

## **Active electrodes for measuring the electrical bioimpedance**

**Metshein, Margus** Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK seitsmenda aastakonverentsi artiklite kogumik : 15.-16. novembril 2013, Haapsalu 2013 / p. 57-60 : ill

## **Alternatives of measurement of electrical bioimpedance of the body with the aim to determine the cardiac and respiratory activity**

**Metshein, Margus** BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 197-200 : ill

## **An Analysis of Arterial Pulse Wave Time Features and Pulse Wave Velocity Calculations Based on Radial Electrical Bioimpedance Waveforms in Patients Scheduled for Coronary Catheterization**

Lotamõis, Kristina; Uuetoa, Tiina; Krivošei, Andrei; Annus, Paul; **Metshein, Margus**; Rist, Marek; Margus, Sulev; Min, Mart; Tamberg, Gert Journal of Cardiovascular Development and Disease 2025 / art. 237 <https://doi.org/10.3390/jcdd12070237>

## **Automatic detection of real and imaginary parts of electrical impedance with single synchronous demodulation channel**

**Annus, Paul; Priidel, Eiko; Land, Raul; Metshein, Margus; Krivošei, Andrei; Min, Mart; Ratassepp, Madis; Märtens, Olev** 8th European Medical and Biological Engineering Conference : Proceedings of the EMBEC 2020, November 29 - December 3, 2020 Portorož, Slovenia 2021 / p. 151-157 [https://doi.org/10.1007/978-3-030-64610-3\\_18 Conference Proceedings at Scopus Article at Scopus](https://doi.org/10.1007/978-3-030-64610-3_18)

## **Availability and variations of cardiac activity in the case of measuring the bioimpedance of wrist**

**Metshein, Margus; Annus, Paul; Land, Raul; Min, Mart**; Aabloo, Alvo 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2018) : proceedings 2018 / 5 p. : ill <https://doi.org/10.1109/I2MTC.2018.8409684>

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**Metshein, Margus**; Tuulik, Varje-Riin; Tuulik, Viiu; **Min, Mart**; Kumm, Monika; **Annus, Paul**; **Märtens, Olev** 2024 IEEE International Instrumentation and Measurement Technology Conference (I2MTC) : proceedings 2024 / 5 p <https://doi.org/10.1109/I2MTC60896.2024.10560671>

## **Correlation between electrical bioimpedance and pressure waveform in radial artery and in mechanical pulsating pipe system**

**Metshein, Margus; Annus, Paul; Land, Raul; Rist, Marek; Min, Mart; Märtens, Olev** 2020 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2020), May 25-29, 2020, Dubrovnik, Croatia : proceedings 2020 <https://doi.org/10.1109/I2MTC43012.2020.9128972>

## **Coupling and electrodes**

**Metshein, Margus** Bioimpedance and Spectroscopy 2021 / p. 3-50 : ill <https://doi.org/10.1016/B978-0-12-818614-5.00010-2> <https://ebookcentral.proquest.com/lib/tuee/reader.action?docID=6644985&ppg=48>

## **Detection of cracks in a sawblade by eddy current measurements**

**Märtens, Olev; Land, Raul; Metshein, Margus; Abdullayev, Anar; Vennikas, Henri; Le Moullec, Yannick** 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 6 p [https://doi.org/10.1109/BEC61458.2024.10737981 Conference proceedings at Scopus Article at Scopus Article at WOS](https://doi.org/10.1109/BEC61458.2024.10737981)

## **Detection of surface defects in metals : a case study**

**Märtens, Olev; Land, Raul; Metshein, Margus; Abdullayev, Anar; Vennikas, Henri; Le Moullec, Yannick; Rist, Marek** Proceedings of the Estonian Academy of Sciences 2025

## **A device for measuring the electrical bioimpedance with variety of electrode placements for monitoring the breathing and heart rate**

**Metshein, Margus** 2015 26th Irish Signals and Systems Conference (ISSC) : Institute of Technology Carlow, Ireland, June 24-25, 2015 2015 / [4] p. : ill <http://dx.doi.org/10.1109/ISSC.2015.7163748>

## **A DSP-based EBI, ECG and PPG measurement platform**

**Abdullayev, Anar; Rist, Marek; Märtens, Olev; Metshein, Margus**; Larras, Benoit; Frappe, Antoine; Gautier, Antoine; **Min, Mart**; John, Deepu; Cardiff, Barry; Krivosei, Andrei; **Annus, Paul** IEEE transactions on instrumentation and measurement 2023 / art. 2007808, 8 p [https://doi.org/10.1109/TIM.2023.3320771 Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS](https://doi.org/10.1109/TIM.2023.3320771)

## **DSP-based electrical impedance tomography device: implementation and experiments**

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**Abdullayev, Anar; Rist, Marek; Krivošei, Andrei; Metshein, Margus; Land, Raul; Märtens, Olev** 2024 IEEE International Instrumentation and Measurement Technology Conference (I2MTC) : proceedings 2024  
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## Electrical bioimpedance analysis for evaluating the effect of pelotherapy on the human skin : methodology and experiments

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## Electrical bioimpedance based monitoring of cardiac and respiratory activity : positioning of capacitive electrodes for wearable human monitoring device

**Metshein, Margus**; **Parve, Toomas** International journal of bioelectromagnetism 2015 / p. 64-74 : ill

## Electrode optimization for bioimpedance based central aortic blood pressure estimation

**Metshein, Margus**; **Köiv, Hip**; **Annus, Paul**; **Min, Mart** World Congress on Medical Physics and Biomedical Engineering 2018 : June 3–8, 2018, Prague, Czech Republic (Vol. 2) 2018 / p. 497-501 [https://doi.org/10.1007/978-981-10-9038-7\\_92](https://doi.org/10.1007/978-981-10-9038-7_92) Conference Proceedings at Scopus Article at Scopus Article at WOS

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**Pesti, Ksenija**; **Metshein, Margus**; **Annus, Paul**; **Köiv, Hip**; **Min, Mart** IEEE transactions on instrumentation and measurement 2021 / 10 p. : ill <https://doi.org/10.1109/TIM.2020.3011784> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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## Evaluation of two-electrode system configurations for forearm arteries bioimpedance measurement

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**Metshein, Margus**; **Pesti, Ksenija**; **Min, Mart**; **Annus, Paul**; **Märtens, Olev** 2020 17th Biennial Baltic electronics conference, Tallinn, Estonia, October 6-8, 2020 : proceedings 2020 / 5 p. : ill <https://doi.org/10.1109/BEC49624.2020.9277197>

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**Metshein, Margus**; **Annus, Paul**; **Min, Mart** BEC 2018 : 2018 16th Biennial Baltic Electronics Conference (BEC) : proceedings of the 16th Biennial Baltic Electronics Conference, October 8-10, 2018 2018 / 4 p. : ill <https://doi.org/10.1109/BEC.2018.8600990>

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**Modelling and simulation of arterial blood pulsation via bioimpedance = Arteriaalse verepulsatsiooni modelleerimine ja simuleerimine bioimpedantsi kaudu**

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**Non-standard electrode placement strategies for ECG signal acquisition**

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**On-Desk Model-Based Study for Evaluating the Effect of Squeezing the Arteries in the Forearm on the Bioimpedance and Pressure of Blood**

**Metshein, Margus; Annus, Paul; Land, Raul; Rist, Marek; Min, Mart; Lotamōis, Kristina; Märtens, Olev** Journal of sensors 2023 / art. 5710835 <https://doi.org/10.1155/2023/5710835> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

**Photoplethysmography as an alternative to impedance cardiography-based hemodynamic feature point detection**

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Lapsa, Didzis; Janeliukstis, Rims; **Metshein, Margus**; Selavo, Leo Applied sciences 2024 / art. 7451

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**Realization and evaluation of the device for measuring the impedance of human body for detecting the respiratory and heart rate**

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