Curriculum Vitae

PERSONAL DATA

Name: **Alexey V. Kamenskiy**

Campus Address: Department of Biomechanics
University of Nebraska Omaha
Biomechanics Research Building, RM230
Omaha, NE 68182

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CONTENTS

akamenskiy@unomaha.edu

EDUCATION

Ph.D., Engineering Mechanics, 2009
Department of Engineering Mechanics
University of Nebraska-Lincoln

M.S., Mechanics and Applied Mathematics, 2004
Department of Mathematical Theory of Elasticity & Biomechanics
Saratov State University, Russia

ACADEMIC APPOINTMENTS

2020 - current **Professor and Chair**
Department of Biomechanics
University of Nebraska Omaha
Department of Surgery (adjunct)
University of Nebraska Medical Center

2019 - 2020 **Professor**
Department of Biomechanics
University of Nebraska Omaha
Department of Surgery (adjunct)
University of Nebraska Medical Center

2019 **Tenure**
Department of Surgery
University of Nebraska Medical Center

2017 – 2019 **Associate Professor**
Department of Surgery
University of Nebraska Medical Center

2012 – 2017 **Assistant Professor**
Department of Surgery
University of Nebraska Medical Center

akamenskiy@unomaha.edu

Department of Mechanical and Materials Engineering (adjunct, 2013)
University of Nebraska-Lincoln

Department of Biomechanics (adjunct, 2013)
University of Nebraska Omaha

Department of Biochemistry and Molecular Biology (adjunct, 2016)
University of Nebraska Medical Center

2010 – 2012 **Research Assistant Professor**
Department of Mechanical and Materials Engineering
University of Nebraska-Lincoln

2005 – 2009 **Graduate Research Assistant**
Department of Engineering Mechanics
University of Nebraska-Lincoln

2004 – 2005 **Senior Researcher**
Laboratory of Mathematical Modeling in Biomechanics
Saratov State University

2002 – 2004 **Researcher**
Laboratory of Mathematical Modeling in Biomechanics
Saratov State University

RESEARCH INTERESTS

- Experimental and computational vascular mechanobiology and mechanophysiology.
- Vascular pathology and aging.
- Devices and materials for open and endovascular repair.

GRANT/CONTRACT SUPPORT

Active

Optimized Stents for the Femoropopliteal Artery (R01HL125736)
Funding Agency: NIH R01
Project Period: 2020-2025
Budget: $2,695,295
Role: PI (MPI with Jason MacTaggart)

Effects of Aortic Compliance and Windkessel Reduction on Cardiac and Aortic Pathophysiology (R01HL147128)
Funding Agency: NIH R01 (NHLBI)
Project Period: 2019-2024
Budget: $3,040,498
Role: Investigator (PI: Anastasia Desyatova)

Effect of cell-based therapies on functional, hemodynamic, and histologic outcomes in a porcine model of peripheral arterial disease (R01 AG062198)
Funding Agency: NIH R01 (NIA)
Project Period: 2019-2024
Budget: $3,808,812
Role: Investigator (PI: Pipinos/Carlson)

Evaluating Inferior Vena Cava Filter Performance in Women Using Patient-Specific Computational Modeling (FDA 75F40119P10653)
Funding Agency: FDA
Project Period: 2019-2021
Budget: $145,432
Role: Investigator (PI: Brent Craven)

Completed

Optimal Stent Selection for the Femoropopliteal Artery (R01HL125736)
Funding Agency: NIH R01
Project Period: 2014-2020
Budget: $3,568,587
Role: PI (MPI with Jason MacTaggart)

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: The U.S. Army Medical Research and Materiel Command (USAMRMC)
Project Period: 2016-2020
Budget: $1,429,240
Role: PI (MPI with Jason MacTaggart)

Mechanical Evaluation of Stents (2 projects)
Funding Agency: QMedics
Project Period: 2019-2020
Budget: $17,709
Role: Investigator (PI: Maleckis)

Concurrent Development of Ex Vivo and In Vivo Models for Study of Vascular Injury, Remodeling and Regeneration
Funding Agency: UNMC Mary and Dick Holland Regenerative Medicine Program
Project Period: 2015-2018
Budget: $300,000
Role: Investigator (PI: Baxter)

AquaBlade catheter for treatment of Aortic Dissection
Funding Agency: UNMC Proof Of Concept grant
Project Period: 2017-2018
Budget: $210,000
Role: PI (MPI with Jason MacTaggart)

Endovascular Skills for Trauma and Resuscitative Surgery (ESTARS) Curriculum Analysis and Development of Strategic Transition Plan (FA4600-12-D-9000)

Funding Agency: The U.S. Army Medical Research and Materiel Command (USAMRMC)
Project Period: 2016-2017
Budget: $266,378
Role: Co-PI (MPI MacTaggart/Evans/Schlitzkus/Kamenskiy)

Evaluation of Supera Pro Devices for Overall Performance and Ease of Use, With Focus on Deployment Accuracy in Diseased Arteries
Funding Agency: Abbott Vascular
Project Period: 2016-2017
Budget: $38,630
Role: PI (MPI with Jason MacTaggart)

Mechanical and Morphological Analysis of a Novel Electrospun Nanofiber Arterial Substitute in a Swine Model of Atherosclerosis
Funding Agency: Nebraska Research Initiative
Project Period: 2012-2015
Budget: $100,000
Role: Investigator (PI: MacTaggart)

Assessment of the Retrievable Endovascular Arterial Markers in a Cadaver Model of Peripheral Arterial Disease: A Pilot Study
Funding Agency: Abbott Vascular
Project Period: 2015
Budget: $6,294
Role: PI (MPI with Jason MacTaggart)

Quantitative Assessment of the Influence of Vascular Mimetic Implant SUPERA and Its Competitor Conventional SFA Stent on the Natural Limb-Induced Deformations of the Femoropopliteal Artery: A Pilot Study
Funding Agency: Abbott Vascular
Project Period: 2014
Budget: $9,110
Role: PI (MPI with Jason MacTaggart)

Modeling-Assisted Imaging to Optimize Surgical Interventions
Funding Agency: University of Nebraska-Lincoln/University of Nebraska Medical Center
Project Period: 07/01/2010 – 06/30/2011
Budget: $50,000
Role: Investigator (MPI: Dzenis/MacTaggart)

PATENTS & INVENTIONS

1. Bypass graft. PCT/US2019/054401. 19017PCT. WO2020/072717. Filing date: Oct 05, 2019.

2. Automatically Deployable Intravascular Device System. PCT/US19/40489. 18001PCT. WO2020/010194. Filing date: July 03, 2019.

3. Stent-graft. PCT/US19/30041.Docket No 18104PCT. Filing date: April 30, 2019. Published on 2021-08-05. Serial No: 17/051,097.

4. Bypass Graft With Segmentally Variable Tension and Longitudinal Pre-Stretch. Provisional patent application. October 2018.

5. Surgical Devices and Methods (additional modifications to intravascular cutting device Aquablade). PCT/US18/37334. June 2018.

6. Windkessel-preserving aortic stent-graft. Provisional patent application. April 2018.

7. Manufacturing Technology of Biaxially Non-Linear and Anisotropic Nanofiber-based Vascular Graft Materials. Provisional patent application. January 2018.

8. Modular Endovascular Trainer. Provisional patent application 62/501,164. May 2017.

9. Automated Retrievable Hemorrhage Control System. PCT/US16/21728. WO2016/145163. US2018/0064565. Patnet number 10,758,386. Filing Date 03/10/2016, Publication Date 03/08/2018. Patent date: 09/01/2020.

10. Surgical Snare Device. PCT/US15/28227. WO 2015/168249. US2017/0119410. Filing date 29/04/2015, publication date 05/11/2015.

11. Retrievable Occluding Stent Graft Device. Provisional patent application. March 2015.

12. Fluid Jet Arterial Surgical Device (Aquablade). US2015-0142030. Application No 14/548,046. Filing date: 11/19/2014. Most Promising Invention of 2013-2014 Award.

13. A Device for Pre-Operative Diagnostic Evaluation of Arterial Mechanics. Provisional patent application. 2013.

14. Temporary Endovascular Graft Repair of the Aorta (TEGRA) with Vascular Access, Hemorrhage Control, and Intravascular Navigation Equipment (VAHCINE) kit. Provisional patent application. 2013.

15. Model-Based Systems and Methods For Analyzing And Predicting Outcomes Of Vascular Interventions And Reconstructions. Provisional patent application. Sep 2010. Full patent application Sep 2011.

SERVICE & CONSULTING

Journal Reviewer

- Journal of the American College of Cardiology
- Acta Biomaterialia
- Journal of the American Heart Association
- Atherosclerosis, Thrombosis, and Vascular Biology
- Stroke
- Nature: Scientific Reports
- Reviews in Biomedical Engineering
- Biomechanics and Modeling in Mechanobiology
- PLOS ONE
- Atherosclerosis
- Journal of Applied Physiology

- American Journal of Physiology: Heart and Circulatory Physiology
- Vascular Surgery
- Biomaterials Applications
- Mechanical Behavior of Biomedical Materials
- Computer Methods and Programs in Biomedicine
- Numerical Methods in Biomedical Engineering
- Anatomy
- Angiology
- Annals of Biomedical Engineering
- Academic Radiology
- Advances in Medical Sciences
- BioMedical Engineering Online
- Computers in Biology and Medicine
- Microvascular Research
- Journal of Vascular Diagnostics and Interventions
- Journal of Vascular Research
- Annals of Vascular Surgery
- Journal of Engineering in Medicine
- Cardiovascular Engineering and Technology
- Numerical Methods in Biomedical Engineering

Conference Organization

- 2021 Chair "New Trends in Cardiovascular Research" at the International Society for Applied Cardiovascular Biology (ISACB) conference. March 13. Virtual.
- 2018 Reviewer for Biomedical Engineering Society (BMES) Annual Meeting.
- 2018 Session Chair, 4th Annual Regenerative Medicine Symposium.
- 2018 Member of the International Society for Applied Cardiovascular Biology (ISACB) Mentorship Committee.

Proposal Reviewer

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Mentored Transition to Independence Review Committee (MTI). Scientist Reviewer. Fall 2021

- Department of Defense (DoD). Summer 2021

- Department of Defense (DoD). Spring 2021

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Mentored Transition to Independence Review Committee (MTI). Scientist Reviewer. Spring 2021

- Department of Defense (DoD). Fall 2020

- Department of Defense (DoD). Summer 2020

- Department of Defense (DoD). Summer 2020

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Mentored Transition to Independence Review Committee (MTI). Scientist Reviewer. Summer 2020

- Department of Defense (DoD). Winter 2020

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Mentored Transition to Independence Review Committee (MTI). Scientist Reviewer. Fall 2019

- Department of Defense (DoD). 2019

- Department of Defense (DoD). 2019

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Mentored Transition to Independence Review Committee (MTI). Scientist Reviewer. Fall 2018

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Special Emphasis Panel, RFA-17-015, Bold New Bioengineering Methods and Approaches for Heart, Lung, Blood and Sleep Disorders and Diseases, Lung and Blood Disorders (R21). Scientist Reviewer. 2018

- Department of Defense (DoD). 2018

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Mentored Transition to Independence Review Committee (MTI). Scientist Reviewer. Spring 2018

- Department of Defense (DoD). 2018

- National Institutes of Health (NIH). National Heart, Lung, and Blood Institute (NHLBI). Bold New Bioengineering Methods for Heart, Lung, Blood and Sleep Disorders and Diseases (ZHL1 CSR-P (F1)). Scientist Reviewer. 2017

- Department of Defense (DoD). 2017

- Department of Defense (DoD). 2017

- Department of Defense (DoD). 2017

- Department of Defense (DoD). 2016

- State of Israel Ministry of Science, Technology and Space. Scientific Reviewer. 2014

- Stanford Synchrotron Radiation Lightsource. Scientific Reviewer. 2013

- Outstanding Thesis Award from UNL College of Engineering. Reviewer. 2012

- Fonds Wetenschappelijk Onderzoek Research Foundation – Flanders. Reviewer. 2011

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HONORS & AWARDS

2019	Acta Biomaterialia Reviewer Award For Significant Contributions to the Quality of the Journal
2017	Recognition of Service Award, University of Nebraska Medical Center
2015	New Investigator Award, University of Nebraska Medical Center
2014	Most Promising Invention for 2013-2014 Award (Aquablade), University of Nebraska Medical Center
2012	Alien of Extraordinary Ability honored by U.S. Department of State
2011	Folsom Distinguished Doctoral Dissertation Award Finalist, UNL
2010	Outstanding Doctoral Dissertation Award, College of Engineering, UNL
2009	Graduate Student Fellowship Award, UNL
2004	Russian Federation National Fellowship Grant A04-2.10-1136 to Support Talented Graduate Students
2004	M.S. degree summa cum laude (GPA 4.0), Saratov State University
2004	European Science Foundation Fellowship Grant To Support Practical Training Abroad, Unit of Physical and Engineering Sciences. Scientific program on Experimental and Theoretical Investigation of Complex Polymer Structures
1999	Perfect 100% Standardized Russian Federation National College Testing Score

MEMBERSHIPS & OFFICES IN PROFESSIONAL SOCIETIES

2021	National Strategic Research Institute fellow
2017	European Society of Biomechanics
2016	International Society for Applied Cardiovascular Biology
2014	Biomedical Engineering Society
2013	American Physiological Society
2013	American Heart Association
2011	Society of Engineering Science
2009	American Society of Mechanical Engineers

PRESENTATIONS

* Presenting author

Invited Presentations and Talks

1.* **Kamenskiy AV.** Modeling-Assisted Imaging to Optimize Carotid Open and Endovascular Repair. Surgery Grand Rounds. University of Nebraska Medical Center, Omaha, NE. Feb 7. 2012.

2.* **Kamenskiy AV.** Mechanics-Based Optimization of Carotid Open and Endovascular Repair. Covidien. Mar 28. 2012.

3.* **Kamenskiy AV.** Mechanics-Based Optimization of Carotid Open and Endovascular Repair. Cook Medical. MED Institute. Mar 9. 2012.

4.* **Kamenskiy AV.** Current Projects in Biomedical Engineering at UNMC. Surgical Research Forum Seminar Series. University of Nebraska Medical Center, Omaha, NE. March 13. 2013.

5.* **Kamenskiy AV.** Deformation of the Femoropopliteal Artery During Knee Flexion. Surgical Research Forum Seminar Series. University of Nebraska Medical Center, Omaha, NE. June 11. 2013.

6.* **Kamenskiy AV**. Current Projects in Biomedical Engineering at UNMC: Research Update. Surgery Grand Rounds. University of Nebraska Medical Center, Omaha, NE. Feb 27. 2013.

7.* **Kamenskiy AV**. Center for Advanced Surgical and Engineering Applications. Creighton University Medical Center Seminar. Omaha, NE. April 25. 2014.

8.* **Kamenskiy AV**. Biomechanics of the Femoropopliteal Artery Disease. Creighton University Medical Center. Department of Biomedical Sciences Seminar. Omaha, NE. Sept 30. 2014.

9.* **Kamenskiy AV**. Femoropopliteal Artery Structure and Biomechanics. University of Minnesota. Department of Surgery and Department of Biomedical Engineering Seminar. Feb 05. 2015.

10.* **Kamenskiy AV**. Femoropopliteal Artery Structure and Biomechanics. Stevens Institute of Technology Seminar Series. Department of Biomedical Engineering, Chemistry and Biological Sciences. Hoboken, NJ. Feb 24. 2015.

11.* **Kamenskiy AV**, MacTaggart JN. Structure, Properties and Function of the Human Femoropopliteal Artery. 13th US National Congress on Computational Mechanics. Keynote presentation. San Diego, CA. July 28. 2015.

12.* **Kamenskiy AV**, MacTaggart J, Herber K. KETV Chronicle – Peripheral Arterial Disease. October 18th. 2015.

13.* **Kamenskiy AV**. Collaboration for Advanced Surgical and Engineering Applications. Seminar Series of the Department of Mechanical & Materials Engineering. University of Nebraska-Lincoln. Lincoln, NE. Sept 27. 2016.

14.* **Kamenskiy AV.** Biomechanics of the Femoropopliteal Artery: The Role of Engineering in Improving Treatment Modalities for Peripheral Arterial Disease. Department of Biomechanics and the Center for Research in Human Movement Variability. University of Nebraska Omaha. Sept 30. 2016.

15.* **Kamenskiy AV.** Engineering Strategies to Improve Treatment of Peripheral Arterial Disease. NWI Research Seminar. VA Omaha. Nov 4. 2016.

16.* **Kamenskiy AV.** Towards Improving Treatment Modalities for Peripheral Arterial Disease. Biomedical Engineering Seminar Series. College of Engineering. University of Wisconsin-Madison. Feb 20. 2017.

17.* **Kamenskiy AV.** Towards Improvement of Endovascular Treatment Modalities for Peripheral Arterial Disease. Seminar Series of the College of Engineering. University of Massachusetts Amherst, MA. March 27. 2017.

18*. **Kamenskiy AV.** Surgical and Engineering Collaborations at the University of Nebraska Medical Center: Working Together to Improve Endovascular Treatment of Peripheral Arterial Disease. MARC U*STAR/HHMI Undergraduate Scholars Program Seminar Series. University of Maryland, Baltimore County. Baltimore, MD. April 7. 2017.

19.* **Kamenskiy AV.** Towards Improvement of Endovascular Treatment Modalities for Peripheral Arterial Disease. Regenerative Medicine Symposium. Mahoney State Park, NE. April 21. 2017.

20.* **Kamenskiy AV**. Physiology and Pathophysiology of Human Femoropopliteal Artery. Department of Cellular and Integrative Physiology Seminar Series. University of Nebraska Medical Center, Omaha, NE. Sept 8th. 2017.

21.* **Kamenskiy AV**. Pathophysiology of Human Femoropopliteal Arteries. Surgical Research Forum Seminar Series. University of Nebraska Medical Center. Jan 10th. 2018.

22.* **Kamenskiy AV**. Stenting for Peripheral Arterial Disease in the Lower Limb. College of Engineering Invited Seminar. Northeastern University. Feb 28th. 2018.

23.* **Kamenskiy AV**. Endovascular Treatment of Atherosclerotic Occlusive Disease in the Femoropopliteal Artery. University of Cincinnati Engineering Seminar Series. March 22. 2018.

24.* **Kamenskiy AV**. Endovascular Treatment of Peripheral Arterial Disease in the Lower Extremity. University of South Carolina Engineering Seminar Series. April 26th. 2018.

25.* **Kamenskiy AV**. Biomechanics and Mechanobiology of the Femoropopliteal Artery in the Lower Limb. University of Nebraska Omaha. Department of Biomechanics Seminar Series. June 18th. 2018.

26.* **Kamenskiy AV**. Biomechanics and Mechanobiology of the Femoropopliteal Artery in the

Lower Limb. Department of Civil Engineering and Architecture. University of Pavia. Italy. July 2nd. 2018.

27.* **Kamenskiy AV**. Biomechanics and Mechanobiology of the Femoropopliteal Artery in the Lower Limb. Policlinico San Donato. San Donato Milanese. Italy. July 4nd. 2018.

28.* **Kamenskiy AV.** Elastic fibers in muscular arteries: structure, function, and changes with age. Gordon Conference on Elastin, Elastic Fibers & Microfibrils: Elastic Tissues and Regulation of Growth Factor Signaling in Development, Homeostasis and Disease. Manchester, NH. July 21-26. 2019.

29.* **Kamenskiy AV.** Translational Research Projects in the Collaboration for Advanced Surgical and Engineering Applications laboratory. University of Texas San Antonio. February 25. 2020.

30.* **Kamenskiy AV.** Yes, Submit the R01. Biomechanics Seminar Series. University of Nebraska Omaha. Omaha, NE. April 4th. 2020.

31.* **Kamenskiy AV.** Pick Your Research Focus Area Strategically: A Case Study in Cardiovascular Biomechanics. Biomechanics Seminar Series. University of Nebraska Omaha. Omaha, NE. Aug 28th. 2020.

32.* **Kamenskiy AV.** Vascular Research Using Human Donor Tissues. Live On Nebraska. Omaha, NE. Sept 14th. 2020.

Oral Presentations at National and International Meetings

1.* Nedorezov PF, **Kamenskiy AV**. Analysis of Steady State Oscillations of Thick Viscoelastic Plates with Simply Supported Edges. XIII Conference on Mathematical Modeling and Boundary Problems. Samara, Russia. May 29-31. 2003.

2.* Nedorezov PF, **Kamenskiy AV**. Steady State Oscillations of Thick Viscoelastic Plates with Simply Supported Edges. VI International Engineering Conference Devoted to 75-year Anniversary of S.A. Simbirzev. St. Petersburg, Russia. Jan 28-29. 2004.

3.* **Kamenskiy AV**, Salkovskiy YE. Modeling the Blood Flow in the Carotid Artery with Distensible Walls Using Finite Element Method. All-Russian Scientific Conference on Mathematical Modeling and Boundary Problems. Samara, Russia. May 26-28. 2004.

4.* **Kamenskiy AV**, Kirillova I, Ostrovskiy NV, Polyaev VO, Salkovskiy YE. Modeling of the Blood Flow in the Carotid Artery Bifurcation in Healthy, Diseased and Endarterectomized States. Bakoulev Center for Cardiovascular Surgery Conference on Cardiovascular Diseases. Moscow, Russia. Nov 10-13. 2004.

5.* Polyaev VO, **Kamenskiy AV**, Salkovskiy YE. Influence of the Hemodynamic Factors on the Localization of the Atherosclerosis in the Carotid Artery Bifurcation. XII International Conference Current Problems in Applied Anatomy and Surgery. St. Petersburg, Russia. Sep 9. 2004.

6.* Desyatova AS, **Kamenskiy AV**. Modeling of the Human Carotid Artery Reconstruction Using Different Repair Materials. III All-Russian Scientific Conference. Samara, Russia. May 29-31. 2006.

7. Kossovich LY, Kirillova IV, Guliaev YP, Ivanov DV, **Kamenskiy AV**, Salkovskiy YE, Desyatova AS, Bockeria LA, Morozov KM, Ostrovskiy NV, Polyaev VO. Revascularization of the Carotid Artery Using Different Patching Materials: Numerical Analysis and Clinical Results. Biomechanics 2007. St Petersburg, Russia. Jan 29-31. 2007.

8.* **Kamenskiy AV,** Kirillova IV, Morozov KM. Carotid Artery Repair Using Different Patching Materials. XVIII International Conference on Continuum Mechanics. Saratov, Russia. Aug 27 – Sep 1. 2007.

9.* **Kamenskiy AV**, Dzenis YA. Model of the Repaired Carotid Artery and Patient-Specific Selection of the Repair Material. XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. Nov 25-28. 2007.

10.* **Kamenskiy AV**, Dzenis YA. Mechanical Justification for the Need to Perform Carotid Artery Repair in Patients with Severe Atherosclerotic Disease. XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. Nov 25-28. 2007.

11.* **Kamenskiy AV**, Dzenis YA. Building of the Three-dimensional Carotid Artery Geometry and Determination of the Blood Flow Parameters Using Computer Tomography and Doppler Ultrasound. XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. Nov 25-28. 2007.

12.* **Kamenskiy AV**, Dzenis YA. Hyperelastic Orthotropic Multilayer Model of the Carotid Artery Wall. XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. Nov 25-28. 2007.

13. Kirillova IV, Guliaev YP, Ivanov DV, Kossovich EL, **Kamenskiy AV**, Polyaev VO, Ostrovskiy NV, Morozov KM. Mathematical Modeling of the Carotid Artery Bifurcation in Normal and Diseased Conditions and After Reconstructive Surgery. IX Russian Biomechanical Conference “Biomechanics-2008”. Nizniy Novgorod, Russia. May 20-24. 2008.

14. Kirillova IV, Ivanov DV, Kossovich EL, **Kamenskiy AV**, Poliaev VO, Ostrovskiy NV, Morozov KM. Mathematical Modeling of the Carotid Artery Bifurcation Behavior. Methods of Computer Diagnostics in Biology and Medicine 2008. Saratov, Russia. July 3-5. 2008.

15.* **Kamenskiy AV**, Dzenis YA, Lynch TG, Johanning JM, Longo GM, Pipinos II. *In Vivo* Mechanical and Flow Properties of the Human Carotid. 33rd Annual Meeting of the Midwestern Vascular Surgical Society. Chicago, IL. Sep 10-12, 2009.

16.* **Kamenskiy AV,** Dzenis YA, Pipinos II. Finite Element Model of the Patched Human Carotid. ASME International Mechanical Engineering Congress and Exposition. Lake Buena Vista, FL. Nov 13-19, 2009.

17.* **Kamenskiy AV,** Dzenis YA, Desyatova AS, Lynch TG, MacTaggart JN, Pipinos II. Toward Optimal Hemodynamics in the Endarterectomized Carotid: A Finite Element Study. 5th Annual Academic Surgical Congress. San Antonio, TX. Feb 3-5, 2010.

18.* **Kamenskiy AV,** Dzenis YA, MacTaggart J, Johanning J, Longo MG, Lynch TG, Pipinos II. Biaxial Mechanical Properties of the Human Carotid Artery and Materials used for Patch Angioplasty. 34rd Annual Meeting of the Midwestern Vascular Surgical Society. Indianapolis, IN. Sep 9-11, 2010.

19.* **Kamenskiy AV,** Dzenis YA, MacTaggart JN, Lynch TG, Kazmi SAJ, Pipinos II. Nonlinear Mechanical Behavior of the Common, External And Internal Carotid Arteries In Vivo. 35th Annual Meeting of the Midwestern Vascular Surgical Society. Chicago, IL. Sep 15-17. 2011.

20.* **Kamenskiy AV,** Pipinos II, MacTaggart JN, Dzenis YA. Evaluation of Predictive Capabilities of Fung-Type and Structurally-Motivated Constitutive Models for Describing the Complex Mechanical Behavior of Soft Tissues. 48th Annual Technical Conference Of Society of Engineering Science. Evanson, IL. October 12-14. 2011.

21.* **Kamenskiy AV,** Pipinos II, MacTaggart JN, Dzenis YA. Comparative Analysis of Strain-Based and Invariant-Based Soft Tissue Constitutive Models: Experimental Evaluation of Predictive Capabilities. 4th International Conference on the Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 11-15. 2011.

22.* Bikhchandani J, **Kamenskiy A**, Talukdar A, Mukkai DK, Otuwa N, Dzenis Y, Pipinos I, Mactaggart J. Changes in Carotid Artery Geometry Following Revascularization: Endarterectomy Versus Stenting. 7th Annual Academic Surgical Congress. Las Vegas, NV. Feb 14-16. 2012.

23.* **Kamenskiy AV**, Bikhchandani J, Pipinos II, Gupta PK, Dzenis YA, MacTaggart JN. Geometric and Hemodynamic Effects of Carotid Artery Stenting. The American College of Surgeons Clinical Congress. Chicago, IL. Sep 30 – Oct 4. 2012.

24. **Kamenskiy AV,** Kirillova IV, Kossovich LY, Salkovskiy YE, Dzenis YA. Mechanically Motivated Selection of Patching Material for the Patient-Specific Carotid Artery. 8th International Conference on Engineering Computational Technology. Civil-Comp, Stirlingshire, Scotland. Sep. 2012.

25.* **Kamenskiy AV,** Kazmi SAJ, Pemberton MA, Pipinos II, Dzenis YA, Lomneth CS, Phillips NY, MacTaggart JN. Biaxial Mechanical Properties of the Human Thoracic And Abdominal Aorta, Common Carotid, Subclavian, Renal and Common Iliac Arteries. 9th Annual Academic Surgical Congress. San Diego, CA. Feb 4-6. 2014.

26.* **Kamenskiy AV,** Pipinos II, Phillips NY, Dzenis YA, MacTaggart JN. Effects of Age on the Mechanical Properties and Structural Characteristics of the Human Femoropopliteal Arteries. Biomedical Engineering Society Meeting. San Antonio, TX. Oct 22-25, 2014.

27. Gnuse T, Maleckis K, MacTaggart J, **Kamenskiy AV**, Dzenis Y. Mechanically Accurate Nanofibrous Vascular Graft Materials. 23rd World Forum on Advanced Materials: Biomaterials, Drug Delivery and Tissue Engineering Symposium. Lincoln, NE. May 11-15. 2015.

28.* **Kamenskiy AV**, Miserlis D, Adamson P, Adamson M, Knowles T, Neme J, Koutakis P, Phillips N, Pipinos I, MacTaggart N. Detailed Morphometric Analysis of 3D Vascular Anatomy of the Chest, Abdomen, Pelvis and Upper Thigh for the Optimized Design of Endovascular Devices Targeted to Different Patient Populations. BMES/FDA Frontiers in Medical Devices Conference. College Park, MD. May 18-20. 2015.

29. Desyatova AS, MacTaggart JN, Lomneth CS, Dzenis YA, **Kamenskiy AV**. Effects of Stenting on the Natural Limb Flexion-Induced Deformations of the Human Femoropopliteal Artery. 6th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 6-10. 2015.

30.* **Kamenskiy AV**, Seas A, Desyatova AS, Deegan P, Bowen G, MacTaggart JN. *In Situ* Longitudinal Pre-Stretch in the Human Femoropopliteal Artery. 6th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 6-10. 2015.

31. MacTaggart J, Poulson W, Akhter M, Seas A, Thorson K, Phillips N, Desyatova A, **Kamenskiy AV**. Morphometric Roadmaps to Improve Device Delivery for Fluoroscopy-Free Balloon Occlusion of the Aorta. 11th Annual Academic Surgical Congress. Jacksonville, FL. February 2-4. 2016.

32. Poulson W, **Kamenskiy AV**, Sim S, Deegan P, MacTaggart J. The Popliteal Artery Demonstrates More Elastin Breaks than the Superficial Femoral Artery. Scientific Forum program at the American College of Surgeons 2016 Clinical Congress. Washington, DC. Oct 16-20. 2016.

33. Desyatova A, Poulson W, Deegan P, Lomneth C, MacTaggart J, **Kamenskiy AV**. Effect of Ageing on Arterial Stresses Due to Limb Flexion. International Society for Applied Cardiovascular Biology 15th Biennial Meeting. Banff, Alberta, Canada. Sept 7-10. 2016.

34. Desyatova A, MacTaggart J, Poulson W, Deegan P, Lomneth C, **Kamenskiy AV**. Torsion and Intramural Stresses in the Human Femoropopliteal Artery Due to Limb Flexion. Predictive Computational Vascular Mechanics. 5th International Conference and Mathematical Biomedical Engineering – CMBE 2017. Pittsburgh, PA. 10-12 April. 2017.

35. Poulson W, **Kamenskiy AV**, Seas A, Deegan P, Lomneth C, MacTaggart J. Effects of Different Stent Designs on Limb-Flexion Induced Axial Compression, Bending, and Torsion in Human Femoropopliteal Arteries. Vascular Annual Meeting of the Society of Vascular Surgery. San Diego, CA. 31 May – 3 Jun. 2017.

36. Takahashi K, Patterson J, Papachatzis N, Slivka D, Myers S, **Kamenskiy AV**, Pipinos I. Foot Biomechanics and Thermoregulation: Implications for Tissue Complications in Diabetes and Peripheral Artery Disease. IDeA Central Region meeting in Sioux Falls, SD. June 8th, 2017.

37.* **Kamenskiy AV**. Constitutive Modeling of Human Femoropopliteal Artery Biaxial Stiffening due to Aging and Diabetes. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

38. Maleckis K, Dzenis Y, **Kamenskiy AV**, MacTaggart J. Biomimetic Nanofiber-Based Graft Material for Vascular Applications. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

39. Marmie B, Sanderfer C, Fuchs J, Pipinos M, Tommeraasen M, Aylward P, **Kamenskiy AV**, MacTaggart J. Feasibility of Fluoroscopy-Free Endovascular Navigation in Trauma Patients of Different Ages. 13th Annual Academic Surgical Congress. Jan 30 – Feb 01, 2018.

40. **Kamenskiy AV.** Effects of Age and Risk Factors on the Mechanical and Structural Characteristics of Human Femoropopliteal Arteries. World Congress of Biomechanics. July 8 – 12, 2018.

41.* **Kamenskiy AV.** Elastic fibers in muscular arteries: structure, function, and changes with age. Gordon Conference on Elastin, Elastic Fibers & Microfibrils: Elastic Tissues and

Regulation of Growth Factor Signaling in Development, Homeostasis and Disease. Manchester, NH. July 21-26. 2019.

42.* **Kamenskiy AV**, Aylward P, Desyatova A, DeVries M, Wichman, C, MacTaggart J. Endovascular Repair of Blunt Thoracic Aortic Trauma Is Associated With Increased Left Ventricular Mass, Hypertension, and Off-Target Aortic Remodeling. Vascular Research Initiatives / Atherosclerosis, Thrombosis, and Vascular Biology Conference. Chicago, IL. May 5-7. 2020. Virtual oral presentation.

43. Jadidi M, Anttila E, Habibnezhad M, Keiser C, Maleckis K, Desyatova A, MacTaggart J, **Kamenskiy AV**. Mechanical Changes in Human Elastic and Muscular Arteries With Age. Summer Biomechanics, Bioengineering, and Biotransport Conference (SB^3C-2020). Vail, CO. June 17-20. 2020. Virtual oral presentation.

44. Jadidi M, **Kamenskiy AV**. Changes in the Biomechanics of Human Aortas and Femoropopliteal Arteries With Age. 5th Annual Human Movement Variability Conference & 1st Annual Great Plains Biomechanics Conference. Vitual conference. September 4. 2020.

Poster Presentations at National and International Meetings

1.* **Kamenskiy AV**, Pipinos II, Desyatova AS, Salkovskiy YE, Kossovich LY, Kirillova IV, Bockeria LA, Morozov KM, Polyaev VO, Lynch TG, Dzenis YA. Finite Element Model of the Patched Human Carotid Bifurcation. 32nd Annual Meeting of the Midwestern Vascular Surgical Society. Madison, WI. Sep 11-13. 2008.

2.* **Kamenskiy AV**, Pipinos II, Desyatova AS, Salkovskiy YE, Kossovich LY, Kirillova IV, Bockeria LA, Morozov KM, Polyaev VO, Lynch TG, Dzenis YA. Finite Element Model of the Endarterectomized and Patched Human Carotid Bifurcation. Nebraska EPSCoR. Lincoln, NE. Sep 29. 2009.

3.* **Kamenskiy AV,** Pipinos II, MacTaggart JN, Dzenis YA. Nonlinear Coupled Modeling of Patched Carotids: Towards Biomechanics-Assisted Optimization of Grafts and Surgery Interventions. 4th International Conference on the Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 11-15. 2011.

4.* **Kamenskiy AV**, Lomneth C, Pipinos II, Longo GM, Johanning J, Baxter BT, MacTaggart JN. Method to Quantify Femoropopliteal Artery Deformation During Knee Flexion. Arteriosclerosis, Thrombosis, and Vascular Biology. Lake Buena Vista, FL. May 1-3. 2013.

5. Seas A, **Kamenskiy AV**, MacTaggart JN, Baxter BT. Semi-Automated Quantitative Characterization of Elastin in the Wall of the Human Superficial Femoral Artery. SURP UNMC. Omaha, NE. Aug. 2014.

6.* **Kamenskiy AV**, Nusz S, Hunter W, Desyatova A, Ruhlman M, Pipinos I, MacTaggart J. Effects of Demographics and Clinical Risk Factors on Human Femoropopliteal Artery Histopathology. Atherosclerosis, Thrombosis and Vascular Biology / Peripheral Vascular Disease Conference. San Francisco, CA. May 7-1. 2015.

7. Seas A, MacTaggart JN, **Kamenskiy AV**. Effects of Demographics and Risk Factors on the Elastic Strain Energy of Human Superficial Femoral Arteries. 6th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 6-10. 2015.

8. Poulson W, **Kamenskiy AV**, Deegan P, Lomneth C, MacTaggart J. Effects of Tethering Branches on Limb Flexion-Induced Deformations of the Human Femoropopliteal Artery. Atherosclerosis, Thrombosis and Vascular Biology. Nashville, TN. May 5-7. 2016.

9. Poulson W, **Kamenskiy AV**, Deegan P, Lomneth C, MacTaggart J. The Popliteal Artery Demonstrates Significantly Higher Torsion than the Superficial Femoral Artery During Limb Flexion. Scientific Forum at the American College of Surgeons 2016 Clinical Congress. Washington, DC. Oct 16-20. 2016.

10.* Reilly A, Poulson W, Sim S, Deegan P, **Kamenskiy AV**, MacTaggart J. Femoropopliteal Artery Calcification is Associated with Ageing, Diabetes, Elastin Fiber Degradation, and Anisotropic Stiffening. International Society for Applied Cardiovascular Biology 15th Biennial Meeting. Banff, Alberta, Canada. Sept 7-10. 2016.

11.* **Kamenskiy AV**, Seas A, Poulson W, Deegan P, Sim S, Desyatova A, MacTaggart J. Constitutive Description of Human Femoropopliteal Artery Ageing. International Society for Applied Cardiovascular Biology 15th Biennial Meeting. Banff, Alberta, Canada. Sept 7-10. 2016.

12.* Desyatova A, Poulson W, Deegan P, Lomneth C, MacTaggart J, **Kamenskiy AV**. The Effect of Limb Flexion on Torsional Deformations and Stresses in the Human Femoropopliteal Artery. Biomedical Engineering Society Annual Meeting. Minneapolis, MN. Oct 5-8. 2016.

13. Seas A, MacTaggart J, Castellanos Mariajose, **Kamenskiy AV**. Use of Neural Networks to Predict Peripheral Artery Pathology. Biomedical Engineering Society Annual Meeting. Minneapolis, MN. Oct 5-8. 2016.

14. Poulson W, Rodgers A, Batra R, Deegan P, **Kamenskiy AV**, MacTaggart J. Intramural Structural Changes in Human Femoropopliteal Arteries with Age. Atherosclerosis, Thrombosis, and Vascular Biology. Minneapolis, MN. May 4-6. 2017.

15. Maleckis K, Deegan P, Sievers C, Desyatova A, MacTaggart J, **Kamenskiy AV**. Mechanical Evaluation of Peripheral Artery Stents. BMES/FDA Frontiers in Medical Devices Conference. College Park, MD. May 16-18. 2017.

16. Poulson W, Forney E, Adamson A, MacTaggart J, **Kamenskiy AV**. Geometric Features of the Carotid Artery at Baseline Improve Prediction of Stenosis Severity at Follow-up. Midwestern Vascular 2017 41st Annual Meeting. Chicago, IL. Sept 7-9. 2017.

17.* Desyatova A, MacTaggart J, Romarowski R, Poulson W, Conti M, **Kamenskiy AV**. Effect of Aging on Mechanical Stresses, Deformations, and Hemodynamics in Human Femoropopliteal Artery Due to Limb Flexion. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

18. Anttila E, Deegan P, **Kamenskiy AV**. Experimental and Constitutive Assessments of Damage in Human Femoropopliteal Arteries of Different Ages. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

19. Jadidi M, Desyatova A, **Kamenskiy AV**. Mechanical Stresses Associated with Flattening of the Human Femoropopliteal Artery Specimens during Planar Biaxial Testing. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

20*. MacTaggart J, Poulson W, Seas A, Deegan P, Lomneth C, Desyatova A, Maleckis K, **Kamenskiy AV**. Stent Designs Differentially Influence Limb Flexion-Induced Femoropopliteal Artery Deformations. World Congress of Biomechanics. July 8-12. 2018.

21. Romarowski R, Conti M, Auricchio F, Morgani S, **Kamenskiy AV**. Age and Risk Factors Promote Abnormal Hemodynamics and Differentially Influence Aortic Calcification. World Congress of Biomechanics. July 8-12. 2018.

22*. Maleckis K, Deegan P, Kalil T, MacTaggart J, **Kamenskiy AV**. Safe Balloon Occlusion Pressures and Volumes For Resuscitative Endovascular Balloon Occlusion of the Thoracic and Abdominal Aorta. 2018 Military Health System Research Symposium (MHSRS). August 20-23. 2018.

23. Sanderfer C, Marmie B, Fuchs J, Tommeraasen M, Pipinos M, Aylward P, **Kamenskiy AV**, MacTaggart J. Effects of Belly Curvature on the Accuracy of Simulated Fluoroscopy-Free Endovascular Navigation. 2018 Military Health System Research Symposium (MHSRS). August 20-23. 2018.

24*. Maleckis K, **Kamenskiy AV**, Lichter E, Deegan R, MacTaggart J. Mechanically Biomimetic Nanofibrillar Elastomeric Vascular Graft Demonstrates Rapid Endothelialization and Complete Integration Into The Porcine Iliac Artery Wall as Opposed to Conventional ePTFE. 16th Biannual International Society of Applied Cardiovascular Biology. Bordeaux, France. Sept 16-19. 2018.

25. Maleckis K, Desyatova A, **Kamenskiy AV**, Aylward P, MacTaggart J. Windkessel-preserving Aortic Stent-Graft. Biomedical Engineering Society (BMES) meeting. Atlanta, GA. Oct 17-20. 2018.

26. Aylward P, **Kamenskiy AV**, Wichman C, Lyons C, Prathivadhi-Bhay S, Pipinos M, Venkataraman V, Poulson W, MacTaggart J. Stent Design Affects Femoropopliteal Artery Stenosis Rates. Vascular Research Initiatives (VRIC). Boston, MA. May 3. 2019.

27*. **Kamenskiy AV**, Maleckis K, Keiser C, Aylward P, Desyatova A, MacTaggart J. Biomimetic Reinforced Nanofibrillar Elastomeric Bypass Grafts With Physiologic Longitudinal Pre-Stretch For Below-Knee Lower Extremity Peripheral Arterial Disease. International Society of Applied Cardiovascular Biology. Zurich, Switzerland. June 19-21. 2019.

28. Jespersen K, Aylward P, **Kamenskiy AV**, MacTaggart J. Fluoroscopy-free REBOA Zone 1 aortic cannulation in perfused human cadavers: how often do we miss? Military Health System Research Symposium (MHSRS). Kissimmee, FL. Aug. 2019

PUBLICATIONS

Journal	Impact Factor
Annals of Surgery	13.0
Acta Biomaterialia	8.9
Atherosclerosis, Thrombosis, and Vascular Biology	8.3
Journal of the American College of Surgeons	5.2
Journal of Vascular Surgery	4.2
Journal of the Royal Society Interface	4.1

Annals of Biomedical Engineering	3.9
The American Journal of Physiology: Heart and Circulatory Physiology	3.6
Journal of Endovascular Therapy	3.5
Journal of Trauma and Acute Care Surgery	3.4
Surgery	3.3
Journal of the Mechanical Behavior of Biomedical Materials	3.2
Biomechanics and Modeling in Mechanobiology	2.8
Journal of Biomechanics	2.7
Journal of Surgical Research	2.2
Journal of Biomechanical Engineering	1.9
Journal of Vascular and Endovascular Surgery	1.1

Articles Published in Scholarly Journals

* Corresponding author

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3.* **Kamenskiy AV**, Salkovskiy YE, Polyaev VO. Numerical Modeling of the Carotid Artery Endarterectomy and Patching Using Autografts. In Russian. *Reconstructive and Plastic Surgery: Special Edition*. V3-4(10-11). P45-48. 2004.

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11. **Kamenskiy AV**, Pipinos II, Desyatova AS, Salkovskiy YE, Kossovich LY, Kirillova IV, Bockeria LA, Morozov KM, Polyaev VO, Lynch TG, Dzenis YA. Finite Element Model of the Patched Human Carotid. *Vascular and Endovascular Surgery*. V43(6). P533-541. 2009. PMID: 19828588.

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50. Maleckis K, **Kamenskiy AV**, Lichter E, Oberley-Deegan R, Dzenis Y, MacTaggart J. Mechanically Tuned Vascular Graft Demonstrates Rapid Endothelialization and Integration Into the Porcine Iliac Artery Wall. *Acta Biomaterialia*. 2021 Feb 4;S1742-7061(21)00075-1. doi: 10.1016/j.actbio.2021.01.047. PMID: 33549808.

51*. Jadidi M. Poulson W, Aylward P, MacTaggart J, Sanderfer C, Marmie B, Pipinos M, **Kamenskiy AV**. Calcification Prevalence in Different Vascular Zones and Its Association With Demographics, Risk Factors, and Morphometry. *American Journal of Physiology: Heart and Circulatory Physiology*. 2021 Jun 1;320(6):H2313-H2323. PMID: 33961507.

52*. Maleckis K, Keiser C, Jadidi M, Anttila E, Desyatova A, MacTaggart J, **Kamenskiy AV**. Safe Balloon Inflation Parameters For Resuscitative Endovascular Balloon Occlusion of the Aorta. *Journal of Trauma and Acute Care Surgery*. 2021 Aug 1;91(2):302-309. PMID: 34039932.

Invited Editorials and Commentaries

1. **Kamenskiy AV**. Hemodynamics of the Carotid Artery Bifurcation Repaired with Primary Closure and Patch Angioplasty Techniques. Invited Article Commentary. *Journal of Vascular Surgery*. 67(3):897-898. March 2018. PMID: 29477202.

Books & Book Chapters

1. **Kamenskiy AV**, Salkovskiy YE. Blood Vessels Biomechanics Using Finite Element Simulation Suite ANSYS. Textbook for Undergraduate Students. In Russian. Saratov. -100 pages. 2005.

2. Kossovich LY, Kirillova IV, Guliaev YP, Kossovich EL, **Kamenskiy AV**, Salkovskiy YE, Desyatova AS, Ostrovskiy NV, Polyaev VO, Morozov KM. Mathematical Modeling of Blood Vessels Behavior. In Russian. Chapter in Methods of Computer Diagnostics in Biology and Medicine. Textbook for students of Nano and Biomedical Departments. In Russian. Saratov. - 120 pages. P74-95. 2007.

3. Kossovich LY, Kirillova IV, Gulaev YP, Ivanov DV, **Kamenskiy AV**, Polyaev VO, Ostrovskiy NV, Morozov KM. Mathematical Modeling of Human Carotid in Healthy, Affected or Post-Corrective Surgery Conditions. Chapter in Topical Problem in Solid Mechanics. Editors NK Gupta, AV Manjirov. Elite Publishing House Pvt. Ltd. India, IIT Dilhi. P235-250. 2008.

4. Goliadkina AA, Ivanov DV, **Kamenskiy AV**, Kirillova IV, Salkovskiy YE, Safonov RA, Schuchkina OA. Computer-Aided Design of Blood Vessels with SolidWorks. Textbook for undergraduate students. In Russian. Saratov. -153 pages. 2011.

5. **Kamenskiy AV**, Jadidi M, Desyatova A, MacTaggart J. Biomechanics of the Main Artery in the Lower Limb. Chapter in Series in Mechanobiology, Tissue Engineering and Biomaterials. Springer. 2021.

Abstracts and Preliminary Communications

1. Nedorezov PF, **Kamenskiy AV**. Analysis of Steady State Oscillations of Thick Viscoelastic Plates with Simply Supported Edges. In Russian. Proceedings of the XIII Conference on Mathematical Modeling and Boundary Problems. Samara, Russia. Part I. P117-120. May 29-31. 2003.

2. Nedorezov PF, **Kamenskiy AV**. Steady State Oscillations of Thick Viscoelastic Plates with Simply Supported Edges. In Russian. Proceedings of the VI International Engineering Conference Devoted to 75-year Anniversary of S.A. Simbirzev. St. Petersburg, Russia. P140. Jan 28-29. 2004.

3. **Kamenskiy AV**, Salkovskiy YE. Modeling the Blood Flow in the Carotid Artery with Distensible Walls Using Finite Element Method. In Russian. Proceedings of the All-Russian Scientific Conference on Mathematical Modeling and Boundary Problems. Samara, Russia. Part I. P103-106. May 26-28. 2004.

4. **Kamenskiy AV**, Kirillova I, Ostrovskiy NV, Polyaev VO, Salkovskiy YE. Modeling of the Blood Flow in the Carotid Artery Bifurcation in Healthy, Diseased and Endarterectomized States. In Russian. Annual Bulletin of Bakoulev Center for Cardiovascular Surgery: Cardiovascular Diseases. Moscow, Russia. V5 (11). P255. Nov 10-13. 2004.

5. Polyaev VO, **Kamenskiy AV**, Salkovskiy YE. Influence of the Hemodynamic Factors on the Localization of the Atherosclerosis in the Carotid Artery Bifurcation. In Russian. Current Problems in Applied Anatomy and Surgery. Proceedings of the XII International Conference. St. Petersburg, Russia. P34-36. Sep 9. 2004.

6. Desyatova AS, **Kamenskiy AV**. Modeling of the Human Carotid Artery Reconstruction Using Different Repair Materials. In Russian. Mathematical Modeling and Boundary Problems. Proceedings of the III All-Russian Scientific Conference. Samara, Russia. V1. P66-69. May 29-31. 2006.

7. Kossovich LY, Kirillova IV, Guliaev YP, Ivanov DV, **Kamenskiy AV**, Salkovskiy YE, Desyatova AS, Bockeria LA, Morozov KM, Ostrovskiy NV, Polyaev VO. Revascularization of the Carotid Artery Using Different Patching Materials: Numerical Analysis and Clinical Results. In Russian. Proceedings of the conference "Biomechanics 2007". Pavlov Institute of Physiology Russian Academy of Sciences. St Petersburg, Russia. Jan 29-31. 2007.

8. **Kamenskiy AV,** Kirillova IV, Morozov KM. Carotid Artery Repair Using Different Patching Materials. In Russian. Proceedings of the XVIII International Conference on the Continuum Mechanics. Saratov, Russia. P55. Aug 27 – Sep 1. 2007.

9. **Kamenskiy AV**, Dzenis YA. Model of the Repaired Carotid Artery and Patient-Specific Selection of the Repair Material. In Russian. Annual Bulletin of Bakoulev Center for Cardiovascular Surgery: Cardiovascular Diseases. Proceedings of the XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. P355. Nov 25-28. 2007.

10. **Kamenskiy AV**, Dzenis YA. Mechanical Justification for the Need to Perform Carotid Artery Repair in Patients with Severe Atherosclerotic Disease. In Russian. Annual Bulletin of Bakoulev Center for Cardiovascular Surgery: Cardiovascular Diseases. Proceedings of the XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. P354. Nov 25-28. 2007.

11. **Kamenskiy AV**, Dzenis YA. Building of the Three-dimensional Carotid Artery Geometry and Determination of the Blood Flow Parameters Using Computer Tomography and Doppler Ultrasound. In Russian. Annual Bulletin of Bakoulev Center for Cardiovascular Surgery: Cardiovascular Diseases. Proceedings of the XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. P352. Nov 25-28. 2007.

12. **Kamenskiy AV**, Dzenis YA. Hyperelastic Orthotropic Multilayer Model of the Carotid Artery Wall. In Russian. Annual Bulletin of Bakoulev Center for Cardiovascular Surgery: Cardiovascular Diseases. Proceedings of the XIII Conference of Cardio-Vascular Surgeons. Moscow, Russia. P347. Nov 25-28. 2007.

13. Kirillova IV, Guliaev YP, Ivanov DV, Kossovich EL, **Kamenskiy AV**, Polyaev VO, Ostrovskiy NV, Morozov KM. Mathematical Modeling of the Carotid Artery Bifurcation in Normal and Diseased Conditions and After Reconstructive Surgery. In Russian. Proceedings of the IX Russian Biomechanical Conference “Biomechanics-2008”. Nizniy Novgorod, Russia. P23-26. May 20-24. 2008.

14. Kirillova IV, Ivanov DV, Kossovich EL, **Kamenskiy AV**, Poliaev VO, Ostrovskiy NV, Morozov KM. Mathematical Modeling of the Carotid Artery Bifurcation Behavior. In Russian. Proceedings of the Annual Russian Scientific Conference "Methods of Computer Diagnostics in Biology and Medicine 2008". Saratov, Russia. P9-11. July 3-5. 2008.

15. **Kamenskiy AV**, Pipinos II, Desyatova AS, Salkovskiy YE, Kossovich LY, Kirillova IV, Bockeria LA, Morozov KM, Polyaev VO, Lynch TG, Dzenis YA. Finite Element Model of the Patched Human Carotid Bifurcation. Proceedings of the 32nd Annual Meeting of the Midwestern Vascular Surgical Society. Madison, WI. Sep 11-13. 2008.

16. **Kamenskiy AV**, Dzenis YA, Lynch TG, Johanning JM, Longo GM, Pipinos II. *In Vivo* Mechanical and Flow Properties of the Human Carotid. Proceedings of the 33rd Annual Meeting of the Midwestern Vascular Surgical Society. Chicago, IL. P78-79. Sep 10-12. 2009.

17. **Kamenskiy AV,** Dzenis YA, Pipinos II. Finite Element Model of the Patched Human Carotid. Proceedings of the ASME International Mechanical Engineering Congress and Exposition. IMECE2009-11713. Lake Buena Vista, FL. Nov 13-19. 2009.

18. **Kamenskiy AV,** Dzenis YA, Desyatova AS, Lynch TG, MacTaggart JN, Pipinos II. Toward Optimal Hemodynamics in the Endarterectomized Carotid: A Finite Element Study. Proceedings of the 5th Annual Academic Surgical Congress published in Journal of Surgical Research. San Antonio, TX. V158(2). P302. Feb 3-5. 2010.

19. **Kamenskiy AV,** Dzenis YA, MacTaggart J, Johanning J, Longo MG, Lynch TG, Pipinos II. Biaxial Mechanical Properties of the Human Carotid Artery And Materials Used for Patch Angioplasty. Proceedings of the 34rd Annual Meeting of the Midwestern Vascular Surgical Society. Indianapolis, IN. P98. Sep 9-11. 2010.

20. **Kamenskiy AV,** Dzenis YA, MacTaggart JN, Lynch TG, Kazmi SAJ, Pipinos II. Nonlinear Mechanical Behavior of the Common, External And Internal Carotid Arteries In Vivo. Proceedings of the 35th Annual Meeting of the Midwestern Vascular Surgical Society. Chicago, IL. P114. Sep 15-17. 2011.

21. **Kamenskiy AV,** Pipinos II, MacTaggart JN, Dzenis YA. Evaluation of Predictive Capabilities of Fung-Type and Structurally-Motivated Constitutive Models for Describing the Complex Mechanical Behavior of Soft Tissues. Proceedings of the 48th Annual Technical Conference Of Society of Engineering Science. Evanson, IL. October 12-14. 2011.

22. **Kamenskiy AV,** Pipinos II, MacTaggart JN, Dzenis YA. Comparative Analysis of Strain-Based And Invariant-Based Soft Tissue Constitutive Models: Experimental Evaluation of Predictive Capabilities. Proceedings of the 4th International Conference on the Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 11-15. 2011.

23. **Kamenskiy AV,** Pipinos II, MacTaggart JN, Dzenis YA. Nonlinear Coupled Modeling of Patched Carotids: Towards Biomechanics-Assisted Optimization of Grafts And Surgery Interventions. Proceedings of the 4th International Conference on the Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 11-15. 2011.

24. Bikhchandani J, **Kamenskiy A**, Talukdar A, Mukkai DK, Otuwa N, Dzenis Y, Pipinos I, Mactaggart J. Changes In Carotid Artery Geometry Following Revascularization:

Endarterectomy Versus Stenting. Proceedings of the 7th Annual Academic Surgical Congress. Las Vegas, NV. Feb 14-16. 2012.

25. **Kamenskiy AV**, Bikhchandani J, Pipinos II, Gupta PK, Dzenis YA, MacTaggart JN. Geometric and Hemodynamic Effects of Carotid Artery Stenting. Proceedings of the American College of Surgeons 2012 Clinical Congress (Chicago, IL) published in the Journal of the American College of Surgeons. 215(3, Supplement):P158-P159. Sep 30 – Oct 4. 2012.

26. **Kamenskiy AV,** Kirillova IV, Kossovich LY, Salkovskiy YE, Dzenis YA. Mechanically Motivated Selection of Patching Material for the Patient-Specific Carotid Artery. Proceedings of the Eighth International Conference on Engineering Computational Technology. B.H.V. Topping (Editor). Civil-Comp. Stirlingshire, Scotland. Sep. 2012.

27. **Kamenskiy AV**, Lomneth C, Pipinos II, Longo GM, Johanning J, Baxter BT, MacTaggart JN. Method to Quantify Femoropopliteal Artery Deformation During Knee Flexion. Proceedings of the Arteriosclerosis, Thrombosis, and Vascular Biology 2013 Scientific Sessions. Lake Buena Vista, FL. May 1-3, 2013.

28. **Kamenskiy AV,** Kazmi SAJ, Pemberton MA, Pipinos II, Dzenis YA, Lomneth CS, Phillips NY, MacTaggart JN. Biaxial Mechanical Properties of the Human Thoracic And Abdominal Aorta, Common Carotid, Subclavian, Renal and Common Iliac Arteries. Proceedings of the 9th Annual Academic Surgical Congress. San Diego, CA. Feb 4-6. 2014.

29. **Kamenskiy AV,** Pipinos II, Phillips NY, Dzenis YA, MacTaggart JN. Effects of Age on the Mechanical Properties and Structural Characteristics of the Human Femoropopliteal Arteries. Proceedings of the Biomedical Engineering Society Meeting. San Antonio, TX. Oct 22-25, 2014.

30. **Kamenskiy AV**, Nusz S, Hunter W, Desyatova A, Ruhlman M, Pipinos I, MacTaggart J. Effects of Demographics and Clinical Risk Factors on Human Femoropopliteal Artery Histopathology. Proceedings of the Atherosclerosis, Thrombosis and Vascular Biology / Peripheral Vascular Disease Conference. San Francisco, CA. May 7-1. 2015.

31. Gnuse T, Maleckis K, MacTaggart J, **Kamenskiy AV**, Dzenis Y. Mechanically Accurate Nanofibrous Vascular Graft Materials. Proceedings of the 23rd World Forum on Advanced Materials: Biomaterials, Drug Delivery and Tissue Engineering Symposium. Lincoln, NE. May 11-15. 2015.

32. **Kamenskiy AV**, Miserlis D, Adamson P, Adamson M, Knowles T, Neme J, Koutakis P, Phillips N, Pipinos I, MacTaggart N. Detailed Morphometric Analysis of 3D Vascular Anatomy of the Chest, Abdomen, Pelvis and Upper Thigh for the Optimized Design of Endovascular Devices Targeted to Different Patient Populations. Proceedings of the BMES/FDA Frontiers in Medical Devices Conference. College Park, MD. May 18-20. 2015.

33. **Kamenskiy AV**, MacTaggart JN. Structure, Properties and Function of the Human Femoropopliteal Artery. Proceedings of the 13th US National Congress on Computational Mechanics. San Diego, CA. July 26-30. 2015.

34. Desyatova AS, MacTaggart JN, Lomneth CS, Dzenis YA, **Kamenskiy AV**. Effects of Stenting on the Natural Limb Flexion-Induced Deformations of the Human Femoropopliteal Artery. Proceedings of the 6th International Conference on Mechanics of Biomaterials and

Tissues. Waikoloa, HI. December 6-10. 2015.

35. Seas A, MacTaggart JN, **Kamenskiy AV**. Effects of Demographics and Risk Factors on the Elastic Strain Energy of Human Superficial Femoral Arteries. Proceedings of the 6th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 6-10. 2015.

36. **Kamenskiy AV**, Seas A, Desyatova AS, Deegan P, Bowen G, MacTaggart JN. *In Situ* Longitudinal Pre-Stretch in the Human Femoropopliteal Artery. Proceedings of the 6th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. December 6-10. 2015.

37. MacTaggart J, Poulson W, Akhter M, Seas A, Thorson K, Phillips N, Desyatova A, **Kamenskiy AV**. Morphometric Roadmaps to Improve Device Delivery for Fluoroscopy-Free Balloon Occlusion of the Aorta. Proceedings of the 11th Annual Academic Surgical Congress. Jacksonville, FL. February 2-4. 2016.

38. Poulson W, **Kamenskiy AV**, Deegan P, Lomneth C, MacTaggart J. Effects of Tethering Branches on Limb Flexion-Induced Deformations of the Human Femoropopliteal Artery. Proceedings of the Atherosclerosis, Thrombosis and Vascular Biology. Nashville, TN. May 5-7, 2016.

39. Poulson W, **Kamenskiy AV**, Deegan P, Lomneth C, MacTaggart J. The Popliteal Artery Demonstrates Significantly Higher Torsion Than the Superficial Femoral Artery During Limb Flexion. Proceedings of the American College of Surgeons 2016 Clinical Congress. Washington, DC. Oct 16-20. 2016.

40. Poulson W, **Kamenskiy AV**, Sim S, Deegan P, MacTaggart J. The Popliteal Artery Demonstrates More Elastin Breaks than the Superficial Femoral Artery. Proceedings of the American College of Surgeons 2016 Clinical Congress. Washington, DC. Oct 16-20. 2016.

41. Desyatova A, Poulson W, Deegan P, Lomneth C, MacTaggart J, **Kamenskiy AV**. Effect of Ageing on Arterial Stresses Due to Limb Flexion. Proceedings of the International Society for Applied Cardiovascular Biology 15th Biennial Meeting. Banff, Alberta, Canada. Sept 7-10. 2016.

42. Reilly A, Poulson W, Sim S, Deegan P, **Kamenskiy AV**, MacTaggart J. Femoropopliteal Artery Calcification Is Associated With Ageing, Diabetes, Elastin Fiber Degradation, and Anisotropic Stiffening. Proceedings of the International Society for Applied Cardiovascular Biology 15th Biennial Meeting. Banff, Alberta, Canada. Sept 7-10. 2016.

43. **Kamenskiy AV**, Seas A, Poulson W, Deegan P, Sim S, Desyatova A, MacTaggart J. Constitutive Description of Human Femoropopliteal Artery Ageing. Proceedings of the International Society for Applied Cardiovascular Biology 15th Biennial Meeting. Banff, Alberta, Canada. Sept 7-10. 2016.

44. Desyatova A, Poulson W, Deegan P, Lomneth C, MacTaggart J, **Kamenskiy AV**. The Effect of Limb Flexion on Torsional Deformations and Stresses in the Human Femoropopliteal Artery. Proceedings of the Biomedical Engineering Society Annual Meeting. Minneapolis, MN. Oct 5-8. 2016.

45. Seas A, MacTaggart J, Castellanos Mariajose, **Kamenskiy AV**. Use of Neural Networks to

Predict Peripheral Artery Pathology. Biomedical Engineering Society Annual Meeting. Minneapolis, MN. Oct 5-8. 2016.

46. Desyatova A, MacTaggart J, Poulson W, Deegan P, Lomneth C, **Kamenskiy AV**. Torsion and Intramural Stresses in the Human Femoropopliteal Artery Due to Limb Flexion. Predictive Computational Vascular Mechanics. 5th International Conference and Mathematical Biomedical Engineering – CMBE 2017. Pittsburgh, PA. 10-12 April. 2017.

47. Poulson W, Rodgers A, Batra R, Deegan P, **Kamenskiy AV**, MacTaggart J. Intramural Structural Changes in Human Femoropopliteal Arteries with Age. Arteriosclerosis, Thrombosis, and Vascular Biology. Minneapolis, MN. 4-6 May. 2017.

48. Maleckis K, Deegan P, Sievers C, Desyatova A, MacTaggart J, **Kamenskiy AV**. Mechanical Evaluation of Peripheral Artery Stents. BMES/FDA Frontiers in Medical Devices Conference. College Park, MD. May 16-18. 2017.

49. Poulson W, **Kamenskiy AV**, Seas A, Deegan P, Lomneth C, MacTaggart J. Effects of Different Stent Designs on Limb-Flexion Induced Axial Compression, Bending, and Torsion in Human Femoropopliteal Arteries. Vascular Annual Meeting of the Society of Vascular Surgery. San Diego, CA. 31 May – 3 Jun. 2017.

50. Takahashi K, Patterson J, Papachatzis N, Slivka D, Myers S, **Kamenskiy AV**, Pipinos I. Foot Biomechanics and Thermoregulation: Implications for Tissue Complications in Diabetes and Peripheral Artery Disease. IDeA Central Region meeting in Sioux Falls, SD. June 8th, 2017.

51. Poulson W, Forney E, Adamson A, MacTaggart J, **Kamenskiy AV**. Geometric Features of the Carotid Artery at Baseline Improve Prediction of Stenosis Severity at Follow-up. Midwestern Vascular 2017 41st Annual Meeting. Chicago, IL. Sept 7-9. 2017.

52. **Kamenskiy AV**. Constitutive Modeling of Human Femoropopliteal Artery Biaxial Stiffening Due to Aging and Diabetes. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

53. Desyatova A, MacTaggart J, Romarowski R, Poulson W, Conti M, **Kamenskiy AV**. Effect of Aging on Mechanical Stresses, Deformations, and Hemodynamics in Human Femoropopliteal Artery Due to Limb Flexion. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

54. Maleckis K, Dzenis Y, **Kamenskiy AV**, MacTaggart J. Biomimetic Nanofiber-Based Graft Material for Vascular Applications. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

55. Anttila E, Deegan P, **Kamenskiy AV**. Experimental and Constitutive Assessments of Damage in Human Femoropopliteal Arteries of Different Ages. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

56. Jadidi M, Desyatova A, **Kamenskiy AV**. Mechanical Stresses Associated with Flattening of the Human Femoropopliteal Artery Specimens During Planar Biaxial Testing. 7th International Conference on Mechanics of Biomaterials and Tissues. Waikoloa, HI. Dec 10-14, 2017.

57. Marmie B, Sanderfer C, Fuchs J, Pipinos M, Tommeraasen M, Aylward P, **Kamenskiy AV**, MacTaggart J. Feasibility of Fluoroscopy-Free Endovascular Navigation in Trauma Patients of Different Ages. 13th Annual Academic Surgical Congress. Jan 30 – Feb 01, 2018.

58. **Kamenskiy AV.** Effects of Age and Risk Factors on the Mechanical and Structural Characteristics of Human Femoropopliteal Arteries. World Congress of Biomechanics. July 8 – 12, 2018.

59. MacTaggart J, Poulson W, Seas A, Deegan P, Lomneth C, Desyatova A, Maleckis K, **Kamenskiy AV**. Stent Designs Differentially Influence Limb Flexion-Induced Femoropopliteal Artery Deformations. World Congress of Biomechanics. July 8-12. 2018.

60. Romarowski R, Conti M, Auricchio F, Morgani S, **Kamenskiy AV**. Age and Risk Factors Promote Abnormal Hemodynamics and Differentially Influence Aortic Calcification. World Congress of Biomechanics. July 8-12. 2018.

61*. Maleckis K, Deegan P, Kalil T, MacTaggart J, **Kamenskiy AV**. Safe Balloon Occlusion Pressures and Volumes for Resuscitative Endovascular Balloon Occlusion of the Thoracic and Abdominal Aorta. 2018 Military Health System Research Symposium (MHSRS). August 20-23. 2018.

62. Sanderfer C, Marmie B, Fuchs J, Tommeraasen M, Pipinos M, Aylward P, **Kamenskiy AV**, MacTaggart J. Effects of Belly Curvature on the Accuracy of Simulated Fluoroscopy-Free Endovascular Navigation. 2018 Military Health System Research Symposium (MHSRS). August 20-23. 2018.

63*. Maleckis K, **Kamenskiy AV**, Lichter E, Deegan R, MacTaggart J. Mechanically Biomimetic Nanofibrillar Elastomeric Vascular Graft Demonstrates Rapid Endothelialization and Complete Integration into the Porcine Iliac Artery Wall as Opposed to Conventional ePTFE. 16th Biannual International Society of Applied Cardiovascular Biology. Bordeaux, France. Sept 16-19. 2018.

64. Maleckis K, Desyatova A, **Kamenskiy AV**, Aylward P, MacTaggart J. Windkessel-preserving Aortic Stent-Graft. Biomedical Engineering Society (BMES) meeting. Atlanta, GA. Oct 17-20. 2018.

65. Aylward P, **Kamenskiy AV**, Wichman C, Lyons C, Prathivadhi-Bhay S, Pipinos M, Venkataraman V, Poulson W, MacTaggart J. Stent Design Affects Femoropopliteal Artery Stenosis Rates. Vascular Research Initiatives (VRIC). Boston, MA. May 3. 2019.

66. Claire Chu, William J Moorhead, John Callahan, Camille K Boufford, Swastika Sur, Jason N MacTaggart, **Kamenskiy AV**, Cynthia St Hilaire. CD73 Deficiency and Peripheral Artery Calcification. Atherosclerosis, Thrombosis, and Vascular Biology Meeting. Boston, MA. May 3. 2019.

67*. **Kamenskiy AV**, Maleckis K, Keiser C, Aylward P, Desyatova A, MacTaggart J. Biomimetic Reinforced Nanofibrillar Elastomeric Bypass Grafts With Physiologic Longitudinal Pre-Stretch For Below-Knee Lower Extremity Peripheral Arterial Disease. International Society of Applied Cardiovascular Biology. Zurich, Switzerland. June 19-21. 2019.

68. Jespersen K, Aylward P, **Kamenskiy AV**, MacTaggart J. Fluoroscopy-free REBOA Zone 1 aortic cannulation in perfused human cadavers: how often do we miss? Military Health

System Research Symposium (MHSRS). Kissimmee, FL. Aug. 2019

69.* **Kamenskiy AV**, Aylward P, Desyatova A, DeVries M, Wichman, C, MacTaggart J. Endovascular Repair of Blunt Thoracic Aortic Trauma Is Associated With Increased Left Ventricular Mass, Hypertension, and Off-Target Aortic Remodeling. Vascular Research Initiatives / Atherosclerosis, Thrombosis, and Vascular Biology Conference. Chicago, IL. May 5-7. 2020. Virtual conference.

70. Jadidi M, Anttila E, Habibnezhad M, Keiser C, Maleckis K, Desyatova A, MacTaggart J, **Kamenskiy AV**. Mechanical Changes in Human Elastic and Muscular Arteries With Age. Summer Biomechanics, Bioengineering, and Biotransport Conference (SB^3C-2020). Vail, CO. June 17-20. 2020. Online oral presentation.

71. Jadidi M, **Kamenskiy AV**. Changes in the Biomechanics of Human Aortas and Femoropopliteal Arteries With Age. 5th Annual Human Movement Variability Conference & 1st Annual Great Plains Biomechanics Conference. Vitual conference. September 4. 2020.

NEW COURSES DEVELOPED

- Vascular Mechanobiology. Graduate. 3crh.

  Course focuses on the mechanobiology of human arteries and includes theoretical framework for applying engineering principles to study human vasculature, lectures on the most common vascular diseases and treatment options, and hands-on experimental studies of arterial behavior.

  Taught to graduate students of the University of Nebraska Omaha and University of Nebraska-Lincoln as Advanced Biomechanics II (PE 9460-001) in Spring 2016.

- Nebraska Endovascular Skills for Trauma (NEST) course. This course is offered nationally to front line trauma care providers.

COURSES TAUGHT

- Nebraska Endovascular Skills for Trauma (NEST) course. Electronic simulation module. National course offered to front line trauma care providers. Taught at the University of Nebraska Medical Center. July 2017.

- Lectures on vascular mechanobiology as part of MECH 438/838 Mechanics of Biomaterials Engineering course taught by Dr. Linxia Gu at the University of Nebraska-Lincoln. 2016 and 2017.

- Vascular Mechanobiology (PE 9460-001 Advanced Biomechanics). University of Nebraska Omaha. 2016.

- Engineering Statics ENGM 223. Undergraduate. University of Nebraska-Lincoln. 2011.

- Strength of Materials ENGM324. Undergraduate. University of Nebraska-Lincoln. 2011.

- Computational Biomechanics. Undergraduate. Saratov State University, Saratov, Russia. 2005.

- Strength of Materials for Engineers. Undergraduate. Saratov State University, Saratov, Russia. 2004.

STUDENTS & TRAINEES

Junior Faculty

2016 – 2019 Kota Takahashi. Assistant Professor. UNO
Role: Part of mentoring team on COBRE focused on muscle biomechanics.

Residents

2017 – 2019 Paul Aylward. Surgery. UNMC.

2015 – 2017 William Poulson. Surgery. UNMC.

Post-doctoral Fellows

2020 Yury Salkovskiy. Biomechanics. UNO

2017 – 2019 Kaspars Maleckis. Surgery. UNMC.

2015 – 2019 Anastasia Desyatova. Surgery. UNMC.
Role: Consultant on NIH F32 fellowship.

Graduate Students

2021 – Sayed Ahmadreza Razian. UNO Biomechanics. PhD program.
Role: Primary advisor.

2021 – Pauline Struczewska. UNO Biomechanics. MS program.
Role: Primary advisor.

2018 – Courtney Keiser. UNL Mechanical & Materials Engineering Dpt. PhD program.
Role: Primary advisor.
Winner of the WE Local Collegiate Competition in 2020 with a stent-graft project.
Winner of the UNL College of Engineering's Graduate Complete Engineer Award

2016 – 2020 Majid Jadidi. UNL Mechanical & Materials Engineering Dpt. PhD program.
Role: Primary advisor.

2016 – 2021 Eric Anttila. UNL Mechanical & Materials Engineering Dpt. PhD program.
Role: Primary advisor.

2019 Calvin Lam. UNMC MD/PhD student research rotation.

2019 Kathryn Jespersen, UNMC. Graduate student rotation.

2017 – 2019 Eliezer Lichter. UNMC PhD program.

Role: Graduate committee member.

2017 – 2018 Thang Nguyen. UNMC MSIA program.
Role: Graduate committee member.

2015 – 2016 Kaspars Maleckis. UNL Mechanical & Materials Engineering Dpt. PhD program.
Role: Co-Advisor with Dr. Yuris Dzenis.

International Graduate Students

2017 Rodrigo Romarowski. Civil Engineering and Architecture, University of Pavia, Italy

2015 – 2016 Giulia Campanile. MS Student. Politecnico di Milano.
Role: Co-Advisor with M. Conti and F. Migliavacca.

Medical Students

2018 - 2021 Sruti Prathivadhi-Bhay. UNMC. UneMed EMET track.

2017 Miles Tommeraasen. UNMC.

2017-2019 Blake Marmie. UNMC. UneMed

2017-2019 Van Christian Sanderfer. UNMC.

2016 Anna Adamson. UNMC.

2016 Eric Forney. UNMC

2016 Cole Sievers. UNMC.

2016 Hannah Johnke. UNMC.

2016 Alexis Rogers. UNMC.

2016 Noah Hammond. UNMC.

2016 – 2019 Ethan Monhollon. UNMC. UneMed.

2016 Austin Reilly. UNMC.

2015 – 2016 Joseph Marion. UNMC.

2015 – 2016 Patrick Kirkland. UNMC.

2013 – 2016 Peter Adamson. UNMC.

2013 – 2015 Micah Adamson. UNMC.

2015 Katherine Thorson. UNMC.

2012 – 2013 Tom Knowles. Creighton University Medical Center.

2012 – 2013 Jamil Neme. Creighton University Medical Center.

2012 – 2015 Nicholas Phillips. UNMC. Also undergraduate UNL Biological Systems Engineering student in 2012, 2013, 2014 and 2015.

Undergraduate Students

2021 Coleman Freel. University of Wisconsin Madison.

2020-2021 Hessan Sedaghat.

2018 Carter Lyons.

2018 Vikram Venkataraman.

2017, 2018 Thomas Kalil. Electrical Engineering. Notre Dame

2017 Jonathan Fuchs. Biomedical Engineering. Saint Louis University.

2017, 2018 Margarita Pipinos.

2014 – 2017 Andreas Seas. MARC U*STAR program student. UMBC.
UNMC summer student in 2014 and 2015.
Recipient of Barry Goldwater Scholarship.
Current position: MD/PhD student at Duke.

2015 – 2016 Nick Bohlim. Undergraduate summer student. UNL. Biological Systems Engineering.

2015 Maheen Akhter. Undergraduate summer student. USC.

2014 – 2015 Grant Bowen. Undergraduate summer student. Rhodes College, TN.

Laboratory Personnel

2016 – Sylvie Sim. Researcher. UNMC.

2015 – 2019 Paul Deegan. Researcher. UNMC.

2014 – 2015 Sheridan Nusz. Researcher Technologist. UNMC.

2013 Justin Kitson. Researcher Technologist. UNMC.

SYNERGISTIC ACTIVITIES

- Co-Directing Collaboration for Advanced Surgical and Engineering Applications (CASEA) laboratory to support translational research efforts of biomedical engineers and vascular surgeons. Facility has equipment for mechanical and structural characterization of soft tissues, arterial flow simulation, cell culture, image analysis, prototyping, and computational modeling.

- Built one of the largest databases of human artery mechanical and structural properties for constitutive modeling and device validation.

- Multidisciplinary and intercampus collaborations with Graz University of Technology (Austria), Institute of Mechanics and Shell Structures (Germany), University of Pavia (Italy), Politecnico di Milano (Italy), Saratov State University (Russia), University of Nebraska-Lincoln, University of Nebraska Omaha, University of Nebraska Medical Center, VA Nebraska-Western Iowa Medical Center, Creighton University, Douglas County Hospital, Live On Nebraska.