

## Table of Contents

Data-driven Detection and Identification of Undesirable Events in Subsea Oil Wells <i>Chrisander Bronstad, Sergio L. Netto, and Antonio L.L Ramos</i>	1
Small Scale Unmanned Aircraft System and Photogrammetry Applied for 3D Modeling of Historical Buildings <i>Alexandre Boente, Thiago Baldivieso, Thiago Oliveira, Vinicius Fonseca, and Paulo Rosa</i>	7
Drones Operations and Communications in an Urban Environment <i>Sandeep Shivakoti, Aurelie Aurilla Arntzen bechina, Serkan Guldal, and Esther Nistal Cabanas</i>	13
Tracking Suspicious Entities Using UAVs in Critical Urban Areas: A R-CNN Approach <i>Mathias Afonso Guedes de Menezes, Paulo Fernando Ferreira Rosa, and Erick Menezes Moreira</i>	19
A UAV-based Infrared Small Target Detection System for Search and Rescue Missions <i>Victor J. Hansen, Antonio L. L. Ramos, and Jose A. Apolinario Jr.</i>	25
3D Reconstruction with Drone Images: Optimization by Reinforcement Learning <i>Thiago Joao Miranda Baldivieso, Taise Grazielle da Silva Batista, Luiz Carlos Pacheco Rodrigues Velho, and Paulo Fernando Ferreira Rosa</i>	31
Influences on the Detection Probability of Ferromagnetic Objects <i>Lukas Heindler, Ruben Piepgras, and Bernhard G. Zagar</i>	35
Environmental Monitoring in Built Environment Through Wearable Devices: a Bibliometric Review <i>Francesco Salamone, Sergio Sibilio, and Massimiliano Masullo</i>	41
Design, Fabrication and Characterization of a Novel Piezoresistive Pressure Sensor for Blast Waves Monitoring <i>Kevin Sanchez, Bilel Achour, Jerome Riondet, Laurene Anglade, Miguel Carrera, Anthony Coustou, Aurelie Lecestre, Samuel Charlot, Herve Aubert, Maylis Lavayssiere, Alexandre Lefrancois, Jerome Luc, and Patrick Pons</i>	47
HCI Preliminary Study and Implementation for a LoRa based SAR System <i>Christos Bouras, Apostolos Gkamas, and Spyridon Aniceto Katsampiris Salgado</i>	53
Study on the Performance of Sensitive Part of Bridge Type Ultra-Thin Film Hydrogen Sensor <i>Takahiro Mori, Shoki Wakabayashi, Kenji Kondoh, Takuya Takahashi, Makoto Nakagawa, Naohiro Ueda, Jin Wang, Kenji Sakai, Keiji Tsukada, and Toshihiko Kiwa</i>	59
Vehicular Visible Light Communication in a Two-Way-Two-Way Traffic Light Controlled Crossroad <i>Manuel Vieira, Manuela Vieira, Paula Louro, Pedro Vieira, and Mirtes de Lima</i>	61
Indoor Self-localization and Wayfinding Services using Visible Light Communication: A model	67

A Wearable Internet of Things Device for Bio-signals Real Time Monitoring of Elderly People <i>Panagiotis Pikasis and Grigoris Kaltsas</i>	73
PdAu Based Resistive Hydrogen Sensor in Anaerobic Environment <i>Clement Occelli, Tomas Fiorido, Carine Perrin-Pellegrino, and Jean-Luc Seguin</i>	77
Signal Accuracy of Terahertz Chemical Microscope for Lung Cancer Cell Detection <i>Yuichi Yoshida, Xue Ding, Kohei Iwatsuki, Sayaka Tsuji, Hirofumi Inoue, Jin Wang, Kenji Sakai, and Toshihiko Kiwa</i>	82
Detection of Proteins Associated with Alzheimer's Disease using a Terahertz Chemical Microscope <i>Kohei Iwatsuki, Yuichi Yoshida, Xue Ding, Sayaka Tsuji, Jin Wang, Kenji Sakai, and Toshihiko Kiwa</i>	84
A Method to Minimize Resonant Frequency Drift of CMUTs Due to Fluid Loading <i>Thasnim Mohammed and Sazzadur Chowdhury</i>	86
Footprint Model in a Navigation System Based on Visible Light Communication <i>Paula Louro, Manuela Vieira, Manuel A. Vieira, Mirtes de Lima, Joao Rodrigues, and Pedro Vieira</i>	92
High-precision Time Synchronization Digital Sensing Platform Enabling Connection of a Camera Sensor <i>Narito Kurata</i>	98
Triboelectric-based energy harvesting face mask using recyclable materials <i>Brady Miller, Samantha Barker, and Reza Rashidi</i>	105