

Dr VASILIKI TSOUTI CV

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Dr. Vasiliki Tsouti received the BS degree in Physics in 2002 and MSc in Solid State Physics in 2005, both from the University of Athens. During that period she worked on the electrical characterization of Silicon on Insulator structures. In 2009 she received her PhD from the National Technical University of Athens and the former Institute of Microelectronics (now INN) at the NCSR Demokritos. Her PhD work included the development of chemical and biological micromechanical sensor arrays for use in the detection of hereditary diseases. Since then, she works for INN as a research associate. During 2010-2017 she was also a co-founder and CEO of Aisthis Technologies, a knowledge intensive company. From 2017 to 2021 Dr Tsouti worked as adjunct researcher on the development of an integrated and non-invasive system for the effective monitoring and treatment of obstructive sleep apnea.

Her research interests include physical and chemical sensors, finite element analysis of MEMS, flexible and nanocomponent based devices, microfabrication techniques, energy harvesting and integrated systems for medical applications. She has earned 3 personal grants for post-doctoral research (NCSR D, IKY-Siemens, Stavros Niarchos Foundation) and has participated in 5 national and international research projects. She has 23 publications in International peer reviewed journals, more than 10 conference proceedings and she has co-authored one book chapter on chemical sensors.

Google Scholar profile:

<https://scholar.google.gr/citations?user=b0ass-wAAAAJ&hl=en>

Scopus profile:

<https://www.scopus.com/authid/detail.uri?authorId=16319968000>

RESEARCH INTERESTS

- Micromechanical Sensors and Systems (mechanical, chemical, bio)
- Wearable sensors
- Nanocomposites
- Finite Element Modelling

BOOK CHAPTERS

- S. Chatzandroulis, V. Tsouti, I. Raptis, D. Goustouridis, "CAPACITANCE-TYPE CHEMICAL SENSORS" chapter at "Chemical Sensors: Comprehensive Sensor Technology, Vol. 4: Solid State Sensors", Print ISBN: 978-1-60650-233-4, Momentum Press, 2011.
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SELECTED PUBLICATIONS

1. Niarchos, G., Dubourg, G., Afroudakis, G., Georgopoulos, M., Tsouti, V., Makarona, E., Crnojevic-Bengin, V., Tsamis, C. Humidity sensing properties of paper substrates and their passivation with ZnO nanoparticles for sensor applications, *Sensors* 17, 516 (2017). DOI:10.3390/s17030516
2. Papazoglou, S., Tsouti, V., Chatzandroulis, S., Zergioti, I. Direct laser printing of graphene oxide for resistive chemosensors, *Optics & Laser Technology* 82, 163-169 (2016). DOI: 10.1016/j.optlastec.2016.03.009
3. Tsouti, V., Mitrakos, V., Broutas, P., Chatzandroulis, S. Modeling and Development of a Flexible Carbon Black Based Capacitive Strain Sensor, *IEEE Sensors journal* 16, 3059-3067 (2016). DOI: 10.1109/JSEN.2016.2524508
4. Tsouti, V. and Chatzandroulis, S. Non-ideal biological layer deposition effects on membrane surface stress based biosensor performance, *Microelectronic Engineering* 144, 23-26 (2015). DOI: 10.1016/j.mee.2015.01.025
5. Tang, J., Skotadis, E., Stathopoulos, S., Roussi, V., Tsouti, V., Tsoukalas, D. PHEMA functionalization of gold nanoparticles for vapor sensing: Chemi-resistance, chemi-capacitance and chemi-impedance, *Sensors and Actuators B* 170, 129-136 (2012). DOI: 10.1016/j.snb.2011.03.001
6. Tsouti, V., Boutopoulos, C., Zergioti, I., Chatzandroulis, S. Capacitive microsystems for biological sensing, *Biosensors and Bioelectronics* 27, 1-11 (2011). DOI: 10.1016/j.bios.2011.05.047
7. Tsouti, V., Boutopoulos, C., Andreakou, P., Ioannou, M., Zergioti, I., Goustouridis, D., Kafetzopoulos, D., Tsoukalas, D., Normand, P. and Chatzandroulis, S. Detection of DNA mutations using a capacitive micro-membrane array, *Biosensors and Bioelectronics* 26, 1588–1592 (2010). DOI: 10.1016/j.bios.2010.07.119
8. Boutopoulos, C., Tsouti, V., Goustouridis, D., Chatzandroulis, S., Zergioti, I. Liquid phase direct laser printing of polymers for chemical sensing applications *Applied Physics Letters* 93, 191109 (2008). DOI: 10.1063/1.3025596
9. Tsouti, V., Chatzandroulis, S., Goustouridis, D., Normand, P., Tsoukalas, D. Design and fabrication of a micromechanical capacitive DNA sensor array, *Microelectronic Engineering* 85, 1359-1361 (2008). DOI:10.1016/j.mee.2007.12.075
10. Tsouti, V., Bikakis, G., Chatzandroulis, S., Goustouridis, D., Normand, P., Tsoukalas, D. Impact of structural parameters on the performance of silicon micromachined capacitive pressure sensors, *Sensors & Actuators A* 137, 20-24 (2007). DOI: 10.1016/j.sna.2007.02.015