

Curriculum Vitae

Douglas R. Seals, Ph.D.
Distinguished Professor

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Education and Research Training

<i>Degree</i>	<i>Major Area of Study</i>	<i>Date</i>	<i>Institution</i>
Post-doctoral	Applied Physiology of Aging	1984	Washington Univ. School of Medicine St. Louis, Missouri
(Project focus: Aging and cardiovascular-metabolic adaptations to regular aerobic exercise; Supervisor: John O. Holloszy, M.D.)			
Ph.D.	Cardiovascular Physiology	1981	University of Wisconsin Madison, Wisconsin
(Dissertation: Blood pressure regulation during exercise in healthy and hypertensive adults; Supervisor: Francis J. Nagle, Ph.D.)			
M.S.	Applied Physiology	1979	University of Wisconsin Madison, Wisconsin
B.S./B.S.	Business/Education	1976	William Jewel College Liberty, Missouri

Professional Experience

Distinguished Professor 2017	University of Colorado
Founder/Director, 2011	Responsible Conduct of Research Program University of Colorado Boulder
Professor of Distinction 2008-	College of Arts and Sciences University of Colorado Boulder
Professor 2003-	Department of Integrative Physiology University of Colorado Boulder
Director 2000-2004	General Clinical Research Center University of Colorado Boulder
Professor 1998-2003	Department of Kinesiology and Applied Physiology University of Colorado Boulder
Professor	Department of Medicine (Geriatric Medicine & Cardiology)

1996-	University of Colorado Denver, Anschutz Med. Campus
Professor	Department of Kinesiology
1995-1998	University of Colorado Boulder
Associate Professor	Department of Medicine, Division of Cardiology
1993-1995	University of Colorado School of Medicine
Associate Professor	Department of Kinesiology
1992-1995	University of Colorado Boulder
Associate Professor	Department of Physiology
1990-1992	University of Arizona Health Sciences Center
Associate Professor	Department of Exercise and Sport Sciences
1989-1992	University of Arizona
Assistant Professor	Department of Physiology
1987-1989	University of Arizona Health Sciences Center
Assistant Professor	Department of Exercise and Sport Sciences
1985-1988	University of Arizona
Visiting Assistant Professor	Department of Exercise Science
1984-1985	University of Iowa

Research Program (<http://www.colorado.edu/intphys/research/cardiovascular.html>)

The research goals of my laboratory are to investigate:

- Natural (chronological) and “accelerated” cardiovascular aging;
- Modulation of cardiovascular aging by biological factors (e.g., sex; the gut microbiome) and lifestyle behaviors (e.g., physical activity/inactivity; dietary intake and composition);
- The efficacy of lifestyle- and pharmacological (primarily natural “nutraceutical”) strategies for preventing and reversing adverse changes in cardiovascular function with aging;
- The integrative (molecular to systemic) biological mechanisms that mediate cardiovascular dysfunction with aging and the effects of interventions.

Within the broad context of cardiovascular aging, we are particularly interested in increases in systolic blood pressure and the development of large elastic artery stiffness and impaired arterial endothelial function. More recently added areas of interest involve assessing cerebrovascular and cognitive function with aging and interventions, and integrating high-throughput molecular analyses (metabolomics, proteomics, and transcriptomics, in particular) to gain novel mechanistic insight into our evolving science.

A variety of contemporary translational experimental approaches are used to study these issues in human subjects, rodents, and cell culture using cross-sectional, intervention, and longitudinal study designs. Emphasis is placed on the integrative nature of the physiological and pathophysiological processes involved from a mechanistic perspective. Our research on human subjects is performed in the University of Colorado Boulder Clinical Translational Research Center (CTRC).

The laboratory provides scientific training from the undergraduate to the junior faculty levels and is supported primarily by individual investigator (R01), junior faculty (K01; K99/R00), fellowship (F31, F32) and institutional training grant (T32) awards from the National Institutes of Health, as well as pre- and post-doctoral fellowship awards from the American Heart Association.

See our [Facebook page](#) to learn more about activities in our laboratory.

Memberships, Honors, Awards

Member, American Physiological Society
Member, American Heart Association
Member, Gerontological Society of America
Member, American Aging Association

Magna Cum Laude, William Jewel College
American College of Sports Medicine, Fellow
American Heart Association Basic Cardiovascular Sciences Council, Fellow
American Heart Association High Blood Pressure Research Council, Fellow
American Heart Association Council on Nutrition, Physical Activity and Metabolism, Fellow

Journal of Applied Physiology, Editorial Board
Medicine and Science in Sports and Exercise, Editorial Board
NIH review group on Respiratory and Applied Physiology, ad hoc reviewer, 1994
Distinguished Lectureship, Centre on Ageing, University of Western Ontario, 1995
NIH review group on Clinical Sciences, ad hoc reviewer, 1995-1997
NIA Clinical Aging Review Committee review group, ad hoc reviewer, 1997-1999
NIA Clinical Aging Review Committee review group, member, 1999-2003
NIH National Heart, Lung and Blood Institute program project reviewer, 2005
Exercise and Sport Sciences Reviews, Editor-in-Chief, 1999-2005
Journal of Applied Physiology, Associate Editor, 1999-2009
National Institute on Aging Summer Institute on Aging Research Faculty, 2001-12
NIH NIA Special Emphasis Panel reviewer, 2007
NIH NIA Claude C. Pepper Centers grant reviewer, 2007
NIH NIA Aging and Systems Geriatrics Study Section reviewer, 2007-12, 2013-14
NIH NIA Intramural Cardiovascular Program reviewer, 2007
BioFrontiers Institute Task Force, Univ. of Colorado Boulder, 2014-
NIH NIA Nathan Shock Research Center grant reviewer, 2015
GeroScience (formerly *AGE*), Associate Editor
External Advisory Board, NIH INBRE Research Program, University of Wyoming, 2007-
External Advisory Board, UTSAHSC NIA Claude D. Pepper OAIC, 2016-
External Advisory Board, NIH Molecular Transducers of Physical Activity (MoTrPAC), 2016-
Advisory Board, Center for Fibrosis Research and Translation, Anschutz-CU Boulder, 2016-
Visiting Professor, Charles Perkins Center, University of Sydney School of Medicine
Visiting Professor, University of Otago Main Campus and School of Medicine

Individual National Research Service Award, National Institutes of Health, 1981-84
New Investigator Award, American College of Sports Medicine, 1985
Visiting Scholar Award, American College of Sports Medicine, 1986
Research Career Development Award, National Institutes of Health, 1988-1993
Citation Award, American College of Sports Medicine, 2003
NIH National Institute on Aging MERIT Award (R37 AG013038), 2004-15
Herbert H. deVries Award for Distinguished Research in the Field of Aging, 2005
CU Boulder Faculty Assembly Excellence in Research, Scholarly, and Creative Work Award, 2006
CU Boulder College of Arts and Sciences Professor of Distinction, 2008-
NIA Summer Institute on Aging Research Distinguished Achievement Award, 2010
Edward F. Adolph Distinguished Lecturer, American Physiological Society, 2012
UC Boulder Technology Transfer Office New Inventor of the Year, 2012

University of Colorado Boulder Distinguished Research Lecturer, 2015-16
Distinguished Professor, University of Colorado, 2017-
American Physiological Society EEP Honor Award, 2022
Charles Perkins Center Sabbatical Professorship, University of Sydney School of Medicine, 2022

Grant Funding		Direct Costs
<i>I. Pending</i>		
Individual Investigator Awards		
“Feasibility and design of a novel smartphone app to deliver blood pressure-lowering inspiratory muscle strength training” NIH R41 HL167375-01 (PI) (to be funded 4/2023)	2023-24	\$275,764
“Translational studies targeting cellular senescence with fisetin to treat anthracycline chemotherapy-induced accelerated vascular aging” NIH R01 AG055822 (P.I.) (competing renewal application)	2023-28	\$2,156,522
Primary Mentor (Sponsor)		
Individual Research Career Development Awards		
"Mitochondria-targeted antioxidant supplementation for improving age-related vascular dysfunction in older adults: the role of circulating factors" NIH F32HL167552 (P.I., Kevin Murray)	2023-25	\$140,164
<i>II. Active</i>		
Individual Investigator Awards		
“Passive heat therapy for lowering systolic blood pressure and improving vascular function in mid-life and older adults” NIH R01 AG073117 (P.I.)	2022-27	\$2,559,054
“Inspiratory muscle strength training for lowering blood pressure and improving endothelial function in postmenopausal women: comparison with standard of care aerobic exercise” NIH R01 AG071506 (P.I.)	2021-26	\$2,518,457
Alzheimer’s-Focused Administrative Supplement for NIH Grants that are NOT Focused on Alzheimer’s Disease to R01 AG071506 Inspiratory muscle strength training for lowering blood pressure and improving endothelial function in postmenopausal women: comparison with standard of care aerobic exercise (P.I.)	2022-23	\$247,273
“Mitochondrial-targeted antioxidant supplementation for improving age-related vascular dysfunction in humans NIH R01 AG066730 (P.I.)	2021-26	\$2,406,385
“Nicotinamide riboside supplementation for treating elevated systolic blood pressure and arterial stiffness in middle-aged and older adults” NIH R01 AG061514 (P.I.)	2019-24	\$1,961,485
“Nicotinamide riboside as a ‘geroprotective’ therapy for COVID-19” Administrative Supplement to NIH R01 AG061514 (P.I.)	2020-22	\$397,151

“Role of Cellular Senescence in Cardiovascular Aging” NIH R01 AG055822 (M.P.I.: Melov, Campisi, Buck Institute)	2018-23	\$2,405,027
-- ODS administrative supplement (apigenin)	2019-20	\$100,000
-- ODS administrative supplement (fisten)	2021-22	\$100,000
“Targeting cellular senescence to prevent accelerated vascular aging induced by the common chemotherapeutic agent doxorubicin” NIH R21 AG078408 (PI)	2022-24	\$275,000
“DMB (3,3-dimethyl-1-butanol) as a novel translational strategy for preventing and treating gut dysbiosis-associated arterial aging” NIH R21 AG060884 (P.I.)	2019-22	\$275,000
Diversity Supplement for Sophia Mahoney to Role of Cellular Senescence in Cardiovascular Aging” NIH R01 HL145633 (multiple P.I.: Melov, Campisi, Buck Institute)	2020-22	\$106,200
“Curcumin Supplementation for Improving Vascular and Cognitive Function in Chronic Kidney Disease” NIH R01 HL134738 (co-I; P.I. Diana Jalal, U. Iowa)	2018-22	\$2,310,000
“MitoQ supplementation for restoring aerobic exercise training effects on endothelial function in postmenopausal women” NIH R56 AG072094 (co-I; P.I. Kerrie Moreau)	2022-23	\$359,000
“Nicotinamide riboside supplementation for treating arterial stiffness and elevated systolic blood pressure in patients with moderate to severe CKD” NIH R01 DK121516 (co-I; P.I., Michel Chonchol)	2019-24	\$1,798,062
“Time-efficient inspiratory muscle strength training for improving blood pressure and vascular function in older adults with sleep disordered breathing” NIH R01 AG065346 (co-I; P.I., Fiona Bailey)	2020-25	\$2,220,627
“Bicarbonate administration and cognitive function in midlife and older adults with CKD” NIH R21 AG068657 (co-I; P.I., Jessica Kendrick)	2020-22	\$275,000
“Feasibility and efficacy of time restricted feeding in kidney disease” NIH R01 DK126668 (co-I; P.I. Kristen Nowak)	2021-26	\$2,914,921
“Inspiratory muscle strength training for lowering blood pressure in midlife and older adults with chronic kidney disease: comparison with standard of care aerobic exercise” NIH R01 DK130266 (co-I; M.P.I. M. Chonchol, K. Nowak)	2021-26	\$2,340,934

Institutional Research Training Awards

“University of Colorado Integrative Physiology of Aging Training Grant” NIH T32 AG000279 (co-PI) (P.I., Robert Schwartz)	2018-23	\$3,023,249
"Post Graduate Studies in Cardiovascular Research" NIH T32 HL007822 (co-I.) (P.I., Peter Buttrick)	2019-24	\$1,544,442
“Institutional Training Program in Nutrition” NIH T32 DK007658 (co-I)	2018-23	\$1,091,695

“University of Colorado Interdisciplinary Training in Demography and Genetics” NIH T32 AG052371 (co-I; P.I., Jason Boardman, CUB)	2017-22	\$1,406,163
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Center Grants

“Univ. of Colorado Nutritional Obesity Research Center” NIH NIDDK 2P30DK048520 (Co-I)	2021-26	\$764,525
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Primary Mentor (Sponsor)

Individual Research Career Development Awards

"Translational studies of cellular senescence as a regulator of doxorubicin-mediated arterial dysfunction" NIH FK99/R00 HL159241(P.I., Zachary Clayton)	2022-27	\$1,073,235
"Role of the human gut microbiome in mediating age-associated vascular endothelial dysfunction" NIH F31HL160173 (P.I., Abigail Casso)	2022-25	\$133,946
Role of the human gut microbiome in modulating age-associated aortic stiffening" NIH F31HL164004 (P.I., Nathan Greenberg)	2022-25	\$117,777
"Role of the human gut microbiome in mediating age-associated vascular endothelial dysfunction" AHA predoctoral fellowship (P.I., Abigail Casso) (declined to accept NIH F31 award)	2022-24	\$64,072
"Targeting Cellular Senescence with Fisetin to Improve Age-Related Vascular Endothelial Dysfunction" American Physiological Society Porter Physiology Development Fellowship (P.I., Sophia Mahoney)	2022-23	\$28,300
"Targeting Cellular Senescence with Oral Fisetin Supplementation to Improve Vascular Aging" NIH F31HL165885 (P.I., Sophia Mahoney)	2022-25	\$119,586
"Mitochondria-targeted antioxidant supplementation for improving age-related vascular dysfunction in older adults" AHA postdoctoral fellowship AHA 23POST1025630 (P.I., Kevin Murray)	2023-25	\$137,604
“NAD+ Therapy for Improving Memory and Cerebrovascular Function in Patients with MCI” NIH KO1 AG054731 (P.I., Christopher Martens)	2018-23	\$678,398
“Sodium Nitrite Supplementation for Improving Physiological Function in Patients with Chronic Kidney Disease” NIH KO1 DK115524 (P.I., Matthew Rossman)	2018-23	\$829,036
“Sodium Nitrite Supplementation for Improving Physiological Function in Patients with Chronic Kidney Disease” NIH K01 DK115524-05S1 (P.I., Matthew Rossman)	2023-24 (NIDDK K01 extension/supplement)	\$162,210
“Novel time-efficient inspiratory muscle strength training for lowering systolic blood pressure and improving endothelial, cerebrovascular, and cognitive function NIH K01 HL153326 (P.I., Daniel Craighead)	2020-25	\$832,000

"Nicotinamide riboside supplementation for decreasing inflammation in middle-aged and older adults" NIH F31 HL154782 (P.I., Kaitlin Freeberg)	2020-23	\$130,204
"Translational studies of the short-chain fatty acid acetate for improving age-associated arterial dysfunction" NIH FK99/R00 HL151818 (P.I., Vienna Brunt)	2021-26	\$807,864
"Age-related arterial dysfunction and gut dysbiosis in mice and cetaceans" European Union Marie Skłodowska-Curie Individual Fellowship MSCA-IF-GF 892267 (P.I., Yara Bernaldo de Quirós)	2021-23	\$245,732

Co-Mentor

Individual Research Career Development Awards

"Autophagy regulates β -hydroxybutyrate synthesis to prevent hypertension-associated premature vascular aging" NIH K99 HL151889 (P.I. Cameron G. McCarthy)	2020-2025	\$972,742
"Autophagy regulates β -hydroxybutyrate synthesis to prevent hypertension-associated premature vascular aging" American Heart Association Career Development Award: 20CDA35290004 (P.I. Cameron G. McCarthy) (declined due to acceptance of K99 award)	2020-2023	\$231,000
"Angiotensin-(1-7) and beta adrenergic receptor signaling in aging" NIH K99/R00 HL159272 (PI: Amanda Miller)	2022-27	\$961,960

Primary Mentor (Sponsor)

Institutional Research Training Grant Awards

NIH institutional training grant (T32) trainee positions are not listed individually here or below. However, >20 pre-doctoral trainees and >30 postdoctoral trainees have been supported by the above-described Institutional Research Training Awards since 2000.

III. Completed Grant Funding (listed in order from earliest to most recently completed)

1980-89 (start date)

"Cardiovascular Adaptations to Training in Older Humans" NIH National Research Service Award (P.I.)	1982-84	\$32,000
"Mechanisms Mediating Naloxone-Induced Hypothermia" NIH Biomedical Research Support Grant (P.I.)	1984-85	\$7,500
"Direct Intra-neural Measurement of Sympathetic Nerve Activity in Humans: Microneurography" NIH Biomedical Research Support Grant (P.I.)	1985-86	\$6,900
"Training, Cardiac Autonomic Tone and Baroreflex Sensitivity" American Heart Association, Arizona Affiliate (P.I.)	1986-87	\$25,000
"Hypertension in the Elderly: Effects of Exercise" NIH R01 AG06537 (P.I.)	1986-90	\$393,999
"Regulation of Sympathetic Nerve Activity During Exercise" NIH Biomedical Research Grant (P.I.)	1986-87	\$3,500
"Training in Cardiovascular Physiology"	1987-92	\$1,038,850

NIH T32 HL07249 (Co-I.) (P.I., Paul Johnson)	1992-97	\$1,404,546
"Regulation of Sympathetic Nerve Activity During Exercise in Humans" University of Arizona Small Grant (P.I.)	1987-88	\$5,000
"Sympathetic Nerve Activity During Exercise in Humans" American Heart Association, Arizona Affiliate (P.I.)	1987-88	\$18,451
"Mechanisms Mediating Post-Exercise Hypotension in SHR" NIH F32 HL07574 (Sponsor) (P.I., Kevin Kregel)	1987-90	\$71,000
"Regulation of Sympathetic Nerve Activity During Exercise" NIH RO1 HL39966 (P.I.)	1988-92	\$288,326
"Hypertension in the Elderly: Effects of Exercise" (P.I.) NIH KO4 AG00423 - Research Career Development Award	1988-93	\$242,400
"Measurement of Sympathetic Nerve Activity in Humans" NIH Small Instrumentation Grant (P.I.)	1989-90	\$12,313
1990-99		
"Aging: Sympathetic-Vasoconstrictor Response to Stress" NIH F32 AG05518 (Sponsor) (P.I., Alex Ng)	1990-93	\$80,000
"Sympathetic Nervous System Activity and Human Aging" NIH RO1 HL AGO6537 (P.I.)	1990-95	\$705,862
"Graduate Training in Systems and Integrative Physiology" NIH T32 GM08400 (Co-I.) (P.I., Roger Enoka)	1991-96	\$600,000
"Autonomic Research in Humans" NIH Small Instrumentation Grant (P.I.)	1991	\$10,160
"Systemic O ₂ Modulation of Sympathetic Activity in Humans" NIH F32 HL08834 (Sponsor) (P.I., Kevin Davy)	1993-96	\$105,900
"Hypertension in Postmenopausal Women: Effect of Exercise" NIH F32 HL08870 (Sponsor) (P.I., Edith Stevenson)	1993-96	\$105,900
"Influence of Regular Exercise on Blood Pressure and Other Risk Factors for Heart Disease in Older Women with Mild Hypertension" AARP Andrus Foundation (P.I.)	1993-95	\$75,000
"Respiratory Modulation of Sympathetic Activity in Humans" NIH RO1 HL39966 (P.I.)	1994-00	\$413,717
"Sympathetic Nerve Activity and Adiposity in Human Aging" NIH F32 AG05705 (Sponsor) (P.I., Pamela Parker Jones)	1995-97	\$77,000
"Respiratory Modulation of Sympathetic Activity in Humans" NIH NHLBI Minority Postdoctoral Supplement Award to RO1 HL39966 (Sponsor) (P.I., Christopher DeSouza)	1995-99	\$162,760
Colorado Clinical Nutrition Research Unit NIH DK48520 (Co-I) (P.I., James Hill)	1995-00	\$3,075,000
"Obese Postmenopausal Women: Effects of Exercise & Diet" NIH F32 AG/HL05717 (Sponsor) (P.I., Hirofumi Tanaka)	1996-99	\$74,908
	1996-98	\$77,000
"Sympathetic Nervous System Activity and Human Aging"	1996-01	\$1,158,642

NIH RO1 HL AGO6537 (P.I.)		
"Diet and Exercise Effects in Obese Postmenopausal Women" NIH KO1 AG00687 (Sponsor) (P.I., Kevin Davy)	1996-01	\$390,279
"Exercise in Hypertension-Prone Postmenopausal Women" NIH KO1 AG00699 (Sponsor) (P.I., Edith Stevenson)	1996-01	\$390,309
"Mechanisms of Cardiovascular Disease and Gene Therapy" NIH T32 HL07851 Doctoral/Postdoctoral Training (Co-I) (P.I., Leslie Leinwand)	1996-01	\$908,188
"Effects of Exercise in Hypertensive Postmenopausal Women" NIH RO1 AG13038 (P.I.)	1996-00	\$744,314
Institutional Training Program in Nutrition NIH T32 DK07658 (Co-I) (P.I., James Hill)	1996-01	\$625,000
"Postgraduate Training in Cardiovascular Research" NIH T32 HL07822 (Co-I.) (P.I., Michael Bristow)	1996-01	\$1,523,243
"Effects of Exercise in Hypertensive Postmenopausal Women" NIH NIA Minority Postdoctoral Supplement Award to RO1 AG13038 (Postdoctoral Fellowship Sponsor) (P.I., Christopher DeSouza)	1996-99	\$128,415
"Effects of Exercise in Hypertensive Postmenopausal Women" Competitive Supplement to NIH RO1 AG13038 (P.I.)	1997-00	\$95,798
"Age & Sympathetic Metabolic-Cardiovascular Regulation" NIH KO1 AG00828 (Sponsor) (P.I., Pamela Parker Jones)	1998-03	\$447,987
"Effects of Exercise in Hypertensive Postmenopausal Women" NIH NIA Research Supplement for Underrepresented Minority Graduate Research Assistants to RO1 AG13038 (Sponsor) (P.I., Yoli Casas)	1998-00	\$54,987
"Age, Habitual Exercise, and Arterial Compliance" NIH KO1 AG00847 (Sponsor) (P.I., Hirofumi Tanaka)	1998-03	\$451,623
"Endothelial Function: Aging and Physical Activity Status" American Heart Association, AHA CFWF-02-98 (Sponsor)	1998-99	\$34,900
"Endothelial Function: Aging and Physical Activity" NIH RO3 AG16071 (P.I.)	1998-00	\$50,000
"Aging, Exercise and Endothelial Function" NIH KO1 HL03840 (Sponsor) (P.I., Christopher DeSouza)	1998-03	\$449,899
"Aerobic Capacity and Strength with Age in Hispanic Women" NIH RO3 AG16387 (P.I.)	1998-00	\$50,000
"Aging and Postprandial Hypotension in Humans: Autonomic-Cardiovascular Mechanisms" American Heart Association (Sponsor) (P.I., Chris Bell)	1999-01	\$70,000
2000-09		
"Age, Exercise, Thermogenesis & Postprandial Hypotension" NIH RO1 AG15897 (P.I.)	2000-05	\$990,225

"Sodium Restriction & Arterial Compliance in Older Humans" NIH RO1 AG13038 (P.I.)	2000-04	\$1,058,356
Colorado Clinical Nutrition Research Unit NIH DK48520 (Co-I) (P.I., James Hill)	2000-04	\$5,200,000
General Clinical Research Center-Boulder Campus Satellite PHS 501 RR-00051 (Asst. Program Director)	2000-01	\$2,817,913
"Aging, Limb Vascular Resistance, and Sympathetic Tone" NIH NRSA AG00847 (Sponsor) (P.I., Kerrie Moreau)	2000-02	\$69,932
"UCHSC Aging Training Grant" NIH T32 AG00279 (Co-PI) (P.I., Robert Schwartz)	2001-06	\$1,190,254
"Mechanisms for Reduced Limb Perfusion with Human Aging" NIH NIA R21 AG19365 (P.I.)	2001-03	\$300,000
"Institutional Training Program in Nutrition" NIH T32 DK07658 (Co-I) (P.I., James Hill)	2001-06	\$755,000
"Mechanisms of Cardiovascular Disease and Gene Therapy" NIH T32 HL07851 (Co-I) (P.I., Leslie Leinwand)	2001-06	\$847,981
"Age, Gender, Exercise & Autonomic-Physiological Function" NIH RO1 AG06537 (P.I.)	2001-06	\$1,250,000
"Effect of Dietary Sodium Restriction on Systolic Blood Pressure: Role of Dynamic Arterial Compliance" AHA Postdoctoral Fellowship 0225451z (Co-Sponsor) (P.I., Phil Gates)	2002-04	\$82,192
"Influence of Age on Vestibular Sympathetic Reflexes" NIH F32 HL67624 (Sponsor) (P.I., Kevin Monahan)	2002-04	\$77,032
"General Clinical Research Center-Boulder Campus Satellite " PHS 501 RR00051 (Asst. Program Director, 2000-04)	2002-07	\$7,295,905
"HRT and Exercise Effects on Central Arterial Compliance" NIH NIA KO1 AG20683 (Sponsor) (P.I., Kerrie Moreau)	2002-07	\$567,980
"Age and Gender Effects on Cerebral Blood Flow" NIH F32 AG20023 (Sponsor) (P.I., Stacy Beske)	2003-04	\$46,420
"Gender, Age, and Autonomic Nervous System "Support" of Blood Pressure" AHA Postdoctoral Fellowship (Sponsor) (P.I., Demetra Christou)	2003-05	\$100,921
"Developing Endphenotypes for Response to Exercise" NIH NIMD RO3 (Co-I) (P.I., Angela Bryan)	2003-05	\$100,000
"Cardiovascular Bioengineering and Imaging" NIH T32 HL72738 (Co-I.) (P.I., Robin Shandas)	2003-08	\$872,510
"An Investigation of Jin Shin Treatment after Stroke" NIH NCCAM KO1 AT1177 (Sponsor) (P.I., Teresa Hernandez)	2003-08	\$516,426
"Matrix Metalloproteinases, Exercise and Muscle Damage " NIH K01 AR050505 (Co-sponsor) (P.I., David Allen)	2003-08	\$602,780
"Sympathetic Nervous System & Metabolism in Older Humans" NIH K01 AG022053 (Sponsor) (P.I., Chris Bell)	2004-09	\$568,670

“HRT, SERMs & Leg Blood Flow in Postmenopausal Women” NIH RO1 AG022241 (P.I.)	2004-08	\$1,000,000
“Mediators & Moderators of Exercise Behavior Change” NIH R01 CA109858 (Co-I) (P.I., Angela Bryan)	2004-09	\$1,664,232
“Population Aging Center” NIH P30 AG017248 (Co-I) (P.I., Jane Menken)	2004-09	\$2,000,000
“Human Aging, Exercise, & FMD: Translational Physiology” NIH R37 AG013038 (PI) (MERIT Award)	2004-15	\$2,100,000
"Aging, Abdominal Obesity & FMD: Translational Physiology" NIH K01 AG025194A (Sponsor) (P.I., Stacy Beske)	2005-07	\$221,652
“Human Aging & β -adrenergic Modulation of Thermogenesis” NIH RO1 AG15897 (P.I.)	2005-12	\$1,250,000
"Weight Loss, Inflammation, and Vascular Endothelial Function in Older Adults" NIH R01 AG006537 (PI)	2006-13	\$1,474,955
Postdoctoral Research Fellowship Swedish Research Council (Sponsor) (P.I., Catarina Rippe)	2007-09	\$116,400
“Inflammatory Suppression of Endothelial Function with Aging and Habitual Exercise” AHA Predoctoral Fellowship 0715735Z (Sponsor) (P.I., Ashley Walker)	2007-08	\$48,000
“Mechanisms of Improved Endothelial Function with Regular Exercise in Older Adults” NIH KO1 AG029337 (Sponsor) (P.I., Anthony Donato)	2007-12	\$556,000
"Reduced Inflammatory Suppression of EDD with Habitual Exercise in Older Adults” NIH R01 AG031141 (PI)	2008-13	\$1,179,787
“Inflammatory Suppression of Endothelial Function with Aging and Habitual Exercise” NIH F31 AG031617 (Sponsor) (P.I., Ashley Walker)	2008-10	\$48,000
ARRA Administrative Supplement Providing Summer Research Experiences for Students and Science Educators: NOT-OD-09-060 (PI) (parent grant: R37 AG013038)	2009-10	\$14,800
ARRA Administrative Supplement Providing Summer Research Experiences for Students and Science Educators: NOT-OD-09-060 (PI) (parent grant: R01 AG006537)	2009-10	\$14,800
“Vascular Endothelial Dysfunction in Older Adults: Dietary Sodium Restriction NIH F31 AG033994 (Sponsor) (P.I., Kristen Jablonski)	2009-11	\$58,752
“Aging, Western Diet and Physiological Dysfunction: Exercise and Inflammation” NIH KO1 AG033196 (Sponsor) (P.I., Lisa Lesniewski)	2009-12	\$347,325

2010-present

Reticulum Stress in Obesity-Related Endothelial Dysfunction” NIH KO1 DK087777 (Co-sponsor) (P.I., Christopher Gentile)	“Role of Endoplasmic 2010-14	\$521,540
“Cardiovascular Aging Research” Japanese Physiological Society Postdoctoral Research Fellowship (Sponsor) (P.I., Mutsuko Yoshizawa)	2010-11	\$120,000 (US)
“Vitamin D and Arterial Function in Patients with CKD” NIH K23 DK087859 (Co-sponsor) (P.I., Jessica Kendrick)	2010-15	\$710,000
“Uric Acid & Vascular Endothelial Dysfunction in Patients with CKD” NIH K23 DK088833 (Co-sponsor) (P.I., Diana Jalal)	2010-15	\$710,000
“Role of Autophagy in Vascular Endothelial Dysfunction with Aging” NIH F31 AG039210 (Sponsor) (PI, Thomas LaRocca) “Clinical	2011-13	\$58,752
“Translation of Nitrite Therapy to Treat Arterial Aging in Humans” NIH R21 HL107105-01 (PI)	2011-14	\$275,000
“Aging, Arterial Dysfunction & Western Diet: Exercise & AMPK” NIH RO1 HL107120 (PI)	2011-15	\$1,000,000
“Vascular Effects of Dietary Salt in Humans with Salt Resistant BP” NIH R01 HL104106 (co-I) (William Farquhar, PI, U. Delaware)	2011-15	\$1,061,170
“Effects of Atrasentan on Vascular Function in Diabetes and CKD” Abbott Laboratories (PI)	2012-14	\$80,000
“Predoctoral Minority Supplement to R01 RO1 HL107120” NIH R01 RO1 HL107120 (PI, Lauren Cuevas)	2012-14	\$55,717
“Undergraduate Minority Supplement to NIH R21 AG042795” NIH R21 AG042795 (PI, Talia Strahler)	2012-14	\$49,809
“Clin. Trans. of Curcumin Therapy to Treat Arterial Aging...” NIH R21 AG042795 (PI)	2013-15	\$275,000
“Oral Trehalose Therapy to Reverse Arterial Aging...Older Adults” NIH F31 AG044031 (PI, Rachelle Kaplon)	2013-15.	\$75,908
Mayo Clinic NIH Metabolomics Center Pilot and Feasibility Grant "Effects of Curcumin Supplementation on the Plasma Metabolome of Older Adults: Relation to Vascular Function"	2014-15	\$50,000
“Nicotinamide Riboside Supplementation and Vascular Aging” Glenn/AFAR Postdoctoral Fellowship in Translational Aging Res. (P.I. Christopher Martens)	2014-15	\$55,000
“Role of IL-37 in Physiological Aging” Glenn/AFAR Postdoctoral Fellowship in Translational Aging Res. (P.I. Dov Ballak)	2015-16	\$55,000
“Mitochondria-Targeted Antioxidant Therapy in Age-Related arterial stiffness” NIH F31 AG047784 (PI, Rachel Gioscia-Ryan)	2014-16	\$65,848
“Predoctoral Minority Supplement to R37 AG013038” NIH R37 AG013038 (PI, Jessica Santos)	2012-16	\$250,000

“Exercise and Vascular Function in Chronic Kidney Disease” NIH R01 HL113514 (co-I) (David Edwards, PI, U. Delaware)	2013-16	\$750,000
“University of Colorado Aging Training Grant” NIH T32 AG000279 (Co-PI) (P.I., Robert Schwartz)	2012-18	\$3,023,249
“MitoQ Supplementation for Improving Vascular Endothelial Function in Older Adults” NIH F32 AG053009 (PI, Matthew Rossman)	2016-18	\$110,412
“Enhancing Function in Later Life: Exercise and Functional Network Connectivity” NIH R01AG043452 (co-I) (Angela Bryan, PI, CUB, Psych/Neuro)	2014-19	\$2,346,068
“MitoQ Supplementation for Improving Vascular Endothelial Function in Older Adults” R21 AG049451 (PI)	2016-19	\$275,000
“Blueberry consumption for improving vascular endothelial dysfunction in postmenopausal women with elevated blood pressure” U.S. Blueberry Council Research Award (co-I; Sarah Johnson, PI, CSU)	2017-19	\$138,028
“Translational Studies of Interleukin-37, a Novel Anti-Inflammatory Cytokine, for Prevention and Treatment of Inflamm-aging and Age-Associated Physiological Dysfunction” R21 AG053804 (PI)	2016-19	\$275,000
“Institutional Training Program in Obesity and CVD” NIH T32 HL116276 (co-I) (P.I., Robert Eckel)	2014-19	\$1,500,695
“Nitrite Supplementation for Improving Physiological Function in Older Adults” NIA R01 AG013038-19 (PI)	2014-20	\$2,028,995
“Role of NAD+ Bioavailability in Vascular and Renal Dysfunction in Aging and CKD” NIH KO1 AG047626 (P.I., Amy Sindler)	2015-20	\$643,410
“Translational Studies of Gut-derived Trimethylamine N-Oxide: A Target for the Prevention and Treatment of Age-Associated Vascular Endothelial Dysfunction” NIH F32 HL140875 (PI, Vienna Brunt)	2018-20	\$113,760
“Efficacy of Inspiratory Muscle Strength Training for Improving Blood Pressure and Vascular Function in Mid-Life Adults” AHA Postdoctoral Fellowship (PI, Daniel Craighead)	2018-20	\$103,328
“Efficacy of Inspiratory Muscle Strength Training for Improving Blood Pressure and Vascular Function in Mid-Life Adults” Ruth L. Kirschstein NRSA, F32 (PI, Daniel Craighead) (declined)	2018-20	\$113,760
“Inspiratory muscle strength training for lowering blood pressure in hypertensive mid-life adults” NIH R21 AG061677 (P.I.) --NIA ADRD admin. supplement	2019-21	\$275,000
Diversity Supplement for Akpevwe Ikoba to Nicotinamide riboside supplementation for treating elevated systolic blood pressure and arterial stiffness in middle-aged and older adults.	2019-21	\$100,000
		\$142,660

NIH R01 AG061514 (P.I.)

“Translational Studies of Age-Associated Arterial Dysfunction, Western Diet and Aerobic Exercise: Role of the Gut Microbiome” NIH R01 HL134887 (P.I.)	2017-21	\$2,299,260
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“Administrative Supplement to DMB (3,3-dimethyl-1-butanol) as a novel translational strategy for preventing and treating gut dysbiosis-associated arterial aging” (Office of Dietary Suppl.) NIH R21 AG060884 (P.I.)	2020-21	\$100,000
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"Mitochondrial Oxidative Stress: A Target for Treatment for Doxorubicin-Associated Vascular Endothelial Dysfunction" NIH F32 HL151022 (PI, Zachary Clayton)	2020-21	\$120,000
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Teaching/Mentoring

I. Courses Taught and M. S. Students Mentored, University of Arizona (1985-1992)

Cardiovascular Exercise Physiology (graduate)	25 students/class	1986-92
Colloquium in Kinesiology (graduate)	25 students/class	1988-92

M.S. students mentored (current position):

Mary Jo Reiling (staff research assistant, UC Boulder)

Jeffery Jasperse (Professor, Dept. Biology, Pepperdine University)

Gregory Hand (Professor and Dean of the School of Public Health, West Virginia University)

II. Courses Taught and Students Mentored, University of Colorado Boulder (1992-present)

Undergraduate

IPHY 3590 – Heath and Function over the adult lifespan	25 students/class	2019
IPHY 3430 – Introduction to Human Physiology	90 students/class	2015-16
IPHY 3480 – Human Physiology II	150 students/class	2012
KINE 4660 – Special Topics in Kinesiology	25 students/class	1993-95
KINE/IPHY 4100/5100 – Colloquium in Kinesiology	20 students/class	1993-03
Hughes Program for High School Science Teachers Cardiovascular Exercise Physiology	20 students/class	1996
Research Mentor for BVSD High School Science Students	5 students/class	2002
MCDB 4100: From Bench to Bedside: The Role of Science in Medicine (2, 75 min sessions; course instructor Leslie Leinwand)	35 students/class	2008, 09

Undergraduate Student Research Mentoring (>100 total)

Heather Keith	Aging and physiological adjustments to exercise*	1993-94
Shannon Eastman	Aging and cardiovascular function	1994
Mariko Oshiro (UROP)	Aging and sympathetic activity	1994-96
Geri-Lyn Witalec	Habitual exercise effects with aging	1995
Wendy Van Westing	Autonomic activity and aging	1996
Yoli Casas	Body composition with aging in Hispanic women*	1997

Indira Srivastava	Aging and autonomic function	1998-99
Azita Jacobsen	Physiological function with aging in Hispanic women	1998
Lara Kroepsch	Vascular function with aging	1998-99
Xan Courville	Hemodynamic changes with aging	1998
Stella Verdos (UROP)	Arterial stiffness and aging in women	2000-02
Txheng Yang (McNair/UROP)	Sympathetic modulation of energy expenditure with aging	2001
Damond Vigil	Vascular function in Master's athletes	2002
Meghan Mayhood (URAP)	Vascular aging and renin angiotensin system function	2002-04
James Watt (URAP)	Beta-adrenergic modulation of energy metabolism	2002
Auora Arlet	Weight loss and vascular dysfunction	2002
Rebecca Kasperson	Hormone replacement therapy and vascular function	2002
Elizabeth Abbout	Exercise training and endothelial function with aging	2003-04
Cassandra Roeca (UROP)	Mononuclear cell gene expression and aging*,**	2003-07
Adam Levy (UROP)	Vascular endothelial cell protein expression and aging	2003-06
Nathaniel Motte (UROP)	Role of P450 system in vascular aging*	2003-06
Ali Samek (UROP)	Exercise training, aging, vascular dysfunction	2003-05
Nick LeBois (UROP)	Renin angiotensin system and vascular aging	2003-05
Jessica Welch	Exercise training effects with aging	2003-04
Chelsey Sova (URAP)	BH4 bioactivity and vascular aging	2004-05
Pa Kou Xiong (McNair)	Diet effects on energy metabolism in minority pop's	2004-05
Natalie Pitts	Molecular mechanisms in vascular aging	2005-06
C. Depperschmidt (UROP)	Integrative vascular aging	2005-06
John Anderson	Extracellular superoxide dismutase, aging and exercise	2005-07
Shelley Cooper (URAP)	Beta-adrenergic modulation of RMR: adiposity effects	2005-06
Monica Muniga	Exercise training and vascular endothelial dysfunction	2005-06
Sophia Nguyen	Cellular mechanisms in age-related vascular dysfunction	2005-06
Patrick Gonzales (HHMI)	Habitual exercise and endothelial dysfunction w/aging**	2005-07
Molly Russell (BURST)	Vascular aging in a new mouse model	2006-07
Jennifer Katzenburg (UROP)	Exercise training of older men and women	2006-07
Frank Hall (SURE)	Establishing a mouse model of arterial aging	2006
Amber Hull (UROP)	PPAR alpha, habitual exercise and aging	2006-07
Katie Magerko (UROP)	Developing a vascular aging master database	2006-08
Henry Wright (UROP)	PPAR alpha and vascular aging	2007-08
Muham. Hamza (BURST)*	SIRT-1 and age-related endothelial dysfunction	2008-10
Charlie Echeverria	Clinical vascular aging research	2009-10
Candace Geolfos (UROP/B.)	Arterial stiffness, aging & voluntary wheel running	2009-10
A. Van Engelenburg (UROP)	Histochemical changes to arteries with aging/exercise	2009-10
Natasha Marvi (UROP)*	Arterial aging and advanced glycation endproducts	2010-11
Elena Pellicer (BURST)	Dietary sodium restriction and vascular function	2010-11
Forrest Brooks (BURST)	Vitamin D supplementation and vascular dysfunction	2010-11
Hylke Snieder (BURST)	Curcumin treatment effects on arterial aging	2010-11
Cody Johnson	Anti-inflammatory effects of regular exercise with aging	2010
Laura Liu	Structural changes to large elastic arteries with aging	2010
Samuel Pabon (NIH)**	Habitual aerobic exercise and arterial aging	2009-10
Molly Monnet	Vascular endothelial dysfunction with age	2010
Sanjana Ahsan	Interventions to reverse arterial aging	2010

Undergraduate trainees since 2011 (starting year in lab shown; all supported by UROP, BURST, etc.)

2011: Charlie Echeverria, Sammy Chettat, Devon Anderson, Jackson Kloor, Tsuzumi Kanaoka, Anji Yang, Sanjana Ahsan

2012: Julia Bowers, Tricia Brennan, Tyler Hagen, Anaheed Little, Natalie de Picciotto, Bryant Pham, Talia Strahler*, **, Emily Walter, Paul Sugano-Dyson, Hanna Beck

2013: Elizabeth Amann, Nina Bispham, Will Duzan, Evan Lian; Anna Van Boekel; Adebosoye Sanjana Ahsan, Olateru-Olagbegi**

2014: Hannah Beck, Evan Lian; Laura Stauber; Chase Daugherty; Zach Leins

2015: Victoria Vorwald; Julie Edmonds (post-bac program); Aaron Wildman

2016: Brandon Aguirre; Mark Larsen; Kayla Woodward; Alyssa Evans (post-bac); Zack Condon (post-bac); Claire Denny

2017: Hailey Lynch; Mackinzie Hamilton; Phillip Goldman; Ross Tanick

2018: Abby Casso; Makinzie Hamilton; Kathy Nguyen; Kayla Woodward

2019: Phillip Goldman; Makinzie Hamilton; Kathy Nguyen*; Kayla Woodward*; David Hutton; Tony Sun

2020: Rose Goodman; Tony Sun; John VanHecke; Makinzie Hamilton*

2021: McKinley Coppock

2022: Alexandra Lindquist; Lucy Egan; Ashley Darrah; Macey Feign; Josh Rosen; Rebekah Yohanes; Hannah Watson; Shauna O'Neal; Molly Lee-Dodson

Honors Thesis *; NIH/NIA minority research fellowship**

Graduate

IPHY 5010—Graduate seminar	12 students/class	2015
GRAD 5000 – Responsible Conduct of Research	60-90 students/class	2012-20
IPHY 6010-802 – Physiology of Aging	10-25 students/class	2006-20
KINE/IPHY 6020/6640 – Systemic Cardiovascular Regulation	15 students/class	1994-06
KINE 6830 – Professional Skills for the Research Scientist	10-25 students/class	1999-2011

M.S. Graduate Student Research Mentoring (104 total)

Edith Stevenson	Maximal aerobic capacity with aging in females	1992
Susan Evans	Endurance exercise performance in females	1993-94
Shannon Alexander	Adiposity and sympathetic activity in humans	1994-96
Dean Rodgers	Aging and physiological responses to exercise	1994-96
Nadia Minclier	Aging, habitual exercise and heart rate variability	1994-95
Wendy Willis	Aging, habitual exercise and heart rate variability	1995
Megan Fitzgerald	Exercise status and VO ₂ max with aging in women	1995-96
Brian Hunt	Development of a system to measure cardiac output	1995-96
Rachael Van Pelt	Aging, habitual exercise and body composition	1995-96
Heather Keith	Aging and cardiovascular risk factors	1995-96
Brenda Davy	Exercise and CV risk factors with aging in women	1995
Stephanie Schaffer	Nutrition and CV risk factors with aging in women	1995-96
Andrew Graves	Measurement of autonomic function in humans	1996
Christopher Clevenger	Habitual exercise, aging and vascular function	1997-99
Frank Dinunno	Vascular aging in healthy adults	1997-99
Brian Schiller	Habitual exercise and aging in Hispanic women	1997-99
Adam Miller	Cardiovascular adaptations with aging	1997-99

Jocelyn Wilmot	Cardiac output measurement in humans	1997-98
Kevin Monahan	Habitual exercise, aging and autonomic function	1997-99
Teresa Wilson	Habitual exercise, aging and VO2max in men	1997-99
Hardy Butler	Computer-assisted assessment of blood flow	1997-98
Gretchen Keisling	Aging, habitual exercise and autonomic function	1998-00
Philip Anton	Vascular function, exercise and aging	1998-00
Yoli Casas	Body composition with aging in Hispanic women**	1998-00
Iratxe Eskurza	Habitual exercise, aging and VO2max in women	1998-00
Chris Martin	Cardiovascular health, exercise and aging	1998-00
Danielle Day	Aging and Muscle Sympathetic Nerve Activity	1999-01
Anthony Donato	Habitual exercise, aging and arterial stiffness	1999-01
Tera Tagliabue	Aging, exercise and vascular function	2000-01
Annemarie Pimentel	Longitudinal analysis of VO2max with aging	2001-03
Chris Gentile	Aging and beta-adrenergic modulation of RMR	2001-03
Jed Robinson	Brachial artery flow-mediated dilation with aging	2001-03
Laura Myerberg	Aging, exercise and vascular endothelial function	2002-04
John Carson	Autonomic function and exercise	2002-03
Luciano Mazzaro	Aortic input impedance with aging	2002-04
Meghan Boucher	L-arginine and endothelial dysfunction with aging	2003-05
Patrick Tierney	Analysis of vascular function with aging	2003-04
Kathleen Gavin	Hormone replacement and arterial stiffness	2003-05
Steve Almasi	Aortic input impedance, aging and exercise	2003-05
Kara Achen	Weight loss and endothelial function in older adults	2004-06
Melanie Connell	Renin angiotensin system and endothelial dysfunction	2004-06
Zach Kahn	Xanthine oxidase and endothelial dysfunction w/aging	2004-06
John Olson	Role of P450 system in vascular dysfunction w/aging	2005-06
Lindsay Edwards	Effects of weight loss on endothelial dysfunction	2005-07
Kevin Kerr	Beta-adrenergic receptors and aging	2005-07
Franny Benay	Weight loss effects on endothelial function in aging	2005-07
Jessica Durrant	In vivo assessment of endothelial function in mice	2006-08
Brian Folian	New mouse model of insulin resistance w/aging	2006-08
Lindsay Gardner	In vitro HUVEC model of vascular aging	2006-08
Kristen Jablonski	Aging, leg blood flow and oxidative stress	2006-08
Sara Marian Siebert	Multiplex assessment of inflammatory proteins	2006-08
Tara Fay	Aerobic exercise and endothelial function w/aging	2006-08
Martin Anderson	Vascular endothelial staining for oxidative stress	2007-08
Thomas Larocca	eNOS and aging	2007-08
Alexander Black	Immune cell inflammation of arteries with aging	2007-08
Molly Russel (BS/MA)	Influence of adipose tissue on vascular aging	2008-09
Katie Magerko (BS/MA)	Vascular aging and gene expression	2008-09
Mark Blimline	Cell culture model of vascular aging	2008-10
Qian Wang	Exercise training and vascular function	2009
Lahari Mohapatra	Green theory of aging	2009
Grant Henson	Measurement of reactive oxygen species with aging	2009-11
Kate Howell	Effects of TEMPOL on aging arteries	2009-11
Rachelle Kaplon	Anti-inflammatory treatment for arterial aging	2009-11
Kurt Marshall	Shift to fibroblast phenotype with endothelial aging	2009-11
Phil Rhodes	Measurement of aortic pulse wave velocity in mice	2009-10
Chris Hearon	SIRT-1 activation as treatment for arterial aging	2010-12
Mandy Marziaz	Curcumin treatment to reverse aging of arteries	2010
Matt Racine	Dietary sodium restriction to improve aging arteries	2010-12

Jason Eng	Intrinsic arterial stiffness and aging	2011-13
Trent Evans	Assessing overall aging phenotype in mice	2011-13
Jessica Santos	Trehalose treatment for arterial aging	2012-13
Cody Johnson	Circulating factors and arterial stiffness with aging	2012-14
Micah Battson	M. vaccae treatment for arterial aging	2012-14
Lauren Cuevas**	Mitochondrial dysfunction and arterial aging	2013-15
Talia Strahler*	Curcumin supplementation for vascular aging	2013-14
Natalie de Picciotto	Boosting NAD ⁺ bioavailability and vascular aging	2013-15
Sierra Hill	Curcumin supplementation for vascular aging in humans	2013-15
Kara Lubieniecki	Sodium nitrite to improve motor function in older adults	2013-15
Molly McNamara	Epigenetic changes with human aging	2013-15
Jamie Richey	Western diet and exercise effects on aging	2014-16
Blair Denman	Nicotinamide riboside supplementation and aging	2014-16
Melissa Mazzo	Time-restricted feeding and vascular aging	2015-17
Zack Sapinsley	IL-37 and physiological aging	2015-17
Chelsea Steward	Mitochondrial dysfunction and vascular aging	2016-18
Nina Bispham	Mitochondrial antioxidant treatment with MitoQ	2015-17
Hannah Rosenberg	Effects of heat therapy in vascular aging	2016-18
Tom Heinbockel	Inspiratory muscle strength training-vascular aging	2017-19
Jake Frye	Gut microbiome and vascular aging in humans	2017-19
Nick Van Dongan	Gut microbiome and vascular aging in mice	2017-19
Erzsie Nagy	MitoQ supplementation for vascular aging in humans	2017-19
Abby Longtine (Casso)	Aging, western diet, exercise and gut microbiome	2018-20
Kaiti Freeberg	Inspiratory muscle strength training: acute stimulus	2018-20

2019-21: Kathy Nguyen; Akpevwe Ikoba**; Nathan Greenberg; Narissa McCarty; Amanda Mercer; David Hutton

2020-22: Sophia Mahoney**

2021-23: McKinley Coppock; Sanna Darvish; Grace Mauer; Ravinandan Venkatasubramanian

2022-24: CeAnn Udovich; Gabrielle Orie

NIH/NIA minority research fellowship**

Doctoral, Postdoctoral Trainees and Junior Faculty Trainees

Doctoral Students (30 total)

J. Andrew Taylor, Ph.D.		1986-90
Present position:	Associate Professor Department of Medicine Harvard Medical School	
Peter B. Chase, M.D., Ph.D.		1985-88
Last position:	Associate Professor Department of Pharmacology and Toxicology University of Arizona School of Medicine	
Brian E. Hunt, Ph.D.		1995-99
Present position:	Associate Professor Applied Health Science Wheaton College	
Rachael E. Van Pelt, Ph.D.		1995-99
Last position:	Associate Professor	

	Department of Medicine (Geriatric Medicine) CU Denver Anschutz Medical Center	
Brian C. Schiller, Ph.D.		1996-00
Present position:	Medical Information Scientist	
Frank A. Dinunno, Ph.D.	1996-2000	
Present position:	Professor Department of Health and Exercise Science Colorado State University	
Kevin D. Monahan, Ph.D.		1996-00
Last position:	Associate Professor Department of Medicine (Cardiology) The Pennsylvania State University Medical School	
Linda F. Shapiro, M.D., Ph.D.		1997-00
Present position:	Director Longmont, Colorado Wellness Center	
Iratxe Eskurza, M.D., Ph.D.		1998-03
Present position:	Endocrinologist UC Health, Longmont, CO	
Annemarie E. Pimentel (Silver), Ph.D.		2001-05
Present position:	Senior Clinical Research Scientist at ZOLL Medical Corporation in Chelmsford, MA	
Ashley E. Walker		2004-10
Present position:	Assistant Professor Department of Human Physiology, University of Oregon	
Amy Stieg		2005-06
Present position:	Director of Clinical Affairs, Cala Health San Francisco, CA	
Ben Bikman		
Present position:	Associate Professor Physiology & Behavioral Biol., Brigham Young University	2005-06
Rachel Lindstrom		2005-06
Present position:	Senior Regional Medical Liaison, Amgen Denver, CO	
Melanie Connell (Zigler)		2006-08
Present position:	Senior Professional Research Associate Department of Integrative Physiology, CU Boulder	
Ruth Melo, Doctoral Student from Brazil (1-year research internship)		2007-08
Present position:	Assistant Professor, Exercise Physiology, Sao Paulo, Brazil	
Kristen Jablonski		2006-11
Present position:	Associate Professor Department of Medicine, CU Denver School of Med.	

Lindsey Gano		2006-12
Last position:	Postdoctoral Fellow Department of Pharmacology, CU Denver	
Martin Anderson		2008-09
Present position:	Research scientist, biotech industry	
Tom LaRocca		2008-12
Present position:	Assistant Professor Department of Health and Exercise Science and Center for Healthy Aging Colorado State University	
Phillip Rhodes		2009-10
Last position:	Staff Research Assistant Clinical Translational Research Center, CU Boulder	
Rachelle Kaplon		2011-15
Present position:	Staff scientist Medtronics, St. Paul, MN	
Rachel Gioscia-Ryan		2011-16
Present position:	Medical resident (anesthesiology) (MD, PhD) University of Michigan School of Medicine	
Jessica Santos-Parker		2012-16
Present position:	4 th year medical student University of Michigan School of Medicine	
Cody Johnson		2014-17
Present position:	Staff scientist Medtronics, St. Paul, MN	
Hannah Rosenberg		2016-18
Present position:	Clinical Research Scientist Geneva Foundation, Fort Lewis, WA	
Abby Casso		2020-present
Present position:	Doctoral student Department of Integrative Physiology University of Colorado Boulder	
Kaiti Freeberg		2020-present
Present position:	Doctoral student Department of Integrative Physiology University of Colorado Boulder	
Nathan Greenberg		2020-present
Present position:	Doctoral student Department of Integrative Physiology University of Colorado Boulder	
Sophia Mahoney**		2022-present
Present position:	Doctoral student Department of Integrative Physiology University of Colorado Boulder	

Postdoctoral Fellows (39 total)

Kevin Kregel, Ph.D.		1987-90
Present position:	Executive Vice President and Provost (Professor of Health and Human Physiology) University of Iowa	
Michael J. Joyner, M.D.		1987-90
Present position:	Professor and Distinguished Investigator Departments of Anesthesiology and Physiology Mayo Clinic Hospitals and Medical School	
Robin Callister, Ph.D.		1989-92
Present position:	Professor Department of Human Physiology University of Newcastle (Australia)	
Alex V. Ng, Ph.D.		1990-94
Present position:	Professor Department of Physical Therapy Marquette University	
Kevin P. Davy, Ph.D.		1992-95
Present position:	Professor Department of Human Nutrition, Foods, and Exercise Virginia Polytechnic Institute	
Edith Stevenson, Ph.D.		1993-96
Last position:	Research Associate Department of Kinesiology and Applied Physiology University of Colorado	
Mary Beth Monroe, Ph.D.		1997-99
Last position:	Instructor Department of Integrative Physiology CU Boulder	
Pamela Parker Jones, Ph.D.		1994-98
Last position:	Research Assistant Professor Department of Integrative Physiology CU Boulder	
Hirofumi Tanaka, Ph.D.		1995-98
Present position:	Professor Department of Health and Kinesiology University of Texas, Austin	
Christopher A. DeSouza, Ph.D.**		1995-99
Present position:	Professor Department of Integrative Physiology CU Boulder	
Christopher Bell, Ph.D.		1999-03
Present position:	Professor Department of Health and Exercise Science Colorado State University	

Kerrie L. Moreau, Ph.D.	1999-03
Present position:	Professor Department of Medicine (Geriatric Medicine) CU Denver School of Medicine
Demetra D. Christou, Ph.D.	2000-06
Present position:	Associate Professor Department of Kinesiology and Applied Physiology University of Florida
Phillip E. Gates, Ph.D.	2000-05
Last position:	Staff scientist Department of Medicine (Geriatric Med./VA) University of Utah School of Medicine
Darby S. Petitt, Ph.D.	2002-04
Last position:	Research Associate Department of Integrative Physiology CU Boulder
Kevin D. Monahan, Ph.D.	2002-03
Last position:	Associate Professor Department of Medicine The Pennsylvania State University Medical School
Stacy Beske, Ph.D.	2003-06
Present position:	Senior (Research) Program Manager Medtronics, St. Paul, MN
Iratxe Eskurza, Ph.D.	2003-06
Present position:	Endocrinologist UC Health, Longmont, CO
Nicole R. Stob, Ph.D.	2004-06
Present position:	Instructor Department of Integrative Physiology CU Boulder
Anthony J. Donato, Ph.D.	2005-10
Present position:	Professor Department of Medicine (Geriatric Med./VA) University of Utah School of Medicine
Gary L. Pierce, Ph.D.	2005-09
Present position:	Associate Professor Department of Health and Human Physiology University of Iowa
Lisa Lesniewski, Ph.D.	2006-10
Present position:	Associate Professor Department of Medicine University of Utah School of Medicine
Catarina Rippe, Ph.D.	2007-10
Present position:	Research Scientist Cellular Biomechanics Program Lund University, Sweden

Bradley Fleenor, Ph.D.		2008-12
Present position:	Assistant Professor Clinical Exercise Physiology, School of Kinesiology Ball State University	
Amy Sindler, Ph.D.		2009-14
Last position:	Assistant Professor Department of Health and Human Physiology University of Iowa	
Allison DeVan, Ph.D.		2010-13
Last position:	Academic Program and Research Consultant Medical College of Wisconsin	
Mutsuko Yoshizawa, Ph.D.		2010-12
Present position:	Associate Professor National Institute of Advanced Industrial Science/Tech. Ibaraki, Japan	
Thomas LaRocca, Ph.D.		2013-14
Present position:	Assistant Professor Department of Health and Exercise Science Center for Healthy Aging Colorado State University	
Jamie Justice, Ph.D.		2013-15
Present position:	Research Assistant Professor Sticht Center on Aging, Wake Forest School of Med.	
Dov (Duby) Ballak, Ph.D.		2014 -16
Present position:	Senior Policy Advisor Netherlands Federation of University Medical Centers Utrecht, The Netherlands	
Chris Martens, Ph.D.		2014 -17
Present position:	Assistant Professor Department of Kinesiology and Applied Physiology University of Delaware	
Matt Rossman, Ph.D.		2015 - 2019
Present position:	Assistant Research Professor Department of Integrative Physiology CU Boulder	
Vienna Brunt, Ph.D.		2016 - present
Present position:	Assistant Research Professor Department of Integrative Physiology CU Boulder	
Jessica Santos-Parker, Ph.D.		2016-17
Present position:	Postdoctoral Fellow/Research Associate Department of Integrative Physiology CU Boulder	

Daniel Craighead, Ph.D.	2017 - present
Present position:	Assistant Research Professor Department of Integrative Physiology CU Boulder
Zachary Clayton, Ph.D.	2018 - present
Present position:	Postdoctoral Fellow/Research Associate Department of Integrative Physiology CU Boulder
Kevin Murray, Ph.D.	2021 - present
Present position:	Postdoctoral Fellow/Research Associate Department of Integrative Physiology CU Boulder
Yara Bernaldo de Quiros Miranda, Ph.D.	2020 - present
Present position:	Assistant Professor (our equivalent) Instituto Universitario de Sanidad Animal y Seguridad Alimentaria UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA
Holden Hemingway, Ph.D.	2022 - present
Present position:	Postdoctoral Fellow/Research Associate Department of Integrative Physiology CU Boulder

Junior Faculty Research Mentoring: Laboratory trainees receiving NIH research career development (K) awards

Kevin P. Davy, Ph.D. (NIH K01 recipient)	1995-00
Edith Stevenson, Ph.D. (NIH K01 recipient)	1996-01
Pamela Parker Jones, Ph.D.* (NIH K01 recipient)	1998-03
Hirofumi Tanaka, Ph.D.* (NIH K01 recipient)	1998-03
Christopher A. DeSouza, Ph.D.* (NIH K01 recipient)	1999-04
Christopher Bell, Ph.D. (NIH K01 recipient)	2002-07
Kerrie L. Moreau, Ph.D.* (NIH K01 recipient)	2023-08
Anthony J. Donato, Ph.D.* (NIH K01 recipient)	2008-13
Lisa Lesniewski, Ph.D. (NIH K01 recipient)	2010-13
Amy Sindler, Ph.D. (NIH K01 recipient)	2015-20
Chris Martens, Ph.D. (NIH K01 recipient)	2018-23
Matt Rossman, Ph.D.* (NIH K01 recipient)	2019-24
Vienna Brunt, Ph.D.* (NIH K99/R00 recipient)	2020-25
Daniel Craighead, Ph.D.* (NIH K01 recipient)	2020-25

Zachary Clayton, Ph.D.* (NIH K99/R00 recipient)	2022-27
* Promoted to Research Assistant Professor	
Junior Faculty Research Mentoring (outside of laboratory trainees)	
Moni Fleshner, Ph.D. Department of Kinesiology and Applied Physiology/Integrative Physiology CU Boulder	1997-2004
Teresa Hernandez, Ph.D. (NIH K program clinical research transition) Department of Psychology and Neuroscience CU Boulder	2001-08
David Allen, Ph.D. Departments of MCDB and Integrative Physiology CU Boulder	2003-08
Marissa Ehringer, Ph.D. Institute of Behavioral Genetics/Department of Integrative Physiology CU Boulder	2003-09
Derek Smith, Ph.D. Department of Kinesiology University of Wyoming	2006-11
Jessica Kendrick, M.D. Department of Medicine CU Denver, AMC	2009-15
Diana Jalal, M.D. Department of Medicine CU Denver, AMC (now, Univ. of Iowa, College of Medicine)	2009-15
Christopher Gentile, Ph.D. Department of Food Sciences and Human Nutrition Colorado State University	2010-15
Sarah Johnson, Ph.D. Department of Food Sciences and Human Nutrition Colorado State University	2015-20
Anna Stanhewicz, Ph.D. Department of Health and Human Physiology University of Iowa	2018-20
Celine Vetter, Ph.D. Department of Integrative Physiology University of Colorado Boulder	2018-21
Cam McCarthy, Ph.D. NIH K99/R00 co-mentor Department of Physiology & Pharmacology University of Toledo College of Medicine and Life Sciences	2020-
Amanda Miller, Ph.D. NIH K99/R00 co-mentor Department of Neural and Behavioral Sciences Penn State College of Medicine	2021-

Service

Intramural

University of Arizona (8/85-7/92)

1988-92, University Committee for Biological Sciences Curriculum
1988-92, University Committee on Neuroscience
1989-92, Physiological Sciences Graduate Program
1989-91 (91-92, Chair) Physiological Sciences Graduate Program: Recruitment and Admission
1991-92, Physiological Sciences Graduate Program: Executive Committee
1990-92, Faculty for Training in Cardiovascular Physiology
1991-92, Faculty for Training in Systems and Integrative Physiology
1989, University Review Committee on Nutritional Science
1987-90, Heart Disease Prevention Committee, University Heart Center
1985-92, Departmental Graduate Committee

1986-87, Departmental Task Force on Aging, Co-chair
1985-87, 89, Arizona Exercise Science Meetings, Coordinator
1986-88, 90-92, Departmental Seminar Coordinator
1987-89 (89-91 Chair), University of Arizona Fitness Program Advisory Board
1991-92, Departmental Undergraduate Exercise Science Program Curriculum Chair
1990-92, Faculty Sponsor, Undergraduate Biological Research Program

University of Colorado Boulder/Denver (8/92 to present)

1993-2002, CU Boulder Human Research Committee, member
1992-93, Department of Kinesiology Program Review Self-Study Committee, Chair
1993-2000, Department of Kinesiology Seminar Coordinator
1993-98, Director, Human Autonomic Physiology Laboratory, UCHSC
1993-present, Center for Human Nutrition (UCHSC, UCB, CSU), Faculty member
1994-2009, Clinical Nutrition Research Unit (CNRU), Faculty Member
1994-present, Faculty, Center on Aging, UC-Denver
1994-2003, Department of Kinesiology Welfare Committee, member
1994-95, Department of Kinesiology Search Committee Chair
1995-96, Department of Kinesiology Moore Promotion Committee Chair
1995-96, Department of Kinesiology Wallace Promotion Committee Chair
1995-96, Department of Kinesiology Search Committee, member
1997, Roth Promotion and Tenure Committee, Chair
1997-2004, Senior faculty mentor for Monika Fleshner

2000-01, Graduate School Executive Advisory Council, member
2000-01, PRP Self-Study Research Performance Subcommittee, Chair
2003, Dept. of Kinesiology and Applied Physiology-IBG Search Committee, member
2000-04, Assistant Program Director, UC Boulder General Clinical Research Center
2003-09, Senior faculty mentor for Marissa Ehringer
2006-10, Senior faculty mentor for David Allen
2007, Chair of David Allen IPHY reappointment committee
2008-09, Chair, IPHY stress physiology faculty position search committee
2008-09, Chair, IPHY vascular aging faculty position search committee

2008-present, Member, College of Arts and Sciences Scholar Award Review Committee
 2008, Member, Boulder Faculty Assembly Excellence Awards Committee
 2008-12, CU Boulder representative on the Participant and Clinical Interactions Resources Oversight Committee, Colorado Clinical and Translational Sciences Institute (CCTSI)
 2009, CU Boulder, Office of Vice Chancellor for Research, reviewer for UC-B Innovative Seed Grant program

 2010-present, Faculty, NIH NIDDK-funded Nutrition Obesity Research Center, CU Denver AMC
 2010-present, Faculty, Obesity Research Center Program, CU Denver AMC
 2010-present, Faculty, Vascular Biology Center Program, CU Denver AMC
 2010, Lecturer, University of Colorado Academy for Lifelong Learning
 2010, Member, CU Boulder Facilities Focus Group
 2010, Chair, IPHY promotion and tenure committee (David Allen)
 2011, Member IPHY graduation committee
 2011, Chair IPHY search committee
 2011, Member IPHY self-review strategy planning committee
 2011-12, Member promotion and tenure committee (Matt McQueen)
 2011-present, Member Colorado Clinical and Translational Sciences Institute
 2011, established and directed Responsible Conduct of Research program, UC Boulder
 2011-present, lecturer CU Boulder Responsible Conduct of Research course
 2012-present: numerous public outreach presentations on healthy aging in Colorado
 2013-14, Chair IPHY space committee
 2014-Member, BioFrontiers Institute, Univ. of Colorado Boulder
 2014, Chair, IPHY faculty reappointment committee (Christopher Link)
 2015, Chair, reappointment committee (Susanne Nelson)
 2015, Host/organizer/presenter CU on the Weekend series on healthy aging
 2015, Presenter, CU Alumni winter meeting (healthy aging)
 2016-present, Advisory Board, Center for Fibrosis Research and Translation, AMC-CU Boulder
 2016-19, College of Arts and Sciences Personnel Committee
 2016, Distinguished Research Lecturer Selection Committee
 2016, Chair, reappointment committee (Ruth Heisler)
 2017, Primary Unit Evaluation Committee for tenure, Chris Link
 2017, Member, CU Boulder Working Group for Responsible Conduct of Research education
 2018, Chair, reappointment committee (Tom LaRocca)
 2022, Member, College of Arts and Sciences Faculty Senate
 2022, Member, College of Arts and Sciences Budget Committee
 2022-, Member, IPHY Awards Committee

Extramural

1985-88, Position Stands Committee, American College of Sports Medicine
 1987-1989, Editorial Board of *Medicine and Science in Sports and Exercise*
 1987, Ad hoc Member of Respiratory and Applied Physiology NIH study section,
 1985 to present, Journal Referee: *Journal of Applied Physiology*; *American Journal of Physiology*; *Circulation Research*; *Journal of Clinical Investigation*; *Journal of Physiology (London)*; *Hypertension*; *American Journal of Cardiology*; *Circulation*, *AGING*, *AGE*, *Aging Cell*, *Experimental Gerontology*, etc.
 1989-99, Editorial Board *Journal of Applied Physiology*
 1991-94, Regular Ad hoc member of Clinical Sciences II NIH study section
 1993-94, Rocky Mountain ACSM Regional Chapter Board member
 1994, NIH (NHLBI) Ad hoc member of project grant review committee
 1995, NIH (NIA) Ad hoc member of Pepper Center grant review committee
 1997-99, Co-Editor-in-Chief, *Exercise and Sport Sciences Reviews*

1998, NIA Clinical Aging Review Committee, ad hoc member
 1999-2003, NIA Clinical Aging Review Committee, permanent member
 1999-2005, Editor-in-Chief, *Exercise and Sport Sciences Reviews*
 1999-2008, Associate Editor, *Journal of Applied Physiology*
 2000-12, Faculty, NIA Summer Research Institute (week-long training program for new investigators in biomedical aging research)
 2003-2006, American College of Sports Medicine Board of Trustees
 2003-05, American College of Sports Medicine Program Committee
 2005, NIH (NHLBI) Ad hoc member of project grant review committee
 2006, External program reviewer, Faculty of Biological Sciences, University of Leeds, UK
 2006, External reviewer for doctoral candidate, Joost Oomen, Maastricht University, Holland
 2006-2008, Board Member, European Association for Cardiovascular Prevention and Rehabilitation
 2007-present, External Advisory Committee, INBRE Program (IDeA Network for Biomedical Research Excellence), University of Wyoming
 2007, NIH NIA Special Emphasis Panel reviewer
 2007, NIH NIA Claude C. Pepper Centers grant reviewer
 2007-present, regular member, NIH Aging and Systems Geriatrics Study Section
 2007, NIH NIA Intramural Cardiovascular Program reviewer
 2009, Mayo Clinic Rochester internal seed grant biomedical research program reviewer
 2010, Member, American Heart Association Writing Group on The Scientific Rationale for Population-Wide Sodium Reduction
 2011-present, Member Colorado State University Program of Research and Scholarly Excellence
 2015-present, Associate Editor, *AGE*
 2015, reviewer, NIA Nathan Shock Research Center grant program
 2016, Organizer/chair, Symposium on exercise and physiological function with aging, annual Experimental Biology meeting, San Diego, CA
 2016, Organizer/chair, Workshop on Geroscience: Vascular Aging, annual Gerontological Society of American meeting, New Orleans, LA
 2016-present, External Advisory Committee, Claude D. Pepper Older American Independence Center, University of Texas at San Antonio Health Sciences Center
 2017-present, External Consultant Board, NIH Molecular Transducers of Physical Activity Consortium
 2017, Academic Editor, *Translational Sports Medicine*
 2017, External Consultant, UTEP Molecular Transducers of Healthspan in Hispanics initiative
 2019, Consultant, Buck Institute on Aging Research, Novato, CA
 2019-present, Associate Editor, American Physiological Society *APSselect*

Publications

Complete List of Published Work Cited in PubMed (i.e., not including books chapters, etc.)
<https://www.ncbi.nlm.nih.gov/myncbi/douglas.seals.1/bibliography/public/>

Peer Reviewed Articles

2023

- Tanaka H, **Seals DR**. Scientific writing in physiology: confused/misused terms and phrases. *Journal of Applied Physiology*, in press.
 Smith ME, Wahl D, Cavalier AN, McWilliams GT, Rossman MJ, Giordano GR, Bryan AD, **Seals DR**, LaRocca TJ. Repetitive element transcript accumulation is related to inflammaging in humans. *GeroScience*, under review.

- Rezk-Hanna M, Rossman MJ, Ludwig K, Sakti P, Cheng C-W, Brecht M-L, Benowitz NL, **Seals DR**. Electronic hookah (waterpipe) vaping reduces vascular endothelial function: the role of nicotine. *Am J Physiol-Heart Circ Physiol*, in press.
- Seals DR**. The complete guide to hosting a guest speaker. *Advances in Physiology Education*, under review.
- Maurer GS, Murray KO, Gioscia-Ryan RA, Zigler MC, Ludwig KR, D'Alessandro A, Reisz JA, Rossman MJ, **Seals DR**, Clayton ZS. The plasma metabolome is associated with preservation of physiological function following lifelong aerobic exercise in mice. *Journal of Applied Physiology*, under review.
- Moreau K, Clayton Z, DuBose L, Rosenberry R, **Seals DR**. Effects of regular exercise on vascular function with aging: does sex matter? *Am J Physiol-Heart Circ Physiol* doi:10.1152/ajpheart.00392.2023.
- Cavalier AN, Clayton ZS, Wahl D, Hutton DA, McEntee CM, **Seals DR**, LaRocca TJ. Protective effects of apigenin on the brain transcriptome with aging. *Mechanisms of Aging & Development* 217 (2024) 111889.
- Mahoney SA, Venkatasubramanian R, Darrah MA, Ludwig KR, VanDongen NS, Greenberg NT, Longtine AG, Hutton DA, Brunt VE, Campisi J, Melov S, **Seals DR**, Rossman MJ, Clayton ZS. Intermittent supplementation with fisetin improves arterial function in old mice by decreasing cellular senescence. *Aging Cell* DOI: 10.1111/ace.14060.
- Seals DR**. Ponderings on peer review: Part 3. Grant critiques. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 325:R604-R618, 2023.
- Freeberg KA, Ludwig KR, Chonchol M, **Seals DR**, Rossman MJ. NAD⁺-boosting compounds enhance nitric oxide production and prevent oxidative stress in endothelial cells exposed to plasma from patients with COVID-19. *Nitric Oxide* 140-141:1-7, 2023.
- Seals DR**. Ponderings on peer review: Part 2. Manuscript critiques. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 325:R309-R326, 2023.
- Freeberg KA, Udovich CC, Martens CR, **Seals DR**, Craighead DH. Dietary supplementation with NAD⁺-boosting compounds in humans: current knowledge and future directions. *Journals of Gerontology: Medical Sciences* 78:2435-2448, 2023.
- Bhasin S, **Seals D**, Migaud M, Musi N, Baur J. Nicotinamide adenine dinucleotide in aging biology: potential applications and many unknowns. *Endo Rev* 44:1047-1073, 2023.
- Faria D, Moll-Bernardes RJ, Testa L, Moniz CMV, Rodrigues EC, Mota A, Souza F, Alves MJNN, Ono BE, Izaias JE, Sales A, Rodrigues AG, Araujo A, Salemi VMC, Jordao CP, De Angelis K, Craighead DH, Rossman MJ, Bortolotto L, Consolim-Colombo FM, Irigoyen MCC, **Seals DR**, Negrao CE, Sales ARK. Neurovascular and hemodynamic responses to mental stress and exercise in severe COVID-19 survivors. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*, in press.
- Clayton ZS, Rossman MJ, Mahoney SA, Venkatasubramanian R, Maurer G, Hutton DA, VanDongen NS, Greenberg NT, Longtine AG, Ludwig KR, Brunt VE, LaRocca TJ, Campisi J, Melov, **Seals DR**. Cellular senescence contributes to large elastic artery stiffening and endothelial dysfunction with aging: amelioration with senolytic treatment. *Hypertension* 80:2072-2087, 2023.
- Freeberg KA*, Craighead DH, Heinbockel TC, Rossman MJ, Jackman RAP, Jankowski LR, Katelyn Ludwig, Chonchol M, Bailey EF, **Seals DR**. Time-efficient, high-resistance inspiratory muscle strength training increases cerebrovascular reactivity in midlife and older adults. *American Journal of Physiology Heart and Circulatory Physiology* 325:H1059-H1068, 2023.

- Craighead DH*, Freeberg KA*, Heinbockel TC, Rossman MJ, Jackman RAP, Jankowski LR, Nemkov T, Reisz JA, D'Alessandro A, Chonchol M, Bailey EF, **Seals DR**. Time-efficient, high-resistance inspiratory muscle strength training increases exercise tolerance in midlife and older adults. *Medicine and Science in Sports and Exercise*, in press.
- LaRocca TJ, Smith ME, Freeberg KA, Craighead DH, Helmuth T, Robinson MM, Nair KS, Bryan AD, **Seals DR**. Novel whole blood transcriptomic predictors of changes in maximal aerobic capacity in response to endurance exercise training in healthy women. *Physiological Genomics* 55:338-344, 2023.
- Seals DR**. Ponderings on peer review: Part 1. Basic principles. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 325:R212-R226, 2023.
- Murray KO, Ludwig KR, Darvish S, Coppock ME, **Seals DR**, Rossman MJ. Chronic mitochondria antioxidant treatment in older adults alters the circulating milieu to improve endothelial cell function and mitochondrial oxidative stress. *American Journal of Physiology Heart and Circulatory Physiology* 325:1, H187-H194, 2023.
- Woolf E, Terwoord J, Litwin N, Vazquez A, Lee S, Ghanem N, Michell K, Smith B, Grabos L, Ketelhut N, Bachman N, Smith M, Le Sayec M, Rao S, Gentile C, Weir T, Rodriguez-Mateos A, **Seals D**, Dinunno F, Johnson S. Daily blueberry consumption for 12 weeks improves endothelial function in postmenopausal women with above-normal blood pressure through reductions in oxidative stress: a randomized controlled trial. *Food & Function* 14, 2621-2641, 2023.
- Longtine AG, Venkatasubramanian R, Zigler MC, Lindquist AJ, Mahoney SA, Greenberg NT, VanDongen NS, Ludwig KR, Moreau KL, **Seals DR**, Clayton ZS. Female C57BL/6N mice are a viable model of aortic aging in women. *American Journal of Physiology Heart and Circulatory Physiology* 324:H893-H904, 2023.
- Seals DR**. Publishing particulars: Part 1. The big picture. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 324:R381-R392, 2023.
- Seals DR**. Publishing particulars: Part 2. Tips for effective manuscript development. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 324:R393-R408, 2023.
- Seals DR**. Publishing particulars: Part 3. General writing tips, editing, and responding to peer review. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 324:R409-R424, 2023.
- Murray KO, Mahoney SA, Venkatasubramanian R, **Seals DR**, Clayton ZS. Aging, aerobic exercise, and cardiovascular health: barriers, alternative strategies and future directions. *Experimental Gerontology* 173 (2023) 112105.
- Brunt VE, Ikoba AP, Ziemba BP, Ballak DB, Hoischen A, Dinarello CA, Ehringer MA, **Seals DR**. Circulating interleukin-37 declines with aging in healthy humans: relations to healthspan indicators and IL37 gene SNPs. *GeroScience* 45:65-84, 2023.
- Faria D, Moll-Bernardes RJ, Testa L, Moniz CMV, Rodrigues EC, Rodrigues AG, Araujo A, Alves MJNN, Ono BE, Izaias JE, Salemi VMC, Jordao CP, Amaro-Vicente G, Rondon MUPB, Ludwig KR, Craighead DH, Rossman MJ, Consolim-Colombo FM, De Angelis K, Irigoyen MCC, **Seals DR**, Negrao CE, Sales ARK. Sympathetic neural overdrive, aortic stiffening, endothelial dysfunction, and impaired exercise capacity in severe COVID-19 survivors: a mid-term study of cardiovascular sequelae. *Hypertension* 80:470-481, 2023.

- Vreones M, Mustapic M, Moaddel R, Pucha K, Lovett J, **Seals D**, Kapoglannis D, Martens C. Oral nicotinamide riboside raises NAD⁺ and lowers biomarkers of neurodegenerative pathology in plasma extracellular vesicles enriched for neuronal origin. *Aging Cell* 22:e13754, 2023.
- Oh ES, Freeberg KA, Steele CN, Wang W, Farmer-Bailey H, Coppock ME, **Seals DR**, Chonchol M, Rossman MJ, Craighead D, Nowak K. Cerebrovascular pulsatility index is increased in chronic kidney disease. *Physiological Reports* 11:e15561, 2023.
- Craighead DH*, Tavoian D*, Freeberg KA, Mazzone JL, Vranish JR, DeLucia CM, **Seals DR**, Bailey EF. A multi-trial, retrospective analysis of the antihypertensive effects of high-resistance, low-volume inspiratory muscle strength training. *Journal of Applied Physiology* 133:1001-1010, 2022.
- Seals DR**. Talking the talk: tips for effective oral presentations in biomedical research. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 323:R496-R511, 2022.
- Murray KO, Berryman-Maciel M, Darvish S, Coppock ME, You Z, Chonchol M, **Seals DR**, Rossman MJ. Mitochondrial-targeted antioxidant supplementation for improving age-related vascular dysfunction in humans: A study protocol. *Frontiers in Physiology* (September 15) DOI 10.3389/fphys.2022.980783, 2022.
- Brunt VE, Greenberg NT, Sapinsley ZJ, Casso AG, Richey JJ, VanDongen NS, Gioscia-Ryan RA, Ziemba BP, Nielson AP, Davy KP, **Seals DR**. Suppression of trimethylamine N-oxide with DMB mitigates vascular dysfunction, exercise intolerance, and frailty associated with a Western-style diet in mice. *Journal of Applied Physiology* 133:798-813, 2022.
- Clayton ZS, Craighead DH, Darvish S, Coppock M, Ludwig KR, Brunt VE, **Seals DR**, Rossman MJ. Promoting healthy cardiovascular aging: emerging concepts. *Journal of Cardiovascular Aging* 2:43, 2022.
- Seals DR**, Coppock ME. We, um, have, like, a problem: excessive use of fillers in scientific speech. *Advances in Physiology Education* 46:615-620, 2022.
- Seals, DR**. Direct advice for directing an academic biomedical research laboratory. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology* 323:R204-R220, 2022.
- Casso AG, VanDongen NS, Gioscia-Ryan RA, Clayton ZS, Greenberg NT, Ziemba BP, Hutton DA, Nielson AP, Davy KP, **Seals DR**, Brunt VE. Initiation of 3,3-dimethyl-1-butanol at midlife prevents endothelial dysfunction and attenuates in vivo aortic stiffening with ageing in mice. *Journal of Physiology* 600:4633-4651, 2022.
- Craighead DH, Freeberg KA, McCarty NP, Rossman MJ, Moreau KL, You Z, Chonchol M, **Seals DR**. Inspiratory muscle strength training for lowering blood pressure and improving endothelial function in postmenopausal women: comparison with “standard of care” aerobic exercise. *Frontiers Physiology* 13:967478, 2022.
- Seals DR**. To grant you an edge: Part 1. General strategies for writing competitive biomedical research proposals. *Journal of Applied Physiology* 132:1489-1505, 2022.
- Seals DR**. To grant you an edge: Part 2. Tactical tips for addressing specific aspects of biomedical research proposals. *Journal of Applied Physiology* 132:1506-1517, 2022.
- Seals DR**. To grant you an edge: Part 3. Considerations for writing competitive research career development proposals in the biomedical sciences. *Journal of Applied Physiology* 132:1518-1524, 2022.

- Freeberg KA*, Craighead DH*, Martens CR, You Z, Chonchol M, **Seals DR**. Nicotinamide riboside supplementation for treating elevated systolic blood pressure and arterial stiffness in midlife and older adults. *Frontiers in Cardiovascular Medicine* 9:881703, 2022.
- Shannon OM, Clifford T, **Seals DR**, Craighead DH, Rossman MJ. Nitric oxide, aging and aerobic exercise: sedentary individuals to Master's athletes. *Nitric Oxide* 125/126:31-39, 2022.
- Gust CJ, Moe EN, **Seals DR**, Banich MT, Andrews-Hanna JR, Hutchison KE, Bryan AD. Associations between age and resting state connectivity are partially dependent upon cardiovascular fitness. *Frontiers in Aging Neuroscience* 14 (20 April 2022) doi:10.3389/fnagi.2022.858405.
- Craighead DH, Freeberg KA, Maurer GS, Myers VH, **Seals DR**. Translational potential of high-resistance inspiratory muscle strength training. *Exercise and Sport Sciences Reviews* 50:107-117, 2022.
- Limbad C, Doi R, McGirr J, Ciotlos S, Perez K, Clayton ZS, Daya R, **Seals DR**, Campisi J., Melov S. Senolysis induced by 25-hydroxycholesterol targets CRYAB in multiple cell types. *iScience* 25(2):103848, 2022 <https://doi.org/10.1016/j.isci.2022.103848>.
- Clayton ZS, Gioscia-Ryan RA, Justice JN, Lubieniecki KL, Hutton DA, Rossman MJ, Zigler MC, **Seals DR**. Lifelong physical activity attenuates age- and Western-style diet-related declines in physical function and adverse changes in skeletal muscle mass and inflammation. *Experimental Gerontology* 157:111632, 2022.
- Seals, DR**. Musings on mentoring: teach your “children” well. *Journal of Applied Physiology* 132:294-310, 2022.

2021

- Tavoian D, Ramos-Barrera L, Craighead DH, **Seals DR**, Bedrick EJ, Alpert JS, Mashaqi S, Bailey EF. Six months of inspiratory muscle training to lower blood pressure and improve endothelial function in middle-aged and older adults with above-normal blood pressure and obstructive sleep apnea: protocol for the CHART clinical trial. *Frontiers in Cardiovascular Medicine* 2021;8:760203. doi: 10.3389/fcvm.2021.760203.
- Seals, DR**. A (Baker's) dozen tips for enhancing early-stage academic career development in biomedical research. *Journal of Applied Physiology* 131:1505-1515, 2021.
- Cavalier AN, Clayton ZS, Hutton DA, Wahl D, Lark DS, Reisz JA, Melov S, Campisi J, **Seals DR**, LaRocca TJ. Accelerated aging of the brain transcriptome by the common chemotherapeutic doxorubicin. *Experimental Gerontology* 152:111451, 2021.
- Craighead DH, Freeberg KA, McCarty NP, **Seals DR**. Time-efficient, high-resistance inspiratory muscle strength training for cardiovascular aging. *Experimental Gerontology* 154:111515, 2021.
- Seals, DR**. The academic biomedical research laboratory as a “small business”. *Journal of Applied Physiology* 131:729-742, 2021.
- Clayton ZS, Brunt VE, Hutton DA, Casso AG, Ziemba BP, Melov S, Campisi J, **Seals DR**. Tumor necrosis factor alpha-mediated inflammation and remodeling of the extracellular matrix underlies aortic stiffening induced by the common chemotherapeutic agent doxorubicin. *Hypertension* 77:1581-1590, 2021.
- Clayton ZS, Hutton DA, Mahoney SA, **Seals DR**. Anthracycline chemotherapy-mediated vascular dysfunction as a model of accelerated vascular aging. *Aging and Cancer* 2:45-69, 2021.

- Craighead DH, Heinbockel TC, Freeberg KA, Rossman MJ, Jackman RA, Jankowski LR, Hamilton MN, Ziemba BP, Reisz JA, D'Alessandro A, Brewster LM, DeSouza CA, You Z, Chonchol M, Bailey EF, **Seals DR**. Time-efficient inspiratory strength training lowers blood pressure and improves endothelial function, NO bioavailability and oxidative stress in midlife/older adults with above-normal blood pressure. *Journal of the American Heart Association* 10:e020980, 2021.
- Clayton ZS, Hutton DA, Brunt VE, VanDongen NS, Ziemba BP, Casso AG, Greenberg NT, Rossman MJ, Campisi J, Melov S, **Seals DR**. Apigenin restores endothelial function by ameliorating oxidative stress, reverses aortic stiffening, and mitigates vascular inflammation with aging. *American Journal of Physiology Heart and Circulatory Physiology* 321:H185-H196, 2021.
- Kirkman DL, Robinson AT, Rossman MJ, **Seals DR**, Edwards DG. Mitochondrial contributions to vascular endothelial dysfunction, arterial stiffness and cardiovascular diseases. *American Journal of Physiology Heart and Circulatory Physiology* 320:H2080-H2100, 2021.
- Brunt VE, Casso AG, Gioscia-Ryan RA, Sapinsley ZJ, Ziemba BP, Clayton ZS, Bazzoni AE, VanDongen NS, Richey JJ, Hutton DA, Zigler MC, Neilson AP, Davy KP, **Seals DR**. The gut microbiome-derived metabolite trimethylamine N-oxide induces aortic stiffening and increases systolic blood pressure in mice and humans. *Hypertension* 78:499-511, 2021.
- Rossman M, Gioscia-Ryan R, Santos-Parker J, Ziemba B, Lubieniecki K, Johnson L, Poliektov N, Bispham N, Woodward K, Nagy E, Bryan N, Reisz J, D'Alessandro A, Chonchol M, Sindler A, **Seals D**. Inorganic nitrite supplementation improves endothelial function with aging: translational evidence for suppression of mitochondria-derived oxidative stress. *Hypertension* 77:1212-1222, 2021.
- Gioscia-Ryan RA*, Clayton ZS*, Zigler MC, Richey JJ, Cuevas LM, Rossman MJ, Battson ML, Ziemba BP, Hutton DA, VanDongen NS, **Seals DR**. Lifelong voluntary aerobic exercise prevents age- and Western diet-induced vascular dysfunction, mitochondrial oxidative stress and inflammation in mice. *Journal of Physiology* 599:911-925, 2021.
- Wahl D, Cavalier AN, Smith M, **Seals DR**, LaRocca TJ. Healthy aging interventions reduce repetitive element transcripts. *Journals of Gerontology: Biological Sciences* 76:805-810, 2021.
- Brunt VE, LaRocca TJ, Bazzoni AE, Sapinsley ZJ, Miyamoto-Ditmon J, Gioscia-Ryan RA, Neilson AP, Link CD, **Seals DR**. The gut microbiome-derived metabolite trimethylamine N-oxide modulates neuroinflammation and cognitive function with aging. *GeroScience* 43:377-394, 2021.
- Rezk-Hanna M, **Seals DR**, Rossman MJ, Gupta R, Nettle CO, Means A, Dobrin D, Cheng C-W, Brecht M-L, Mosenifar Z, Araujo JA, Benowitz NL. Ascorbic acid prevents vascular endothelial dysfunction induced by electronic hookah (waterpipe) vaping. *Journal of the American Heart Association* 2021;10:e019271.
- Wagner J, Knaier R, Infanger D, Königstein K, Klenk C, Carrard J, Hanssen H, Hinrichs T, **Seals D**, Schmidt-Trucksäss A. Novel CPET Reference Values in Healthy Adults: Associations with Physical Activity. *Medicine and Science in Sports and Exercise* 53:26-37, 2021.
- Gioscia-Ryan R, Clayton ZS, Fleenor BS, Eng JS, Johnson LC, Rossman MJ, Zigler MC, Evans TD, **Seals DR**. Late-life voluntary wheel running reverses age-related aortic stiffness in mice: a translational model for studying mechanisms of exercise-mediated arterial de-stiffening. *GeroScience* 43:423-432, 2021.

Jones A, Vanhatalo A, **Seals D**, Rossman M, Piknova B, Jonvik K. Dietary nitrate and nitric oxide metabolism: mouth, circulation, skeletal muscle, and exercise performance. *Medicine Science Sports and Exercise* 53:280-294, 2021.

2020

Rossman M, Gioscia-Ryan R, Clayton Z, Murphy M, **Seals D**. Targeting mitochondrial fitness as a strategy for healthy vascular aging. *Clinical Science* 134:1491-1519, 2020.

Ozemek C, Hildreth KL, Blatchford PJ, Hurt KJ, Bok R, **Seals DR**, Kohrt WM, Moreau KL. Effects of resveratrol or estradiol on post-exercise endothelial function in estrogen-deficient postmenopausal women. *Journal of Applied Physiology* 128:739-747, 2020.

Wei W, Chonchol M, **Seals D**, Nowak K. Dietary sodium restriction decreases urinary NGAL in older adults with moderately elevated systolic blood pressure free from chronic kidney disease. *Journal of Investigational Medicine* 68(7):1271-1275, 2020.

Clayton ZS, Brunt VE, Hutton DA, VanDonge NS, D'Alessandro A, Culp-Hill R, Haines JR, Ziemba BP, **Seals DR**. The commonly used anthracycline chemotherapy drug Doxorubicin impairs vascular endothelial function via stimulation of mitochondrial superoxide. *JACC CardioOncology* 53:280-294, 2020.

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Invited Chapters

- Johnson LC, DeVan AE, Justice JN, **Seals DR**. Nitrate and Nitrite in Aging and Age-Related Disease. In, N. Bryan, J. Loscalzo (Eds.), Nitrate and Nitrite in Human Health and Disease, 2nd Edition, Springer International Publishing, 2017, pp. 259-277.

- Seals, DR.** The Autonomic Nervous System. In *ACSM's Advanced Exercise Physiology*, Farrell, P, Joyner, M, Caiozzo, V, eds., 2011.
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Published/Presented Scientific Abstracts

>400 published abstract presentations (not listed individually)

Invited Scientific Presentations (~275)

Sympathetic Nerve Activity During Physiological and Pathophysiological Conditions

Department of Medicine, University of Maryland School of Medicine, Baltimore, MD
February 1992

Sympathetic Nervous System Activity During Stress in Humans

Medical Systems Program, University of Indiana, Bloomington, IN
February 1992

Direct Recordings of Sympathetic Nerve Activity in Humans

Departments of Physical Education and Medicine, University of Montreal, Montreal, Quebec, Canada

March 1992

Respiratory Modulation of Sympathetic Nervous System Activity in Humans

Department of Physiology, University of Nebraska School of Medicine, Omaha, Nebraska

March 1992

Regulation of Sympathetic Nervous System Activity During Exercise in Humans

Department of Kinesiology, University of Colorado, Boulder, CO

March 1992

Direct Measurement of Sympathetic Activity in Humans: Physiology and Pathophysiology

Department of Medicine, Amsterdam Medical Center, Amsterdam, The Netherlands

June 1992

Sympathetic Nervous System Activity During Exercise in Humans

RMACSM annual meeting, Frisco, CO

January 1993

Influence of Acute Hypoxemia on Muscle Sympathetic Nerve Discharge at Rest and During Stress in Healthy Humans

International Society on Hypoxia meeting, Lake Louise, Alberta, Canada

February 1993

Exercise and Aging: Autonomic Control of the Circulation

ACSM annual meeting, Seattle, WA

June 1993

Influence of Age on Sympathetic Nervous System Activity in Humans at Rest and During Stress

XXXII International Congress of Physiological Sciences, Glasgow, Scotland

August 1993

Central Autonomic Regulation of the Cardiovascular Adjustments to Acute Physical Exercise

XXXII International Congress of Physiological Sciences, Glasgow, Scotland

August 1993

Central Nervous System Control of Physiological Function During Acute Exercise

Department of Kinesiology Colloquium, University of Colorado, Boulder, CO

September 1993

Sympathetic Nerve Activity and Aging in Humans

Center for Human Nutrition seminar series, UCHSC

January 1994

Microneurography as an Experimental Probe to Study Sympathetic Nervous System Function in Cardiovascular Disease and Aging

Cardiology Research Conference, UCHSC

March 1994

Influence of Physical Activity on Aerobic Fitness and Risk Factors for Coronary Heart Disease in Postmenopausal Women

Department of Exercise and Sports Sciences, University of Arizona, Tucson, AZ
March 1994

Influence of Physical Activity on Aerobic Fitness and Risk Factors for Coronary Heart Disease in Postmenopausal Women

Exercise Science Research Institute, Arizona State University, Tempe, AZ
March 1994

Influence of Regular Exercise on Risk Factors for Cardiovascular Disease in Older Adults

American Association for Health, P.E., and Recreation annual meeting, Denver, CO
April 1994

Direct (Microneurographic) Recording of Muscle Sympathetic Nerve Activity During Exercise in Humans

ACSM annual meeting, Indianapolis, IN
June 1994

The Future of Exercise Science: Biology, Biomechanics, and the Rehabilitative Sciences

ACSM annual meeting, Indianapolis, IN
June 1994

Exercise and Cardiovascular Function with Aging

Gatorade Sports Sciences Institute annual conference, Cancun, Mexico
June 1994

Chronic Exercise, Maximal Aerobic Capacity, and Risk Factors for Cardiovascular Disease in Postmenopausal Women

Department of Exercise and Sport Sciences, The Pennsylvania State University, University Park, PA
November 1994

Microneurography as an Experimental Probe to Study Sympathetic Nervous System Function in Cardiovascular Disease and Aging

Division of Preventive Cardiology, University of Pittsburgh School of Medicine, Pittsburgh, PA
November 1994

Chronic Exercise, Maximal Aerobic Capacity, and Risk Factors for Cardiovascular Disease in Postmenopausal Women

SWACSM annual meeting, San Diego, CA
November 1994

Physical Activity and Disease Prevention in Aging

Center on Aging seminar series, UCHSC
April 1995

Effects of Aging and Physical Training on Maximal and Submaximal Exercise Capacities in Men and Women

Joe W. King Orthopedic Institute, Houston, TX
April 1995

Exercise and Aging: Autonomic Nervous System Control of Circulatory Function

University of Western Ontario Centre for Activity and Aging, London, Ontario, Canada

April 1995

Sympathetic Nervous System and Aging

Vascular Grand Rounds, UCHSC

April 1996

Physical Activity and Cardiopulmonary Function with Aging

ACSM annual meeting, Minneapolis, MN

May 1995

Physical Activity, Disease Prevention, and Successful Aging

College of Arts and Sciences Reunion Events Lecture, University of Colorado, Boulder, CO

June 1995

Physical Activity and Cardiovascular Function with Human Aging

Department of Kinesiology Colloquium, University of Colorado, Boulder, CO

September 1995

Physical Activity and Cardiovascular Health with Aging

College of A&S Reunion Luncheon, University of Colorado, Boulder, CO

May 1996

Age-Related Increases in Body Fatness: Sympathetic Effects and Role of Physical Activity

Center for Human Nutrition, UCHSC

June 1996

Effects of Aging on Sympathetic Nervous System Activity at Rest and During Exercise in Humans

First International Conference on Exercise Science

Griffith University, Gold Coast, Queensland, Australia

July 1996

Sympathetic Nervous System Adjustments to Exercise in Humans

First International Conference on Exercise Science

Griffith University, Gold Coast, Queensland, Australia

July 1996

Influence of Age on Cardiovascular Functional Capacity

Department of Exercise Science seminar, Griffith University, Gold Coast, Queensland, Australia

August 1996

Influence of Aging on the Sympathetic Nervous System in Humans

Baker Medical Research Institute, Melbourne, Australia

August 1996

What's New in Physical Activity, Aging and Cardiovascular Health?

Graduate School Alumni Council, University of Colorado, Boulder, CO

December 1996

Effects of Aging on Sympathetic Nervous System Activity at Rest and During Exercise in Humans

First International Conference on Exercise Science
Griffith University, Gold Coast, Queensland, Australia
July 1996

The Emerging Role of Physical Activity in Preventive Gerontology

SEACSM annual meeting, Gulf Coast, FL
January 1997

The Emerging Role of Physical Activity in Preventive Gerontology

Department of Kinesiology Colloquium, University of Colorado, Boulder, CO
February 1997

The Role of Physical Activity in Healthy Aging

Colorado Dietetics Association annual meeting, Arvada, CO
April 1997

Influence of Aging on Autonomic Nervous System Function at Rest and During Exercise in Humans

Department of Physiology, Northeastern Ohio University College of Medicine, Rootstown, OH
May 1997

Physical Activity and Body Weight Regulation in Different Populations

ACSM annual meeting, Denver, CO
May 1997

Maximal Aerobic Capacity

International Congress of Medicine and Sport annual meeting, Guadalajara, Mexico
August 1997

Influence of Hypoxemia on the Sympathetic Nervous System in Humans

Department of Anesthesiology Research, Mayo Clinical Foundation, Rochester, MN
October 1997

Sympathetic Nervous System Function with Normal Aging

Anesthesiology Grand Rounds, Mayo Clinical Foundation, Rochester, MN
October 1997

Influence of Aging on Sympathetic Nervous System Activity at Rest and During Exercise in Humans

Department of Kinesiology Colloquium, University of Colorado, Boulder, CO
October 1997

Autonomic Function and Normal Aging

VII International Symposium on the Autonomic Nervous System, Honolulu, Hawaii
November 1997

The Effect of Physical Activity on Cardiovascular Physiology and Diseases in Older People

Gerontological Society of American annual meetings in Cincinnati, OH

November 1997

The Emerging Role of Physical Activity in Preventive Gerontology

The Gerontology Center at the Pennsylvania State University, University Park, PA
February 1998

Influence of Aging on Muscle Sympathetic Nerve Activity in Humans: Behavior, Mechanisms, and Consequences

Noll Physiological Research Center, The Pennsylvania State University, University Park, PA
May 1998

Changes in Skeletal Muscle Blood Flow with Aging and Disease: Overview

National Institute on Aging Workshop on Changes in Skeletal Muscle Blood Flow with Aging and Disease, Bethesda, MD
May 1998

Preparation for and Career Development Opportunities in Sports Medicine, Aging Research, and Cardiac Rehabilitation

ACSM annual meeting, Orlando, FL
June 1998

Exercise and Hypertension in Older Adults

International Symposium on Optimal Exercise for Preventing Common Diseases, Fukuoka, Japan
July 1998

The High Pressure Business of Human Aging: Can Regular Exercise Help?

Department of Kinesiology Colloquium, University of Colorado, Boulder, CO
October 1998

The Menopausal Transition: Cardiac and Vascular Changes

American Association of Cardiovascular and Pulmonary Rehabilitation, Denver, CO
October 1998

Effects of Aging on Muscle Sympathetic Nerve Activity in Humans

Department of Physiology seminar series, Colorado State University, Fort Collins, CO
November 1998

Lowering Blood Pressure in Older Adults: Stop the Salt or Start the Exercise?

University of Kansas Medical Center, Kansas City, KS
November 1999

The Emerging Role of Physical Activity in Preventive Gerontology

Department of Kinesiology, University of Kansas, Lawrence, KS
November 1999

Relative Efficacy of Aerobic Exercise and Dietary Sodium Restriction for Lowering Blood Pressure, Reducing Arterial Stiffness, and Improving Other Coronary Risk Factors in Older Hypertensive Adults

NIH General Clinical Research Center site visit, University of Colorado, Boulder, CO
December 1999

Biology of Aging: Cardiovascular Structure/Function

RMACSM annual meeting, Frisco, CO

February 2000

The Aging Cardiovascular System: Changes in Autonomic Function with Sedentary and Active Aging

11th International Conference on the Biochemistry of Exercise, Little Rock, AR

June 2000

Is Primary Human Aging Associated with Augmented Sympathetic-Cardiovascular Responsiveness to Acute Stress?

American Aging Association 29th annual meeting on Stress in Aging, Boston, MA

June 2000

Young and Older Norepinephrine-Squirting Nerves and Adrenaline Release: A Decade of Experimental Work on Aging and the Human Sympathoadrenal System

Department of Kinesiology and Applied Physiology Colloquium, University of Colorado, Boulder, CO

September 2000

Aerobic Exercise is an Effective Intervention for Age-Associated Impairments in Arterial Function in Humans

Noll Physiological Research Center, The Pennsylvania State University, University Park, PA

March 2001

New Evidence that Habitual Exercise Attenuates or Prevents Adverse Changes in Arterial Function with Age in Humans

Department of Physiology research seminar series, University of Arizona Health Sciences Center, Tucson, AZ

March 2001

Estrogen, Progesterone, and Autonomic-Cardiovascular Function with Menopause

ACSM annual meeting, Baltimore, MD

May 2001

Effects of Sedentary vs. Physically Active Aging on the Cardiovascular System

ACSM annual meeting, Baltimore, MD

June 2001

Regular Aerobic Exercise Attenuates or Prevents Adverse Changes in Arterial Function with Age in Healthy Humans

Department of Preventive Medicine, Washington University School of Medicine, St. Louis, MO

June 2001

Lifestyle Interventions in Age-Associated Changes in Cardiovascular Function

NIA/Brookdale Foundation Sponsored Summer Institute on Aging Research Conference, Washington DC

July 2001

Age and Sex Based Interactions for Aerobic Performance

ACSM annual meetings, St. Louis, MO

May 2002

Age-Associated Elevation in Sympathetic Activity: Implications for Cardiovascular Function

ACSM annual meetings, St. Louis, MO

May 2002

Recent Evidence that Habitual Exercise Enhances Cardiovascular Function in Postmenopausal Women

Satellite symposium honoring Professor John Holloszy, St. Louis, MO

June 2002

Lifestyle Interventions in Age-Associated Changes in Cardiovascular Function

NIA Summer Research Conference, Arlie, VA

July 2002

Publishing and Presenting Your Work

NIA Summer Research Conference, Arlie, VA

July 2002

Cardiovascular Consequences of the Chronic Increase in Sympathetic Activity with Age in Humans

Noll Physiological Research Center, The Pennsylvania State University, University Park, PA

October 2002

Cardiovascular Consequences of the Chronic Increase in Sympathetic Activity with Age in Humans

Department of Kinesiology and Health, Texas A&M University, College Station, TX

November 2002

Effects of Habitual Exercise on Autonomic Nervous System Function with Aging: What's New?

Department of Kinesiology and Health, Texas A&M University, College Station, TX

November 2002

Relation of Lifestyle Behaviors to Risk Factors for Cardiovascular Disease in Middle-Aged and Older Adults: What's New?

Institute for Behavioral Sciences, University of Colorado, Boulder, CO

November 2002

Sympathoadrenal Function with Physiological Aging in Humans

Department of Physiology and Biophysics, Mayo Clinic Medical School, Rochester, MN

December 2002

Role of Oxidative Stress in Age- and Exercise Training-Associated Modulation of Flow-Mediated Dilation in Humans

ACSM annual meeting, San Francisco, CA

May 2003

Developing an Independent Extramurally Funded Research Program in Human Aging

NIA investigator regional meeting, University of New Mexico School of Medicine

February 2003

Cardiovascular Aging in Humans: Key Features, Underlying Mechanisms, and Promising Interventions

Pennington Research Center annual conference, Baton Rouge, LA
May 2003

Current Issues Related to Exercise, Fitness, and Health in Middle-Aged and Older Adults

Gatorade annual meeting, Fort Meyers, FL
January 2003

Sympathetic Activation with Aging: Good Regulatory Intentions Gone Bad?

Department of Kinesiology and Applied Physiology Colloquium, University of Colorado, Boulder, CO
February 2003

Publishing and Presenting Your Work

Annual Consumer Society meetings, Atlanta, GA
April 2003

Regulation of peripheral sympathetic activity in humans

Department of Physiology, University of Nebraska School of Medicine
April 2003

Sympathoadrenal function with physiological aging in humans

Department of Physiology, University of Nebraska School of Medicine
April 2003

Lifestyle Interventions in Age-Associated Changes in Cardiovascular Function

NIA Summer Research Conference, Arlie, VA
June 2003

Publishing and Presenting Your Work

NIA Summer Research Conference, Arlie, VA
June 2003

Cardiovascular Aging in Humans: Key Features, Mechanisms, Clinical Impact and Possible Interventions

General Clinical Research Center seminar series, University of Colorado, Boulder, CO
July 2003

Large Artery Stiffening with Human Aging: Can We Intervene?

Cardiology Research Conference, USHSC, Denver, CO
December 2003

Sympathetic nervous system activity and primary aging in humans

Experimental Biology annual meetings, Chicago, IL
April 2004

Sympathetic Activation with Aging: Good Regulatory Intentions Gone Bad?

Department of Physiology, University of Texas Health Sciences Center, San Antonio, TX
April 2004

Tips for Making Effective Scientific Presentations

ACSM annual meeting, Indianapolis, IN

June 2004

Adiposity and the Sympathetic Nervous System

Japanese Society for Microneurography annual meetings, Tokyo, Japan

June 2004

Lifestyle Interventions in Age-Associated Changes in Cardiovascular Function

NIA Summer Research Conference, Arlie, VA

July 2004

Publishing and Presenting Your Work

NIA Summer Research Conference, Arlie, VA

July 2004

Vascular Function, Exercise and Aging

International Society of Cardiology annual meeting, Melbourne, Australia

August 2004

Aging and Cardiovascular Regulation with Acute and Habitual Exercise

World Congress on Aging meeting, London, Ontario, Canada

August 2004

Aging, Exercise and Cardiovascular Function and Health

British Association for Exercise and Sports Sciences annual meeting, Liverpool, England

September 2004

Chronic Sympathetic Activation: Consequence and Cause of Age-Associated Obesity

Center for Human Nutrition, UCHSC, Denver, CO

September 2004

Effects of Habitual Exercise on Autonomic Nervous System Function with Aging

Department of Exercise Science, Birmingham University, Birmingham, England

September 2004

Collateral Damage: Cardiovascular Consequences of Chronic Sympathetic Activation with Human Aging

Department of Integrative Physiology Colloquium, University of Colorado, Boulder, CO

September 2004

Vascular endothelium-dependent dilation with sedentary and physically active aging

John Rankin Memorial Symposium, University of Wisconsin School of Medicine, Madison, WI

October 2004

Aging and Vascular Endothelium-Dependent Dilation: Modulatory Effects of Habitual Exercise

American Heart Association annual meeting, New Orleans, LA

November 2004

Habitual Exercise Preserves Vascular Function with Aging in Humans

Department of Pharmacology, Louisiana State University School of Medicine, New Orleans, LA
November 2004

Aging, Habitual Exercise and Vascular Endothelial Health

Department of Kinesiology, Indiana University, Bloomington, IN
January 2005

Publishing Your Research

RMACSM annual meeting, Colorado Springs, CO
February 2005

Beneficial Effects of Habitual Exercise on Cardiovascular Function and Health During Aging

Department of Exercise, Nutrition and Food Sciences, Florida State University, Tallahassee, FL
March 2005

Cardiovascular Benefits of Habitual Exercise with Aging in Humans

AAPHER annual meetings, Chicago, IL
April 2005

Physiological Aspects of Age-Associated Obesity

European Congress of Obesity, Athens, Greece
June 2005

Lifestyle Based Translational Research on Prevention of Age-Associated CVD: Habitual Exercise and Atherosclerosis

NIA Summer Research Institute, Wei River, Maryland
June 2005

Publishing Tips for New Investigators

NIA Summer Research Institute, Wei River, Maryland
June 2005

Physical Activity, Exercise Interventions, and Vascular Aging

Cardiovascular Ageing meetings, Halle, Germany
September 2005

Modulatory Influences of Ageing of the Vasculature in Healthy Humans

Cardiovascular Ageing meetings, Halle, Germany
September 2005

Beta-adrenergic Thermogenesis: A Physiologically Important Regulator of Energy Expenditure That's Modulated by Habitual Exercise

Department of Integrative Physiology Colloquium, University of Colorado, Boulder, CO
November 2005

Role of Habitual Exercise in Prevention of Age-Associated Vascular Endothelial Dysfunction

Department of Exercise Science, University of Massachusetts, Amherst, MA
December 2005

Habitual Aerobic Exercise Preserves Vascular Health with Aging

Department of Applied Physiology and Kinesiology, University of Florida, Gainesville, FL
February 2006

Modulatory Influences on Vascular Aging in Humans

Symposium on Vascular Biology, Steven's Scholar, University of Florida, Gainesville, FL
February 2006

Influence of Habitual Exercise on Endothelium-Dependent Dilation with Aging in Humans

Department of Physiology, University of North Texas Health Sciences Center, Fort Worth, TX
February 2006

Regular Aerobic Exercise Preserves Vascular Endothelial Function with Aging in Humans

University of Texas Medical Branch, Galveston, TX
February 2006

Habitual Exercise Prevents Vascular Endothelial Dysfunction with Aging in Humans

Department of Neurobiology, Physiology and Behavior, University of California, Davis, CA
April 2006

The Role of Habitual Exercise in the Prevention and Treatment of Vascular Aging

University of Wyoming College of Health Sciences 12th Annual Research Day: Aging
Laramie, WY
April 2006

Beta-Adrenergic Thermogenesis: Modulation by Age and Habitual Exercise

Department of Human Biology, Maastricht University, Maastricht, The Netherlands
June 2006

Lifestyle Based Translational Research on Prevention of Age-Associated CVD: Habitual Exercise and Atherosclerosis

NIA Summer Research Institute, Wei River, Maryland
July 2006

Publishing Tips for New Investigators

NIA Summer Research Institute, Wei River, Maryland
July 2006

Role of Habitual Exercise in the Prevention of Vascular Endothelial Dysfunction with Aging

Department of Medicine, Washington University School of Medicine, St. Louis, MO
September 2006

Habitual Aerobic Exercise Prevents Vascular Endothelial Dysfunction with Aging in Humans

Texas ACSM Fall Tour: Department of Kinesiology, Texas A&M University, College Station, TX
October 2006

Role of Habitual Exercise and Other Factors in Modulating “Vascular Aging” in Humans

Texas ACSM Fall Tour: University of Texas Medical Branch, Galveston, TX
October 2006

Role of Habitual Exercise and Other Factors in Modulating “Vascular Aging” in Humans

Texas ACSM Fall Tour: Institute for Exercise and Environmental Medicine, Presbyterian Hospital,
Dallas, TX
October 2006

**Beta-Adrenergic Thermogenesis: A Physiologically Important Regulator of Energy
Expenditure That's Stimulated by Habitual Exercise**

Texas ACSM Fall Tour: Department of Kinesiology, Baylor University, Waco, TX
October 2006

**Beta-Adrenergic Thermogenesis: A Physiologically Important Regulator of Energy
Expenditure That's Stimulated by Habitual Exercise**

Texas ACSM Fall Tour: Department of Health and Kinesiology, University of Texas, Austin, TX
October 2006

**Collateral Damage: Cardiovascular Consequences of Chronic Sympathetic Activation with
Human Aging**

Department of Anatomy and Physiology, School of Veterinary Medicine, Kansas State University,
Manhattan, KS
October 2006

Exercise as an Anti-Aging Intervention: Effects on Vascular Endothelial Function

EuroPrevent annual meetings, Madrid, Spain
April 2007

Translational Physiological Research in Aging: Vascular Aging and Habitual Exercise

NIA Summer Research Institute, Wei River, Maryland
July 2007

Publishing Tips for New Investigators

NIA Summer Research Institute, Wei River, Maryland
July 2007

Does Physical Activity Provide a Molecular Key to Longevity? Through Vascular Ageing

European Society for Cardiology annual meeting, Vienna, Austria
September 2007

**Importance of Exercise Training in Cardiovascular Disease: Exercise Training in Middle-Aged
and Older Adults**

European Society for Cardiology annual meeting, Vienna, Austria
September 2007

**Louis Alley Memorial Lecture: Habitual Exercise in the Prevention and Treatment of
Vascular Endothelial Dysfunction with Aging**

Department of Integrative Physiology, University of Iowa, Iowa City, Iowa
September 2007

**Collateral Damage: Cardiovascular Consequences of Chronic Sympathetic Activation with
Human Aging**

Department of Integrative Physiology, University of Iowa, Iowa City, Iowa
September 2007

The Emerging Concept of Vascular Aging

Department of Integrative Physiology Colloquium, University of Colorado, Boulder, CO
October 2007

Phenotyping of Physiological Function Across Age in Humans and Mice.

Somalogic, Inc., Boulder, Colorado
November 2007

Effects of Habitual Aerobic Exercise on Arterial Stiffness in Middle-Aged and Older Adults.

American Heart Association Annual Meetings, Orlando, Florida
November 2007

Arterial Aging: Key Changes, Modulating Factors and Mechanisms.

Institute on Gerontology, University of Michigan
December 2007

Habitual Exercise in the Prevention and Treatment of Vascular Endothelial Dysfunction with Aging

Department of Kinesiology, University of Michigan
March 2008

Arterial Aging

Department of Medicine, University of Toronto
April 2008

Habitual Exercise to Delay Cardiovascular Aging

EuroPrevent Meetings, Paris, France
May 2008

Endothelial Dysfunction with ageing in humans: the clinical perspective

EuroPrevent Meetings, Paris, France
May 2008

Changes in Functional Capacity with Aging in Healthy Adults: Effects of Aerobic Exercise Interventions

The Society of Geriatric Cardiology, Summit on Maximizing Functional Capacity
Washington D.C.
June 2008

Aging, Habitual Exercise and Endothelium-Dependent Dilation in Humans

37th annual meeting of the American Aging Association, Boulder, CO
June 2008

Translational Physiological Research in Aging: Vascular Aging and Habitual Exercise.

NIA Summer Research Institute, Wei River, Maryland
July 2008

Publishing Tips for New Investigators.

NIA Summer Research Institute, Wei River, Maryland
July 2008

The Emerging Concept of Arterial Aging.

Mayo Clinic of Arizona

July 2008

Arterial Aging in Humans: Mechanisms and Modulating Factors

Department of Physiology, UCSD Medical School

July 2008

Inflammation, Habitual Exercise and Cardiovascular Disease.

European Society of Cardiology annual meetings, Munich, Germany

September 2008

Physical Exercise: Is it All About Nitric Oxide?

European Society of Cardiology annual meetings, Munich, Germany

September 2008

Adiposity, Energy Intake Restriction and Vascular Endothelial Function.

Center for Physical Activity and Weight Management, Institute for Lifespan Studies, University of Kansas

September 2008

Aging, Oxidative Stress and Vascular Endothelial Dysfunction.

7th University of Pisa Multidisciplinary Conference on The Vascular Endothelium: Basic and Clinical Aspects, Pisa, Italy

October 2008

You're Only as Old as Your Arteries.

Professor of Distinction ceremony, College of Arts and Sciences, University of Colorado, Boulder, Colorado

December 2008

Vascular Endothelial Dysfunction with Aging

Emory University School of Medicine, Department of Medicine, Division of Cardiology Grand Rounds

Atlanta, GA

March 2009

Obtaining Extramural Funding for Your Research

University of Colorado Graduate Teacher Program Workshop Series

Boulder, CO

March 2009

The Emerging Biomedical Importance of Arterial Aging

Gerontology Center, University of Colorado at Colorado Springs

April 2009

The Worrisome Problem of Arterial Aging and What You Can Do About It

The Pennsylvania State University Department of Kinesiology seminar

State College, PA

April 2009

Aging and Vascular Endothelial Dysfunction

Experimental Biology meetings symposium presentation

New Orleans, LA

April 2009

The Effects of Aging on Arteries

University of Oregon, Department of Human Physiology, seminar presentation

Eugene, OR

May 2009

Vascular Endothelial Function with Aging: Exercise and Caloric Restriction

University of Oregon, Department of Human Physiology, Cardiovascular group presentation

Eugene, OR

May 2009

Vascular Endothelial Dysfunction with Aging

University of Texas Southwestern Medical School, Dallas, TX, Department of Medicine,

Hypertension Grand Rounds seminar

May 2009

Translational Physiology of Arterial Aging

National Institute on Aging, Summer Research Institute, Wei River, Maryland Eastern Shore,

July 2009

Publishing Tips for New Investigators

National Institute on Aging, Summer Research Institute, Wei River, Maryland Eastern Shore

July 2009

Habitual Exercise and Vascular Ageing

36th Annual Congress of Physiological Sciences, Kyoto, Japan, Keynote Presentation

July 2009

Habitual Exercise and Arterial Aging

Japanese Society of Physical Fitness and Sports Medicine, Nagano, Japan, seminar presentation

August 2009

You're Only as Old as Your Arteries

University of Colorado, College of Arts and Sciences, Dean's Advisory Council Meeting

October 2009

What You Need to Know About Arterial Aging

Oregon Association for Cardiovascular and Pulmonary Rehabilitation Annual Meeting, Eugene, Oregon

October 2009

Aging and 'Physiological Resistance' to Potentially Adverse Factors

University of Colorado, Department of Integrative Physiology, Colloquium series seminar

October 2009

Exercise and Dietary Strategies to Combat Arterial Aging

Department of Nutrition and Exercise Physiology seminar, University of Missouri, Columbia, MO

March 2010

Translational Research

University of Wyoming, Laramie, WY, INBRE Program, Keynote presentation
March 2010

Aging, Habitual Exercise and Endothelium-Dependent Dilation in Humans

Symposium on Habitual Exercise and Arterial Aging, Experimental Biology Annual Meetings,
Anaheim, CA
April 2010

Prevention and Treatment of Arterial Endothelial Dysfunction with Aging

Department of Medicine Grand Rounds, Cedar's Sinai Medical Center, Los Angeles, CA
May 2010

Arterial Aging

Division of Cardiology Grand Rounds, University of Colorado-Denver, HSC campus
May 2010

Translational Physiology of Arterial Aging: You're Only as Old as Your Arteries

National Institute on Aging, Summer Research Institute, Wei River, Maryland Eastern Shore,
July 2010

Publishing Tips for New Investigators

National Institute on Aging, Summer Research Institute, Wei River, Maryland Eastern Shore
July 2010

Aerobic Exercise and Arterial Aging

8th Annual Rocky Mountain Geriatrics Conference: Active Aging—Bringing the Science of Exercise
to the Community, Park City, Utah
September 2010

Mechanisms of Anti-Aging Effects of Aerobic Exercise on Arteries

8th Annual Rocky Mountain Geriatrics Conference: Active Aging—Bringing the Science of Exercise
to the Community, Park City, Utah
September 2010

Aerobic Exercise in the Prevention and Treatment of Arterial Aging

International Symposium on Exercise Therapy: Scientific and Practical Issues of Exercise Therapy,
Center for Translational Science Activities, Mayo Clinic, Rochester
October 2010

Prevention and Treatment of Arterial Aging

Department of Kinesiology and Applied Physiology seminar, University of Delaware
October 2010

Vascular Endothelial Dysfunction with Aging: Prevention and Treatment

American Society for Nephrology Annual Meeting Symposium: Kidney and Cardiovascular
Disease—A Major Challenge with Some Hope
November 2010

The Responsible Conduct of Research

University of Colorado Boulder, Office of Contracts and Grants
May 2011

Aerobic Exercise and Arterial Aging

Department of Kinesiology Montoye-Nagle Lecture, University of Wisconsin-Madison
April 2011

Nitrite Therapy to Treat Arterial Aging

Nitrite and Nitrate Pathophysiology and Therapy Conference, Atlanta, Georgia
May 2011

The Emerging Concept of Arterial Aging

Annual Cardiovascular Symposium, Oregon Heart and Vascular Institute
September 2011

Translational Physiology of Arterial Aging

National Institute on Aging Summer Research Conference, Maryland Eastern Shore
July 2011

Publishing Tips for Early Career Stage Investigators

National Institute on Aging Summer Research Conference, Maryland Eastern Shore
July 2011

Exercise and Vascular Health with Aging

21st Puijo Symposium on Physical Exercise and Aging, Kuopio, Finland
July 2011

Nitrite Therapy to Treat Arterial Aging

Hypertension Research Institute seminar
University of Florida
March 2012

Potent Influence of Aerobic Exercise on Aging Arteries

Dept. of Kinesiology and Applied Physiology seminar, University of Florida
March 2012

Translational Physiology

Department of Integrative Physiology Colloquium, University of Colorado Boulder
March 2012

The Remarkable Effects of Aerobic Exercise on Aging Arteries

Dept. of Health and Exercise Science seminar, Colorado State University
April 2012

You're Only as Old as Your Arteries: The Translational Physiology of Vascular Aging

American Physiological Society Human Anatomy and Physiology Society (HAPS) annual meeting
Keynote Presentation, Tulsa, OK
May 2012

Strategies for the Prevention and Treatment of Age-Associated Arterial Stiffness

Whitaker Cardiovascular Institute seminar, Boston University School of Medicine
June 2012

Translational Physiology of Arterial Aging

National Institute on Aging Summer Research Conference, Baltimore, MD
July 2012

Publishing Tips for Early Career Stage Investigators

National Institute on Aging Summer Research Conference, Baltimore, MD
July 2012

Anti-Aging Effects of Nitrite Therapy on Arteries

Dept. of Pharmacology Grand Rounds seminar, Vanderbilt University School of Medicine
September 2012

Aerobic Exercise in the Prevention and Treatment of Arterial Aging

Autonomic-Cardiovascular Research Group seminar, Vanderbilt University School of Medicine
September 2012

Sodium Nitrite in the Treatment of Arterial Aging

Buck Research Institute seminar
October 2012

Arterial Dysfunction with Aging

Association of Specialty Physicians Workshop on Diabetes and Aging in Older Adults
Washington D.C.
April 2013

The Remarkable Anti-Aging Effects of Aerobic Exercise on Arteries

Adolph Distinguished Lecture, American Physiological Society, annual Experimental Biology meeting, Boston, MA
April 2013

The Translational Physiology of Exercise and Vascular Aging

Texas A&M School of Medicine, Physiology and Systems Biology seminar
May 2013

Exercise and Other Lifestyle Factors in Healthy Vascular Aging

School of Life Sciences Graduate Student Seminar, University of Waterloo, Ontario, CA
September 2013

Translational Studies of Sodium Nitrite Supplementation to Reverse Arterial Aging

School of Life Sciences, Dept. of Kinesiology, Graduate Student Seminar, University of Waterloo, Ontario, CA
September 2013

Translational Physiology

School of Life Sciences, Dept. of Kinesiology, Program in Vascular Health and Brain Aging, University of Waterloo, Ontario, CA
September 2013

Role of Aerobic Exercise in Vascular Health with Aging

Florida State University, Institute for Successful Longevity seminar
September 2013

Aerobic Exercise and Arterial Aging

Gerontological Society of American annual meeting, New Orleans, LA
November 2013

Translational Physiology Redux: Role in Optimal Aging

CU-Boulder, Department of Integrative Physiology Colloquium
December 2013

Sodium Nitrite Treatment of Arterial Aging

University of Colorado Denver, Anschutz Medical Campus
Translational Cardiovascular Biology Conference
February 2014

Aerobic Exercise, Other Healthy Lifestyle Factors and Vascular Aging

Experimental Biology Meetings, San Diego, CA
American Physiological Society Refresher Course
Exercise Physiology: The Role of Exercise in Disease Prevention, Treatment and Optimal Aging
April 2014

Translational Strategies for Optimizing Vascular Function with Aging

Glenn Workshop on the Biology of Aging
Santa Barbara, CA
June 2014

Integrative Physiology of Aging

CU-Boulder, BioFrontiers Institute
July 2014

Translational Strategies for Optimizing Vascular Function with Aging

Colorado State University Cardiovascular Center Seminar Series
Fort Collins, CO
September 2014

Aerobic Exercise and Vascular Health with Aging

Integrative Physiology of Exercise Conference
Miami, FL
September 2014

Anti-inflammatory Effects of Aerobic Exercise on Aging Arteries

Integrative Physiology of Exercise Conference
Miami, FL
September 2014

Essential Role of Translational Physiology in Achieving Optimal Longevity

Department of Human Nutrition, Foods and Exercise
Virginia Tech
September 2014

The Defining Influence of Lifestyle Factors on Vascular Aging

Department of Physiology
University of Arizona
Tucson, AZ
October 2014

The Role of Translational Physiology in Achieving Optimal Longevity

Arizona Physiological Society annual meeting
Tucson, AZ
October 2014

Knoebel Center for the Study of Aging

University of Denver
Denver, CO
November 2014

Lifestyle and Pharmacological Strategies for Age-Associated Arterial Stiffening

North America Artery Association
Chicago, IL
September 2015

Dietary Influences on Vascular Function and Cardiovascular Disease Risk with Aging

Food and Nutrition Conference and Expo
Nashville, TN
October 2015

Can We Achieve Optimal Longevity? From Cells to the Community: The New Translational Physiology of ealthy Aging

CU Boulder 108th Distinguished Research Lecture
Boulder, CO
March 2016

Exercise and Vascular Aging

Experimental Biology annual meeting
San Diego, CA
April 2016

Aerobic Exercise and Vascular Aging

Cardiovascular Medicine Grand Rounds, Medical College of Wisconsin
Milwaukee, WI
April 2016

The Remarkable Anti-Aging Effects of Aerobic Exercise on Arteries

Center for Exercise Medicine Distinguished Lecture Series, University of Alabama-Birmingham
Birmingham, AL
April 2016

Role of Translational Physiology in Evidence-Based Strategies for Achieving Optimal Longevity

Columbine Health Systems Center for Healthy Aging, Colorado State University

Fort Collins, CO
April 2016

Vascular Aging: Significance, Mechanisms & Prevention/Treatment

Barshop Center for Aging, University of Texas San Antonio Health Sciences Center
San Antonio, TX
May 2016

Role of Exercise, Diet and Healthy Lifestyle-Mimicking Nutraceuticals on Physiological Aging

Lillian Fountain Smith Nutrition Conference, Department of Food Sciences and Human Nutrition,
Colorado State University
Fort Collins, CO
May 2016

Gut Microbiome and Age-Related Vascular Dysfunction

NIH NHLBI Workshop: The Role of Microbiota in Blood Pressure Regulation
Bethesda, MD
June 2016

Translational Model of Healthspan

Workshop on Pathways, Contributors and Correlates of Functional Impairment Across Specialties
John A. Hartford Foundation
Washington D.C.
August 2016

Healthy Lifestyle-Based Interventions for Preserving Vascular Function with Aging

2016 Barshop Symposium on Aging
Banderas, TX
October 2016

Healthy Lifestyle-Based Interventions for Arterial Aging

Gerontological Society of America annual meeting
New Orleans, LA
November 2016

Strategies for Optimal Cardiovascular Aging (Conference Keynote Presentation)

American Physiological Society Conference. Cardiovascular Aging: New Frontiers and Old Friends
Westminster, CO
August 2017

Strategies for Healthy Vascular Aging

Dept. of Medicine, Division of Renal Diseases and Hypertension Research Conference seminar
CU Denver Anschutz Medical Campus
November 2017

Exercise and Other Strategies for Healthy Cardiovascular Aging

Texas American College of Sports Medicine annual meeting
University of Texas Austin campus, Austin, TX
March 2018

Getchell Lecture: Strategies for Healthy Cardiovascular Aging: Old Friends and New

Frontiers

School of Kinesiology, Ball State University
Muncie, IN
March 2018

Healthy Cardiovascular Aging

Graduate Student Seminar
School of Kinesiology, Ball State University
Muncie, IN
March 2018

Maintaining Optimal Population Function Throughout the Lifespan

Institute for Behavioral Sciences, University of Colorado Boulder
Boulder, CO
March 2018

Maintaining Cardiovascular Health Throughout the Lifespan

Department of Kinesiology, University of Maryland
College Park, MD
April 2018

Strategies for Maintaining Cardiovascular Health Throughout the Lifespan

Department of Kinesiology and Health Sciences, Virginia Commonwealth University
Richmond, VA
April 2018

Healthy Cardiovascular Aging

Graduate Student Seminar
Department of Kinesiology and Health Sciences, Virginia Commonwealth University
Richmond, VA
April 2018

Strategies for Healthy Cardiovascular Aging: Old Friends and New Frontiers

Department of Kinesiology and Applied Physiology, University of Florida
Gainesville, FL
April 2018

Molecular Transducers” of the Physiological Adaptations to Exercise and Aging

Experimental Biology annual meeting symposium
San Diego, CA
April 2018

Strategies for Achieving Healthy Vascular Aging

Annual North American Artery meeting, University of Illinois at Chicago College of Applied Health Sciences
Chicago, IL
June 2018

Lifestyle-Inspired Strategies for Achieving Healthy Vascular Aging

CU Denver Anschutz Medical Campus, Skaggs School of Pharmacy and Pharmaceutical Sciences
annual retreat research conference

Breckenridge, CO
August 2018

Exploiting Exercise Signals for Counteracting Age- Related Arterial Stiffening
Integrative Physiology of Exercise meeting
San Diego, CA
September 2018

Role of Estrogen in Exercise Training-Induced Improvements in Vascular Function (with Aging)
Europhysiology annual meeting
London, England
September 2018

Hypothesis: Humans Lose the Ability to Physiologically Adapt to Aerobic Exercise Training with Aging
Washington University School of Medicine, John O. Holloszy Memorial Conference
St. Louis, MO
October 2018

Aging and Healthspan in Humans: Function, Biomarkers and Interventions
SomaLogic Inc. seminar series
Boulder, CO
November 2018

Translational Research for Extending Healthspan
Buck Institute for Aging Research
Novato, CA
April 2019

Translational Research for Achieving Optimal Longevity
Buck Institute for Aging Research
Novato, CA
May 2019

Cardiovascular Aging and Mitochondrial Function
European Atherosclerosis Society annual meeting
Maastricht, The Netherlands
May 2019

Lifestyle Inspired Strategies for Achieving Healthy Vascular Aging
Department of Human Biology, Maastricht University
Maastricht, The Netherlands
May 2019

Cardiovascular Effects of Dietary Nitrate and Nitrite
American College of Sports Medicine annual meeting
Orlando, FL
May 2019

Scientific Legacy of John O. Holloszy (1933-2018): Exercise and Cardiovascular Function

American College of Sports Medicine annual meeting
Orlando, FL
May 2019

Strategies to Preserve Vascular Health with Aging
University of Calgary, Cumming School of Medicine
Calgary, Alberta
September 2019

Translational Research for Extending Human Healthspan
Huck Institute Distinguished Lectures in the Life Sciences series
The Pennsylvania State University
University Park, PA
October 2019

A Few Thoughts from 35 Years of Directing a Biomedical Research Laboratory
Campus Physiology Graduate Program
The Pennsylvania State University
University Park, PA
October 2019

Mitochondrial Antioxidant Therapy for Treating Vascular Aging
Targeting Mitochondria 2019 (annual meeting)
Berlin, Germany
October 2019

A Few Thoughts from 35 Years of Directing an Extramurally Funded Biomedical Research Laboratory
Department of Kinesiology
McMaster University
December 2020

Giving and Receiving Critiques on Grant Proposals
Mentoring Symposium on Evaluation & Critiques
Annual Experimental Biology Meeting
April 2021

Novel Mechanisms and Therapeutic Targets for Vascular Aging
APS Symposium
Annual Experimental Biology Meeting
April 2021

Responding to (NIH) Grant Peer Review
Joslin Diabetes Center, Harvard Medical School
Career Development Seminar Series
June 2021

Lifelong Voluntary Aerobic Exercise Prevents Age- and Western Diet-induced Vascular Dysfunction, Mitochondrial Oxidative Stress, and Inflammation in Mice
Journal of Physiology (UK) Journal Club
August 2021

The Academic Biomedical Research Laboratory as a “Small Business”

Faculty Seminar

Virginia Commonwealth University

August 2021

Oral Supplementation of NAD⁺ Precursors for Promoting Healthy Cardiovascular Aging

NIA Workshop on Exploring Opportunities and Feasibility of Trials on Effects of Increasing NAD⁺ Levels in Older Adults

December 2021

Tips for Enhancing Early-Stage Academic Research Career Development

Applied Physiology Seminary Series

University of Delaware

April 2022

My Lifelong “Road Trip” in Exercise Physiology

American Physiological Society Environmental and Exercise Physiology Section Honor Award presentation

Experimental Biology Annual Meeting, Philadelphia, PA

April 2022

The Academic Biomedical Research Laboratory as a “Small Business”

Department of Nutrition and Integrative Physiology Seminar Series

Florida State University

April 2022

Tips for Enhancing Early-Stage Academic Research Career Development

Department of Nutrition and Integrative Physiology Graduate Program Seminar

Florida State University

April 2022

The Biomedical Research Laboratory is Many Things -- Including a “Small Business”

Department of Nutrition and Exercise Physiology Seminar Series

University of Missouri (Columbia)

September 2022

Vascular Aging: Prevention and Treatment

Cardiometabolic Diseases Research Group Seminar

Charles Perkins Center, University of Sydney School of Medicine

November 2022

Strategies for Promoting Healthy Cardiovascular Aging

The Nicholas Catchlove Memorial Lecture

Charles Perkins Center, University of Sydney School of Medicine

November 2022

Enhancing Early-Stage Academic Research Career Development

Student and Early Career Researcher Lecture

Sports & Exercise Sciences New Zealand Annual Meetings

Auckland, NZ

November 2022

Exercise Training for Promoting Vascular Health During Aging

Cosmed Keynote Lecture

Sports & Exercise Sciences New Zealand Annual Meetings

Auckland, NZ

November 2022

Strategies for Prevention and Treatment of Vascular Aging

Surgical Sciences/Physiology Seminar Series

University of Otago School of Medicine

Dunedin, NZ

December 2022

Enhancing Early-Stage Academic Research Career Development

Graduate Student & Postdoctoral Research Trainees Lecture

University of Otago

Dunedin, NZ

December 2022

Strategies for Promoting Cardiovascular Health Throughout the Lifespan

Public Lecture

University of Otago School of Medicine

Dunedin, NZ

December 2022

Nitrite-Boosting Therapy for Improving Endothelial Function with Aging and Chronic Kidney Disease

Kidney in Health and Disease Research Network Symposium Lecture

Department of Medicine, University of Otago School of Medicine

Dunedin, NZ

December 2022

Public Outreach Presentations

Numerous public outreach presentations between 1985-2013.

Presentations related to new public outreach efforts on healthy aging: 2014-present

2014 presentations to date include talks on healthy aging at the Louisville, CO Public Library; Frasier Meadows Retirement Center (Boulder, CO); Boulder Community Health (formerly Hospital), Boulder, CO; Gunnison, CO Public Library; and the Boulder, CO Flatirons Rotary Club; Kaiser-Permanente Headquarters, Aurora, CO

2015

CU on the Weekend series

February 2015

Healthy Aging: Optimal Longevity and Cardiovascular Health

University of Colorado Alumni Association Directors Club Winter Meeting

February 2015

Healthy Aging in Colorado: Achieving Optimal Longevity

Boulder's Dairy Center for the Arts

Science on Screen Program

March 2015

The Science of Healthy Aging

Twin Peaks Rotary Club

June 2015

Optimizing Function Throughout the Lifespan: The New Physiology of Healthy Aging

Crested Butte, CO, Public Library

July 2015

Healthy Aging in Colorado

2016

Durango Public Library

August 2016

Can We Achieve Optimal Longevity? An Update on Healthy Aging Research at CU Boulder

2018

CU Directors Club, CU Boulder campus

January 2018

Strategies for Maintaining Cardiovascular Health Throughout the Lifespan

2022

CU Retired Faculty Distinguished Professor Seminar Series

February 2022

Strategies for Promoting Cardiovascular Health Throughout the Lifespan