that are small in size and communicate in short distances, the Wireless Sensor Networks (WSN). Unprecedented opportunities in monitoring and controlling homes, cities, and the environment will be by exploiting the technology of WSN. In addition, WSN have a broad spectrum of applications which can be distinguished in: indoor, outdoor and underwater applications. On the other hand, in emerging sensor network applications it is necessary to accurately orient the nodes with respect to a global coordinate system to report data that is geographically meaningful.

The purpose of this technical Session proposal is to focus on new algorithm of localization on WSN and its indoor, outdoor or underwater applications. Then the proposed TS contributions will range from system to locate objects or people inside a building using radio waves, magnetic fields, acoustic signals, or other sensory information (Indoor Positioning Systems, IPS) to outdoor GPS assisted positioning systems or underwater positioning systems based on acoustic, optical or mixed technologies.

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Short Curriculum Vitae

DAVID SCARADOZZI is an Assistant professor at the Dipartimento di Ingegneria dell'Informazione and the International Relations Departemental Coordinator of the Engineering Faculty at Università Politecnica delle Marche (Ancona) and is an associate researcher (Chercheur Associé) at LSIS - umr CNRS 6168 – Marseille, France / PhD in Artificial intelligent systems. Prof. David Scaradozzi is Assistant Professor of system theory, optimization and control both for the Master's Degree and for the PhD School in Information Engineering where he is an Academic Board member. He is and has been involved in different research projects such as EU-FP6 VENUS and EPOCH, EU-FP7 Sunrise, H2020 Green Bubbles, H2020 Lab4Dive and the educational robotics pilot project "ROBOTICA A SCUOLA" with the primary school "Marco Polo" in Rome. D.S. is responsible of the Framework Programme "NI LabVIEW Student Ambassadors" between Università Politecnica delle Marche and National Instruments. He is the scientific coordinator of many European Erasmus+ Agreements between Università Politecnica delle Marche and other Institutions all over the world concerning the international exchange of undergraduate, graduate and PhD students on topics regarding Underwater Robotics and Educational Robotics.
During last years he has been lead the scientific documentation of sea operative surveys for archaeological and MPA sites study using divers, ROVs and other technological devices. One of these missions is constituted by the four-year work on the "Dolia" shipwreck of Marciana Marina – Elba Island (Italy) founded by MIBAC (Ministero dei Beni e delle Attività Culturali); he has been following another important archaeological site study in Kolocep – Dubrovnik (Croatia) and Gnalic - Biograd na Moru (Croatia) collaborating with the University of Zadar, partially founded by UNESCO. David Scaradozzi is an accredited ROV pilot of the micro and small class category since 2001 and a specialized electronic technician for use and repair of underwater acoustic positioning systems, ROV and optical devices.

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