Table of Contents

| UHF Printed Sensor for Force Detection Almudena Rivadeneyra, Andreas Albrecht, Paolo Lugli, Markus Becherer, and Jose F Salmeron | 1 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Screen Printable Electrochemical Capacitors on Flexible Substrates Francisco J. Romero, Diego P. Morales, Markus Becherer, Almudena Rivadeneyra, and Noel Rodriguez | 3 |
| Low-Cost Energy-Autonomous Sensor Nodes Through RF Energy Harvesting and Printed Technology Fernando Moreno-Cruz, Francisco J. Romero, Noel Rodriguez, Diego P. Morales, and Almudena Rivadeneyra | 8 |
| UV-assisted Chemiresistive Alcohol Sensor Based on Cobalt Doped Tin Dioxide Mikayel Aleksanyan, Artak Sayunts, Hayk Zakaryan, Vladimir Aroutiounian, Valeri Arakelyan, and Gohar Shahnazaryan | 13 |
| Performance Comparison of pH Sensor Module with Wireless Transmission Function Lan Zhang, Jian Lu, and Ryutaro Maeda | 18 |
| Low Cost Measurement System for the Precise Monitoring of the Instantaneous Rotational Speed of an Internal Combustion Engine Dimitrios Nikolaos Pagonis, Grigoris Kaltsas, and Sofia Peppa | 20 |
| Screen Printed BaTiO3 for CO2 Gas Sensor Fabien Le Pennec, Sandrine Bernardini, Mohamad Hijazi, Carine Perrin-Pellegrino, Khalifa Aguir, and Marc Bendahan | 24 |
| Data Analysis-Based Gas Identification with a Single Metal Oxide Sensor Operating in Dynamic Temperature Regime Nicolas Morati, Thierry Contaret, Jean-Luc Seguin, Marc Bendahan, Oussama Djedidi, and Mohand Djeziri | 26 |
| Sensor and Electronic Circuits Development on Flexible Substrates through Additive Manufacturing Technologies for Textile Applications Josue Ferri, Jorge Moreno, Ana Rodes, Elena Mira, Jose Maria Garcia, Eduardo Garcia-Breijo, and Raul Llinares | 30 |
| The Use of the Arduino Embedded System as a Prototype of a Mobile System Controlling a Person's Breathing Using a Sensor Printed on a T-shirt Jaroslaw Wojciechowski and Ewa Skrzetuska | 33 |
| Sensors-Based Virtual Reality Environment for Volumetric CT Analyses of Agricultural Soil Samples Leonardo C. Botega and Paulo E. Cruvinel | 36 |
| Designing a Livestock Monitoring System and Evaluating the Performance of LoRa for a Farm Atsushi Ito, Jinshan Luo, Yoshikazu Nagao, Yuko Hiramatsu, Fumihiro Sato, and Takeo Watanabe | 44 |

| Testing Existing Prototypes of Conductivity Sensors for Monitoring the Concentration of Organic Fertilizers in Fertigation Systems Daniel A. Basterrechea, Javier Rocher, Lorena Parra, and Jaime Lloret | 50 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Portable E-nose for Diagnostic of Inflammation and Diverse Variation in Health Status of Humans and Animals Anastasiia Shuba, Tatiana Kuchmenko, Ruslan Umarkhanov, and Anton Chernitskiy | 56 |
| Detection and Classification of Obstacles Using a 2D LiDAR Sensor Alejandro Olivas Gonzalez and Fernando Torres Medina | 63 |
| A Novel Low-Concentration Isopropanol Gas Sensor Based on Fe-doped ZnO Nanoneedles Yifan Luo, Ahmadou Ly, Marc Debliquy, Driss Lahem, and Chao Zhang | 67 |
| Normal Distributions Transform-Based Mapping Using Scanning LiDAR Mounted on Motorcycle Kota Matsuo, Akihiko Yoshida, Masafumi Hashimoto, and Kazuhiko Takahashi | 69 |
| Design of an acoustic transducer structure for biosensing Emmanuel Attal, Sophie Sok, and Therese Leblois | 76 |
| Non-Linear Modeling and Sensitive Analysis of a Magnetostrictive Force Sensor Mojtaba Ghodsi, Morteza Mohammadzaheri, and Payam Soltani | 78 |
| Near-Ground Wireless Coverage Design in Rural Environments Marta Botella-Campos, Jose Miguel Jimenez, Sandra Sendra, and Jaime Lloret | 84 |