

CURRICULUM VITAE

JUNE 2021

Personal details

Name: Massimo Mischi

Date of birth: [REDACTED]

Place of birth: [REDACTED]

Nationality: Italian



Academic Summary

Research: at the Eindhoven University of Technology (TU/e), I lead the Biomedical Diagnostics (BM/d) Lab within the Signal Processing Systems group of the Electrical Engineering department. The Lab was founded in 2013 based on my pluri-awarded (VIDI in 2009, ERC Starting Grant in 2011, KWF in 2013, ERC Proof of Concept in 2019, NIH in 2020) research on prostate cancer diagnostics by contrast-enhanced imaging of angiogenesis. Today the lab includes over 40 researchers and several clinical and industrial advisors working on biomedical signal analysis with applications ranging from electrophysiology to diagnostic imaging. Improved analysis of biosignals is pursued by modelling the full measurement chain, from (patho)physiological sources to sensing physics up to diagnostic interpretation. This approach opens new perspectives to integrate data-driven and physics-driven analysis of biosignals across the measurement chain, achieving accurate and explainable diagnostics while reducing data rates and computational complexity.

As a recognition for my research, I was invited to give the EUROSON Keynote Lecture in 2017, the TU/e academic opening lecture (Dies Natalis) in 2013, and 67 lectures at international conferences around the world, both technical and clinical. Together with the BM/d lab, I received two Martin Black Awards for the Best Paper in the journal *Physiological Measurements* (2008, 2018), 16 awards at international conferences, and 7 co-authored publications received editorial distinction by journals such as *IEEE T-MI*, *IEEE-TUFFC*, *IEEE T-BME*, and the *Institute of Physics*. Overall, I have contributed to >150 peer-reviewed journal papers, 10 book chapters, >300 conference contributions, and one book. With the acquisition of over 9M€ funding for the BM/d lab, grants have played a pivotal role in supporting my research and establishing a large network of collaborations.

Teaching: At the TU/e, I have designed two new courses on “Biomedical Sensing Technology” (Master level) and “Medical Ultrasound” (Bachelor level), which I am still teaching. I have also coordinated the OGO (design-based learning) course “Regulation of the respiration” from 2005 to 2009. Since 2006, I give invited lectures within the course “Physics behind Medical Technology”. Besides supervising many students during their master and bachelor programs, I have (co)supervised 37 PhD students (19 ongoing) and 10 PDEng students (2 ongoing).

Valorization: I have been successful with the valorisation of my scientific results with 13 patents and patent applications and several implementations in commercial software. I have contributed to the foundation of two start-up companies in the fields of neuromuscular rehabilitation by dynamic force modulation (HiPerMotion bv) and prostate cancer diagnostics by ultrasound technology (Angiogenesis Analytics bv). Next to industrial co-financing within public grants, I also arranged direct funding from industrial partners such as Philips, Pie Medical Imaging, and GE for research that was aimed at fast-track development of commercial products.

Leadership: Besides leading the BM/d lab, I am involved in the board of national and international societies. I am chairman and cofounder of the IEEE-EMBS Benelux Chapter, a board member of the Urological Imaging Section of the European Association of Urology, secretary of the Dutch Society of Medical Ultrasound, and the Counselor of the IEEE Student Branch Eindhoven. I am also associate editor of 4 journals (*IEEE T-UFFC*, *IEEE RBME*, *CMPB*, *IRBM*), and editorial board member of two journals (*Sensors* and *CMPB Update*). I have been lead/guest editor of 4 Special Issues, and member of many international committees for grants, awards, and professorships. Furthermore, I have been committee member (opponent) of 40 PhD defenses in the Netherlands, France, UK, Denmark, Belgium, Italy, Lebanon and South Africa. I have also organized several special sessions, workshops, and challenges at international conferences. I have established a vast and solid network of collaborations with academic, industrial, and clinical partners all over the world. More locally, I am in the cardiovascular and perioperative management boards of the Eindhoven MedTech Innovation Centre, a large research program connecting Philips, TU/e, and 3 hospitals in the Eindhoven region.

Academic Credentials

- 2011 Qualification for university teaching (BKO), Eindhoven University of Technology (TU/e).
- 2004 PhD in Electrical Engineering at the TU/e, the Netherlands, with thesis entitled "Contrast echocardiography for cardiac quantifications".
- 2002 Professional Doctorate in Engineering (PDEng), Information and Communication Technology, (TU/e)
- 1999 M.Sc. in Electronic Engineering, La Sapienza University of Rome, Italy.

Work experience

| Position | Period | Institution |
|--|--------------|---|
| Scientific advisor | 2020-ongoing | Angiogenesis Analytics bv, 's Hertogenbosch (JADS) |
| Full Professor (Biomedical signal analysis) | 2018-ongoing | Signal Processing Systems (SPS) Department, Electrical Engineering Faculty, TU/e |
| Associate Professor | 2011-2018 | SPS Dept, Electrical Engineering Faculty, TU/e |
| Assistant Professor | 2008-2011 | SPS Dept, Electrical Engineering Faculty, TU/e |
| PostDoc Researcher | 2005-2008 | SPS Dept, Electrical Engineering Faculty, TU/e |
| Research Assistant | 2000-2004 | SPS Dept, Electrical Engineering Faculty, TU/e |
| Laboratory Assistant | 1999-2000 | Mechanical Measurements Lab, La Sapienza University of Rome (Italy) |
| Vice-President/Manager | 1993-2000 | Marte Sport Association, Rome (Italy) |

Academic staff supervised

- 37 PhDs, 18 completed.
- 10 Professional Doctors in Engineering (PDEng, 2-year post-master program), 8 completed
- 15 Post-doctorates
- Mentorship of 6 assistant professors and 1 associate professor

International activities

Editorial activity

- Editorial board member since 2021 for the journal Sensors, published by MDPI.
- Editorial board member since 2020 for the journal Computer Methods and Programs in Biomedicine Update.
- Associate Editor since 2020 for the IEEE Reviews in Biomedical Engineering (IRBE).
- Associate Editor since 2019 for the journal Computer Methods and Programs in Biomedicine, Elsevier.
- Associate Editor since 2016 for the IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control.
- Associate Editor since 2015 for the journal BioMedical Engineering and Research (IRBM), published by Elsevier.
- Lead Editor of the Sp. Issue "Sensors and Biomedical Signal Processing for patient monitoring", Sensors, 2021.
- Lead Editor of the Special Issue "Deep learning in medical ultrasound – from image formation to image analysis", IEEE Trans Ultrason, Ferroelectrics, and Frequency Control, 2020.
- Lead Editor for the Special Issue "Pregnancy Monitoring" of the journal Computational and Mathematical Methods in Medicine, Hindawi, 2014.
- Guest Editor of the Special Issue "Formal methods for prostate cancer Gleason score and treatment prediction using radiomic biomarkers," Frontiers in Oncology 2021.
- Associate Editor at the 35th and 36th IEEE EMBC, 2013 (Osaka, Japan), and 2014 (Chicago, USA).

Organization of conferences, special sessions and workshops

- Member of organizing committees of several international conferences such as the Technical Program Committee of the IEEE International Ultrasonics Symposium (IUS) and the Design, Automation, & Test in Europe (DATE) Conference.
- Organizer of invited/special sessions at international conferences: IEEE EMBC in 2013 (Osaka, Japan) and 2014 (Chicago, USA), and IEEE DSP in 2015 (Singapore).
- Organizer of workshops at international conferences: IEEE EMBC in 2015 (Milan, Italy), International Symposium on Focal Therapy and Imaging in Prostate and Kidney Cancer in 2015, (Noordwijk, Netherlands).
- Organizing Committee of the Challenge on Ultrasound Beamforming with Deep Learning (CUBDL) at the IEEE Ultrasonics Symposium, Online, Sep. Oct. 7-11, 2020.
- Organizing committee member of several conferences in the Benelux such as the yearly meeting of the IEEE EMBS Benelux chapter, the Dutch Bio-Medical Engineering conference, and the Point of Care Ultrasound conference.

Session chairman at international conferences:

- IEEE International Ultrasonics Symposium since 2014.
- Congresses of the European Association of Urology in 2018 and 2019.
- WIFUMB, Hangzhou (China), in 2016 and 2019.
- International IEEE EMBC in 2009 (Minneapolis, USA), 2010 (Buenos Aires, Argentina), 2012 (San Diego, USA), 2013 (Osaka, Japan), and 2014 (Chicago, USA).

Activity for scientific societies

- Senior Member of the IEEE since 2010.
- Associate (2012-2016) and full (since 2017) board member of the European Association of Urology (EAU).
- Secretary (2008-2012), vice-chairman (2013-2016), and chairman (since 2017) of the Benelux Chapter of the IEEE Engineering in Medicine and Biology Society (EMBS).
- Counselor of the IEEE Student Branch Eindhoven since 2014.
- Secretary of the Dutch Society of Medical Ultrasound since 2012.
- Faculty Member of the International Contrast Ultrasound Society (ICUS) since 2008.
- Member of the IEEE Ultrasound Ferroelectrics and Frequency Control Society (UFFC).
- Member of the IEEE UFFC Awards selection committee for the 2015 UFFC Outstanding Paper Award (OPA).
- Member (2013-2014) of the International Society of Magnetic Resonance in Medicine (ISMRM).
- ESUI (Imaging Section of the European Association of Urology) Vision Award committee member since 2017.

Reviewing activity

Grants

- 2021: Project reviewer for the French National Research Agency, “Technology for health” panel.
- 2021 and 2020: Academy of Finland / Biomedical engineering review panel.
- 2019: Project reviewer for the ERC Starting Grant.
- 2019: Reviewer for the Cyprus Research Promotion Foundation
- 2018: Reviewer for the Czech Science Foundation
- 2016: Committee member for the evaluation of project proposals submitted to the Open Technology Program of the Dutch Foundation of Technology STW.
- 2016: Project reviewer for the UK Medical Research Council.
- 2013: Project reviewer for the AMC (Academic Medical Center, University of Amsterdam, NL) Fellowship.
- 2012: Project reviewer for the ERC Advanced Grant.
- 2012-2013: Project reviewer for the MIUR (Italian Ministry of Education, University, and Research).
- 2011: Project reviewer for the Research Council Romania.
- 2009-2011: Project reviewer for the Portuguese Foundation for Science and Technology (FCT).
- 2008-2010: Project reviewer for the USA-Israel Binational Science Foundation (BSF).

Journals

- Reviewer for 36 journals, including The Lancet and several Nature journals (Communications, Machine Intelligence, npj Breast Cancer)

Conferences

- Reviewer for the IEEE International Ultrasonics Symposium (IUS, since 2018), the IEEE Engineering in Medicine and Biology Conference (EMBC, since 2008), the IEEE International Conference on Image Processing ICIP (2005-2011), the Annual Meeting of the Engineering and Urology Society (2010-2017).

Scholarships, grants and prizes

| Personal Grants and Scholarships | Amount | Award year |
|---|---|-------------------|
| **ERC Proof of Concept: Implementation of contrast-ultrasound dispersion imaging for better prostate cancer care | 150 k€ | 2019 |
| **ERC Starting Grant: Prostate Cancer localization by contrast ultrasound angiogenesis imaging | 1.5 M€ | 2011 |
| STW Valorisation 2: Innovative equipment for efficient rehabilitation | 200 k€ | 2010 |
| Best Innovator Group (BIG) Award | 27 k€ | 2011 |
| **NWO/STW Vidi grant: Prostate cancer detection by contrast-ultrasound diffusion imaging | 800 k€ + 440 k€ industrial contribution | 2009 |
| STW Valorisation 1: Novel device for optimized mechanical stimulation and training of skeletal muscles | 25 k€ | 2005 |
| <u>Subtotal</u> | 2,702 k€ + 440 k€ industrial contribution | |

| Consortium Grants as Main Applicant | Amount | Award year |
|--|--|-------------------|
| 2 x NWO OTP grants: hemodynamic monitoring by ultrasound and DCE-MRI assessment of the transpulmonary circulation | 1255 k€ + 680 k€ industrial contribution | 2011, 2019 |

| | | |
|--|---|------------------|
| 3 x NWO HTSM grants: uterine characterization by US, pregnancy monitoring by capacitive sensing, and US characterization of cardiac tissue for improved ablation. | 1958 k€ + 1053 k€ industrial contribution | 2014, 2016, 2018 |
| <i>Subtotal</i> | 3,263 k€ + 1,733 k€ industrial contribution | |

Consortium grants as co-applicant

10 grants from European (Eurostars and ERASysBio), American (NIH), and Dutch (NWO, KWF, 4TU, ZonMW) funding agencies for a total amount of 4,952 k€ + 725 k€ industrial contribution, of which my lab received 1225 k€+ 185 k€ industrial contribution.

Direct industrial funding

Funding received from Philips (345 k€), GE (20 k€), and Pie Medical Imaging (40 k€) for research on ultrasound and magnetic resonance image analysis.

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|---------------------------|---|--|
| <i>Grand Total</i> | 10,917 k€ + 3,304 k€ industrial contribution | 6,867 k€ + 2,554 k€ industrial contribution to my lab |
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Additional scientific prizes and awards

Journal papers

- **Martin Black Prize** for the best journal paper published in Physiological Measurements in 2017. Paper: P. Hamelmann, R. Vullings, L. Schmitt, A.F. Kolen, **M. Mischi**, J.O. van Laar, J.W. Bergmans, "Improved ultrasound transducer positioning by fetal heart location estimation during Doppler based heart rate measurements. Physiological measurement," vol. 38, no. 10, pp. 1821-1836, 2017.
- **Martin Black Prize** for the best journal paper published in Physiological Measurements in 2007. Paper: S.M.M. Martens, C. Rabotti, **M. Mischi**, R.J. Sluiter, "A robust fetal ECG detection method for abdominal recordings," Physiol. Meas., vol. 28, pp. 373-388, 2007.
- **IOP Select 2008** for the best journal papers by the Institute of Physics. Paper: **M. Mischi**, J.A. den Boer, H.H.M. Korsten, "On the physical and stochastic representation of an indicator dilution curve as a gamma variate," Physiological Measurements, vol. 29, pp. 281-294, 2008.
- **Editorial selection and journal highlight** from Physiological Measurements (2017), IEEE T-MI (2016 and 2017), IEEE T-BME (2015), Physics in Medicine and Biology (2015), IEEE T-UFFC (2015).
- Four Best Paper Awards from the IEEE EMBS Benelux Chapter (2013, 2014, 2016, 2017).

Conferences

20 Prizes at international conferences, including 3 EFSUMB Young Investigator Awards at the Euroson conferences in 2014 (Tel Aviv, Israel), 2017 (Ljubljana, Slovenia), and 2019 (Granada, Spain), 8 best poster prizes at the European Symposium on Ultrasound Contrast Imaging, and two more best poster awards at the IEEE MeMeA 2018 (Rome, Italy) and the 29th Conference of the European Association of Urology in 2014 (Stockholm, Sweden). Additional prizes include the best oral presentation at the 25th World Congress on Ultrasound in Obstetrics and Gynecology in 2015 (Montreal, Canada) and a Young Investigator Award at the Live Event of the European Society of Gastrointestinal Endoscopy in 2020.

Other academic activities

PhD Committee Opponent (40)

Committee member (opponent) of 40 PhD defenses in the Netherlands, France, UK, Denmark, Belgium, Italy.

Committee member for professorship (6)

Committee member for professorship positions *at the Politecnico di Milano (Italy), 2021, KU Leuven (Belgium), 2021, University of Eindhoven, 2018, and Twente (The Netherlands), 2020, Reykjavik University (Iceland), 2014, University of Technology of Compiègne (France), 2012.*

Teaching and educational experience

- Responsible lecturer for the master course "Biomedical sensing technology" (2008-), the bachelor course "Medical Ultrasound" (2015-), the OGO (design-based learning) course "Regulation of the respiration" (2005-2009) at TU/e.
- Invited lecturer at several other courses of the TU/e, at International summer schools and the International Ultrasound School in Elbasan (Albania) in 2016.
- Establishment of Erasmus exchange programs with the University of Florence (Italy), La Sapienza University of Rome (Italy), Politecnico di Milano (Italy), University of Reykjavik (Iceland), Magdeburg University (Germany), University of Bucharest (Romania), University of Pisa (Italy).

International/multinational collaborations

Throughout my career, I have established numerous international collaborations in and outside Europe with universities, industry, and hospitals in different application domains, ranging from electrophysiology up to MRI and ultrasound imaging.

- *Universities*

| Institute | Status of the collaboration |
|--|---|
| University La Sapienza of Rome, Mechanical Engineering Dept (prof. Rino Del Prete), Italy | Ongoing research on electromyography and sweat sensing with Erasmus student exchange (1 joint book chapter, 2 joint publications) |
| University of Florence, Electrical Engineering Dept (prof. Piero Tortoli), Italy | Ongoing on ultrasound Doppler imaging (5 joint publications) |
| Weizmann Institute of Science and former Technion Israel Institute of Technology (prof. Yonina Eldar), Israel | Ongoing (PhD student exchanges) research on ultrasound image formation and super-resolution ultrasound imaging (15 joint publications) |
| Stanford University (dr. Ahmed El Kaffas), CA, USA | Ongoing research on multimodal cancer imaging (5 joint publications) |
| Case Western Reserve University (prof. Agata Exner), OH, USA | Ongoing collaboration on molecular imaging of cancer by targeted nanobubbles (5 joint publications) |
| Polytechnic University of Bucharest, Electronics, Telecom & Info Technology Dept (dr. Mihaela Ungureanu), Romania | Ongoing Erasmus student exchange on biomedical signal analysis (2 joint publications) |
| Ryerson University (prof. Michael Kolios), Toronto, Canada | Ongoing collaboration on molecular imaging of cancer by targeted nanobubbles (1 joint publication) |
| UNC Chapel Hill and University of North Carolina (prof. Paul Dayton), Chapel Hill, USA | Ongoing on angiogenesis imaging by DCE-US (6 joint publications) |
| Politecnico di Torino (dr. Filippo Molinari), Italy | Ongoing research on image-based analysis of angiogenesis and image registration (exchange of 1 PhD student and 1 Erasmus exchange) |
| University of Edinburg (dr. Vassilis Sboros), UK | Ongoing research on contrast ultrasound super-resolution imaging in the prostate (1 joint publication) |
| Thomas Jefferson University (prof. Flemming Forsberg), Philadelphia, USA | Ongoing NIH project on multiparametric ultrasound for prostate cancer imaging. |
| University of Brescia (dr. Francesco Negro), Italy | Past research on electromyography and motor-unit decomposition during vibration stimuli (3 joint publications) |
| Imperial College London (prof. Dario Farina), London, UK | Past research on electromyography and motor-unit decomposition during vibration stimuli (3 joint publications) |
| Technion Israel Institute of Technology (prof. Dan Adam), Haifa, Israel | Past collaboration on denoising of DCE-US TICs (1 joint publication) |
| University of Compiègne, Dept of Science and Technology for Health (prof. Catherine Marque), Compiègne, France | Past collaboration on electrohysterography (partners in 2 projects, 5 joint publications) |
| University of Reykjavik, Health Science Dept (dr. Brynjar Karlsson), Iceland | Past research on electrohysterography (partner in 1 project, 2 joint publications) |
| Indian Institute of Technology Madras, Electrical Engineering Dept (dr. K. Prabhu), India | Past research on biomedical signal processing techniques (2 joint publications) |
| Washington University in Seattle (dr. Mike Averkiou), USA | Past research on quantitative analysis of contrast ultrasound in <i>ex-vivo</i> liver models (1 joint book chapter and 1 joint publication) |
| University of Southern Denmark, Dept of Mechatronics (prof. Arne Bilberg), Denmark | Past research on ambulatory fatigue assessment in multiple sclerosis (1 joint publication) |
| University of Kiel (Christian-Albrechts-Universität zu Kiel), Molecular Imaging North Competence Center (Carola Heneweer, MD), Germany | Past research on angiogenesis imaging compared to immunohistology (7 joint publications) |

- *Industry*

| Company | Status of the collaboration |
|--|---|
| Philips Healthcare, Ultrasound Division, North America | Ongoing on quantitative US (2 granted projects) |
| Philips Healthcare, Clinical MRI, Best, NL | Ongoing on MRS (1 granted project) and past on cardiovascular and PCa diagnostics by DCE-MRI (2 granted projects, 4 joint publications) |
| Philips Research Europe, Eindhoven, NL | Ongoing with broad focus, (7 granted projects, 1 joint book chapter, over 20 joint publications) |
| Bracco Suisse S.A., Geneva, Switzerland | Ongoing on quantitative DCE-US (3 granted projects, 7 joint publications) |
| GE Global Research, Niskayuna, USA | Ongoing on 4D DCE-US dispersion imaging (1 granted project, 2 joint publications) |
| GE Healthcare (Voluson), Zipf, Austria | Ongoing collaboration funded by GE on ultrasound imaging of uterine motion in IVF |
| Supersonic Imagine, Aix, France | Ongoing study on mpUS imaging of the prostate |
| Samsung-Medison, Korea | Ongoing on US imaging of uterine perfusion (1 granted project) and past on uterine strain imaging (1 granted project) |
| Imec, Leuven, Belgium | Ongoing research on bioimpedance of the knee and past research on pregnancy monitoring (1 granted project) |
| Bösl Medizintechnik, Aachen, Germany | Past research on the effects of induced blood shifts on thorax impedance (1 granted project, 1 joint publication) |
| Medtronic (Bakken Research Center, Maastricht, NL), Minneapolis, USA | Past research on extravascular lung water modeling/quantification (1 granted project) |
| X-Phase, Florance, Italy | Past on ultrafast and nonlinear US imaging (4 joint publications) |
| Ferring Pharmaceuticals, Denmark | Past on electrohysterography (2 granted projects) |
| Eigen (Artemis), Grass Valley, USA | Ongoing study on prostate biopsy targeting (1 granted project) |

- *Hospitals*

| Institute | Status of the collaboration |
|---|---|
| University of São Paulo (dr. Cristina Chammas, president WUFUMB), Brazil | Ongoing research on contrast enhanced ultrasound imaging (2 joint publications) |
| European Institute of Oncology, Radiology Dept (prof. Massimo Bellomi), Milan, Italy | Past research on DCE-MRI of the prostate (partners in 1 project) |
| Martini-Klinik (dr. Georg Salomon), Hamburg, Germany | Ongoing and past studies on mpUS imaging with an Aixplorer (Supersonic Imagine) scanner (13 joint publications) |
| ASPIRE - Academy for Sports Excellence (dr. Marco Cardinale), Qatar | Ongoing on vibration exercise (9 joint publications) |
| Second Hospital Zhejiang University (prof. Pintong Huang), Hangzhou, China | Ongoing on 4D DCE-US of the prostate (partners in 2 projects and 14 joint publication) |
| University Hospital Ghent, Gynecology Dept (Dr. Steven Weyers), Belgium | Ongoing on US strain imaging of the uterus (partners in 2 projects) |
| Institute of Cancer Research (dr. Emma Harris and dr. Jeff Bamber), London, UK | Project partner in CRUK grant on the assessment of tumor response to radiotherapy |
| Centre Hospitalier Universitaire Amiens, Gynecology and Obstetrics Dept (dr. Jean Gondry), France | Past research on electrohysterography (partners in 2 projects, 1 joint publication) |

Additional national collaborations:

The industrial partners include TMSi (Enschede), Pie Medical Imaging (Maastricht), Nemo Healthcare (Eindhoven), Solstice Pharmaceuticals (Enschede), Angiogenesys Analytics (den Bosch, co-founded startup), HiPerMotion (Eindhoven, co-founded startup).

The clinical partners include the Catharina Hospital (Eindhoven), Máxima Medical Center (Veldhoven), Amsterdam University Medical center, Kempenhaeghe Center for Epilepsy and sleep disorders (heeze), Jeroen Bosch Ziekenhuis ('s-Hertogenbosch), Erasmus MC (Rotterdam), Maastricht University Medical Center, Dutch Cancer Institute (NKI, Amsterdam), Radboudumc (Nijmegen).

Research valorization

- Foundation of the spin-off company Angiogenesis Analytics (2019), a hi-tech company in the area of prostate cancer localization by ultrasound imaging.
- Foundation of the spin-off company HiPerMotion (2015), a hi-tech company in the area of neuromuscular rehabilitation.
- 3 implementations of image quantification methods in commercial software: SonoLiver (Bracco), CAAS (Pie Medical Imaging), and Philips DCE-MRI software.
- Contribution to the electrohysterography and remote monitoring solutions implemented in the PUREtrace system (Nemo Healthcare) for pregnancy monitoring.

Scientific output

Output indicators

A summary of my scientific output according to Google Scholar is provided hereafter, followed by a detailed list of publications.

- Number publications = 154 journal papers, 1 book, 10 book chapters, 13 patents, 67 invited conference lectures, 250 international refereed conference publications.
- Number citations = 4,668
- H-index = 33
- i10-index = 123

Books (1)

M. Mischi, S. Turco, O. Soliman, F. ten Cate, H. Wijkstra, I. Schoots, "Quantification of Contrast Kinetics in Clinical Imaging," Springer, October 2018.

International (refereed) journals (65 of 154 peer-reviewed journal papers selected from the past 5 years)

- [J1] S. Sammali, C. Blank, T. Bakkes, Y. Huang, C. Rabotti, B.C. Schoot, **M. Mischi**, "Multi-modal uterine-activity measurements for prediction of embryo implantation by machine learning," IEEE Access, 9:47096-111, 2021.
- [J2] A. Panfilova, R.J.G. van Sloun, H. Wijkstra, O.A. Sapozhnikov, **M. Mischi**, "A review on B/A measurement methods with a clinical perspective," Journal of the Acoustical Society of America, 149(9):2200-37, 2021.
- [J3] C.O. Rees, J. Nederend, **M. Mischi**, H.A.A.M. van Vliet, B.C. Schoot, "Objective measures of adenomyosis on MRI and their diagnostic accuracy – a systematic review & meta-analysis," Acta Obstetrica et Gynecologica Scandinavica, in press.
- [J4] P. Chen, R.J. van Sloun, S. Turco, H. Wijkstra, D. Filomena, L. Agati, P. Houthuizen, **M. Mischi**, "Blood flow patterns estimation in the left ventricle with low-rate 2D and 3D dynamic contrast-enhanced ultrasound," Computer Methods and Programs in Biomedicine, vol. 198, 105810, 2021.
- [J5] **M. Mischi**, M. A. Lediju Bell, R. J. G. van Sloun and Y. C. Eldar, "Deep Learning in Medical Ultrasound—From Image Formation to Image Analysis," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, vol. 67, no. 12, pp. 2477-2480, 2020.
- [J6] R. R. Wildeboer J. G. van Sloun, C. K. Mannaerts, P. H. Moraes, G. Salomon, M. C. Chammas, H. Wijkstra, and **M. Mischi**, "Synthetic Elastography Using B-Mode Ultrasound Through a Deep Fully Convolutional Neural Network," in IEEE Trans UFFC, vol. 67, no. 12, pp. 2640-2648, 2020.
- [J7] Y. Xu, X. Long, Z. Luo, **M. Mischi**, L. Xu, "Influence of spectral peaks on EMG parameter estimation for vibration-exercise analysis," IEEE Sensor Journal, in press.
- [J8] R.J.G. van Sloun, O. Solomon, M. Bruce, Zin Z. Khaing, H. Wijkstra, Y.C. Eldar, **M. Mischi**, "Super-resolution Ultrasound Localization Microscopy through Deep Learning," IEEE Trans Med Imaging, 40(3):829-39, 2021.
- [J9] Moonen, E. J., Haakma, J. R., Peri, E., Pelssers, E., **Mischi, M.**, den Toonder, J. M., "Wearable sweat sensing for prolonged, semicontinuous, and nonobtrusive health monitoring," View, vol. 1, no. 4, 20200077, 2020.
- [J10] Huijben, I. A., Veeling, B. S., Janse, K., **Mischi, M.**, van Sloun, R. J. "Learning sub-sampling and signal recovery with applications in ultrasound imaging," IEEE Trans Medical Imaging, vol. 39, no. 12, pp. 3955-3966, 2020.
- [J11] Luijten, B., Cohen, R., De Bruijn, F. J., Schmeitz, H. A., **Mischi, M.**, Eldar, Y. C., van Sloun, R. J., "Adaptive ultrasound beamforming using deep learning," IEEE Trans Med Imaging, vol. 39(12), pp. 3967-3978, 2020.
- [J12] L. Bogatu, S. Turco, **M. Mischi**, J. Muehlsteff, P. Woerlee, "An Experimental Study on the Blood Pressure Cuff as a Transducer for Oscillometric Blood Pressure Measurements," IEEE Trans Instrumentation & Measurement, in press.
- [J13] C. Blank, C. Deboever, E Decroos, I. DeCroo, K. Tilleman, P. de Sutter, **M. Mischi**, B.C. Schoot, "Impaired implantation in endometriosis compared to male subfertility couples following transfer of equal-quality embryos: a matched cohort study," Reproductive BioMedicine Online, vol, 42, no. 1, pp. 165-174, 2020.
- [J14] C. Blank, I. DeCroo, B. Weyers, L. van Avermaet, K. Tilleman, M. van Rumste, **M. Mischi**, B.C. Schoot, "Improvement instead of stability in embryo quality between day 3-5: a possible extra predictor for blastocyst selection," Eur J Obstetrics & Gynecology and Reproductive Biology, vol. 253, pp. 198-205, 2020.
- [J15] R.R. Wildeboer, R.J. van Sloun, R. J., C.K. Mannaerts, P.H. Moraes, G. Salomon, M.C. Chammas, H. Wijkstra, **M. Mischi**, "Synthetic Elastography using B-mode Ultrasound through a Deep Fully-Convolutional Neural Network," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020.

- [J16] C.K. Mannaerts, M.R. Engelbrecht, A.W. Postema, R.A. van Kollenburg, C.M. Hoeks, C.D. Savci-Heijink, R.J.G. Van Sloun, R.R. Wildeboer, T.M. de Reijke, **M. Mischi**, H. Wijkstra, "Detection of clinically significant prostate cancer in biopsy-naïve men: direct comparison of systematic biopsy, multiparametric MRI and contrast-ultrasound-dispersion imaging-targeted biopsy," *BJU international*, vol. 126, no. 4, pp. 481-493, 2020.
- [J17] L. van Knippenberg, L., R.J. van Sloun, S. Shulepov, R.A. Bouwman, **M. Mischi**, "An Angle-Independent Cross-Sectional Doppler Method for Flow Estimation in the Common Carotid Artery," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 67, no. 8. Pp. 1513-1524, 2020.
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- [P2] **M. Mischi** and B.C. Schoot, "Quantitative analysis of uterine spatiotemporal motion patterns and Coordination," PCT/EP2021/066709 filed by the TU/e on June 19, 2020.
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Invited presentations at international conferences (67)

International Contrast Ultrasound Symposium in Chicago (16 times: 2002-2019), Wireless & Pervasive Computing Technologies for Healthcare & Disaster Recovery Workshop (2005), European Symposium on Ultrasound Contrast Imaging (2004, 2008, 2013, 2016), Annual Meeting of the European Society for Hyperthermic Oncology (2010), IEEE Conference on Digital Signal Processing Conference (2015), Meeting of the Urological Imaging Section of the European Association of Urology (2 times in 2015, 2018, 2019), International Workshop on Ultrasound Guidance and radiotherapy (2011 and 2015), Congress of the European Association of Urology (2021), Annual Meeting of the American Institute of Ultrasound in Medicine (2021), International Symposium of Focal Therapy and Imaging in Prostate and Kidney Cancer (2013 and 2015), Euroson Conference of the European Federation of Societies for Ultrasound in Medicine and Biology (2015, and keynote in 2017), Philips Nordic MR Forum (2014), Philips Application and Clinical Science Meeting (2014), Le Tours Microbulles (2014), Sarajevo Ultrasound School (2016), Turin Workshop on Enabling Technologies in 3D Cancer Organoids (2016), Ultrasonografia com Contraste por Microbolhas in Sao Paulo (3 lectures in 2016), Biomedica Summit (2016), Leeds Microbubble Symposium (2016), Chinese Conference WIFUM (2016, 2018, 2019, 2020, 2021), Medica Conference (2016), JPR in Sao Paulo (3 lectures in 2016), IEEE ICABME in Lebanon (2017), IEEE MeMeA (2018), International summer school on technologies and signal processing in perinatal medicine (2018), Keynote at National day on Biomedical Engineering in Belgium (2019), Author Workshop IEEE (2 times in 2020). 8 Additional invited presentations at established Benelux Conferences such as IEEE DARTS and IEEE EMBS.

Seminars (32)

32 seminars provided at universities (University of Illinois at Urbana Champaign, Technion, University of Pisa, etc.), hospitals (RUSH University St. Luke's Medical Center, European Institute of Oncology, University Hospital São Paulo, etc.), and companies (GE Global Research Center, Philips, Bracco, etc.) around the world.