Simona Turco
Curriculum vitae, Nov 2023

Experience

- Sep 2018 – current, *assistant professor*
  Eindhoven University of Technology, Dept. Electrical Engineering **(Eindhoven, the Netherlands)**
  Research focus: Statistical processing of bio-signals.

- Feb 2022 – current, guest researcher
  Amsterdam University Medical Center, Dept. Radiology and Nuclear Medicine **(Amsterdam, the Netherlands)**
  Research focus: inter-modality image registration by deep learning

- Feb 2020 – June 2020 – *Visiting scholar*
  Stanford Medicine, Dept. of Radiology **(Stanford, CA, USA)**
  Research focus: contrast-enhanced ultrasound imaging and machine learning for detection of hepatocellular carcinoma

- Jan 2018 – Sep 2018, *Post-doctoral researcher*
  Eindhoven University of Technology, Dept. Electrical Engineering **(Eindhoven, the Netherlands)**
  Research focus: model-based analysis of bio-signals and medical images.

- Nov 2014 – Jan 2018, *PhD in Electrical Engineering*
  Eindhoven University of Technology, Dept. Electrical Engineering **(Eindhoven, the Netherlands)**
  Thesis title: "Pharmacokinetic modeling in cancer: from functional to molecular imaging of angiogenesis"

- Nov 2012 – Nov 2014, *PDEng trainee*
  Eindhoven University of Technology, Dept. Electrical Engineering **(Eindhoven, the Netherlands)**
  Project title: "Quantitative imaging of angiogenesis in prostate cancer with DCE-MRI."
  Final grade: 9/10.
  Track: Healthcare systems design.
  Degree: Professional doctorate in Engineering.

- Dec 2011 – Nov 2012, *Intern*
  Philips Research, Department of Care & Health Applications **(Eindhoven, the Netherlands)**
  Project title: "Effects of polarization and apodization on laser induced optical breakdown threshold for skin rejuvenation".

Education

- Jan 2010 – Sep 2012, MSc in Biomedical Engineering
  School of Engineering, University of Pisa **(Pisa, Italy)**.
  Final grade: 110/110 cum laude (top 10%).

- Aug 2010 – Sep 2010, Summer course in Environmental Engineering
  San Diego State University **(San Diego, CA, USA)**

- Sep 2006 – Dec 2009, BSc in Biomedical Engineering
  School of Engineering, University of Pisa (Pisa, Italy).
  Final grade: 110/110 cum laude (top 6%).

Language and technical skills
- Languages: Italian (mother-tongue), English (C1), Dutch (B2), Spanish (B2).
- Programming: Matlab (Advanced), Python (fluent), C, R.
- Simulation and modeling: COMSOL, Solidworks, MATLAB Simulink.
- Laboratory instrumentation: Ultrasound, Biochemistry, Optics.

Certifications and courses
- Advanced Data Science with Python (2021)
  Go Data Driven
- Deep Learning (2021)
  Go Data Driven
- Designing an online course (2020)
  Delft University of Technology (online)
- Deep Learning Specialization (2020)
  DeepLearning AI (Coursera, online)
- Applied data science (2020)
  IBM (Coursera, online)
- Genetics for Dummies (2019)
  Erasmus Medical Center (Rotterdam, the Netherlands)
- Summer school on "Integrative X-omics Analyses Empowering Personalized Healthcare" (2019)
  Radboud University (Nijmegen, the Netherlands).
- Dutch language - level B2 (2018)
  Language Institute Regina Coeli (Vught, The Netherlands)
- Basic Medical Statistics (2017)
  Netherlands Cancer Institute (Amsterdam, The Netherlands)
- Certification in Biosafety/Veilige Microbiologische Techniek (2012)
  Fontys University of Applied Sciences (Eindhoven, The Netherlands)
- Academic Writing Skills: The Research Paper, English level C1 (2011)
  CLI, University of Pisa (Pisa, Italy)

Education and supervision
- Responsible lecturer for the course "Statistical Signal processing", 1st year Master course in Electrical Engineering.
- Participation in BOOST program for innovating education.
- Supervision of over 50 bachelor and master students (5 ongoing), 10 PhDs (7 ongoing), and 3 post-docs.

Awards
- Best poster award, 1st place: S. Turco, R. Perera, H. Wijkstra, A. Exner, and M. Mischi, "Pharmacokinetic analysis of targeted nanonubbles for quantitative assessment of PSMA expression in prostate cancer" in 24th European symposium on Ultrasound Contrast Imaging, Rotterdam (Netherlands), 2019.
- Best poster award, 2nd place: S. Turco, I. Tardy, P. Frinking, et al., "Pharmacokinetic modeling of targeted microbubbles: applications in angiogenesis imaging and therapy monitoring", *Joint Meeting of the IEEE-EMBS Benelux Chapter*, Bruxelles (Belgium), 2017.

- Best project in the designer program "Design of Electrical Engineering Systems", TU/e Design project award 2016: S. Turco, "DCE-MRI dispersion analysis for Quantitative Angiogenesis imaging in Prostate Cancer".
- Best paper published by IEEE-EMBS in 2015-16, 3rd place: S. Turco, et al., "Mathematical models of contrast-agent transport kinetics for imaging of cancer angiogenesis: a review", *IEEE Reviews in Biomedical Engineering* (2016).

International activities
- Event organizer of IEEE-EMBS Benelux Chapter
- Member of IEEE Ultrasonics, Ferroelectric, Frequency Control (UFFC) and Engineering in Medicine and Biology Society (EMBS)
- Member of the International Society of Magnetic Resonance in Medicine (ISMRM).
- Alumni of the IEEE-EMBS summer school on Biomedical Imaging (11th Edition, 2014)
- Reviewer for the journals:
  - Future Oncology
  - Frontiers in Oncology
  - Journal of Medical Imaging
  - Biomedical Signal Processing and Control
  - Journal of Biomedical Engineering and Medical Imaging
  - Biomedical Physics and Engineering Express
  - Innovation and Research in BioMedical engineering
  - IEEE Transaction on Medical Imaging
  - IEEE Transaction on Ultrasonics, Ferroelectric and Frequency Control
  - PlosONE
  - Computer Methods and Programs in Biomedicine
  - Sensors
  - Ultrasonics
  - Journal of Colloid Interface

International collaborations
- Dr. A. Lyshchik, Radiology, Thomas Jefferson University Hospital (Philiadelphia, USA)
- Dr. A. El Kaffas, Translational Molecular Imaging Laboratory (TMIL), Stanford University (Stanford, USA)
- Dr. I. Tardy, Bracco Suisse SA (Geneva, Switzerland)
- Dr. A. Exner and dr. R. Perera, Exner lab of Case Western Reserve University (Cleveland, OH, USA)
- Dr. M Kolios, Kolios lab of Ryerson University (Canada)
- Prof. Mojoli, Policlinico San Matteo & Universita' di Pavia (Italy)

Organization and management
- Board member of the Biomedical Diagnostic (BM/d) Lab
- Member of the e/MTIC perioperative program management team

Grant proposals
Submissions
- NVIDIA GPU Grant 2017 (Awarded).
- NVIDIA GPU Grant 2018 (Awarded).
- Co-applicant MRE-STIMULERINGSFONDS grant "Protos, the multi-sensing muscle wearable" (50 k, awarded).

- KNAW van Leersum travel grant on "Multiparametric ultrasound of pancreatic cancer" (5.5k, awarded).
- Hanarth funds fellowship on "Integrating genomics and imaging for improved prostate cancer care" (250k, awarded).
- Co-applicant for NWO Open Technology program proposal "SEDAS: Sweat sensing device and data analytics for semi-continuous sepsis monitoring" (~620k, awarded)
- Co-applicant for International Marie Curie Training Network proposal "Train4WideCare" (not granted)
- Co-applicant for FTI Horizon 2020 Proposal RELIANCE: Radar sensor based fall detection and vital signs, occupancy, posture monitoring (not granted).
- EAISI Multidisciplinary Research Program pre-proposal on Designing an AI-powered radiogenomics platform for precision oncology (not granted).

Review
- External reviewer for NWO VIDI call 2020, Domain Applied and Engineering Sciences.
- External reviewer for Prostate Cancer UK grant call 'Research Innovation Awards', second stage, March 2020.

Scientific output
A summary of my scientific output can be found on [Google Scholar](#).