

#### **Adaptive algorithm for cardiac period normalization in time**

**Krivošei, Andrei; Uuetoa, Hasso; Min, Mart; Annus, Paul;** Uuetoa, Tiina; Lamp, Jürgen Book of abstracts : 16th International Conference on Electrical Bio-Impedance : 17th Conference on Electrical Impedance Tomography : ICEBI and EIT Stockholm, 19-23 June 2016 2016 / p. 66

#### **An adaptive filtering system for separation of cardiac and respiratory components of bioimpedance signal**

**Krivošei, Andrei; Min, Mart; Parve, Toomas; Ronk, Ants** 2006 IEEE International Workshop on Medical Measurement and Applications : Benevento, Italy, April 20-21, 2006 2006 / p. 10-15 <https://ieeexplore.ieee.org/document/1644448>

#### **An adaptively tunable model of the cardiac signal for the bio-impedance signal decomposer (BISD)**

**Krivošei, Andrei; Kukk, Vello; Min, Mart** MeMeA 2008 : IEEE International Workshop on Medical Measurements and Applications : 9-10 May 2008, Ottawa, Ontario, Canada 2008 / p. 49-52

#### **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>

#### **Analysis of instantaneous cardiac EBI signal variability over the heart cycle(s) : non-linear time-scale approach**

**Krivošei, Andrei; Min, Mart; Annus, Paul; Kõiv, Hip;** Aabloo, Alvo; Uuetoa, Tiina EMBEC & NBC 2017 : joint conference of the European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), Tampere, Finland, June 2017 2018 / p. 940-943 : ill [https://doi.org/10.1007/978-981-10-5122-7\\_235](https://doi.org/10.1007/978-981-10-5122-7_235)  
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

#### **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; Ratasseppe, Madis; Märten, 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](https://doi.org/10.1007/978-3-030-64610-3_18) [Conference Proceedings at Scopus](#) [Article at Scopus](#)

#### **Bioimpedance sensing - a viable alternative for tonometry in non-invasive assessment of central aortic pressure**

**Min, Mart; Annus, Paul; Kõiv, Hip; Krivošei, Andrei;** Uuetoa, Tiina; Lamp, Jürgen 2017 IEEE International Symposium on Medical Measurements and Applications (MeMeA) : May 7-10, 2017, Rochester, MN, USA : proceedings papers 2017 / p. 373-378 : ill <https://doi.org/10.1109/MeMeA.2017.7985905>

#### **Bio-impedance signal decomposer : enhanced accuracy and reduced latency solution**

**Krivošei, Andrei** Estonian journal of engineering 2011 / 3, p. 201-219 : ill

#### **Bio-impedance signal decomposer (BISD) as an adaptive signal model based separator of cardiac and respiratory components**

**Krivošei, Andrei; Kukk, Vello; Birjukov, Andrei** 13th International Conference on Electrical Bioimpedance and 8th Conference on Electrical Impedance Tomography 2007 : ICEBI2007 : August 29th - September 2nd 2007, Graz, Austria 2007 / p. 209-212 [https://link.springer.com/chapter/10.1007/978-3-540-73841-1\\_56](https://link.springer.com/chapter/10.1007/978-3-540-73841-1_56)

#### **Bio-Impedance Signal Decomposer (BISD) as an adaptive signal model based separator of cardiac and respiratory components**

**Krivošei, Andrei; Kukk, Vello; Birjukov, Andrei** Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK kolmanda aastakonverentsi artiklite kogumik : 25.-26. aprill 2008, Voore külalistemaja 2008 / p. 29-32 : ill

#### **A bio-impedance signal simulator (BISS) for research and training purposes**

**Muhammad, Yar; Le Moullec, Yannick; Annus, Paul; Krivošei, Andrei** 2015 26th Irish Signals and Systems Conference (ISSC) : Institute of Technology Carlow, Ireland, June 24-25, 2015 2015 / [4] p. : ill <https://doi.org/10.1109/ISSC.2015.7163746>

#### **A bio-impedance signal synthesiser (BISS) for testing of an adaptive filtering system**

**Krivošei, Andrei** BEC 2006 : 2006 International Baltic Electronics Conference : Tallinn University of Technology, October 2-4, 2006, Tallinn, Estonia : proceedings of the 10th Biennial Baltic Electronics Conference 2006 / p. 225-228 : ill

#### **CAP waveform estimation from the measured electrical bioimpedance values : patient's heart rate variability analysis**

**Krivošei, Andrei; Uuetoa, Hasso; Min, Mart; Annus, Paul;** Uuetoa, Tiina; Lamp, Jürgen Conference proceedings : 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society : Milan, Italy, August 25-29 2015 2015 / p. 2788-2791 : ill <https://doi.org/10.1109/EMBC.2015.7318970> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

#### **Decomposition method of an electrical bio-impedance signal into cardiac and respiratory components**

**Krivošei, Andrei; Kukk, Vello; Min, Mart** Physiological measurement 2008 / 6, p. S15-S25 : ill <https://pubmed.ncbi.nlm.nih.gov/18544800/>

**Decomposition of the EBI signal into components using two channel cross-compensating singular spectrum analysis**  
**Krivošei, Andrei; Min, Mart; Annus, Paul; Butsenko, Maksim** 2018 IEEE International Symposium on Medical Measurements and Applications (MeMeA 2018) : proceedings : Rome, Italy, June 11-13, 2018 2018 / 5 p. : ill

**Decomposition of the electrical bio-impedance signal : a signal model based method for separation of the cardiac and respiratory components**  
**Krivošei, Andrei** 2010 <https://www.amazon.com/Decomposition-electrical-bio-impedance-signal-respiratory/dp/3838372220>

**Digitally controlled reference impedance device for test and calibration of the bio-impedance measurement system (BIMS) in a networked environment**  
**Birjukov, Andrei; Krivošei, Andrei; Parve, Toomas** 13th International Conference on Electrical Bioimpedance and 8th Conference on Electrical Impedance Tomography 2007 : ICEBI2007 : August 29th - September 2nd 2007, Graz, Austria 2007 / p. 276-279  
[https://link.springer.com/chapter/10.1007/978-3-540-73841-1\\_73](https://link.springer.com/chapter/10.1007/978-3-540-73841-1_73)

**A DSP-based multichannel EBI measurement device**  
**Abdullayev, Anar; Rist, Marek; Krivošei, Andrei; Metshein, Margus; Land, Raul; Märten, Olev** 2024 IEEE International Instrumentation and Measurement Technology Conference (I2MTC) : proceedings 2024  
<https://doi.org/10.1109/I2MTC60896.2024.10560714>

**Electrical bio-impedance based non-invasive method for the central aortic blood pressure waveform estimation**  
**Krivošei, Andrei; Min, Mart; Uuetoa, Hasso; Lamp, Jürgen; Annus, Paul** 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. 181-184 : ill

**Estimating the transfer function between the CAP and radial EBI cardiac periods : use of PCA for dominating spectral features analysis**  
**Krivošei, Andrei; Uuetoa, Hasso; Min, Mart; Lamp, Jürgen; Annus, Paul; Uuetoa, Tiina** The 10th International Conference on Bioelectromagnetism : proceedings 2015 / [4] p. : ill

**Estimating the transfer function between the CAP and radial EBI cardiac periods : use of PCA for dominating spectral features analysis**  
**Krivošei, Andrei; Uuetoa, Hasso; Min, Mart; Lamp, Jürgen; Annus, Paul; Uuetoa, Tiina** International journal of bioelectromagnetism 2015 / p. 31-35 : ill

**Excitation current source for bioimpedance measurement applications : analysis and design**  
**Annus, Paul; Krivošei, Andrei; Min, Mart; Parve, Toomas** I2MTC 2008 : IEEE International Instrumentation and Measurement Technology Conference : May 12-15, 2008, Victoria, Canada 2008 / p. 848-853 : ill

**Fiducial point estimation solution for impedance cardiography measurements**  
**Märten, Olev; Metshein, Margus; Abdullayev, Anar; Larras, Benoit; Frappe, Antoine; Gautier, Antoine; Saeed, Maryam; John, Deepu; Cardiff, Barry; Krivošei, Andrei; Annus, Paul; Rist, Marek** 2022 IEEE International Instrumentation and Measurement Technology Conference (I2MTC) 2022 / Code 180602 <https://doi.org/10.1109/I2MTC48687.2022.9806596> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Hankel matrix based algorithm for cardiac pulse wave base and peak lines Correction**  
**Krivošei, Andrei; Min, Mart; Annus, Paul; Märten, Olev; Metshein, Margus; Lotamöis, Kristina; Rist, Marek** IEEE International Workshop on Medical Measurement and Applications (MEMEA) 2022 / 6 p <https://doi.org/10.1109/MeMeA54994.2022.9856564>

**Improved PWM-based sinewave generation : example of the impedance measurement**  
**Abdullayev, Anar; Annus, Paul; Krivošei, Andrei; Metshein, Margus; Märten, Olev; Rist, Marek** Automatic control and computer sciences 2023 / p. 449-458 <https://doi.org/10.3103/S0146411623050024> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Matrix Profile based anomaly detection in streaming gait data for fall prevention**  
**Gerazov, Branislav; Hadjieva, Elena; Krivošei, Andrei; Sanchez, Fiorella Ines Soto; Rostovski, Jakob; Kuusik, Alar; Alam, Muhammad Mahtab** 2023 30th International Conference on Systems, Signals and Image Processing (IWSSIP) 2023 / p. 1-5  
<https://doi.org/10.1109/IWSSIP58668.2023.10180243>

**Method and system for real-time motion abnormality detection**  
**Krivošei, Andrei; Kuusik, Alar; Rostovski, Jakob; Alam, Muhammad Mahtab** 2024  
[https://patentscope2.wipo.int/search/ar/detail.jsf;jsessionid=4F73F7EDD8684B2050668D97A6E3E4BC?docId=WO2024257016&\\_cid=JP2-M52SGO-27841-1](https://patentscope2.wipo.int/search/ar/detail.jsf;jsessionid=4F73F7EDD8684B2050668D97A6E3E4BC?docId=WO2024257016&_cid=JP2-M52SGO-27841-1)

**Methods for detection of bioimpedance variations in resource constrained environments**  
**Priidel, Eiko; Annus, Paul; Krivošei, Andrei; Rist, Marek; Land, Raul; Min, Mart; Märten, Olev** Sensors 2020 / art. 1363, 16 p. : ill <https://doi.org/10.3390/s20051363> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Model based method for adaptive decomposition of the thoracic bio-impedance variations into cardiac and respiratory components = Mudelipõhine meetod torso bioimpedantsi muutuste adaptiivseks dekompositsiooniks südamegevuse ja hingamise komponentideks**

Krivošei, Andrei 2009 [https://www.ester.ee/record=b2508758\\*est](https://www.ester.ee/record=b2508758*est)

**Non-invasive method for the aortic blood pressure waveform estimation using the measured radial EBI**

Krivošei, Andrei; Lamp, Jürgen; Min, Mart; Uettoa, Tiina; Uettoa, Hasso; Annus, Paul XVth International Conference on Electrical Bio-Impedance (ICEBI) and XIVth Conference on Electrical Impedance Tomography (EIT) : 22-25 April 2013, Heilbad Heiligenstadt : abstracts 2013 / p. 121 : ill <https://doi.org/10.1088/1742-6596/434/1/012048> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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

Metshein, Margus; Krivošei, Andrei; Abdullayev, Anar; Annus, Paul; Märten, Olev Sensors 2022 / art. 9351 <https://doi.org/10.3390/s22239351> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Novel real-time in-step gait anomaly detection algorithms**

Rostovski, Jakob; Krivošei, Andrei; Kuusik, Alar; Le Moullec, Yannick; Alam, Muhammad Mahtab techrxiv.org 2024 <https://doi.org/10.36227/techrxiv.171173236.66440239/v1>

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

Metshein, Margus; Annus, Paul; Abdullayev, Anar; Krivošei, Andrei; Land, Raul; Märten, Olev 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 5 p <https://doi.org/10.1109/BEC61458.2024.10737936> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**PLL-based extraction of the cardiac component from the bio-impedance signal**

Märten, Olev; Min, Mart; Annus, Paul; Land, Raul; Krivošei, Andrei; Metshein, Margus 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2018) : proceedings 2018 / 6 p. : ill <https://doi.org/10.1109/I2MTC.2018.8409848>

**Real-time gait anomaly detection using 1D-CNN and LSTM**

Rostovski, Jakob; Ahmadilivani, Mohammad Hasan; Krivošei, Andrei; Kuusik, Alar; Alam, Muhammad Mahtab Digital Health and Wireless Solutions : First Nordic Conference, NCDHWS 2024, Oulu, Finland, May 7–8, 2024 : Proceedings, Part II 2024 / p. 260-278 [https://doi.org/10.1007/978-3-031-59091-7\\_17](https://doi.org/10.1007/978-3-031-59091-7_17) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Real-time gait anomaly detection using SVM time series classification**

Rostovski, Jakob; Krivošei, Andrei; Kuusik, Alar; Alam, Muhammad Mahtab; Ahmadov, Ulvi 2023 International Wireless Communications and Mobile Computing (IWCMC) 2023 / p. 1389-1394 <https://doi.org/10.1109/IWCMC58020.2023.10182666>

**Robust algorithm for the augmentation index estimation of the CAP using low order derivatives [Electronic resource]**

Krivošei, Andrei; Min, Mart; Lamp, Jürgen; Annus, Paul MeMeA 2014 : IEEE International Symposium on Medical Measurements and Applications : June 11-12, 2014, ISCTE, University of Lisbon, Lisbon, Portugal : proceedings 2014 / p. 279-282 : ill. [CD-ROM]

**Separation of cardiac and respiratory components from the electrical bio-impedance signal using PCA and fast ICA**

Mughal, Yar M.; Krivošei, Andrei; Annus, Paul International Conference on Control Engineering & Information Technology (CEIT'13), Sousse, Tunisia, June 04-07, 2013 : [proceedings] 2013 / [4] p

**Separation of independent components with partially overlapped spectra using signal-shape locked loop (SSLL) concept**

Krivošei, Andrei Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK teise aastakonverentsi artiklite kogumik : 11.-12. mai 2007, Viinistu kunstimuuseum 2007 / lk. 51-54 : ill

**Signal acquisition and algorithm design for bioimpedance-based heart rate estimation from the wrist**

Lapsa, Didzis; Metshein, Margus; Krivošei, Andrei; Janeliukstis, Rims; Märten, Olev; Elsts, Atis Applied sciences 2024 / art. 9632 <https://doi.org/10.3390/app14219632> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Signal-shape locked loop (SSLL) as an adaptive separator of cardiac and respiratory components of bio-impedance signal**

Krivošei, Andrei; Min, Mart; Kuk, Vello IEEE International Workshop on Medical Measurement and Applications : MeMeA-2007 : Warsaw, Poland, 4-5 May 2007 2007 / p. 47-52 <https://ieeexplore.ieee.org/document/4285161>

**Sparse reconstruction method for separating cardiac and respiratory components from electrical bioimpedance measurements**

Butsenko, Maksim; Märten, Olev; Krivošei, Andrei; Le Moullec, Yannick Elektronika ir elektrotehnika = Electronics and electrical engineering 2018 / p. 57-61 : ill <https://doi.org/10.5755/j01.eie.24.5.21844> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**SVM Time series classification of selected gait abnormalities**

Rostovski, Jakob; Krivošei, Andrei; Kuusik, Alar; Ahmadov, Ulvi BODYNETS 2021: Body Area Networks. Smart IoT and Big Data

for Intelligent Health Management : 16th EAI International Conference, BODYNETS 2021, Virtual Event, October 25-26, 2021 : proceedings 2022 / 15 p [https://doi.org/10.1007/978-3-030-95593-9\\_16](https://doi.org/10.1007/978-3-030-95593-9_16) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Variation of cardiac and respiratory waveform on human thorax in the case of inductive coupling**

**Metshein, Margus; Annus, Paul; Land, Raul; Krivošei, Andrei; Ojarand, Jaan; Aabloo, Alvo; Min, Mart** EMBEC & NBC 2017 : joint conference of the European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), Tampere, Finland, June 2017 2018 / p. 671-674 : ill [https://doi.org/10.1007/978-981-10-5122-7\\_168](https://doi.org/10.1007/978-981-10-5122-7_168) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Wearable data acquisition system of multimodal physiological signals for personal health care**

**Annus, Paul; Samiepour, Ali; Rist, Marek; Ruiso, Indrek; Krivošei, Andrei; Land, Raul; Parve, Toomas; Min, Mart** pHealth 2013 : proceedings of the 10th International Conference on Wearable Micro and Nano Technologies for Personalized Health : June 26-28, 2013, Tallinn, Estonia 2013 / p. 107-112 : ill <https://doi.org/10.3233/978-1-61499-268-4-107> [Journal metrics at Scopus](#) [Article at Scopus](#)

**Wearable system for non-invasive and continuous monitoring central aortic pressure curve and augmentation index**

**Krivošei, Andrei; Lamp, Jürgen; Min, Mart; Uuetoa, Tiina; Uuetoa, Hasso; Annus, Paul** pHealth 2013 : proceedings of the 10th International Conference on Wearable Micro and Nano Technologies for Personalized Health : June 26-28, 2013, Tallinn, Estonia 2013 / p. 101-106 : ill <https://doi.org/10.3233/978-1-61499-268-4-101> [Conference Proceedings at Scopus](#) [Article at Scopus](#)