

**WORK, EDUCATION AND RESEARCH HIGHLIGHTS:**

- **Researcher in Electronic and Information Bioengineering** at the Department of Electrical engineering and Information Technology of the University of Naples Federico II (from June 2021)
- **Research Fellow** at the Department of Chemical, Materials and Production Engineering of the University of Naples Federico II (December 2020 – June 2021)
- **Research Fellow** at the Department of Electrical engineering and Information Technology of the University of Naples Federico II (October 2019 – September 2020)
- **Co-founder** of the startup Kyme NanoImaging Srl (from April 2018)
- **Ph.D. in Industrial Product and Process Engineering** at the University of Naples Federico II (October 2015 - February 2019)
- **Healthcare consultant** at *Engineering Ingegneria Informatica S.p.a.* (July 2014 – February 2015)
- **Technical programmer** at *GESAN S.r.l* (February 2014 – June 2014)
- **Master's degree in Biomedical Engineering** at the University of Naples Federico II (December 2013)
- **Bachelor's degree in Biomedical Engineering** at the University of Naples Federico II (September 2011)

**RESEARCH INTERESTS:**

*biomedical engineering; bioengineering; biomedical data analysis; biomedical signal processing; heart rate variability; fetal heart rate variability; electronic fetal monitoring; healthcare management; analysis and optimization of healthcare processes; lean six sigma in healthcare; discrete event systems; discrete event simulation; Health technology Assessment; magnetic resonance imaging; contrast agents for MRI; nanomedicine; microfluidics; drug delivery systems; biomaterials; polymer nanoparticles.*

**SOME OF THE MOST RECENT SCIENTIFIC PUBLICATIONS:**

- AM Ponsiglione, C Cosentino, G Cesarelli, F Amato, M Romano. A Comprehensive Review of Techniques for Processing and Analyzing Fetal Heart Rate Signals. *Sensors*, 2021, 21(18), 6136. doi: 10.1155/2021/8826048.
- AM Ponsiglione, C Ricciardi, A Scala, A Fiorillo, A Sorrentino, M Triassi, G Dell'Aversana Orabona, G Improta. Application of DMAIC Cycle and Modeling as Tools for Health Technology Assessment in a University Hospital. *Journal of healthcare engineering*, 2021, 8826048. doi: 10.1155/2021/8826048
- AM Ponsiglione, C Ricciardi, G Improta, G Dell'Aversana Orabona, A Sorrentino, F Amato, M Romano. A Six Sigma DMAIC methodology as a support tool for Health Technology Assessment of two antibiotics. *Mathematical Biosciences and Engineering*, 2021, 18(4): 3469-3490. doi: 10.3934/mbe.2021174
- A Scala, AM Ponsiglione, I Loperto, A Della Vecchia, A Borrelli, G Russo, M Triassi, G Improta. Lean Six Sigma Approach for Reducing Length of Hospital Stay for Patients with Femur Fracture in a University Hospital. *International Journal of Environmental Research and Public Health*, 2021, 18(6): 2843. doi: 10.3390/ijerph18062843
- C Ricciardi, AM Ponsiglione, G Converso, I Santalucia, M Triassi, G Improta. Implementation and validation of a new method to model voluntary departures from emergency departments. *Mathematical Biosciences and Engineering*, 2021, 18(1): 253-273. doi: 10.3934/mbe.2021013
- G Improta, G Guizzi, C Ricciardi, V Giordano, AM Ponsiglione, G Converso, M Triassi. Agile Six Sigma in Healthcare: Case Study at Santobono Pediatric Hospital. *International Journal of Environmental Research and Public Health*. 2020, 17(3): 1052. doi: 10.3390/ijerph17031052
- AM Ponsiglione, M Russo, E Torino. Glycosaminoglycans and Contrast Agents: The Role of Hyaluronic Acid as MRI Contrast Enhancer. *Biomolecules*, 2020, 10(12): 1612. doi: 10.3390/biom10121612
- F De Sarno, AM Ponsiglione, AM Grimaldi, PA Netti, E Torino. Effect of crosslinking agent to design nanostructured hyaluronic acid-based hydrogels with improved relaxometric properties. *Carbohydrate polymers*, 2019, 222: 114991. doi: 10.1016/j.carbpol.2019.114991
- F De Sarno, AM Ponsiglione, M Russo, AM Grimaldi, E Forte, PA Netti, E Torino. Water-Mediated Nanostructures for Enhanced MRI: Impact of Water Dynamics on Relaxometric Properties of Gd-DTPA. *Theranostics*. 2019;9(6):1809- 1824. doi:10.7150/thno.27313
- M Romano, P Bifulco, AM Ponsiglione, GD Gargiulo, F Amato, M Cesarelli. Evaluation of floatingline and foetal heart rate variability. *Biomedical Signal Processing and Control*, 2018, 39, 185-196. doi: 10.1016/j.bspc.2017.07.018
- M Romano, L Iuppariello, AM Ponsiglione, G Improta, P Bifulco, M Cesarelli, Frequency and time domain analysis of foetal heart rate variability with traditional indexes: a critical survey. *Computational and mathematical methods in medicine*, 2016, 9585431, 12 pages. doi: 10.1155/2016/9585431
- G Improta, G Balato, M Romano, AM Ponsiglione, E Raiola, MA Russo, P Cuccato, LC Santillo, M Cesarelli. Improving performances of the knee replacement surgery process by applying DMAIC principles. *Journal of evaluation in clinical practice*, 2017, 23(6), 1401-1407. doi: 10.1111/jep.12810
- AM Ponsiglione, M Russo, PA Netti, E Torino. Impact of biopolymer matrices on relaxometric properties of contrast agents. *Interface Focus*, 2016, 6(6), 20160061. doi: 10.1098/rsfs.2016.0061
- G Improta, M Romano, AM Ponsiglione, P Bifulco, G Faiella, M Cesarelli. Computerized cardiocography: a software to generate synthetic signals. *J. Health Med. Inform*, 2014, 5(1000162), 10-4172. doi: 10.4172/2157-7420.1000162