

Table of Contents

Ability of Acoustic Sensor Devices for Medical Analysis <i>Thomas Rosel, Achim Voigt, and Friederike J. Gruhl</i>	1
Neural Cell Chip to Assess Toxicity Based on Spectroelectrochemical Technique <i>Jeong-Woo Choi and Tae-Hyung Kim</i>	5
Medical Wireless Vibration Measurement System for Hip Prosthesis Loosening Detection <i>Sebastian Sauer, Uwe Marschner, Hagen Graetz, and Wolf-Joachim Fischer</i>	9
Sensing of the Functional State of Fertility of Cows <i>Michal Borecki, Michael L. Korwin-Pawlowski, Marcin Kozicki, Jan Szmidt, Andrzej Jakubowski, Szmidt Maciej, and Kaja Urbanska</i>	14
Bend Sensors Modeling for Fast Signal Recovering in Human Motion Analysis <i>Giancarlo Orengo, Antonino Lagati, and Giovanni Saggio</i>	21
SiC Multilayer Photonic Structures <i>Manuela Vieira, Manuel Vieira, Paula Louro, Alessandro Fantoni, and Vitor Silva</i>	25
A Novel Flexure Parallel Micromanipulator Based on Multi-Level Displacement Amplifier <i>Dan Zhang, Zhen Gao, Matteo Malosio, and Gianmarc Coppola</i>	31
Improvement of the Diffusive Component of Dark Current in Silicon Photomultiplier Pixels <i>Roberto Pagano, Sebania Libertino, Domenico Corso, Salvatore Lombardo, Giuseppina Valvo, Delfo Sanfilippo, Giovanni Condorelli, Massimo Mazzillo, Angelo Piana, Beatrice Carbone, and Giorgio Fallica</i>	38
Impedance Measurements of Ethanol Sensing with Vanadium oxide / Porous Si / Si Structure <i>Katia Chebout, Aicha Iratni Aicha Iratni, Ahmed Bouremana, Kawthar M'hammedi, Hamid Menari, Aissa Keffous, and Nouredine Gabouze</i>	42
Wireless and Passive Sensors for High Temperature Measurements <i>Bruno Francois, Denny Richter, Holger Fritze, Zacharis J. Davis, Christophe Droit, Blandine Guichardaz, Valerie Petrini, Gilles Martin, Jean-Michel Friedt, and Sylvain Ballandras</i>	46
Modeling and Comparing the Linear Performance of non Uniform Geometry Bend Sensors <i>Giancarlo Orengo, Antonino Lagati, and Giovanni Saggio</i>	52
Heat Balanced Bolometer with Sigma-Delta Interface <i>Matthieu Denoual, Mathieu Pouliquen, Gilles Allegre, Damien Brouard, Arthur Veith, Olivier de Sagazan, and Patrick Attia</i>	56

Optical Characterisation of La _{0.7} Sr _{0.3} MnO ₃ Thin Film Based Uncooled Bolometers <i>Ammar Aryan, Jean-Marc Routoure, Bruno Guillet, Pierre Langlois, Cedric Fur, Julien Gasnier, Carolina Adamo, Darrell G. Schlom, and Laurence Mechin</i>	61
Identification of Yarn Periodical Errors Using Signal Processing Techniques Based on Capacitive and Optical Sensors Measurements <i>Vitor Carvalho, Filomena Soares, Michael Belsley, and Rosa Vasconcelos</i>	66
TCR, Responsivity, and Noise Properties of Carbon Nanotube-polymer Bolometric IR Detectors <i>William Riedel, Gustavo Fernandes, Jin Ho Kim, and Jimmy Xu</i>	73
Application of a Conductive Polymer Electronic-nose Device to Identify Aged Woody Samples <i>Alphus D. Wilson</i>	77
A Methanol Sensor Incorporating Nanostructured ZnO and Integrated Micro-heater on Thermally Isolated Planar MEMS Platform <i>Sudhir Chandra, Hardik Pandya, and Anoop Vyas</i>	83
Development of Au Nano-particles Cladding-doped Optical Fiber for Surface Plasmon Resonance Sensor Applications <i>Seongmin Ju, Pramod R. Watekar, Seongmook Jeong, Youngwoong Kim, Poram Jeon, Seongjae Boo, and Won-Taek Han</i>	89
A Smartphone System: Providing a Shoe-Embedded Interface <i>Kaname Takaochi, Kazuhiro Watanabe, and Kazumasa Takami</i>	95
A Low-cost and Portable System for Real-time Impedimetric Measurements and Impedance Spectroscopy of Sensors <i>Michele Rossi, Marco Bennati, Federico Thei, and Marco Tartagni</i>	101
Flexible Lightweight Films-based Physical Sensors with Wireless Data <i>Vladimir Laukhin, Elena Laukhina, Bahareh Moradi, Victor Lebedev, Raphael Pfattnr, Concepcio Rovira, and Jaume Veciana</i>	107
Performance Testing of a Low Power Consumption Wireless Sensor Communication System Integrated with an Energy Harvesting Power Source <i>Vlad Marsic, Alessandro Giuliano, Michele Pozzi, Meiling Zhu, and Stewart Williams</i>	112
On the Need for Low Phase Noise Oscillators for Wireless Passive Sensor Probing <i>Jean-Michel Friedt, Nicolas Chretien, Bruno Francois, Gilles Martin, Sylvain Ballandras, and Pratyush Varshney</i>	119
Efficient Suboptimal Detectors for Maritime Surface Surveillance High-Resolution Radar <i>Blas Pablo Dorta-Naranjo, Jaime Calvo-Gallego, Cristina Carmona-Duarte, and Felix Perez-Martinez</i>	126

Acoustic Emission Sensor Module 132
Irinela Chilibon, Marian Mogildea, and George Mogildea

Investigation on Electrode Size of High Frequency Ultrasonic Transducers 137
Yangjie Wei, Thomas Herzog, and Henning Heuer

Surface Acoustic Wave Devices Exploiting Palladium Layer Properties for Selective Detection of Hydrogen 143
Meddy Vanotti, Virginie Blondeau-Patissier, David Rabus, Loic Richard, and Sylvain Ballandras

Protocol Awareness: A Step Towards Smarter Sensors 148
Hoel Iris and Francois Pacull