

CURRICULUM VITAE

Personal data

Name: Massimo Mischi
Date of birth: September 8, 1973
Nationality: Italian

Education

Mar 2002 - Sep 2004: Ph.D. study, Eindhoven University of Technology (TU/e, NL), Electrical Engineering Dept, Signal Processing Systems (SPS) Group. Ph.D. degree obtained on October 4, 2004. Thesis title: "Contrast Echocardiography for Cardiac Quantifications".

15 May 2002: Registered as Engineer (Ingegnere) in the Italian Public Register of Engineers after passing the public examination at La Sapienza University of Rome (Italy) in 2000.

Mar 2000 - Mar 2002: Post-Master in Technological Design, Information and Communication Technology (ICT), Stan Ackermans Institute of the TU/e. PDEng (Professional Doctorate in Engineering) degree obtained in April 2001.

Oct 1992 - Mar 1999: M.Sc. in Electronic Engineering, La Sapienza University of Rome (Italy). M.Sc. obtained on April 9, 1999.

1986 - 1991: Maturità Classica (Classical school leaving certificate), Orazio Lyceum, Rome (Italy).

Work experience

May 2011 - present: Associate Professor, TU/e, Electrical Engineering Dept, SPS Group.

Nov 2007 - April 2011: Assistant Professor, TU/e, Electrical Engineering Dept, SPS Group.

Jan 2005 - Oct 2007: PostDoc, TU/e, Electrical Engineering Dept, SPS Group.

Mar 2000 - Sep 2004: Research Assistant, TU/e, Electrical Engineering Dept, SPS Group.

Apr 1999 - Feb 2000: Supervisor of graduating students, Mechanical and Thermal Measurement Lab, Biomedical Instrumentation Course, La Sapienza University of Rome (Italy).

1993 - 2000: Vice President of the Marte Sport Association in Rome (Italy).

Awards

- **ERC Starting Grant** awarded for the research proposal "Prostate Cancer localization by contrast ultrasound angiogenesis imaging" (CU-Angio) in 2011.
- **Best Innovator Group (BIG) Award** of the Eindhoven University of Technology in 2011.
- **NWO/STW** (Dutch Organization for Scientific Research / Technology Foundation) **Vidi Award** for the research proposal "Prostate cancer detection by contrast-ultrasound diffusion imaging" in 2009.
- **IOP Select 2008** (best journal papers by the Institute of Physics) with the paper entitled "On the physical and stochastic representation of an indicator dilution curve as a gamma variate," (Physiol Meas, 29:281-294, 2008).

- **Martin Black Prize** for the best journal paper published in Physiological Measurements in 2007. The paper title was “A robust fetal ECG detection method for abdominal recordings” (Physiol Meas, vol. 28, pp. 373-388, 2007).
- Awarded for the **best poster presentation** at the Ninth European Symposium on Ultrasound Contrast Imaging, Rotterdam (NL), January 22-24, 2004. The poster title was: “Impulse response estimation of ultrasound-contrast-agent dilution systems for cardiac parameter measurements”.
- Awarded for the **best poster presentation** at the 18th Annual Advances in Contrast Ultrasound, Chicago (IL), October 30-31, 2003. The poster title was: “Sparkling waves and echocardiographic quantification”.

Public funding

- **ERC Starting Grant** (1.5 M€) for the research proposal “Prostate Cancer localization by contrast ultrasound angiogenesis imaging” (CU-Angio) in 2011. Main applicant and project leader.
- **Dutch STW OTP grant** (505 k€ + 470 k€ industrial contribution) in 2011 for the project proposal “Contrast magnetic resonance imaging for quantitative assessment of transpulmonary circulation”. Main applicant and project leader.
- **Best Innovator Group (BIG) Award** (27 k€) from the Eindhoven University of Technology in 2011.
- **Dutch STW Valorisation grant** (phase two, 200 k€) in 2010 for the project proposal “Innovative equipment for efficient rehabilitation”. Main applicant and project leader.
- **European ERASysBio grant** (1 M€ of which 480 k€ for the Dutch partners) in 2009 for the project proposal “Biophysical modeling of the uterine electromyogram for understanding and preventing preterm labor”. Co-applicant and project leader for the Dutch partners (TU/e, Máxima Medical Center Veldhoven, TMSi) and the work package on “multiscale modeling”.
- **Dutch STW ASSYS grant** (400 k€ + 260 k€ industrial contribution) in 2009 for the project proposal “Smart energy body area sensor networks for pregnancy monitoring” written in collaboration with dr. Cantatore (Mixed-signal Microelectronics Group, TU/e) and dr. Chen (Industrial Design Dept, TU/e). Co-applicant.
- **Dutch NWO/STW Vidi grant** (800 k€ + 440 k€ industrial contribution) in 2009 for the project proposal “Prostate cancer detection by contrast-ultrasound diffusion imaging”. Main applicant and project leader.
- **Dutch STW Valorisation grant** (phase one, 25 k€) in 2005 for the project proposal “Development and prototyping of a novel device for optimized mechanical stimulation and training of skeletal muscles”. Main applicant and project leader.

Memberships

- Senior Member of the IEEE since 2010.
- Faculty Member of the International Contrast Ultrasound Society (ICUS).
- Member of the IEEE Engineering in Medicine and Biology Society (EMBS).
- Member of the IEEE Ultrasound Ferroelectrics and Frequency Control Society (UFFC).
- Member of the Dutch J.M. Burgerscentrum (JMBC), research school for fluid dynamics.
- Member of the Italian Public Register of Engineers.

PhD supervision and committees

- Co-promotor of 7 PhD students
 - Characterization of uterine activity by electrohysterography (C. Rabotti, defended on 26-04-2010).

- Fetal electrophysiological monitoring (R. Vullings, defended on 14-12-2010).
- Prostate cancer detection by contrast-ultrasound diffusion imaging: focus on angiogenesis imaging (M. Kuenen, in progress).
- Prostate cancer detection by contrast-ultrasound diffusion imaging: focus on angiogenesis modeling (G. Russo, in progress).
- Cardiovascular quantification by contrast enhanced ultrasonography in intensive care (I. Herold, in progress).
- Assessment of peripheral hemodynamics and blood oxygenation by interference photometry (R. Wijshoff, in progress).
- Pregnancy monitoring by smart-energy body area sensor networks (M. Roojiakkers, in progress).
- Invited committee member for the PhD defense of Ir. Fei Yu on “Wireless Measurement System of Fatigue in Patients with Multiple Sclerosis”, University of Southern Denmark, Sønderborg (Denmark), November 4, 2011.

Relevant educational experience

- Design, preparation, and lecturing of a new course on “Biomedical sensing technology” for the MINOR program of the Biomedical Technology and Electrical Engineering departments of the TU/e on Biomedical Instrumentation Engineering since 2008. Since 2010, the course is also available for the Master Program of the Electrical Engineering, Applied Physics, and Biomedical Technology departments of the TU/e. The course presents technology and underlying physics for the measurements of biomedical signals such as biopotentials, pressure, temperature, and blood flow.
- Lecturer and coordinator of the OGO Course “Regulation of the respiration” for the Biomedical Technology Dept (TU/e) from 2005 to 2009.
- Invited lecturer since 2006 for one lecture of the course “Monitoring of vital functions” at the Applied Physics Dept of the TU/e. The lecture title is: “Patient monitoring at the OR and ICU”.
- Invited lecturer for the course “Measurement and monitoring of vital functions” sponsored by the European Federation of Organizations for Medical Physics and the School of Medical Physics and Engineering/Eindhoven (SMPE/e) since 2010. The lecture title is: “Patient monitoring at the OR and ICU: cardiovascular monitoring”.
- Member since 2008 of the *Admission Committee* for the selection of foreign students entering the Electrical Engineering master programs at the TU/e.

Reviewing activity

- Reviewer for the IEEE Transactions on:
 - Ultrasound, Ferroelectric, and Frequency Control (T-UFFC),
 - Medical Imaging (T-MI),
 - Engineering in Medicine and Biology (T-EMB).
- Reviewer for the journals:
 - Ultrasound in Medicine and Biology,
 - Biomedical Signal Processing & Control,

- EURASIP Journal on Applied Signal Processing,
- Medicine & Science in Sports & Exercise,
- International Journal of Cardiology,
- Journal of Healthcare Engineering,
- Sensors
- Theoretical Biology and Medical Modelling.
- Mathematical Medicine & Biology
- Project reviewer for the Portuguese Foundation for Science and Technology (FCT) since 2009.
- Project reviewer for the United States-Israel Binational Science Foundation (BSF) since 2008.
- Project reviewer for the Research Council Romania since 2011.
- Reviewer since 2005 for the International Conference on Image Processing (ICIP) sponsored by the IEEE Signal Processing Systems Society.
- Reviewer since 2008 for the Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS).
- Reviewer in 2010 for the 25th Annual meeting of the Engineering and Urology Society (E&U).

Miscellaneous of additional international academic activities

- Secretary of the IEEE EMBS Benelux Chapter since 2008.
- Chairman at the 32nd International Conference of the IEEE EMBS, Buenos Aires, Aug. 31 - Sep. 4, 2010.
- Chairman at the 4th Annual Meeting of the IEEE EMBS Benelux Chapter, Eschede, Nov. 9-10, 2009.
- Chairman at the 31st International Conference of the IEEE EMBS, Minneapolis, Sep. 2-6, 2009.
- Establishment of Erasmus exchange programs with the University of Florence, La Sapienza University of Rome, Politecnico of Milan, University of Reykjavik.
- Organizer of the “Pregnancy monitoring symposium” within the International IEEE EMBS distinguished lecture program, TU/e, Apr. 26, 2010.
- Committee member of the Design, Automation, & Test in Europe (DATE) conference in 2007 and 2008.
- Organizing committee member of the first IEEE EMBS Benelux Symposium, Brussels, Dec. 7-8, 2006.
- Member of the organizing committee of the “Kick-off meeting” of the IEEE EMBS Benelux Chapter, TU/e, Nov. 14, 2005.

Scientific Output

- **Book Chapters**

[B1] **M. Mischi** and J.A. Blom, “Flow sensors for liquids”, Sensor Technology Series: Biomedical sensors, Chapter 2, pp. 39-105, Momentum Press: New York, first. ed., 2010.

[B2] **M. Mischi**, Z. Del Prete, and H.H.M. Korsten, "Indicator dilution techniques in cardiovascular quantification", Biomechanical Systems Technology - Cardiovascular Systems, Chapter 4, pp. 89-155, Singapore: World Scientific Publishing, first ed., 2007.

- **Refereed journals**

- [J1] **M. Mischi**, M.P.J. Kuenen, H. Wijkstra, "Angiogenesis imaging by spatiotemporal analysis of ultrasound-contrast-agent dispersion kinetics," IEEE Trans on UFFC, vol. 54, no. 4, pp. 621-629, April 2012.
- [J2] H.N. Bharath, K.M.M Prabhu, H.H.M. Korsten, **M. Mischi**, "System Modeling and Identification in Indicator Dilution Method for Assessment of EF and PBV," Biomedical Signal Processing and Control, in press.
- [J3] M. Smeenge, J. Barentsz, D. Cosgrove, J de la Rosette, T. de Reijke, S. Eggener, F. Frauscher, G. Kovacs, S.F. Matin, **M. Mischi**, P. Pinto, A. Rastinehad, O. Rouviere, G. Salomon, T. Polascik, J. Walz, H. Wijkstra, M. Marberger, "Role of Transrectal Ultrasound in Focal Therapy of Prostate Cancer: Report from a Consensus Panel," BJU-International, published online on Mar 30, 2012.
- [J4] K. Sridhar, K.M.M. Prabhu, **M. Mischi**, H.N. Bharath, R.K. Reddy, "3-D warped discrete cosine transform for MRI image compression," Biomedical Signal Processing & Control, in press.
- [J5] C. Rabotti, S.G. Oei, J. van 't Hooft, **M. Mischi**, "Electrohysterographic propagation velocity for preterm delivery prediction," Correspondence on the American Journal of Obstetrics & Gynecology, vol. 205, no. 6, pp. e9-e10, 2011.
- [J6] J. Laforet, C. Rabotti, J. Terrien, **M. Mischi**, C. Marque, "Towards a multiscale model of the uterine activity," IEEE Trans. on Biomedical Engineering, vol. 58, no. 12, pp. 3487-3490, 2011.
- [J7] M. Smeenge, **M. Mischi**, M.P. Laguna Pes, J.J.M.C.H. de la Rosette, H. Wijkstra, "Novel contrast-enhanced ultrasound imaging in prostate cancer," World J Urology, in press, published online on Aug. 17, 2011.
- [J8] M.P.J. Kuenen, **M. Mischi**, H. Wijkstra, "Contrast-Ultrasound Diffusion Imaging for Localization of Prostate Cancer," IEEE Trans. on Med. Im., vol. 30, no. 8, pp. 1493-1502, Aug. 2011.
- [J9] M.P.G.C. Vinken, C. Rabotti, **M. Mischi**, J.O.E.H. van Laar and S.G. Oei, "Nifedipine-induced changes in the electrohysterogram of preterm contractions: feasibility in clinical practice," Obstetrics and Gynecology International, Special Issue on Human Birth and Parturition Clinical Management, vol. 2010, 8 pages, preview doi:10.1155/2010/325635.
- [J10] C. Rabotti, **M. Mischi**, S.G. Oei, J.W.M. Bergmans, "Noninvasive estimation of the electrohysterographic action-potential conduction velocity," IEEE Trans. on Biomedical Engineering, vol. 57, no. 9, pp. 2178-2187, 2010.
- [J11] C. Rabotti, **M. Mischi**, L. Beulen, S.G. Oei, J.W.M. Bergmans, "Modeling and identification of the electrohysterographic volume conductor by high-density electrodes," IEEE Trans. on Biomedical Engineering, vol. 57, no. 3, pp. 519-527, 2010.
- [J12] C. Rabotti, **M. Mischi**, J.O.E.H. van Laar, S.G. Oei and J.W.M. Bergmans, "Inter-electrode delay estimators for electrohysterographic propagation analysis," Physiol. Meas., vol. 30, pp. 745-761, 2009.
- [J13] M.P.G.C. Vinken, C. Rabotti, **M. Mischi**, and S.G. Oei, "Accuracy of frequency-related parameters of the electrohysterogram for predicting preterm delivery: a review of the literature", Obstetrical and Gynecological Survey, vol. 64, no. 8, pp. 529-541, 2009.
- [J14] **M. Mischi** and M. Cardinale, "The effects of superimposing a 28-Hz force modulation on muscle activity," Medicine & Science in Sports & Exercise, vol. 41, pp. 645-652, 2009.
- [J15] **M. Mischi**, H.C.M. van den Bosch, J.A. den Boer, J. Verwoerd, R.J.E. Grouls, C.H. Peels, H.H.M. Korsten, "Intra-thoracic blood volume measurement by contrast magnetic resonance imaging," Magnetic Resonance in Medicine, vol. 61, pp. 344-353, 2009.
- [J16] R Vullings, C.H.L. Peters, R. Sluiter, **M. Mischi**, S.G. Oei, and J.W.M. Bergmans, "Dynamic segmentation and linear prediction for maternal ECG removal in antenatal abdominal recordings," Physiol. Meas., vol. 30, pp. 291-307, 2009.
- [J17] C. Rabotti, **M. Mischi**, J.O.E.H. van Laar, S.G. Oei and J.W.M. Bergmans, "Estimation of internal uterine pressure by joint amplitude and frequency analysis of electrohysterographic signals," Physiol. Meas., vol. 29, pp. 829-841, 2008.
- [J18] **M. Mischi**, H.C.M. van den Bosch, A.H.M. Jansen, M. Sieben, R.M. Aarts, and H.H.M. Korsten, "Quantification of regional left ventricular dyssynchrony by magnetic resonance imaging," IEEE Trans. on Biomedical Engineering, vol. 55, no. 3, pp. 985-995, 2008.

- [J19] **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. ***JOP*** (Institute of Physics) ***Select 2008***.
- [J20] A. Jansen, **M. Mischi**, F. Bracke, J.-M. van Dantzig, K. Peels, N. van Hemel, H.H.M. Korsten, "Novel Ultrasound-Contrast-Agent Dilution Method for Assessment of Ventricular Ejection Fraction," *European Journal of Echocardiography*, vol. 9, no. 4, pp. 489-493, 2008.
- [J21] **M. Mischi**, A.-D. van der Meer, A.H.M. Jansen, R.J.E. Grouls, and H.H.M. Korsten, "Cardiovascular quantification by ultrasound contrast agents," *Abstract on Basic & Clinical Pharmacology & Toxicology*, vol. 101, supp. 1, pp. 58-59, 2007.
- [J22] S.M.M. Martens, C. Rabotti, **M. Mischi**, R.J. Sluijter, "A robust fetal ECG detection method for abdominal recordings," *Physiol. Meas.*, vol. 28, pp. 373-388, 2007. **Martin Black Prize for the best journal paper published in *Physiological Measurements* in 2007.**
- [J23] **M. Mischi**, A.H.M. Jansen, and H.H.M. Korsten, "Identification of cardiovascular dilution systems by contrast ultrasound," *Ultrasound in Med. & Biol.*, vol. 33, no. 3, pp. 439-451, 2007.
- [J24] A.H.M. Jansen, **M. Mischi**, J.-M. van Dantzig, F. Bracke, K. Peels, N.M. van Hemel, and H.H.M. Korsten, "Novel Ultrasound-Contrast-Agent Dilution Method for Assessment of Left Ventricular Ejection Fraction," *Circulation*, vol. 114, supp. 2, p. 479, 2006
- [J25] S.M.M. Martens, **M. Mischi**, S.G. Oei, and J.W.M. Bergmans, "An improved adaptive powerline interference canceller for electrocardiography," *IEEE Trans. on Biomedical Engineering*, vol. 53, no. 11, pp. 2220-2231 2006.
- [J26] H.H.M. Korsten, **M. Mischi**, R.J.E. Grouls, A. Jansen, J.-M. van Dantzig, and K. Peels, "Quantification in Echocardiography," *Seminars in Cardiothoracic and Vascular Anesthesia*, vol. 10, no. 1, pp. 57-62, 2006.
- [J27] **M. Mischi**, A.H.M. Jansen, A.A.C.M. Kalker, H.H.M. Korsten, "Identification of Ultrasound-Contrast-Agent Dilution Systems for Ejection Fraction Measurements," *IEEE Trans. on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 52, no. 3, pp. 410-420, 2005.
- [J28] **M. Mischi**, A.A.C.M. Kalker, H.H.M. Korsten, "Cardiac Image Segmentation for Contrast Agent Videodensitometry," *IEEE Trans. on Biomedical Engineering*, vol. 52, no. 2, pp. 277-286, 2005.
- [J29] **M. Mischi**, A.A.C.M. Kalker, H.H.M. Korsten, "Contrast Echocardiography for Pulmonary Blood Volume Quantification," *IEEE Trans. on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 51, no. 9, pp. 1137-1147, Sep. 2004.
- [J30] **M. Mischi**, A.H.M. Jansen, A.A.C.M. Kalker, H.H.M. Korsten, "A New Ultrasound Dilution Method for EF Quantification," *Abstract on the Journal of the American Society of Echocardiography*, vol. 17, no. 5, p. 517, May 2004.
- [J31] **M. Mischi**, A.C.C.M. Kalker, H.H.M. Korsten, "Videodensitometric Methods for Cardiac Output measurements," *Eurasip Journal on Applied Signal Processing*, vol. 2003, no. 5, pp. 479-489, 2003.

- **Invited Conference Lectures**

- [L1] M. Mischi, "Contrast-enhanced ultrasound for prostate cancer localization," Health Valley 2012, Nijmegen (NL), Mar 15, 2012.
- [L2] M. Mischi, "Engineers and clinicians: in practice," Symposium *Engineers in een klinische wereld*, Eindhoven (NL), Mar 16, 2012.
- [L3] M. Mischi, "Contrast enhanced ultrasonography in prostate cancer diagnostics," 3D ultrasound research day, MAASTRO Clinic, Maastricht (NL), Dec. 5, 2011.
- [L4] M. Mischi, M.P.J. Kuenen, T. Saidov, W. Scheepens, H.H.M. Korsten, H. Wijkstra, "Prostate cancer localization by CUDI: an update," 26th Annual Advances in Contrast Ultrasound – ICUS Symposium, Chicago (IL), Sep. 21-22, 2011.
- [L5] M. Mischi, M.P.J. Kuenen, H. Wijkstra, "Detection of cancer microvascularization by contrast-enhanced ultrasound," 25th Annual Advances in Contrast Ultrasound – ICUS Symposium, Chicago (IL), Sep. 28-29, 2010.
- [L6] M. Mischi, "Microvascular quantification by contrast-ultrasound diffusion imaging," 26th Annual Meeting of the European Society for Hyperthermic Oncology, Rotterdam (NL), May 19-21, pp. 36-37, 2010.

- [L7] M. Mischi, M.P.J. Kuenen, H. Wijkstra, and H.H.M. Korsten, "Prostate cancer imaging," 24th Annual Advances in Contrast Ultrasound – ICUS Symposium, Chicago (IL), Oct. 22-23, 2009.
- [L8] H.H.M. Korsten, M. Mischi, and A. Jansen, "Perioperative TEE," Anesthesiologendagen 2008, MECC Maastricht (NL), May 22-23, 2008.
- [L9] M. Mischi, R. Hermans, J.M.G. Borsboom, M. Böhmer, R.M. Aarts, N. de Jong, H.H.M. Korsten, "Effects of nonlinear ultrasound propagation through varying contrast-agent concentrations" The 13th European Symposium on Ultrasound Contrast Imaging, Rotterdam (NL), pp. 80-82, Jan. 24-25, 2008.
- [L10] M. Mischi, B.P.G. Hermens, A.-D. van der Meer, R.J.E. Grouls, P. Rafter, M. Böhmer, and H.H.M. Korsten, "Acoustic quantification of ultrasound contrast agents for indicator dilution applications," 22nd Annual Advances in Contrast Ultrasound, Chicago (IL), Sep. 6-7, 2007.
- [L11] M. Mischi, A.H.M. Jansen, H.H.M. Korsten, "Contrast Echocardiography for Cardiovascular Quantifications," 1st IEEE/EMBS Benelux Symposium, Brussels (Belgium), Dec. 7-8, 2006, proc. on pp. 20-23.
- [L12] M. Mischi, "Developments in cardiovascular quantification by contrast ultrasound," SUGB Meeting, Rotterdam (NL), Nov. 29, 2006.
- [L13] M. Mischi, B.P.G. Hermens, A.-D. vd Meer, and H.H.M. Korsten, "Indicator dilution principles and contrast ultrasound for cardiovascular quantification," 21th Annual Advances in Contrast Ultrasound, Chicago (IL), Nov.8-11, 2006.
- [L14] M. Mischi, A.H.M. Jansen, H.H.M. Korsten, "Least mean squares methods for cardiovascular quantification by contrast echocardiography," Benelux IEEE SPS DARTS, Antwerpen (Belgium), Mar. 28-29, pp. 185-189, 2006.
- [L15] M. Mischi, A.H.M. Jansen, H.H.M. Korsten, "Improved Methods for Contrast Ultrasound Cardiovascular Quantifications," 20th Annual Advances in Contrast Ultrasound, Chicago (IL), Oct. 26-27, 2005.
- [L16] M. Mischi, S. M.M. Martens, I. Saadane, J. W.M. Bergman, "Care at distance: fetal monitoring," Wireless and Pervasive Computing Technologies for Healthcare and Disaster Recovery Workshop, National University of Singapore, 23 Mar. 2005.
- [L17] M. Mischi, "Microbubbles: beyond LV," 5th Christmas Echo: international course on perioperative echocardiography, Brussels (Belgium), Dec. 17-18, 2004.
- [L18] M. Mischi, "Ultrasound Contrast Agent Applications for Cardiovascular Quantifications," SUGB Meeting, Pie Medical (Maastricht, NL), Nov. 24, 2004.
- [L19] M. Mischi, A.H.M. Jansen, A.A.C.M. Kalker, H.H.M. Korsten, "Contrast Echocardiography for Cardiac Quantifications," Invited presentation 19th Annual Advances in Contrast Ultrasound, Chicago (IL), Nov. 4-5, 2004.
- [L20] M. Mischi, A.H.M. Jansen, A.A.C.M. Kalker, H.H.M. Korsten, "Contrast Ultrasound Quantification of Ejection Fraction and Pulmonary Blood Volume," The Ninth European Symposium on Ultrasound Contrast Imaging, Rotterdam (NL), pp. 6-8, Jan. 22-23, 2004.
- [L21] M. Mischi, A.H.M. Jansen, A.A.C.M. Kalker, H.H.M. Korsten, "Sparkling waves and echocardiographic quantification," 18th Annual Advances in Contrast Ultrasound, Chicago (IL), Oct. 30-31, 2003.
- [L22] M. Mischi, A.A.C.M. Kalker, H.H.M. Korsten, "Bubbles and Indicator Dilution Principles in Echocardiography," 17th Annual Advances in Contrast Ultrasound, Chicago (IL), Oct. 31- Nov. 1, 2002.
- [L23] M. Mischi, H.H.C.M. Kalker, H.H.M. Korsten, "Videodensitometric Cardiac Output Measurements by dilution of Ultrasound Contrast Agents: Modeling and In-vitro Experimentation," SUGB Meeting, Leiden (NL), Apr. 2002.

- **Seminars**

- [S1] M. Mischi, "Model-based biomedical signal analysis," Radboud University Nijmegen Medical Centre, Department of Cell Biology, Nijmegen (NL), September 8, 2011.
- [S2] M. Mischi, "Prostate cancer detection by contrast ultrasound dispersion imaging," Philips Healthcare, MR Advanced Solutions, Best (NL), March 16, 2011.

- [S3] M. Mischi, "Quantitative contrast-enhanced ultrasound imaging for cancer localization," MAASTRO Clinic, Maastricht (NL), Jan. 18, 2011.
- [S4] M. Mischi, "Neuromuscular effects of vibration exercise," Philips Research, High Tech Campus Eindhoven, July 8, 2010.
- [S5] M. Mischi, "Cardiovascular quantification by contrast enhanced ultrasound and MRI," invited presentation at the Medtronic Bakken Research Centrum, Maastricht (NL), July 2, 2010.
- [S6] M. Mischi, "Contrast ultrasound angiogenesis imaging," Seminar at the University of Florence (Italy), May 14, 2010.
- [S7] M. Mischi, "Quantitative contrast enhanced imaging," invited seminar at the Electrical Engineering Faculty of the University of Illinois at Urbana Champaign (IL), Oct. 21, 2009.
- [S8] M. Mischi, "Diagnostic possibilities by contrast echography and indicator dilution principles," Invited presentation at the docNtdag, Eindhoven (NL), Mar. 11, 2009.
- [S9] M. Mischi, "Analysis of electrical activity and contraction in skeletal and smooth muscles," Invited presentation at the Signal Processing Club of Philips Research, High Tech Campus Eindhoven (NL), Sep. 10, 2009.
- [S10] M. Mischi and H.H.M. Korsten, "Cardiovascular quantification by contrast echocardiography and dilution principles," Invited presentation at the ModellenClub Meeting, Academic Medical Center, Amsterdam (NL), Apr. 2, 2008.
- [S11] M. Mischi, "Cardiovascular quantification by contrast ultrasonography," Seminar at the University of Florence (Italy), Apr. 17, 2007.
- [S12] M. Mischi, "Contrast ultrasonography and indicator dilution principles for cardiovascular diagnostic," NERG Themabijeenkomst: Healthcare, Philips High Tech Campus, Eindhoven (NL), Feb. 21, 2007.
- [S13] M. Mischi, "Prototyping of a force modulation training system," seminar at the Dept of Neurophysiology of the University Medical Center St. Radboud, Nijmegen (NL), Mar. 6, 2007.
- [S14] M. Mischi, "Cardiovascular quantification methods in contrast echocardiography," Bracco Research, Geneva (Switzerland), June 26, 2006.
- [S15] M. Mischi, "Contrast Ultrasonography for cardiovascular quantifications," Elektronica Colloquium, Philips Research Eindhoven (NL), Nov. 7, 2005.
- [S16] M. Mischi, "Indicator dilution principles in Echocardiography," RUSH University St. Luke's Medical Center, Anesthesiology Dept., Chicago (IL), Nov. 5, 2002.

- **Patent Applications**

- [P1] **M. Mischi**, "Perfusion scanning detects angiogenesis from similarity in evolution of local concentrations of contrast agent," European patent application EP10180866, filed by the Eindhoven University of Technology on Sep. 28, 2010.
- [P2] **M. Mischi**, "Device, reflex load means and method of training of human or animal body," International patent application WO/2007/032664, filed by the Eindhoven University of Technology on Oct. 12, 2006.
- [P3] **M. Mischi** and M. Böhmer, "Destruction of urinary calculi in the presence of cavitation enhancing agents," European patent application EP 06112679.3, filed by Philips Research on Apr. 14, 2006.
- [P4] H.H.M. Korsten and **M. Mischi**, "Method and arrangements for determining an indicator dilution curve (IDC) of an indicator in a bloodstream of a human or animal body," European patent application EP1493382, filed by the Eindhoven University of Technology on Jul. 3, 2003.

- **International Conferences**

- [C1] M. Mischi, M. Kuenen, T Saidov, S. Schalk, W. Scheepens, H. Wijkstra, New developments in prostate cancer localization by contrast ultrasound dispersion imaging," Proceedings on European Symposium on Ultrasound Contrast Imaging, Rotterdam (NL), January 19-20, 2012, pp. 16-19.
- [C2] C. Rabotti, R. van Bijloo, G. Oei, and M. Mischi, "Vectorial analysis of the electrohysterogram for prediction of preterm delivery: a preliminary study," 33rd IEEE EMBC, Boston, MA, August 30-September 3, 2011, pp. 3880-83.

- [C3] M. Rooijackers, C. Rabotti, M. Bennebroek, J. van Meerbergen, and M. Mischi, "Low-complexity R-peak detection in ECG signals: A preliminary step towards ambulatory fetal monitoring," 33rd IEEE EMBC, Boston, MA, August 30-September 3, 2011, pp. 1761-64. **Region-8 Student Award Finalist.**
- [C4] M. Mischi, F. Kaklidou, P. Houthuizen, J.-P. Aben, F.W. Prinzen, F. Bracke, H. van den Bosch, H.H.M. Korsten, "Three-dimensional quantification of regional left-ventricular dyssynchrony by magnetic resonance imaging, 33rd IEEE EMBC, Boston, MA, August 30-September 3, 2011, pp. 2646-49.
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