

CONTACT INFORMATION

**Address (Office):** Biomechanics Research Building 234  
U li1, University of Nebraska  
Lincoln



- Effects of Aortic Compliance and Windkessel Reduction on Cardiac and Aortic Pathophysiology
  - Funding Agency: NIH R01 (NHLBI)
  - Project Period: 2019-2024
  - Budget: \$3,040,498
  - Role: Co-Investigator (PI: Desyatova)
- Mechanically and Chemically Optimized Vascular Graft
  - Funding Agency: University of Nebraska
  - Project Period: 2021-2023
  - Budget: \$40,000
  - Role: Co-PI (PI: Morin)

### Completed

- Evaluation of Stents Subjected to Axial, Bending, and Torsional Deformation
  - Funding Agency: Qmedics AG
  - Project Period: 2020
  - Budget: \$8,000
  - Role: PI
- Evaluation of Stents Subjected to Axial, Bending, and Torsional Deformation
  - Funding Agency: Qmedics AG
  - Project Period: 2019-2020
  - Budget: \$17,709
  - Role: PI
- Rapid Acute Endovascular Management of Non-Compressible Truncal and Junctional Hemorrhage and Long-Term Analysis of Stent-Graft Durability in Young Military Trauma Populations (W81XWH-16-2-0034, Log 14361001)
  - Funding Agency: USAMRMC
  - Project Period: 2016-2019
  - Budget: \$1,429,240
  - Role: Postdoc. Research. (PI Kamenskiy/MacTaggart)

## EXPERIMENTAL EXPERTISE

### Cardiovascular Device and Material Development and Characterization

**Tissue and Cell Experiments**

- Cell isolation from human and animal tissue
- Static and mechanically stimulated cell culture
- Mechanical characterization of human and animal soft tissues

**Manufacturing of Nanostructured Materials**

- Electrospinning of biological and synthetic polymer nanofiber materials for biomedical applications
- Development of hierarchical nanomaterials

**Structural Characterization Techniques for Polymer-Based Materials and Nanomaterials**

- Polarized Raman spectroscopy
- Electron microscopy

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2013

NSF Travel Award

## CV – KASPARS MALECKIS

- 2015      **Oral presentation** at PolyChar 23<sup>rd</sup> World Forum on Advanced Materials, symposium: Biomaterials, Drug Delivery, and Tissue Engineering. Lincoln, NE.
- 2013      **Oral presentation** at ASME-IMECE, symposium: Advanced Nanomanufacturing and Mechanics of Structural Nanomaterials, San Diego, CA.
- 2013      **Student participant** in US delegation of NRF-NSF Advanced Manufacturing Workshop, Seoul, South Korea.
- 2012      **Oral presentation** at SES 49<sup>th</sup> annual technical meeting symposium of Nanoengineering for Regenerative Medicine and Tissue Engineering, Atlanta, GA.
- 2012      **Oral presentation** at MRS spring meeting, symposium: DNA nanotechnology. San Francisco, CA

### POSTER PRESENTATIONS AT NATIONAL AND INTERNATIONAL MEETINGS

- 2018      **Poster presentation** at the Military Health System Research Symposium (MHSRS) Conference, Kissimmee FL. August, 2018.
- 2017      **Poster presentation** at BMES/FDA Medical Devices Conference. Washington, DC. May, 2017.
- 2013      **Poster presentation** at ASME-IMECE, symposium: Advanced Nanomanufacturing and Mechanics of Structural Nanomaterials, San Diego, CA. November, 2013.

### PEER-REVIEWED PUBLICATIONS

- 2022      Keiser C., **Maleckis K.**, Struczewska P., Jadidi M., MacTaggart J., Kamenskiy A.: "A method of assessing peripheral stent abrasiv7 0 Tdh-1.Maeg pruruan o 102 Tda-3 (n)(ras)-1.2.6 (t)-3 (o2T

- 2020** Jadidi M, Habibnezhad M, Anttila E, **Maleckis K**, Desyatova A, MacTaggart J, Kamenskiy A.: “Mechanical and structural changes in human thoracic aortas with age”, published in Acta Biomater. 103, 172-188.
- 2019** Papkov D., Delpouve N., Delbreilh L., Araujo S., Stockdale T., Mamedov S., **Maleckis K.**, Zou Y., Andalib M.N., Dargent E., Dravid V.P., Holt M.V., Pellerin C., Dzenis Y.A.: “Quantifying polymer chain orientation in strong and tough nanofibers with low crystallinity: toward next generation nanostructured superfibers”, published in ACS Nano 13 (5), 4893-4927.
- 2019** MacTaggart J., Poulson W., Seas A., Deegan P., Lomneth C., Desyatova A., **Maleckis K.**, Kamenskiy A.: “Stent design affects femoropopliteal artery deformation”, published in Annals of Surgery 46 (5), 684-704.
- 2018** **Maleckis K.**, Dzenis Y.

## CV – KASPARS MALECKIS

- 2022** C. Keiser, **K. Maleckis**, J. Mactaggart, A. Kamenskiy: “Comparative Assessment of Peripheral Stent Abrasiveness under Cyclic Deformations Experienced During Limb Flexion”,
- 2018** **K. Maleckis**, P. Deegan, T. Kalil, J. MacTaggart, A. Kamenskiy: “Safe Balloon Occlusion Pressures and Volumes for Resuscitative Endovascular Balloon Occlusion of the Thoracic and Abdominal Aorta”, Military Health System Research Symposium (MHSRS).
- 2017** **K. Maleckis**, Y. Dzenis, A. Kamenskiy, J. MacTaggart: “