

PERSONAL INFORMATION

Dr. Luca Nunzio Francioso, PhD

Research Director

Institute for Microelectronics and Microsystems - CNR-IMM Lecce (Italy)

Gender Male | Date of Birth 30/05/1976 | Nationality Italian

Number of Indexed Publications (Scopus): 149

Number of citations (Scopus) : 2696

H-Index : 27 (Scopus)

Luca Francioso received the Laurea in Physics in 2001 from the University of Lecce. Since 2001 he has been afferent to the Institute for Microelectronics and Microsystems of the National Research Council (CNR-IMM) in the Sensors and Microsystems group, with research activity dedicated to micromachined silicon systems and thin-film solid-state gas sensors. Since 2002 as a researcher he has been interested in the development of microelectronic fabrication technologies and in the integration of nanostructured sol-gel sensitive films into sensors made with MEMS technology. In 2005, he is a visiting researcher at CNM-CSIC (Centro Nacional de Microelectronica) in Barcelona, with activities on the fabrication of energy-efficient micromachined gas sensors. In 2006, he received his Ph.D. from the University of Lecce with a thesis work on the application of miniaturized gas sensors for combustion and cabin air quality control in automobiles. Since 2008, he gain the researcher position at the Lecce unit of the Institute for Microelectronics and Microsystems (CNR-IMM), with research activities in the areas of MEMS technologies, finite element simulation, engineering of chemical sensors and wearable devices for energy harvesting. As of 2019, he has been Senior Researcher and Research Manager in 2023. Current research interests are related to: i) wearable devices for chemical and biological sensing ii) biosensors and advanced EIS detection techniques iii) design and fabrication of Lab-On-Chip and microphysiological platforms. He is currently the scientific head of the Multifunctional Devices Design and Characterization Laboratory (M2DCLab) and the Micro-Nano Biosystems (MNBS) laboratory at the CNR-IMM Lecce site and the national contact person for the IMM Institute for the "Functional Materials and Devices" working group.

Selected publications

Sciurti, E., Signore, M.A., Velardi, L., Di Corato, R., Blasi, L., Campa, A., Martucci, M.C., Siciliano, P.A., Francioso, L., Label-free electrochemical biosensor for direct detection of Oncostatin M (OSM) inflammatory bowel diseases (IBD) biomarker in human serum (2024) Talanta, 271, art. no. 125726, .

Signore, M.A., Rescio, G., Francioso, L., Casino, F., Leone, A., Aluminum Nitride Thin Film Piezoelectric Pressure Sensor for Respiratory Rate Detection (2024) Sensors, 24 (7), art. no. 2071

Radogna, A.V., Francioso, L., Sciurti, E., Bellisario, D., Esposito, V., Grassi, G., A Wireless Potentiostat Exploiting PWM-DAC for Interfacing of Wearable Electrochemical Biosensors in Non-Invasive Monitoring of Glucose Level (2024) Electronics (Switzerland), 13 (6), art. no. 1128

Prontera, C.T., Sciurti, E., De Pascali, C., Giampetruzzi, L., Biscaglia, F., Blasi, L., Esposito, V., Casino, F., Siciliano, P.A., Francioso, L.N., Anodic Stripping Voltammetric Determination of Copper Ions in Cell Culture Media: From Transwell® to Organ-on-Chip Systems (2023) Chemosensors, 11 (8), art. no. 466, .

Sciurti, E., Blasi, L., Prontera, C.T., Barca, A., Giampetruzzi, L., Verri, T., Siciliano, P.A., Francioso, L., TEER and Ion Selective Transwell-Integrated Sensors System for Caco-2 Cell Model (2023) Micromachines, 14 (3), art. no. 496

Signore, M.A., De Pascali, C., Giampetruzzi, L., Siciliano, P.A., Francioso, L., Gut-on-Chip microphysiological systems: Latest advances in the integration of sensing strategies and adoption of mature detection mechanisms (2021) Sensing and Bio-Sensing Research, 33, art. no. 100443

De Pascali, C., Francioso, L., Giampetruzzi, L., Rescio, G., Signore, M.A., Leone, A., Siciliano, P., Modeling, fabrication and integration of wearable smart sensors in a monitoring platform for diabetic patients (2021) Sensors, 21 (5), art. no. 1847, pp. 1-21.