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1 März 2024 → present

Veröffentlichungen

Optimizing Aortic Segmentation with an Innovative Quality Assessment: The Role of Global Sensitivity Analysis
Melito, G. M., Pepe, A., Jafarinia, A., Krispel, T. & Egger, J., 14 Feb. 2024, *Segmentation of the Aorta. Towards the Automatic Segmentation, Modeling, and Meshing of the Aortic Vessel Tree from Multicenter Acquisition - First Challenge, SEG.A. 2023, Held in Conjunction with MICCAI 2023, Proceedings: Towards the Automatic Segmentation, Modeling, and Meshing of the Aortic Vessel Tree from Multicenter Acquisition.* Pepe, A., Melito, G. M. & Egger, J. (Hrsg.). Band 1. S. 110-126 17 S. (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); Band 14539 LNCS).

Modeling Anisotropic Electrical Conductivity of Blood: Translating Microscale Effects of Red Blood Cell Motion into a Macroscale Property of Blood

Jafarinia, A., Badeli, V., Krispel, T., Melito, G. M., Brenn, G., Reinbacher-Köstinger, A., Kaltenbacher, M. & Hochrainer, T., 1 Feb. 2024, in: *Bioengineering*. 11, 2, 19 S., 147.

Morphological parameters affecting false lumen thrombosis following type B aortic dissection: a systematic study based on simulations of idealized models

Jafarinia, A., Melito, G. M., Müller, T. S., Rolf-Pissarczyk, M., Holzapfel, G., Brenn, G., Ellermann, K. & Hochrainer, T., Juni 2023, in: *Biomechanics and Modeling in Mechanobiology*. 22, 3, S. 885–904 20 S.

Development of a reduced-order model for understanding FL thrombosis in type B aortic dissection using a global sensitivity analysis and polynomial chaos expansion

Melito, G. M., Jafarinia, A., Müller, T. S., Rolf-Pissarczyk, M., Holzapfel, G., Brenn, G., Hochrainer, T. & Ellermann, K., 2023, *Proceedings of the 7th ECCOMAS Young Investigators Conference (ECCOMAS YIC 2023) Creators*.

Monitoring of false lumen thrombosis in type B aortic dissection by impedance cardiography - A multiphysics simulation study

Badeli, V., Jafarinia, A., Melito, G. M., Müller, T. S., Reinbacher-Köstinger, A., Hochrainer, T., Brenn, G., Ellermann, K., Biro, O. & Kaltenbacher, M., 12 Dez. 2022, (Elektronische Veröffentlichung vor Drucklegung.) in: *International Journal for Numerical Methods in Biomedical Engineering*. e3669.

Bayesian inference of multi-sensors impedance cardiography for detection of aortic dissection

Badeli, V., Ranftl, S., Melito, G. M., Reinbacher-Koestinger, A., Von der Linden, W., Ellermann, K. & Biro, O., 14 Apr. 2022 , in: *COMPEL - The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*. 41, 3 , S. 824-839 16 S.

Sensitivity analysis for model optimization and calibration in type B aortic dissection

Melito, G. M., 13 Apr. 2022, 125 S.

Sensitivity analysis study on the effect of the fluid mechanics assumptions for the computation of electrical conductivity of flowing human blood

Melito, G. M., Müller, T. S., Badeli, V., Ellermann, K., Brenn, G. & Reinbacher-Köstinger, A., Sept. 2021, in: *Reliability Engineering & System Safety*. 213, 12 S., 107663.

Sensitivity Analysis of a Phenomenological Thrombosis Model and Growth Rate Characterisation

Melito, G. M., Jafarinia, A., Hochrainer, T. & Ellermann, K., 9 Dez. 2020, in: Journal of Biomedical Engineering and Biosciences . 7, S. 31 - 40 10 S.

Sensitivity Analysis of a Hemodynamic-based Model for Thrombus Formation and Growth

Melito, G. M., Jafarinia, A., Hochrainer, T. & Ellermann, K., 31 Juli 2020, *Proceedings of the 6th World Congress on Electrical Engineering and Computer Systems and Sciences (EECSS'20): ICBES'20*. Virtually, 8 S. ICBES 127

Electrode positioning to investigate the changes of the thoracic bioimpedance caused by aortic dissection – a simulation study

Badeli, V., Melito, G. M., Reinbacher-Köstinger, A., Biro, O. & Ellermann, K., 25 Juni 2020, in: Journal of Electrical Bioimpedance. 11, 1, S. 38-48 11 S., 1891-5469.

Numerical simulation of various electrode configurations in impedance cardiography to identify aortic dissection

Reinbacher-Köstinger, A., Badeli, V., Melito, G. M., Magele, C. & Biro, O., 17 März 2020, *17th International Conference on Electrical Bioimpedance, ICEBI 2019: ICEBI 2019, Joinville, Santa Catarina, Brazil, 9-14 June 2019*. Bertemes-Filho, P. (Hrsg.). Springer Singapore, S. 51-54 4 S. (IFMBE Proceedings; Band 72).

A comprehensive Workflow and Framework for immersive Virtual Endoscopy of dissected Aortae from CTA Data

Egger, J., Gunacker, S., Pepe, A., Melito, G. M., Gsaxner, C., Li, J., Ellermann, K. & Chen, X., 16 März 2020, *Medical Imaging 2020: Image-Guided Procedures, Robotic Interventions, and Modeling*. Fei, B. & Linte, C. A. (Hrsg.). Band 11315 . 1131531. (Proceedings of SPIE - The International Society for Optical Engineering; Band 11315).

On the Diagnosis of Aortic Dissection with Impedance Cardiography: A Bayesian Feasibility Study Framework with Multi-Fidelity Simulation Data

Ranftl, S., Melito, G. M., Badeli, V., Reinbacher-Köstinger, A., Ellermann, K. & Linden, W. V. D., Dez. 2019, in: Proceedings MDPI AG.

Sensitivity analysis for electrical detection of aortic dissection

Melito, G. M., Badeli, V., Reinbacher-Köstinger, A. & Ellermann, K., Nov. 2019, *Proceedings in Applied Mathematics and Mechanics: 90th Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM)*. Wiley-VCH , Band 19,1, 2 S. e201900062

A Reliability Analysis with an Active-learning Metamodel for the Reconstruction of a Dissected Aorta Cross-section

Melito, G. M. & Ellermann, K., 28 Okt. 2019.

Numerical simulation of various electrode configurations in impedance cardiography to identify aortic dissection

Reinbacher-Köstinger, A., Badeli, V., Melito, G. M., Magele, C. & Biro, O., 10 Juni 2019, (Unveröffentlicht).

Bayesian Uncertainty Quantification with Multi-Fidelity Data and Gaussian Processes for Impedance Cardiography of Aortic Dissection

Ranftl, S., Melito, G. M., Badeli, V., Reinbacher-Köstinger, A., Ellermann, K. & Linden, W. V. D., 2019, in: Entropy.

Aktivitäten

SEG.A. 2023 - Towards the Automatic Segmentation, Modeling and Meshing of the Aortic Vessel Tree from Multicenter Acquisitions (Veranstaltung)

Antonio Pepe (Herausgeber/in), Gian Marco Melito (Herausgeber/in) & Jan Egger (Herausgeber/in)
11 März 2024

SEG.A. 2023 - Towards the Automatic Segmentation, Modeling and Meshing of the Aortic Vessel Tree from Multicenter Acquisitions

Antonio Pepe (Organisator/-in), Gian Marco Melito (Organisator/-in) & Jan Egger (Organisator/-in)
8 Okt. 2023

Development of a ROM for understanding FL thrombosis in type B aortic dissection using a global sensitivity analysis and polynomial chaos expansion

Gian Marco Melito (Redner/in), Alireza Jafarinia (Beitragende/r), Thomas Stephan Müller (Beitragende/r), Malte Rolf-Pissarczyk (Beitragende/r), Gerhard Holzapfel (Beitragende/r), Günter Brenn (Beitragende/r), Thomas Hochrainer (Beitragende/r) & Katrin Ellermann (Beitragende/r)

19 Juni 2023

SEG.A. 2023 - Towards the Automatic Segmentation, Modeling and Meshing of the Aortic Vessel Tree from Multicenter Acquisitions

Antonio Pepe (Organisator/-in), Gian Marco Melito (Organisator/-in) & Jan Egger (Organisator/-in)

15 Juni 2023 → 31 Aug. 2023

Impact of false lumen thrombosis on blood flow dynamics and electrical conductivity in type B aortic dissection

Gian Marco Melito (Redner/in), Vahid Badeli (Beitragende/r), Alireza Jafarinia (Beitragende/r), Thomas Stephan Müller (Beitragende/r), Alice Reinbacher-Köstinger (Beitragende/r), Thomas Hochrainer (Beitragende/r), Günter Brenn (Beitragende/r), Oszkár Bíró (Beitragende/r), Manfred Kaltenbacher (Beitragende/r) & Katrin Ellermann (Beitragende/r)

1 Okt. 2022

Time calibration of a novel phenomenological thrombus formation model through global sensitivity analysis and a Bayesian approach

Gian Marco Melito (Redner/in), Alireza Jafarinia (Beitragende/r), Sascha Ranftl (Beitragende/r), Wolfgang von der Linden (Beitragende/r), Thomas Hochrainer (Beitragende/r) & Katrin Ellermann (Beitragende/r)

7 Juni 2022

Sensitivity analysis of a hemodynamic-based model for thrombus formation and growth

Gian Marco Melito (Redner/in), Alireza Jafarinia (Beitragende/r), Thomas Hochrainer (Beitragende/r) & Katrin Ellermann (Beitragende/r)

15 Aug. 2020

A Reliability Analysis with an Active-learning Metamodel for the Reconstruction of a Dissected Aorta Cross-section

Gian Marco Melito (Redner/in) & Katrin Ellermann (Beitragende/r)

29 Okt. 2019

Projekte

Aortendissektion

Egger, J., Pepe, A., Schmalstieg, D., Schüssnig, R., von der Linden, W., Melito, G. M., Holzapfel, G., Ramalho Queiroz Pacheco, D., Jafarinia, A., Brenn, G., Ranftl, S., Müller, T. S., Gupta, I., Steinbach, O., Fries, T., Badeli, V., Hochrainer, T., Schanz, M., Rolf-Pissarczyk, M., Biro, O. & Ellermann, K.

1/01/18 → 31/12/20