

CURRICULUM VITAE

PERSONAL DATA

Name: Daniel R Machin
Citizenship: United States

OFFICE ADDRESS

Florida State University
Biomedical Research Facility, Rm 212
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Tallahassee, FL 32306
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EDUCATIONAL BACKGROUND

<u>Years</u>	<u>Degree</u>	<u>Institution</u>
2003-2007	BS	William Paterson University Wayne, NJ
2009-2012	MS	University of Texas at Austin Austin, TX
2012-2014	PhD	University of Texas at Austin Austin, TX
2014-2020	Postdoctoral	University of Utah School of Medicine/George E Wahlen Department of Veterans Affairs Medical Center Salt Lake City, UT

PROFESSIONAL EXPERIENCE

2020-present	Assistant Professor , Department of Nutrition and Integrative Physiology, Florida State University, Tallahassee, FL
2018-2020	Research Associate , Translational Vascular Physiology Laboratory, Department of Internal Medicine, Division of Geriatrics, University of Utah School of Medicine, Salt Lake City, UT
2017-2018	Advanced Research Fellow in Geriatrics , Translational Vascular Physiology Laboratory, Geriatric Research, Education, and Clinical Center, George E Wahlen Veterans Affairs Medical Center, Salt Lake City, UT
2014-2017	Postdoctoral Research Fellow , Translational Vascular Physiology Laboratory, Department of Internal Medicine, Division of Geriatrics, University of Utah School of Medicine, Salt Lake City, UT
2011-2014	Graduate Teaching Assistant , Department of Biological Sciences, University of Texas at Austin, Austin, TX
2011-2014	Graduate Research Assistant , Cardiovascular Aging Research Laboratory, Department of Kinesiology and Health Education, University of Texas at Austin, Austin, TX
2009-2012	Graduate Teaching Assistant , Department of Nutritional Sciences, University of Texas at Austin, Austin, TX
2009-2011	Graduate Research Assistant , Human Performance Laboratory, Department of Kinesiology and Health Education, University of Texas at Austin, Austin, TX

- 2008-2009 **Laboratory Technician**, Human Performance and Movement Analysis Laboratory, Kessler Foundation Research Center, West Orange, NJ
- 2007-2008 **Health Fitness Specialist**, Sanofi-Aventis Fitness Center, Medifit Corporate Services, Somerset, NJ
- 2007 **Exercise Physiologist**, Cardiovascular Rehabilitation Center, St Joseph's Regional Medical Center, Paterson, NJ

EDITORIAL EXPERIENCE

- 2015-present Consulting Editor for Open Access Journal of Sports Medicine
- 2020-present Review Editor for Frontiers in Physiology
- 2020-present Review Editor for Frontiers in Sports and Active Living

PEER REVIEW EXPERIENCE

- Advances in Integrative Medicine
- Aging Cell
- American Journal of Cardiology
- American Journal of Hypertension
- American Journal of Physiology – Heart and Circulatory Physiology
- American Journal of Physiology – Regulatory, Integrative and Comparative Physiology
- Anatomy and Physiology: Current Research
- Antioxidants
- Applied Sciences
- Arteriosclerosis, Thrombosis, and Vascular Biology
- Atherosclerosis
- Cells
- Clinical Interventions in Aging
- Clinical Nutrition Experimental
- Current Cardiology Reviews
- Current Vascular Pharmacology
- Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy
- Emergency Medicine: Open Access
- Epidemiology: Open Access
- Exercise and Sports Science Reviews
- Experimental Gerontology
- Experimental Physiology
- Family Medicine and Medical Science Research
- Geroscience
- Hypertension
- International Journal of Environmental Research and Public Health
- International Journal of Molecular Sciences
- International Journal of Nanomedicine
- International Journal of Sport Nutrition and Exercise Metabolism
- Journal of Applied Physiology
- Journal of Carcinogenesis & Mutagenesis
- Journal of Clinical Case Reports
- Journal of Clinical Medicine
- Journal of Gerontology and Geriatric Research
- Journal of Haematology & Thromboembolic Diseases
- Journal of Human Hypertension
- Journal of Intensive Care Medicine
- Journal of Neonatology & Clinical Pediatrics
- Journal of Nephrology and Therapeutics

Journal of Nutritional Disorders and Therapy
Journal of Physiology
Journal of Pulmonary and Respiratory Medicine
Journal of Vascular Diagnostics
Journal of Visualized Experiments
Marine Drugs
Medicina
Medicine and Science in Sports and Exercise
Nutrients
Nutrition Reviews
Open Access Journal of Sports Medicine
Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences
Science Progress
Therapeutics and Clinical Risk Management
Viruses

GRANT REVIEW EXPERIENCE

2022 American Heart Association
2022 German Research Foundation
2020 Medical Research Council

ACADEMIC HONORS AND AWARDS

2022 Dean Franklin Young Investigator Award by American Physiological Society, Philadelphia, PA
2020 *Clinical Science* Young Investigator Award by American Physiological Society Cardiovascular Section at Experimental Biology annual meeting, San Diego, CA
2016 Postdoctoral Research Award by American Physiological Society Environmental and Exercise Physiology Section at Experimental Biology annual meeting, San Diego, CA
2015 Research Recognition Award by American Physiological Society Cardiovascular Section at Experimental Biology annual meeting, Boston, MA
2015 National Graduate Student Writing Award by American Kinesiology Association
2014 Graduate Student Research Award by American Society for Nutrition at Experimental Biology annual meeting, San Diego, CA
2014 Student Travel Award by the University of Texas Department of Kinesiology and Health Education for Experimental Biology annual meeting, San Diego, CA
2013 Graduate School Continuing Fellowship at University of Texas at Austin, Austin, TX
2013 Student Travel Award by University of Texas Department of Kinesiology and Health Education for Experimental Biology annual meeting, Boston, MA
2012 Graduate School Continuing Fellowship at University of Texas at Austin, Austin, TX
2012 Student Travel Award by American Society for Nutrition for National Institute of Health Dietary Supplement Research Practicum, Bethesda, MD
2012 Student Travel Award by University of Texas Department of Kinesiology and Health Education for American College of Sports Medicine annual meeting, San Francisco, CA
2012 Student Manuscript Award by American College of Sports Medicine Texas Chapter (TACSM) at TACSM annual meeting, Austin, TX

TEACHING/LECTURE EXPERIENCE

Florida State University
Applied Exercise Physiology (APK 3110)
Exercise and Disease (PET 6388)
Graduate Level Directed Individual Study (HUN 6906)
Honors Thesis (HUN 4913)
Supervised Research (HUN 6911)

Undergraduate Level Directed Individual Study (HUN 4905)

University of Texas at Austin

Advanced Nutrition I (NTR 342)
Fundamentals of Nutrition (NTR 306)
Issues in Nutrition and Health (NTR 338W)
Physiology of Exercise (KIN 325K)
Systems Physiology (BIO 365S)
Systems Physiology Laboratory (BIO 165U)
The Human Body (BIO 309D)
Vertebrate Neurobiology (BIO 365R)

DOCTORAL COMMITTEE CHAIR

Xiangyu Zheng, student (Florida State University)

DOCTORAL COMMITTEE MEMBER

Saiful bin Singar, student (Florida State University)

MASTER'S COMMITTEE CHAIR

Jennifer Berg, student (Florida State University)
Luaye Samarah, student (Florida State University)
Zhuoxin Li, student (Florida State University)

MASTER'S COMMITTEE MEMBER

Kelsey James, student (Florida State University)
Gisienne Reis, student (Florida State University)
Xiangyu Zheng, graduate (Springfield College)

BACHELOR'S COMMITTEE CHAIR (HONORS IN THE MAJOR)

Avery Knipping, graduate (Florida State University)

PROFESSIONAL MEMBERSHIPS

American Heart Association
American Physiological Society

GRANT SUPPORT

Active Research Support

R00: Pathway to Independence Award 2020-2023
'Role of hyaluronan in age-related vascular and skeletal muscle dysfunction'
Principal Investigator: Daniel R Machin
Direct Costs: \$485,064 Total Costs: \$747,000
NIH-NCCIH
R00-AT-010017
Role: Principal Investigator

Completed Research Support

COVID-19 Relief Award 2021-2022
Principal Investigator: Daniel R Machin
Direct Costs: \$34,632 Total Costs: \$34,632
Higher Education Emergency Relief Funds
Role: Principal Investigator

- First Year Assistant Professor Award 2021
 'Vascular mechanisms of irreversible high sodium diet-induced hypertension'
 Principal Investigator: Daniel R Machin
 Direct Costs: \$20,000 Total Costs: \$20,000
 FSU-CRC
 Role: Principal Investigator
- Loan Repayment Program Grant (Renewal) 2019-2020
 'Novel assessment and mechanisms of microvascular dysfunction in systemic sclerosis'
 Principal Investigator: Daniel R Machin
 Direct Costs: \$17,924 Total Costs: \$17,924
 NIH-NIAMS
 L30-AR-070535
 Role: Principal Investigator
- K99: Pathway to Independence Award 2018-2020
 'Role of hyaluronan in age-related vascular and skeletal muscle dysfunction'
 Principal Investigator: Daniel R Machin
 Direct Costs: \$241,740 Total Costs: \$261,080
 NIH-NCCIH
 K99-AT-010017
 Role: Principal Investigator
- Advanced Fellowship in Geriatrics 2017-2018
 'Exploring mechanisms of vascular dysfunction in systemic sclerosis'
 Principal Investigator: Daniel R Machin
 Direct Costs: \$126,920 Total Costs: \$126,920
 US Department of Veterans Affairs
 Role: Principal Investigator
- Loan Repayment Program Grant 2016-2018
 'Therapeutic efficacy of tetrahydrobiopterin in treatment of vascular dysfunction in systemic sclerosis'
 Principal Investigator: Daniel R Machin
 Direct Costs: \$16,579 Total Costs: \$16,579
 NIH-NHLBI
 L30-HL-129272
 Role: Principal Investigator

Complete List of Published Work in My Bibliography:

<https://scholar.google.com/citations?user=zy-wnMUAAAAJ&hl=en>

PEER-REVIEWED JOURNAL ARTICLES

1. Reeve EH, Kronquist EK, Wolf JR, Lee B, Khurana A, Pham H, Cullen AE, Meza A, Bramwell RC, Villasana L, **Machin DR**, Henson GD, Walker AE. Pyridoxamine treatment ameliorates large artery stiffening and cerebral artery endothelial dysfunction in old mice. *J Cereb Blood Flow Metab*. In review.
2. Mankouski A, Miller TA, Dodson RB, Yu B, Yang Y, Liu J, **Machin DR**, Donato AJ, McKnight RA, Zinkhan EK. Large artery stiffening, atherosclerosis, and mortality in a rat model of early vascular remodeling induced by intrauterine growth restriction and high-fat diet. *Am J Physiol Heart Circ Physiol*. In review.

3. **Machin DR**, Trott DW, Gogulamudi VR, Islam MT, Vink H, Lesniewski LA, Donato AJ. Dietary glyocalyx precursor supplementation restores the endothelial glyocalyx and ameliorates age-related vascular dysfunction. *Nature Aging*. In review.
4. Gogulamudi VR, **Machin DR**, Henson GD, Lim J, Bramwell RC, Durrant JR, Donato AJ, Lesniewski LA. Sirt1 overexpression attenuates Western-style diet-induced aortic stiffening in mice. *Physiol Rep*. 10(9):e15284, 2022. PMID: 35561022. PMCID: PMC9101596. <https://doi.org/10.14814/phy2.15284>
5. **Machin DR**, Clifton HL, Wray DW, Frech TM, Donato AJ. Tetrahydrobiopterin administration augments exercise-induced hyperemia and endothelial function in patients with systemic sclerosis. *Front Med*. 8:791689, 2022. PMID: 35083247. PMCID: PMC8784551. <https://doi.org/10.3389/fmed.2021.791689>
6. Zheng X, Deacon CL, King AJ, **Machin DR**. Microcirculatory and glyocalyx properties are lowered by high salt diet but augmented by western diet in genetically heterogeneous mice. *Am J Physiol Heart Circ Physiol*. 322(2):H328-H335, 2022. PMID: 34995168. PMCID: PMC8799391. <https://doi.org/10.1152/ajpheart.00656.2021>
7. Trott DW, **Machin DR**, Phuong TTT, Adeyemo A, Bloom SI, Bramwell RC, Sorensen E, Lesniewski LA, Donato AJ. T cells mediate cell non-autonomous arterial aging in mice. *J Physiol*. 599(16):3973-3991, 2021. PMID: 34164826. PMCID: PMC8425389. <https://doi.org/10.1113/JP281698>
8. Islam MT, Henson GD, **Machin DR**, Bramwell RC, Donato AJ, Lesniewski LA. Aging differentially impacts vasodilation and angiogenesis in arteries from the white and brown adipose tissues. *Exp Gerontol*. 142: 111126, 2020. PMID: 33203620. PMCID: PMC8407014. <https://doi.org/10.1016/j.exger.2020.111126>
9. **Machin DR**, Auduong Y, Gogulamudi VR, Liu Y, Islam MT, Lesniewski LA, Donato AJ. Lifelong SIRT-1 overexpression attenuates large artery stiffening with advancing age. *Aging*. 12(12): 11314-11324, 2020. PMID: 32564006. PMCID: PMC7343505. <https://doi.org/10.18632/aging.103322>
10. Roy SJ, Lapierre SS, Baker BD, Delfausse LA, **Machin DR**, Tanaka H. High dietary intake of whole milk and full-fat dairy products does not exert hypotensive effects in adults with elevated blood pressure. *Nutr Res*. 64: 72-81, 2019. PMID: 30802725. <https://doi.org/10.1016/j.nutres.2019.01.003>
11. Phuong TTT, Walker AE, Henson GD, **Machin DR**, Li DY, Donato AJ, Lesniewski LA. Deletion of *Robo4* prevents high-fat diet-induced adipose artery and systemic metabolic dysfunction. *Microcirculation*. 26: e12540, 2019. PMID: 30825241. PMCID: PMC7217325. <https://doi.org/10.1111/micc.12540>
12. Walker AE, Breevoort SR, Durrant JR, **Machin DR**, Dobson PS, Nielson EI, Meza A, Islam MT, Donato AJ, Lesniewski LA. A western diet, but not aging, exacerbates the pro-atherogenic response to disturbed blood flow. *Sci Rep*. 9(1): 2925, 2019. PMID: 30814657. PMCID: PMC6393500. <https://doi.org/10.1038/s41598-019-39466-x>
13. Morgan RG, Walker AE, Trott DW, **Machin DR**, Henson GD, Reihl KD, Cawthon RM, Denchi EL, Liu Y, Bloom SI, Phuong TT, Richardson RS, Lesniewski LA, Donato AJ. Induced *Trf2* deletion leads to aging vascular phenotype in mice associated with arterial telomere uncapping, senescence signaling, and oxidative stress. *J Mol Cell Cardiol*. 127: 74-82, 2019. PMID:

14. Leary ME, Roy SJ, Lim J, Park W, Ferrari R, Eaves J, **Machin DR**, Tanaka H. Non-fat milk attenuates acute hyperglycemia in individuals with android obesity: a randomized control trial. *Food Sci Nutr*. 6(8): 2104-2112, 2018. PMID: 30510711. PMCID: PMC6261169. <https://doi.org/10.1002/fsn3.767>
15. Clifton HL, **Machin DR**, Groot HJ, Frech TM, Donato AJ, Richardson RS, Wray DW. Attenuated nitric oxide bioavailability in patients with systemic sclerosis: Evidence from the novel assessment of passive leg movement. *Exp Physiol*. 103: 1412-1424, 2018. PMID: 29790215. PMCID: PMC6167160. <https://doi.org/10.1113/EP086991>
16. **Machin DR**, Bloom SI, Campbell RA, Phuong TTT, Gates PE, Lesniewski LA, Rondina MT, Donato AJ. Advanced age results in a diminished endothelial glycocalyx. *Am J Physiol Heart Circ Physiol*. 315(3): H531-H539, 2018. PMID: 29750566. PMCID: PMC6172638. <https://doi.org/10.1152/ajpheart.00104.2018>
17. Leary ME, Lim J, Park W, Roy SJ, Ferrari R, Eaves J, **Machin DR**, Tanaka H. Non-fat milk attenuates acute hypertriglyceridemia in individuals who follow a high fat diet: a randomized control trial. *J Nutr Intermed Metab*. 12: 8-13, 2018. <https://doi.org/10.1016/j.jnim.2018.05.003>
18. **Machin DR**, Gates PE, Vink H, Frech TM, Donato AJ. Automated measurement of microvascular function reveals dysfunction in systemic sclerosis: a cross-sectional study. *J Rheumatol*. 44(11): 1603-1611, 2017. PMID: 28916547. PMCID: PMC5668162. <https://doi.org/10.3899/jrheum.170120>
19. **Machin DR**, Clifton HL, Richardson RS, Wray DW, Donato AJ, Frech TM. Acute oral tetrahydrobiopterin administration ameliorates endothelial dysfunction in systemic sclerosis. *Clin Exp Rheumatol*. 35(Suppl 106): 167-172, 2017. PMID: 28980911. PMCID: PMC5644995.
20. **Machin DR**, Clifton HL, Garten RS, Gifford JR, Richardson RS, Wray DW, Frech TM, Donato AJ. Exercise-induced brachial artery blood flow and vascular function is impaired in systemic sclerosis. *Am J Physiol Heart Circ Physiol*. 311: H1375-H1381, 2016. PMID: 27694218. PMCID: PMC5206341. <https://doi.org/10.1152/ajpheart.00547.2016>
21. **Machin DR**, Leary ME, He Y, Shiu Y, Tanaka H, Donato AJ. Ultrasound assessment of flow-mediated dilation of the brachial and superficial femoral arteries in rats. *J Vis Exp*. 117: e65762, 2016. PMID: 27842366. PMCID: PMC5226081. <https://doi.org/10.3791/54762>
22. Alkatan M, Baker JR, **Machin DR**, Park W, Akkari AS, Pasha EP, Tanaka H. Improved function and reduced pain after swimming and cycling training in patients with osteoarthritis. *J Rheumatol*. 43(3): 666-672, 2016. PMID: 26773104. <https://doi.org/10.3899/jrheum.151110>
23. Alkatan M, **Machin DR**, Baker JR, Akkari AS, Park W, Tanaka H. Effects of swimming and cycling exercise intervention on vascular function in patients with osteoarthritis. *Am J Cardiol*. 117(1): 141-145, 2016. PMID: 26541906. <https://doi.org/10.1016/j.amjcard.2015.10.017>
24. Lim J, Pearman ME, Park W, Alkatan M, **Machin DR**, Tanaka H. Impact of blood pressure perturbations on arterial stiffness. *Am J Physiol Regul Integr Comp Physiol*. 309: R1540-1545, 2015. PMID: 26468262. <https://doi.org/10.1152/ajpregu.00368.2015>
25. Akkari AS, **Machin DR**, Tanaka H. Greater progression of athletic performance in older Masters athletes. *Age Ageing*. 44(4): 1-4, 2015. PMID 25753790. <https://doi.org/10.1093/ageing/afv023>

26. Lee JF, Christmas KM, **Machin DR**, McLean BD, Coyle EF. Warm skin alters cardiovascular responses to cycling after preheating and precooling. *Med Sci Sports Exerc.* 47(6): 1168-1176, 2015. PMID: 25290741. <https://doi.org/10.1249/MSS.0000000000000539>
27. Elmenshawy AR, **Machin DR**, Tanaka H. A rise in peak performance age in female athletes. *AGE.* 37(3): 57(1-8), 2015. PMID: 26022534. PMCID: PMC4446456. <https://doi.org/10.1007/s11357-015-9795-8>
28. **Machin DR**, Park W, Alkatan M, Mouton M, Tanaka H. Effects of non-fat dairy products added to the routine diet on vascular function: a randomized controlled crossover trial. *Nutr Metab Cardiovasc Dis.* 25(4): 364-369, 2015. PMID: 25770758. <https://doi.org/10.1016/j.numecd.2015.01.005>
29. Pasha EP, Kaur SS, Gonzales MM, **Machin DR**, Kasischke K, Tanaka H, Haley AP. Vascular function, cerebral cortical thickness, and cognitive performance in middle-aged Hispanic and non-Hispanic Caucasian adults. *J Clin Hypertens.* 17(4): 306-312, 2015. PMID: 25720950. PMCID: PMC4390456. <https://doi.org/10.1111/jch.12512>
30. Kraus AS, Pasha EP, **Machin DR**, Alkatan M, Kloner RA, Tanaka H. Bilateral upper limb remote ischemic preconditioning improves anaerobic power. *Open Sports Med J.* 9: 1-6, 2015. <https://doi.org/10.2174/1874387001509010001>
31. Trombold JR, Christmas KM, **Machin DR**, Van Pelt DW, Chou TH, Kim IY, Coyle EF. Postexercise macronutrient intake and subsequent postprandial triglyceride metabolism. *Med Sci Sports Exerc.* 46(11): 2099-2106, 2014. PMID: 24621959. <https://doi.org/10.1249/MSS.0000000000000333>
32. **Machin DR**, Park W, Alkatan M, Mouton M, Tanaka H. Hypotensive effects of solitary addition of conventional nonfat dairy products to the routine diet: a randomized controlled trial. *Am J Clin Nutr.* 100: 80-87, 2014. PMID: 24808486. <https://doi.org/10.3945/ajcn.114.085761>
33. **Machin DR**, Christmas KM, Chou TH, Hill SC, Van Pelt DW, Trombold JR, Coyle EF. Effects of differing dosages of pomegranate juice supplementation after eccentric exercise. *Physiol J.* 2014: 1-7, 2014. <https://doi.org/10.1155/2014/271959>
34. Trombold JR, Christmas KM, **Machin DR**, Kim IY, Coyle EF. Acute high-intensity endurance exercise is more effective than moderate-intensity exercise for attenuation of postprandial triglyceride elevation. *J Appl Physiol.* 114(6): 792-800, 2013. PMID: 23372145. <https://doi.org/10.1152/jappphysiol.01028.2012>
35. Vavrek J, **Machin DR**, Tanaka H. Progression of athletic performance in age-group swimmers in the past 50 years. *Int J Sports Physiol Perform.* 12(3): 608-613, 2012. <https://doi.org/10.1080/24748668.2012.11868622>

REVIEW ARTICLES

1. **Machin DR**, Phuong TT, Donato AJ. The role of the endothelial glycocalyx in advanced age and cardiovascular disease. *Curr Opin Pharmacol.* 45: 66-71, 2019. PMID: 31112922. PMCID: PMC7055464. <https://doi.org/10.1016/j.coph.2019.04.011>
2. Frech TM, **Machin DR**, Murtaugh MA, Stoddard GJ, Bloom SI, Phibbs JV, Donato AJ. Implications of endothelial shear stress on systemic sclerosis vasculopathy and treatment. *Clin Exp Rheumatol.* 36 Suppl(4): 175-182, 2018. PMID 30277867. PMCID: PMC6542469.

3. Donato AJ, **Machin DR**, Lesniewski LA. Mechanisms of dysfunction in the aging vasculature and role in age-related disease. *Circ Res*. 123(7): 825-848, 2018. PMID: 30355078. PMCID: PMC6207260. <https://doi.org/10.1161/CIRCRESAHA.118.312563>

BOOK CHAPTERS

1. **Machin DR**, Tanaka H. Dairy consumption and age-related vascular dysfunction. In: *Dairy in Human Health and Disease across the Lifespan*. (ed.) Watson RR, Collier RJ, Preedy VR. Elsevier, Amsterdam, Netherlands, 273-286, 2017. <https://doi.org/10.1016/B978-0-12-809868-4.00021-2>

OTHER (Editorials/Letters)

1. Kraus, AS, Pasha EP, **Machin DR**, Alkatan M, Kloner RA, Tanaka H. Reply to the letter by François Lalonde and Daniel Curnier (letter to the editor). *Open Sports Med J*. 9:20, 2015.
2. **Machin DR**, Tanaka H. Cross-training: crossroads to pathways in prevention of chronic diseases. *J Gerontol Geriatr Res*. 1(2): e103, 2012. <https://doi.org/10.4172/2167-7182.1000e103>

PUBLISHED ABSTRACTS

1. **Machin DR**, Deacon CL, King AJ, Zheng X. The effects of high salt and western diets on microcirculatory and glycocalyx properties in genetically heterogeneous young mice. *FASEB J*. 36(1): 1-1. 2022.
2. Bloom S, Tucker J, Liu Y, Abdeahad H, **Machin DR**, Thomas T, Bramwell RC, Islam MT, Lesniewski LA, Donato AJ. Aging results in endothelial cell telomere uncapping that induces senescence and physiological dysfunction. *FASEB J*. 36(1): 1-1. 2022.
3. Islam MT, Hall S, Bloom S, Bramwell RC, Dutson T, Tucker J, Kim J, **Machin DR**, Donato AJ, Lesniewski LA. Ablation of Endothelial mTOR is benign in young mice and reverses age-related arterial and metabolic impairments in old mice. *FASEB J*. 36(1): 1-1. 2022
4. Medarev S, **Machin DR**, Da Costa A, Hernandez J, Auger L, Qasim M, Trupiano S, Clark R, Hendrickson D, Schaeffer M, Schaeffer H, Muller-Delp J. Microvascular function in skeletal muscle of adiponectin knockout mice. *FASEB J*. 36(1): 1-1. 2022.
5. Islam MT, Hall SA, Bloom SI, Bramwell RC, Dutson T, Tucker JR, Kim J, **Machin DR**, Donato AJ, Lesniewski LA. Endothelial cell specific deletion of mTOR ameliorates age-related arterial and metabolic dysfunction. *Circulation*. 144(S1):A12952-A12952.
6. Bloom SI, Tucker JR, **Machin DR**, Liu Y, Thomas T, Abdeahad H, Bramwell RC, Lesniewski LA, Donato AJ. Aging results in endothelial cell telomere uncapping that induces senescence, arterial stiffening, and reduced nitric oxide bioavailability. *FASEB J*. 35(S1): 1-1. 2021.
7. Tucker JR, **Machin DR**, Walker AE, Frech T, Donato AJ. Autoantibody Subtype does not impact peripheral endothelial function and hemodynamics in systemic sclerosis. *FASEB J*. 34(S1): 1-1. 2020.
8. Bramwell RC, Bloom SI, **Machin DR**, Lesniewski LA, Donato AJ. Genetic reduction of DNA damage repair protein ATM kinase attenuates endothelium-dependent dilation and NO bioavailability via enhanced superoxide in old but not young mice. *FASEB J*. 34(S1): 1-1. 2020.
9. **Machin DR**, Auduong Y, Liu Y, Gogulamudi VR, Islam MT, *Lesniewski LA*, Donato AJ. Lifelong SIRT-1 overexpression attenuates aortic stiffening with advancing age. *FASEB J*. 34(S1): 1-1. 2020.

10. Liu Y, Bloom SI, **Machin DR**, Bramwell CR, Lesniewski LA, Donato AJ. Inducible knockdown of Trf2 leads to endothelial cell dysfunction. *North American Artery 2019 Annual Meeting*. 2019.
11. Miller T, Dodson B, Yang Y, Yu B, Mankouski A, **Machin DR**, Nguyen D, Donato AJ, Zinkhan E. Intrauterine growth restriction enhances pulmonary and carotid artery vascular remodeling in 1 year-old rat offspring fed a high fat diet. *Pediatric Academy Societies 2019 Meeting*. 2019.
12. **Machin DR**, Nguyen D, Bramwell RC, Lesniewski LA, Donato AJ. Dietary glyocalyx precursor supplementation ameliorates age-related vascular dysfunction. *FASEB J*. 33(1): 596.3, 2019.
13. Bloom SI, **Machin DR**, Bramwell RC, Lesniewski LA, Donato AJ. Genetic deletion of the DNA damage repair protein, ATM kinase, is not sufficient to induce vascular dysfunction in young mice. *FASEB J*. 33(1): 828.1, 2019.
14. Walker AW, Meza A, Earl A, **Machin DR**. Pyridoxamine attenuates age-related impairments in cerebral artery endothelial dysfunction. *FASEB J*. 32(1): 711.12, 2018.
15. Clifton HL, Kwon OH, **Machin DR**, Layec G, Richardson RS, Frech TM, Donato AJ, Wray DW. The impact of acute tetrahydrobiopterin administration on plasma adiponin concentrations in patients with systemic sclerosis. *FASEB J*. 32(1): 902.20, 2018.
16. Frech TM, **Machin DR**, Murtaugh M, Donato AJ. The clinical utility of flow-mediated dilation in systemic sclerosis digital ulcer assessment. *Arthritis Rheumatol*. 69: 2666, 2017.
17. Shiu Y, He Y, **Machin DR**, Tey CSJ, Fan JZ, Chen Z, Leary ME, Tanaka H, Donato AJ, Cheung AK. Reduced endothelium-dependent vasodilation and impaired arteriovenous fistula development in a rat model of chronic kidney disease. *J Am Soc Nephrol*. 2017.
18. **Machin DR**, Auduong Y, Henson GD, Lesniewski LA, Donato AJ. SIRT-1 overexpression mitigates large artery stiffening with advancing age. *Physiologist*. 60(6): 13.10, 2017.
19. Trott DW, **Machin DR**, Lesniewski LA, Donato AJ. T cell depletion improves arterial function in both large elastic arteries and resistance arteries of old mice. *Physiologist*. 60(6): 13.12, 2017.
20. Frech TM, Gates PE, **Machin DR**, Donato AJ. Microvascular function in systemic sclerosis patients with end-stage vascular manifestation of disease. *Arthritis Rheumatol*. 68(1): 2897, 2016.
21. **Machin DR**, Clifton HL, Garten RS, Gifford JR, Richardson RS, Wray DW, Frech T, Donato AJ. Impaired exercise-induced forearm blood flow in patients with systemic sclerosis is restored after acute tetrahydrobiopterin supplementation. *FASEB J*. 30(1): 1288.1, 2016.
22. Walker AE, Breevoort SR, Durrant JR, **Machin DR**, Dobson PS, Nielson EI, Donato AJ, Lesniewski LA. Effect of age and high fat diet on the pro-atherogenic response to oscillatory blood flow. *FASEB J*. 30(1): 730.4, 2016.
23. Sievert M, **Machin DR**, Donato AJ, Murtaugh M, Pauling JD, Domsic RT, Shapiro LS, Frech TM. Laser speckled imaging and videomicroscopy assessment of sublingual perfusion in systemic sclerosis and healthy controls. *Arthritis Rheumatol*. 67(1): 2979, 2015.
24. Frech TM, **Machin DR**, Gates PE, Domsic RT, Shapiro LS, Pauling JD, Donato AJ. Assessment of sublingual frenulum perfusion in systemic sclerosis. *Arthritis Rheumatol*. 67(1): 2980, 2015.
25. **Machin DR**, Clifton HL, Richardson RS, Wray DW, Frech TM, Donato AJ. Exercise blood flow is improved following acute tetrahydrobiopterin administration in patients with systemic sclerosis.

International Workshop on Scleroderma Research. 2015.

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INVITED ORAL PRESENTATIONS

1. 'Impact of the Endothelial Glycocalyx on the Aged Arterial Vasculature.' Department of Physiology and Anatomy, University of North Texas Health Science Center, Fort Worth, TX; May 2022.
2. 'Impact of the Endothelial Glycocalyx on the Aged Arterial Vasculature.' Department of Kinesiology, Health Promotion, and Recreation, University of North Texas, Denton, TX; April 2022.
3. 'Role of the endothelial glycocalyx on age-related arterial dysfunction.' Guest lecturer for *HUN 5802: Research Design and Methodology*. Department of Nutrition, Food, and Exercise Sciences, Florida State University, Tallahassee, FL; December 2020.
4. 'Role of the endothelial glycocalyx on skeletal muscle function.' *M3: Monthly Muscle Meeting*, Department of Human Genetics, University of Utah, Salt Lake City, UT; January 2020.
5. 'Role of the endothelial glycocalyx on age-related arterial dysfunction.' Department of Nutrition, Food, and Exercise Sciences, Florida State University, Tallahassee, FL; May 2019.
6. 'Dietary glycocalyx precursor supplementation ameliorates age-related vascular dysfunction.' *Experimental Biology* annual meeting, Orlando, FL; April 2019.
7. 'The endothelial glycocalyx: a novel target to ameliorate age-related vascular dysfunction.' Department of Internal Medicine, Division of Nephrology, University of Utah School of Medicine, Salt Lake City, UT; January 2018.
8. 'The hypotensive effects of conventional nonfat dairy products: the role of arterial stiffness.' Department of Kinesiology and Health Education, University of Texas at Austin, Austin, TX; May 2014.
9. 'Effects of nonfat dairy products added to the routine diet on central blood pressure and vascular function.' *Experimental Biology* annual meeting, San Diego, CA; April 2014.

10. 'The hypotensive effects of conventional nonfat dairy products: the role of arterial stiffness.' Department of Internal Medicine, Division of Geriatrics, University of Utah, Salt Lake City, UT; February 2014.
11. 'Environment.' Guest lecturer for *KIN 325K: Physiology of Exercise* course, Department of Kinesiology and Health Education, University of Texas at Austin, Austin, TX; April 2013.
12. 'Respiratory response to exercise.' Guest lecturer for *KIN 325K: Physiology of Exercise* course, Department of Kinesiology and Health Education, University of Texas at Austin, Austin, TX; March 2013.
13. 'The effects of dairy products added and removed from the routine diet on brachial blood pressure.' *Experimental Biology* annual meeting, Boston, MA; April 2013.
14. 'The effects of polyphenol supplementation on muscular strength, power, and soreness following eccentric exercise.' Department of Kinesiology and Health Education, University of Texas at Austin, Austin, TX; May 2012.
15. 'Body composition' Guest lecturer for *KIN 325K: Physiology of Exercise* course, Department of Kinesiology and Health Education, University of Texas at Austin, Austin, TX; November 2012.
16. 'Dose response effects of pomegranate supplementation on delayed onset muscle soreness and strength.' *American College of Sports Medicine Texas Chapter* annual meeting, Austin, TX; February 2012.
17. 'Nutrition, cardiovascular disease, and stroke.' Guest lecturer for *NTR 342: Advanced Nutrition* course, Department of Nutrition, University of Texas at Austin, Austin, TX; April 2011.
18. 'Metabolic syndrome and diabetes.' Guest lecturer for *NTR 342: Advanced Nutrition* course, Department of Nutrition, University of Texas at Austin, Austin, TX; April 2011.
19. 'Nutrition, physical activity, and athletic performance.' Guest lecturer for *NTR 342: Advanced Nutrition* course, Department of Nutrition, University of Texas at Austin, Austin, TX; April 2011.
20. 'Metabolic responses to fasting/starvation.' Guest lecturer for *NTR 342: Advanced Nutrition* course, Department of Nutrition, University of Texas at Austin, Austin, TX; March 2011.
21. 'Carbohydrate metabolism.' Guest lecturer for *NTR 342: Advanced Nutrition* course, Department of Nutrition, University of Texas at Austin, Austin, TX; February 2011.

MENTOR ACTIVITIES

Undergraduate Students

- 2021-present Mentor, Kathryn Cofran, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Undergraduate student, Florida State University, Tallahassee, FL
- 2021-present Mentor, Abigail King, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Undergraduate student, Florida State University, Tallahassee, FL
- 2021-present Mentor, Avery Knipping, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Undergraduate student, Florida State University, Tallahassee, FL

- 2020-present Mentor, Luis Carvajal, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Undergraduate student, Florida State University, Tallahassee, FL
- 2020-2022 Mentor, Christina Deacon, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Masters student, Florida State University, Tallahassee, FL
- 2019-2020 Mentor, Alec Malouf, University of Utah, Salt Lake City, UT
Current/Last Known Career Activities: Undergraduate student, University of Utah, Salt Lake City, UT
- 2017-2019 Mentor, Daniel Nguyen, University of Utah, Salt Lake City, UT
Current/Last Known Career Activities: Undergraduate student, University of Utah, Salt Lake City, UT
- 2016-2017 Mentor, Yauling Auduong, University of Utah, Salt Lake City, UT
Current/Last Known Career Activities: Medical assistant, University of Utah, Salt Lake City, UT
- 2013-2015 Intermediary Mentor, Amanda S Akkari, University of Texas at Austin, Austin, TX
Current/Last Known Career Activities: Dental student, University of Oklahoma School of Dentistry, Oklahoma City, OK
- 2009 Intermediary Mentor, Douglas W Van Pelt, Kessler Foundation Research Center, West Orange, NJ
Current/Last Known Career Activities: Postdoctoral fellow, University of Kentucky, Lexington, KY

Masters Students

- 2022-present Mentor, Christina Deacon, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Masters student, Florida State University, Tallahassee, FL
- 2021-present Mentor, Zhuoxin Li, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Masters student, Florida State University, Tallahassee, FL
- 2021-present Mentor, Jennifer Berg, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Masters student, Florida State University, Tallahassee, FL
- 2021-present Mentor, Luaye Samarah, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Masters student, Florida State University, Tallahassee, FL
- 2014 Intermediary Mentor, Jisok S Lim, University of Texas at Austin, Austin, TX
Current/Last Known Career Activities: Postdoctoral fellow, University of Utah, Salt Lake City, UT
- 2012-2014 Intermediary Mentor, Evan P Pasha, University of Texas at Austin, Austin, TX
Current/Last Known Career Activities: Postdoctoral fellow, University of Texas

Southwestern Medical Center, Dallas, TX

- 2012-2014 Intermediary Mentor, Alexander S Kraus, University of Texas at Austin, Austin, TX
Current/Last Known Career Activities: Director of women's soccer operations, University of Texas at Austin, Austin, TX
- 2012-2014 Intermediary Mentor, Wonil Park, University of Texas at Austin, Austin, TX
Current/Last Known Career Activities: Doctoral student, Korea University, Seoul, South Korea

Doctoral Students

- 2022-present Mentor, Mostafa Sabouri, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Doctoral student, Florida State University, Tallahassee, FL
- 2021-present Mentor, Xiangyu Zheng, Florida State University, Tallahassee, FL
Current/Last Known Career Activities: Doctoral student, Florida State University, Tallahassee, FL
- 2017-2020 Intermediary Mentor, Samuel I Bloom, University of Utah, Salt Lake City, UT
Current/Last Known Career Activities: Doctoral Candidate, University of Utah, Salt Lake City, UT
- 2017-2020 Intermediary Mentor, Md Torikul Islam, University of Utah, Salt Lake City, UT
Current/Last Known Career Activities: Doctoral Candidate, University of Utah, Salt Lake City, UT
- 2013-2014 Intermediary Mentor, Miriam E Leary, University of Texas at Austin, Austin, TX
Current/Last Known Career Activities: Assistant Professor, West Virginia University, Morgantown, WV

Medical Students

- 2016-2017 Mentor, Maryana Boulos, University of Utah School of Medicine, Salt Lake City, UT
Current/Last Known Career Activities: Medical student, University of Utah School of Medicine, Salt Lake City, UT
- 2013 Intermediary Mentor, Austine Lin, University of Texas at Austin, Austin, TX
Current/Last Known Career Activities: Medical student, University of Texas Medical Branch, Galveston, TX