DOMINIC P. D'AGOSTINO, PH.D.
CURRICULUM VITAE
Updated: December 2024

TITLE: Associate Professor with Tenure

ADDRESS: Department of Molecular Pharmacology and Physiology
Morsani College of Medicine
University of South Florida
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Tampa, FL 33612
ddagosti@usf.edu

EDUCATION:

1994-1998: B.S. Biological Sciences and Nutritional Sciences, Rutgers University, New Brunswick, NJ

1999-2004 Ph.D. Neuroscience and Physiology; Division of Pulmonary and Critical Care Medicine; Graduate School of Biomedical Sciences; Rutgers University, Robert Wood Johnson Medical School, University of Medicine and Dentistry of NJ (UMDNJ), New Brunswick, NJ

ACAMEDIC EMPLOYMENT AND RESEARCH EXPERIENCE:

2004-2006: Postdoctoral Fellow
Department of Neuroscience, Cell Biology and Physiology)
Wright State University Boonshoft School of Medicine, Dayton, OH

2006-2008: Postdoctoral Fellow
Molecular Pharmacology and Physiology
University of South Florida Morsani College of Medicine, Tampa FL

2008-2010: Research Assistant Professor (Non-Tenure Track)
Molecular Pharmacology and Physiology
University of South Florida Morsani College of Medicine, Tampa FL

2010-2015: Assistant Professor (Tenure Track)
Molecular Pharmacology and Physiology
University of South Florida Morsani College of Medicine, Tampa FL

2016-Present: Associate Professor (Tenured)
Molecular Pharmacology and Physiology
University of South Florida Morsani College of Medicine, Tampa FL

2014-Present: Visiting Senior Research Scientist
Florida Institute for Human and Machine Cognition (IHMC)

MEMBERSHIPS

American Epilepsy Society (AES), American Physiological Society (APS), American Diabetes Association (ADA), Aerospace Medical Association (AsMA), American Association for Cancer Research (AACR), National Academy of Inventors (NAI) Society for Neuroscience (SfN), Undersea and Hyperbaric Medicine Society (UHMS)

AWARDS

1996: Cook College/Rutgers Undergraduate Educational Assistance Award
1999: Predoctoral Fellowship Award (5 yrs), UMDNJ-RWJMS
2000: Graduate Student Respiratory Physiology Award, FASEB, Experimental Biology
2003: Graduate Student Respiratory Physiology Award, FASEB, Experimental Biology
2003: Proctor and Gamble Professional Award in Physiol., FASEB, Experimental Biology
2005: Best Clinically Related Presentation, UHMS
2005: Postdoctoral Fellowship Award (3 yrs), Office of Naval Research (ONR)
2014: Allentown High School Hall of Fame Lifetime Achievement Award

EDITORIAL BOARDS

- Frontiers in Psychiatry; Editor; Metabolic Approaches for Mental Health
- Journal of Applied Physiology: Editorial Board (2017-2023)
- Frontiers in Neurology: Editor; Hyperbaric Oxygen Therapy in the Treatment of Acute to Chronic Neurological Disorders
- Oxford University Press: Section Editor; Ketogenic Diet and Metabolic Therapies: Expanded Roles in Health and Disease

REVIEWER

Cell Cycle, Comprehensive Physiology, Current Pharmaceutical Design, Epilepsia, Experimental Physiology, Frontiers in Veterinary Science, Free Radicals in Medicine and Biology, High Altitude Medicine and Biology, Journal of Evolution and Health, Epilepsy Research, Journal of Applied Physiology, Respiratory Physiology & Neurobiology, International Journal of Sports Nutrition (ISSN), International Journal of Sports and Exercise Medicine, Journal of Lipid Research, Journal of Sports Science and Medicine, International Journal of Cancer, IUBMB Life, Metabolomics, Journal of Neuro-Oncology, Neuroscience, Neurology, Frontiers in Neurology, Nutrition & Metabolism, Oncotarget, Respiratory Physiology & Neurobiology, Pharmacological Reports, PloS One, Medical Hypotheses, Diving and Hyperbaric Medicine, Current Pharmaceutical Design, Cardiovascular Diabetology, Frontiers in Endocrinology, Frontiers in Nutrition and Metabolism, Metabolites; Frontiers in Physiology, Nutrients, American Journal of Clinical Nutrition, Journal of Physiology, Science Translational Medicine, Nature Communications

COMMITTEES/ SERVICE

2012-2017: USF; Comp. Med.; Institutional Animal Care and Use Committee (IACUC)
2016: USF Young Innovator Competition Judge
2011-2013: USF Health Sciences Research Day Poster Judge
2014-2016: USF MCOM Curriculum Committee for Medical Education
2016-2018: USF Morsani College of Medicine Research Committee (COMCOR)
2017-2019: Council of Undergraduate Research
2017-2020: Co-Chair: American Epilepsy Society (AES; SIG) on Dietary Interventions
2018-2023: External Review Committees for Faculty Promotion and Tenure

ADVISORY BOARDS

2012-Present: Scientific Advisory Board: WFND; ALS Foundation, Tampa, FL
2013-2016: Scientific Advisory Board: Max Love Project (501c3)
2014: Advisor: Expert Panel for FDA GRAS Determination
2015-Present: Advisory Board Member: Keiser University
2016: Task Force Dagger Foundation: Special Operations Forces (SOF) Health Initiatives

2018-Present: Co-Organizer of Metabolic Health Summit
2019-2021: Research Advisor for United Health Group
2019-Present: Advisor for USF Center for Entrepreneurship
2020-2022: Readout Health
2020-Present: Levels Health
2023-Present: RxSugar
2020-Present: Pompe Warrior Foundation (PWF); 501c3

STUDY SECTIONS/ GRANT REVIEW
2013: Reviewer: USF-Moffitt Anna D. Valentine Cancer Research Award Grants
2012-2014: Ad Hoc Reviewer: Department of Veterans Affairs: VA Merit Grant Review; Neurobiology-A (NURA) and Neurobiology-B (NURB)
2015-2016: Mid-Atlantic NORC Pilot and Feasibility Grant Reviewer
2014-2017: Reviewer: VA Merit Grant Review Neurobiology-B (NURB)
2018: Scientific Reviewer: USAMRMC; DOD CDMRP; SCIRP; INT-SC
2019: Scientific Reviewer: USAMRMC; DOD CDMRP; FP-PTH
2020: Ad Hoc Reviewer: USAMRMC; DOD CDMRP; TR
2018-2022: Scientific Reviewer: USAMRMC; DOD CDMRP; PRE-NO-ED
2022: Chair: USAMRMC;DOD CDMRP; Nutrition Optimization (NO)
2023: Reviewer: USAMRMC; DOD CDMRP; CRRP; WFR-2

TEACHING
Lecturer (2005-2006): Course Title: Cells, Tissues, Organ Systems (CATOS): Five Lectures: *Signaling I, II, II; Receptors I, II:* Medical Year 1, Wright State University Boonshoft School of Medicine, Dayton, OH
Lecturer (2005-2006): Course Title: Applications of Nanotechnology: *Biological Applications of Atomic Force Microscopy*; Wright State University School of Medicine, Dayton, OH
Lecturer (2007-2008): Course Title: Principles of Pharmacology; *Dietary Effect on Drug Absorption and Metabolism*; GMS 6513, USF, Tampa, FL
Lecturer (2007-present): Course Title: Neuropharmacology; *Dopamine, Antipsychotics and Excitatory Amino Acids*; GMS 6735; USF, Tampa, FL
Major Professor (2010-present): Directed Research GMS 7910; USF, Tampa, FL
Lecturer (2009-2010): Course Title: Membrane Physiology; *Redox-Modulated Ion Channels*, GMS 6433, USF, Tampa, FL
Major Professor (2010-present): Laboratory Rotations: Biomedical Science; GMS 6942; USF, Tampa, FL
Major Professor (2010-present): Directed Doctoral Dissertation Research; MCOM: GMS 7980 USF, Tampa, FL
Major Mentoring Professor (2011-present): Graduate Seminar; MCOM; GMS 7939 002 USF, Tampa, FL
Major Professor: (2012-Present): Honors Thesis Course IDH 4970.001 - Thesis research
Major Professor: (2012- Present): IDH4970.002 S22 Honors Thesis II. Thesis writing
Lecturer (2011-2018): Course Title: Basic Medical Biochemistry; *Reactive Oxygen Species (ROS) and Oxidative Stress in Disease Processes*, MCOM: GMS 6202, USF, Tampa, FL

Lecturer (2016-present): Course Title: GMS6440.003S17 Basic Medical Physiology: *Gastrointestinal Physiology; Small Intestine; Exocrine Pancreas & Liver/Gallbladder; Large Intestine, Gastrointestinal Health.* USF, Tampa, FL
Lecturer (2016-present): Course Title: GMS6706.003S17 Basic Medical Neurosciences; 1. *The Action Potential - Initiation & Propagation;* 2. *Synthesis, Storage, & Release of Neurotransmitters;* 3. *Postsynaptic Signaling;* USF, Tampa, FL
Lecturer (2010-2018): Course Title: Foundations in Biomedical Sciences; Redox Biochemistry: *Reactive Oxygen Species (ROS)*, GMS 6001; USF, Tampa, FL
Lecturer (2013): Advanced Respiratory Pathophysiology; Medical Year 4; Obstructive and Central Sleep Apnea, MDT8200E.A51M13; USF, Tampa. FL
Course Director (2011-2015): Advanced Studies in Metabolism and Signaling; GMS 7930; USF, Tampa, FL
Guest Lecturer (2016-Present): IDH3600.004F20.82091 Seminar in Ethics. Course role: Teacher
Guest Lecturer (2018-2020): Intro to BioAstronautics; BME 4400; USF, Tampa. FL
Guest Lecturer (2020-2021): BIOS 12121 Physiology in Extreme Environments (University of Chicago)
Guest Lecturer (2021-2024): PCB 6930 Current Topics in Cancer Biology (USF, Tampa, FL)
Faculty Leader (2021-2024): Scholarly Concentration in Nutrition; USF MCOM: Mentor for Nutrition Research in Health and Research, Innovation & Scholarly Endeavors (RISE)

TRAINING/MENTORING:
Doctoral Degree and Medical Student Training

2024-Present **Mentor**, Brody Smith; USF MCOM Summer Internship Program: USF, MCOM; Class of 2026; RISE award recipient; 2024 Scholarly Project

2024-Present **Mentor**, Thomas Karadimas; USF MCOM Summer Internship Program: USF, MCOM; Class of 2026; 2024 Scholarly Project.

2024-Present **Committee member**, Simone Tonetto; Ph.D. Program; Department of Neuroscience, University of Copenhagen, Denmark "Effects of nutritional ketosis in alcohol and benzodiazepine withdrawal"

2023-Present **Mentor**, Abigail Demers; USF MCOM Summer Internship Program: USF, MCOM; Class of 2026; RISE award recipient for "Analysis of Continuous Glucose Monitoring (CGM) in Non-Diabetics" 2023 Scholarly Project

2023-Present **Mentor,** Sami Solimon; USF MCOM Summer Internship Program: USF, MCOM; Class of 2026; "Analysis of Continuous Glucose Monitoring (CGM) in Non-Diabetics" 2023 Scholarly Project.

2022-Present **Mentor,** Jonathan Serino; USF MCOM Summer Internship Program: USF, MCOM; Class of 2025; RISE award recipient for "Use of Continuous Glucose Monitoring (CGM) in Non-Diabetics: Scoping Review" 2022 Scholarly Project.

2022-Present **Mentor**, Nikitha Chandran; USF MCOM Summer Internship Program: MCOM; Class of 2025; RISE award recipient for "Use of Continuous Glucose Monitoring (CGM) in Non-Diabetics: Scoping Review" 2022 Scholarly Project.

2021-Present **External PhD Committee Member**, Maria Edwards, Department for Nutrition, Exercise and Sports Faculty of Science, Copenhagen University; *Diet induced ketosis for patients with brain injury - A Feasibility Study*

2021-Present **Chair and PhD Committee Member**, Ph.D. Program in Chemistry: Mohammad Nazmus Sakib; Total Synthesis of Glucosidase Inhibitor Isolated from *Ageratina grandifolia*

2021-Present **Committee Member**, Dr. Jason Sonners, MD; PhD Program; University of Miami; *Effects of Hyperbaric Oxygen Protocols on Stem Cell Production*

2021-Present **Mentor**, Francis "Sean" Walson USF MCOM Summer Internship Program, USF, MCOM; Class of 2024; Research, Innovation & Scholarly Endeavors (RISE) award recipient for "*Improving Cognitive-Behavioral and Cardio-Metabolic Health with Continuous Glucose Monitoring (CGM)*" 2021 Scholarly Project.

2019-Present **Chair and PhD Committee Member**, Ph.D. Program in Chemistry: Michael Williams; *Development of Novel Ketogenic Agents*

2019-Present **Major Professor**, Ph.D. Program: USF Morsani College of Medicine; Sara Moss; "*Epigenetic Metabolic Therapeutics*"

2015-2021 **Committee Member**, Ph.D. Program in Chemistry: Christopher M. Hinojo (USF MCOM; "*Exogenous ketone effects on rat caudal solitary complex during exposure to normobaric and hyperbaric hyperoxia"*

2015-2021 **Committee Member**, Ph.D. Program: USF Morsani College of Medicine: Nicole M. Stavitzski; "*Effects of Exogenous Ketone Therapy on Performance, Cardiorespiration, and Seizure Genesis During Exposure to HBO2 in the Sprague Dawley Rat*"

2014-2020 **Major Professor**, Ph.D. Program: USF Morsani College of Medicine: Andrew P. Koutnik (Presidential Fellow); "*Metabolic Therapeutics in Cancer Cachexia*"; PhD Dissertation

2012-2017 **Major Professor**, Ph.D. Program: Nathan Ward (USF MCOM Presidential Fellow): Cancer Metabolism: "*Modulating glucose metabolism to induce mitochondrial stress in a mouse model of metastatic cancer"*. PhD Dissertation. https://scholarcommons.usf.edu/etd/6778/

2010-2015 **Major Professor**, Ph.D. Program: Shannon Kesl: *"Metabolic Therapy for Age-Dependent Impaired Wound Healing"* (2016). PhD Dissertation. http://scholarcommons.usf.edu/etd/6104

2011-2015 **Major Professor (2012-13) and Committee Member**, Ph.D. Program: Hernandez-Ontiveros, Diana G., *"Neuroinflammatory Alterations via CD-36 in Traumatic Brain Injury"* (2015). PhD Dissertation. http://scholarcommons.usf.edu/etd/5699

2010-2014 **Major Professor**, Ph.D. Program: Angela Poff: "*Targeting Cancer Metabolism with Ketosis and Hyperbaric Oxygen*" (2014). PhD Dissertation. http://scholarcommons.usf.edu/etd/5294

2014-2020: **Committee Member**, Ph.D. Program: Portis, Samantha, "*Protein and Protein Pathway Analysis of Serum and Microglia from ages Rats Treated with NT-0202*"

2014-2020: **Chair and PhD Committee Member**, Ph.D. Program: Mast, Jason; "*Recovery of fatigued muscles by application of synchronization-modulation of the sodium/potassium ATPase*"

2012-2018: **Committee Member**, Ph.D. Program: Ciarlone, Geoffrey Edward, "*Hypercapnic Hyperoxia Increases Free Radical Production and Cellular Excitability in Rat Caudal Solitary Complex Brain Slice Neurons*" (2016). PhD Dissertation. http://scholarcommons.usf.edu/etd/6481

2012-2017: **Committee Member**, Ph.D. Program: Ciarlone, Stephanie Lynn, "*The Effects of Synthetic and Dietary Therapeutics on Learning, Memory, Motor Coordination, and Seizure in an Angelman Syndrome Mouse Model*" (2016). PhD Dissertation. http://scholarcommons.usf.edu/etd/6482

2011-2015: **Committee Member**, Ph.D. Program: Edwards, Clare B., "*The effects of supplemented metabolites on lifespan and stress response pathways in Caenorhabditis elegans*" (2015). PhD Dissertation. http://scholarcommons.usf.edu/etd/5681

2011-2016: **Committee Member**, Ph.D. Program: Jamileh J. Ahmed *Analysis of iPSC-Derived Dopaminergic Neurons Susceptibility to Influenza and Excitotoxicity in Non-Affective Psychosis*

2009-2013: **Committee Member and Collaborator**, Ph.D. Program: Milene Brownlow: *"Diet-Induced Ketosis and Calorie Restriction in Mouse Models of Alzheimer's Pathology"* (2013). PhD Dissertation. http://scholarcommons.usf.edu/etd/4870

2008-2013: **Committee Member**, Ph.D. Program: Adam Smith: *"Modulating the Pharmacokinetics of Bioflavonoids"* (2012). PhD Dissertation. http://scholarcommons.usf.edu/etd/4226

Master's Degree Training and Committees

2012~2015: **Committee Member**, M.S. Ryan J. Colquhoun: Master's Thesis: USF Tampa; "*Comparison of Powerlifting Performance in Trained Males Using Traditional and Flexible Daily Undulating Periodization"* http://scholarcommons.usf.edu/etd/5464/

2012~2015: **Committee Member**, M.S. Roberto E. Flores: Boston College: Master's Thesis: "*Mycoplasma Arginini Increases Activation, Energetic Deregulation, and Tumor Progression of VM-M3 Metastatic Macrophage Cells"*

Undergraduate Directed Research, Research Assistant Training, Undergrad Thesis

2022- 2023: Katya McCurdy; (USF; Research Advisor)
2021- 2023: Natalya Thomas; (USF Honors College; Thesis Committee Member)
2021- 2022: Zena Omar; (USF Honors College; Research Advisor)
2020- 2022: Kobe Robichaux (USF Honors College; Thesis Chair)
2018- 2020: Bryanna Tanase (USF Honors College; Major Professor; Thesis Chair)
2017- 2020: Karina Noboa (USF College, Directed Research)
2017- 2019: Mark Moussa (USF Honors College; Thesis Mentor)
2017- 2019: Sara Moss (USF College, Directed Research)
2016~2018: Janine DeBlasi (USF Honors College; APS Award Fellow; Thesis Mentor)
2016~2017: Melissa Ramirez (pre-med; MSP3; Directed Research)
2015- 2016: Karina Bach (USF Honors College; Thesis Major Professor)
2012- 2016: Craig Goldhagen (pre-med; USF Honors College; Directed Research)

2012~2014: Ashley Van Putten (pre-med; MSP3; Directed Research)
2013~2014: Gabrielle Dimattia (pre-med; MSP3; Directed Research)
2012~2014: Nicholas Mavromattes (pre-med; Biology; Directed Research)
2014~2015: Cem Murdin (Cancer Biology Directed Research)
2012~2013: Jacob Sherwood (Research Assistant)
2009~2010: Jaimie M. Luke (pre-med; USF; Biology: Directed Research)
2008~2010: Jaime Lago (Research Assistant)

High School Mentoring
2010~2016: BBBS Tampa Bay Mentor: James Tyler
2019-2020: South Sumter High School; Science Fair Mentor: Trinity Skaggs
2018-2021: South Sumter High School; Science Fair Mentor: Cheyenne Shirley
2022: South Sumter High School; Science Fair Mentor: Rylee Shirley

SUMMARY OF RESEARCH PROGRAM:

Our laboratory develops and tests metabolic-based therapies and drugs that target pathways linked pathophysiologically to seizure disorders, neurodegenerative diseases, glycemic dysregulation, cancer cachexia and skeletal muscle wasting. To investigate the mechanism of these pathologies we use a variety of in vivo and in vitro techniques, including radio-telemetry (EEG, EMG), electrophysiology, fluorescence microscopy, confocal microscopy, atomic force microscopy (AFM), electron microscopy, histology, biochemical assays, metabolomics, toxicology, in vivo bioluminescence imaging, spectrophotometry, behavioral testing and motor function testing. Our work has adapted and utilized radio-telemetry, confocal microscopy and AFM for use inside hyperbaric/hypobaric chambers to simulate environmental extremes. These tools allow us to conduct environmental physiology, and tissue and cellular studies under a broad range of oxygen concentrations and gas pressures. Our past and current projects, supported by the Department of Defense (DoD) and Office of Naval Research (ONR), have identified cellular and molecular correlates of CNS oxygen toxicity (CNS-OT) seizures. Our efforts have focused specifically on measuring neuronal excitability, reactive oxygen species (ROS) production, biomarkers of oxidative stress and global blood and tissue metabolomics. Our in vitro and in vivo studies continue to explore the efficacy, mechanism of action and safety of metabolic therapeutics with current efforts focused on moving metabolic-based therapies into human clinical trials.

1. RESEARCH SUPPORT:
Grants and Contracts

Title: Effects of Pre-dive Ketone Food Products on Latency to CNS Oxygen Toxicity
Purpose: The purpose of this study is to assess the effect of supplemental ketosis on prevention of CNS O2 toxicity symptoms in humans. ClinicalTrials.gov. NCT05831228
Funding Agency: NAVSEA
Dates: 04/01/2022 to 03/31/2024
Role: **D'Agostino DP** (Co-I: USF in collaboration with Duke; PI, Dr. Bruce Derrick)
Amount: $16,847.00

Title: Investigating Ketone-Induced Epigenetic Changes on Autophagy, and its Role in Longevity and Ketogenic Metabolic Therapy

Purpose: Determine the impact of endogenous and exogenous ketosis on epigenetic patterns and autophagy, healthspan, and lifespan in healthy mice, those with brain cancer, and those with Kabuki syndrome.
Funding Agency: The William H. Donner Foundation, Inc. (501c3)
Dates: 08/01/2021 to 07/30/2024
Role: **D'Agostino DP** (PI)
Amount: $206,369 (Direct costs)

Title: Using Nutritional Ketosis to Reduce Glycogen Accumulation, Stimulate Mitochondrial Biogenesis, and Enhance Autophagic Flux in Pompe Disease.
Purpose: Determine if nutritional ketosis influences glycogen content, autophagy, mitochondrial content, and epigenetic profile in liver and muscle tissues from Pompe Disease mice. In addition, we will be assessing motor function, hypertrophic cardiomyopathy and survival time.
Funding Agency: Spark Therapeutics
Dates: 07/01/2021 to 06/30/2024
Role: **D'Agostino DP** (PI)
Amount: $250,000 (Direct + Indirect)

Title: Metabolic Interventions for Cognitive Resilience in Aging and Alzheimer's disease
Purpose: The central hypothesis is that dietary ketosis (with ketone ester) will normalize activity levels across the prefrontal cortex and medial temporal lobe and attenuate the progression of tau pathology in a rat model pre-clinical Alzheimer's disease.
Funding Agency: NIH R01
Dates: 09/30/2018 to 08/31/2023
Role: **D'Agostino DP** (Co-I): Sara Burke (PI; UF)
Amount: $ 144,849 (sub to USF: Project# 6143-1185-00)

Foundation Accounts and Research Accounts
Foundation Account: Metabolic Therapy and Cancer Research
Purpose: Account for advancing studies on metabolic therapies
Funding Agency: USF Foundation (501c3); Account No: 250244
Dates: 4/1/2014 to Present
Role: D'Agostino DP (PI)

Research Foundation Account: Metabolic Therapy and Cancer Research
Purpose: Supports advancing IP development and application
Funding Agency: Division of Patents and Licensing; USF Account No: R64303
Dates: 1/1/2013 to Present
Role: D'Agostino DP (PI)

Completed Research Projects:
Title: Optimizing ketone metabolic therapy and identifying biomarkers for mitigation and prediction of CNS oxygen toxicity: animal studies
Purpose: Assess the effect of nutritional ketosis supplementation on prevention of CNS oxygen toxicity symptoms in rats
Funding Agency: Office of Naval Research (ONR)

Dates: 01/01/2018 to 12/31/2022
Role: **D'Agostino DP** (PI); Poff AM (Co-I); Dean JB (Co-I)
Amount: $ 1,021,278

Title: Ketogenic Diet for Reduction of CNS Oxygen Toxicity Symptoms in Working Divers
Purpose: The purpose of this study is to assess the effect of nutritional ketosis on prevention of CNS oxygen toxicity symptoms.
Funding Agency: NAVSEA (Project #: 6143-1166-01)
Dates: 01/01/2018 to 12/31/2022
Role: **D'Agostino DP** (Co-I: USF in collaboration with Duke; PI, Dr. Bruce Derrick)
Amount: $20,198 (sub-award)

Title: Ketone Supplementation for Cancer Cachexia
Purpose: Cancer cachexia studies assessing ketones bodies for anti-catabolic protein-sparing effects. Efficacy and mechanism of ketone formulations for cancer cachexia.
Agency: Disruptive Nutrition
Project No: 6143115000
Dates: 7/27/2017 to 12/31/20
Role: **D'Agostino DP** (PI)
Amount: $154,968 (FL-HTC match)

Title: Evaluating Therapeutic Mechanisms of Ketosis in Cachexia
Funding Agency: Disruptive Nutrition
Funding Type: (Industry + FL/HTC Match)
Funding Period: 07/01/2019 to 06/30/2020
Total Direct Cost: $128,548
Current Annual Direct Cost: $76,521
Role: **D'Agostino DP** (PI)
Total Indirect Cost: $25,729

Title: Nutritional Support in a Model of Kabuki Syndrome
Purpose: Assess the effect of nutritional ketosis supplementation on a mouse model of Kabuki syndrome through cellular, molecular, behavioral and epigenetic changes.
Funding Agency: Disruptive Nutrition and FL-HTC
Dates: 01/01/2019 to 12/31/2019
Role: **D'Agostino DP** (PI)
Amount: $ 69,708

Title: Testing Press Pulse Strategy in Metastatic Cancer
Purpose: Assess the effects of combinatorial therapies on mitigating tumor growth and extending survival in a mouse model of aggressive metastatic cancer.
Agency: Donner Foundation
Project No: 6143-1151-00
Dates: 7/27/2017 to 6/27/2018
Role: **D'Agostino DP** (PI)
Amount: $93,340 (Total)

Title: Testing Cancer Cachexia Therapy with Ketone Ester Supplementation
Purpose: Cancer cachexia resulting in pathological wasting of lean body mass. Ketone esters are tested for use as an agent to mitigate cancer cachexia.
Agency: Donner Foundation
Project No: 6143-1152-00
Dates: 7/27/2017 to 6/27/2018
Role: **D'Agostino DP** (PI)
Amount: $66,330 (Total)

Title: Florida Center for Brain Tumor Research - Statewide Brain Tumor Registry Program at the McKnight Brain Institute
Purpose: Determine the ketone raising and glucose lowering effects of ketone ester (BD AcAc2).Characterize the anti-cancer effects in an orthotopic patient-derived brain tumor.
Agency: Florida Department of Health
Project No: P0019025
Subcontract No: UFDSP00011478
Dates: 7/1/2016 to 6/30/2017
Role: **D'Agostino DP** (Subcontract)
Amount: $13,888 (Direct from Sub)

Title: Development and Testing of Ketogenic Diet, Ketone Supplementation and Hyperbaric Oxygen Therapy for Cancer
Purpose: The purpose of this study is to validate the efficacy and mechanism of metabolic-based approaches to managed cancer.
Funding Agency: Epigenix Foundation (501c3)
USF Award Number: 6143-1131-00
Dates: 4/1/2016 to 3/31/2017
Role: **D'Agostino DP (PI)**
Amount: $101,733 (Total)

Title: Therapeutic efficacy of the co-administration of Glutamate Oxaloacetate Transaminase and Oxaloacetate (GOT/OX) for Amyotrophic Lateral Sclerosis (ALS)
Purpose: The objectives of this study are to 1) determine the pharmacokinetic and pharmacodynamic parameters of GOT/OX in wild-type mice and to determine the effects of GOT/OX on the health and survival of SOD1-G93A mice, a well-known mouse model of ALS.
Funding Agency: WFND Foundation (501c3)
USF Award Number: 6143-1119-00
Dates: 9/1/2015 to 12/31/2016
Role: **D'Agostino DP (PI)**
Amount: $182,088 (Total)

Title: Pre-Clinical Study to Assess Efficacy of Metabolic Therapy with Branched Chain Amino Acid (BCAA) Formula in Mouse Model of Metastatic Cancer
Purpose: The purpose of this project is to complete a pre-clinical mouse study to assess the efficacy, tolerability and safety of a metabolic therapy (nutritional ketosis) combined with BCAAs. The outcome measures of this study are tumor burden, survival time, tumor-associated signaling.

Funding Agency: Scivation Inc (FL-HTC match)
USF Award #6143109200
Dates: 1/1/2013 to 12/31/2017
Role: **D'Agostino DP (PI)**
Amount: $360,955 (Total)

Title: Testing the Efficacy of Ketone Supplementation in a Mouse Model of Glucose Transporter Type-1 Deficiency Syndrome (GLUT1D) mice
Purpose: The ketogenic diet is the standard care for GLUT1D, but the restrictive nature of the diet prevents compliance in many cases. The project investigates several novel ketogenic agents that induce "exogenous ketosis", and this circumvents the dietary restriction associated with induction via the clinically used restrictive ketogenic diet.
Funding Agency: GLUT1D Foundation (501c3)
USF Award: 6143109500
Dates: 1/1/2014 to 12/31/2016
Role: **D'Agostino DP (PI)**
Amount: $40,000 (Total)

Title: Mechanism of CNS and Pulmonary O2 Toxicity
Purpose: Determine the effects of CO_2 retention on production of ROS/RNS and neuronal activity in the solitary complex. Determine the effects of hypercapnic hyperoxia on physiological indicators of an impending oxygen toxicity seizure (hyperoxic hyperpnea & hypothermia) and on mitigation strategies for delaying onset of seizures.
Funding Agency: Office of Naval Research (ONR)
ONR Award: N000141310405
Dates: 12/1/2012 to 12/31/2015
Role: Dean JB (PI); **D'Agostino DP (Co-I)**
Amount: $929,749 (total costs)

Title: Therapeutic Efficacy of Topical Ketone Supplements in combination with Amniotic Tissue Allographs therapy for Wound Healing
Purpose: This project is designed to test the efficacy and mechanisms of a potential wound healing therapy. We will investigate the effects of topical ketones and amnion, chorion patch in the migration of human dermal fibroblasts.
Funding Agency: Tides Medical LLC
Grant #: 6143-1123-00
Dates: 11/1/2015 to 07/31/2016
Role: **D'Agostino DP (PI)**
Amount: $40,000 (Total)

Title: Efficacy and Mechanism of Ketone Esters for Central Nervous System Oxygen Toxicity (CNS-OT) Seizures
Purpose: The goal of this project is to develop and test several exogenous ketone agents as a mitigation strategy for CNS-OT in a rat model. In addition, pharmacokinetic and toxicology studies have been completed for FDA GRAS determination. Microscopy and global metabolomic studies to elucidate the cellular and molecular mechanism.
Funding Agency: Office of Naval Research (ONR)

ONR Award: N00014-13-1-0062
USF Account Number: 6143108600
Dates: 12/1/2012 to 12/31/2015
Role: **D'Agostino DP (PI)**
Amount: $780,000 (Total)

Title: Assessment of Glycerol Tris *D,L*-3-Hyrdoxybutyrate in GLUT1D Syndrome
Purpose: The ketogenic diet is used for the metabolic management of GLUT1D, and manages the disease symptoms even in the presence of a persistent molecular pathology (*e.g.* SLC2A1 defect). This study used a novel tri-ester of the ketone beta-hydroxybutyrate (BHB) in a GLU1D mouse model to induce therapeutic ketosis to preserve brain energy metabolism during hypoglycorrhachia.
Funding Agency: KetoProducts LLC
USF Award: 6143111000
Dates: 4/1/2015 to 3/31/2016
Role: Poff AP (PI); **D'Agostino DP (Co-PI);**
Amount: $20,000 (Total)

Title: Pharmacokinetic Glycerol Tris *D,L*-3 Hydroxybutyrate
Purpose: Test the dose-response pharmacokinetics of a ketone beta-hydroxybutyrate (BHB) ester for consideration as Generally Recognized as Safe (GRAS) by the FDA.
Funding Agency: KetoProducts LLC
USF Award: 6143111000
Dates: 4/1/2015 to 3/31/2016
Role: Poff AP (PI); **D'Agostino DP (Co-PI);**
Amount: $5,000

Title: Effect of the Ketogenic Diet vs Western Diet on Strength, Body Composition and Metabolic Biomarkers
Purpose: This project was designed to assess the effects of nutritional ketosis on the performance, body composition, strength and blood safety biomarkers of advance athletes. Results from this experiment confirmed that nutritional ketosis results in favorable body composition alterations and favorable shifts in blood biomarkers of metabolic health.
Funding Agency: Quest Nutrition
USF Award: 6143109300 and 6143109301
Dates: 1/1/2014 to 06/30/2015
Role: **D'Agostino DP (PI)**
Amount: $120,000

Title: Cellular Mechanisms of CNS Oxygen Toxicity
Purpose: The primary objective of this project was to determine if a predictable pattern of cardiopulmonary changes precede onset of CNS oxygen toxicity, which could potentially be used as a biomarker of an impending O_2-induced seizure. The second major goal is to determine the neuroprotective effects of hyperoxic preconditioning against CNS O2 toxicity.
Funding Agency: Office of Naval Research (ONR)
ONR Award: N000140710890
Dates: 12/1/2009 to 8/31/2013

Role: Dean JB (PI); **D'Agostino DP (Co-I)**
Amount: $727,000

Title: Efficacy and Mechanism of Metabolic Therapy for Amyotrophic Lateral Sclerosis (ALS)
Purpose: Assess behavior, mitochondrial dysfunction and glutamate excitotoxicity linked to mouse model of ALS (SOD1-G93A).
Funding Agency: WFND (501c3)
USF Account Number: 6143107700
Dates: 9/1/2012 to 8/31/2014
Role: **D'Agostino DP (PI)**
Amount: $154,000

Title: Effect of Aging on O2-Dependent Redox Regulation of Survival and Growth of Human Fibroblasts and Rat Hippocampal Neurons: Implications for Wound Healing and Neuroprotection
Purpose: Determine the effect of hyperoxia on cell death and ROS production in human fibroblasts and rat hippocampal neurons. The completion of these studies allowed us to further understand the role of O2-induced oxidative stress between cells types.
Funding Agency: Signature Interdisciplinary Program in Neuroscience (SIPIN) pilot grant
Dates: 4/1/2011 to 3/31/2012
Role: **D'Agostino DP (PI);** Gould LJ; Ari C, Kesl S
Amount: $4,000

Title: Ketogenesis and Alzheimer Pathology
Purpose: Development and testing of an MCT-enriched ketogenic diet in a mouse model of Alzheimer's disease.
Funding Agency: Alzheimer's Association: (project ID IIRG-10-174448)
Dates: 12/01/2010 to 11/30/2012
Role: Morgan, Dave (PI); **D'Agostino DP** (Co-I
Amount: $200,000

Title: Laser Confocal Microscopy Studies of Oxygen Toxicity
Purpose: Adapt confocal microscopy system for use inside an environmental/hyperbaric chamber. This technology allows us to visualize the effects of graded levels of hyperbaric gases on cellular processes and mitochondrial function. Applications for undersea and space.
Funding Agency: Department of Defense (DoD) Defense University Research Instrumentation Program (DURIP) Equipment Grant
ONR Award No.: N000141110890
PR No., Mod No.: 11PR09362-00
Dates: 12/01/2008 to 7/1/2012
Role: **D'Agostino DP (PI)**
Amount: $201,945

Title: Effect of Aging on O_2-Dependent Redox Regulation of Survival and Growth of Human Fibroblasts and Hippocampal Neurons: Implications for Wound Healing and Neuroprotection
Purpose: Determine the effect of hyperoxia on cell death and ROS production in human fibroblasts and rat hippocampal neurons. The completion of these studies allowed us to further

understand the role of O2-induced oxidative stress between cells types.
Funding Agency: Signature Interdisciplinary Program in Neuroscience (SIPIN) pilot grant
Dates: 4/1/2011 to 3/31/2012
Role: **D'Agostino DP (PI)**; Gould LJ; Ari C, Kesl S
IIRG-10-174448
Agency/Funding Organization: Alzheimer's Association
Funding Year: 2010
Amount: $4,000

Title: Molecular and Cellular Studies of CNS O_2 Toxicity using Hyperbaric Atomic Force Microscopy (HAFM)
Purpose: Hyperbaric AFM studies were done on brain cells to understand the effects of hyperoxia and other normobaric and hyperbaric gases on the cell membrane morphology. Studies elucidated changes associated with hyperoxia-induced neuronal excitability and metabolic dysfunction.
Funding Agency: Office of Naval Research (ONR) Postdoctoral Fellow Award
Grant Award: ONR No. N000140610105
Dates: 12/01/05-11/30/08
Role: **D'Agostino DP (PI)**
Amount: $302,564

PEER REVIEW PUBLICATIONS (Senior Authorship Underlined)

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11. Noakes TD, Prins P, Volek JS, **D'Agostino DP**, Koutnik AP. Low carbohydrate high fat ketogenic diets on the exercise crossover point and glucose homeostasis. *Frontiers Physiology*, Volume 14; 28 March 2023, https://doi.org/10.3389/fphys.2023.1150265, PMID: 37057184
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13. Prins PJ, Noakes TD, Buga A, **D'Agostino DP**, Volek JS, Buxton JD, Heckman K, Jones DW, Tobias NE, Grose HM, Jenkins AK, Jancay KT, Koutnik AP. Low and high carbohydrate isocaloric diets on performance, fat oxidation, glucose and cardiometabolic health in middle age males. *Front Nutr.* 2023 Feb 9;10:1084021. doi: 10.3389/fnut.2023.1084021. PMID: 36845048
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CLINICAL RESEARCH

Protocol Title: Realtime, unblinded, continuous glucose patterns paired with lifestyle data in the free-living, general population. (Role, PI on IRB)

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2. **D'Agostino DP.** (2014) Efficacy and Mechanism of Ketone Esters for Central Nervous System Oxygen Toxicity (CNS-OT) Seizures. Tech Report for ONR Award: N00014-13-1-0062
3. **D'Agostino DP**. (2014) Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells. Tech Report for ONR Award: N000140910244
4. **D'Agostino DP (PI)**. (2013) Laser Confocal Microscopy Studies of Oxygen Toxicity. Tech Report for ONR Award No.: N000141110890
5. **D'Agostino DP (PI)**. (2012) Dean JB. Molecular and Cellular Studies of CNS O_2 Toxicity using Hyperbaric Atomic Force Microscopy (HAFM): Tech Report: ONR Award: N000140910244

PATENTS (LIST OF USPTO PATENTS)

1. Jay B. Dean; **Dominic P. D'Agostino**; *"Development and Use of Hyperbaric Atomic Force Microscopy*" (Patent: 09A008PR2, University of South Florida): http://www.google.com/patents/US20130145506
2. **Dominic P. D'Agostino**; Jay B. Dean. *"Systems And Methods For Performing Microscopy At Hyperbaric Pressures"* (Patent: US 20130145506 A1, University of South Florida): http://www.google.com/patents/US20130145506
3. **Dominic P. D'Agostino**; Jay B. Dean: "*Integrated System for Hyperbaric Atomic Force Microscopy and Fluorescence Microscopy in Live Cells* (Patent: 09A008, University of South Florida)
4. **Dominic P. D'Agostino**; Angela Poff; *"Targeting Cancer with Metabolic Therapy and Hyperbaric Oxygen"* (USF Ref. No.: 12B152PRWOUS): Office (USPTO): #9,801,903 http://www.google.com/patents/WO2014085652A1?cl=en
5. **Dominic P. D'Agostino;** Patrick Arnold, Shannon Kesl; "*Composition and Methods for Producing Elevated and Sustained Ketosis"* USPTO 9,675,577**;** 12B109PRWOUSCN; (University of South Florida): http://www.google.com/patents/WO2014153416A1?cl=en
6. **Dominic P. D'Agostino**; Patrick Arnold, Shannon Kesl; "*Composition and Methods for Producing Elevated and Sustained Ketosis*" USPTO. 9,138,420 https://patents.google.com/patent/US9138420B2/en
7. **Dominic P. D'Agostino**; Patrick Arnold, Shannon Kesl; "*Composition and Methods for Producing Elevated and Sustained Ketosis*" USPTO. 1,064,6462 https://patents.google.com/patent/US10646462B2/en?oq=10646462
8. **Dominic D'Agostino;** Shannon Kesl: Methods of Sustaining Dietary Ketosis and its Effects on Lipid Profile; (USPTO# 10,792,268 on October 6, 2020) https://www.google.com/patents/WO2014153416A1

9. Edwin Weeber; **Dominic D'Agostino**; Stephanie Ciarlone: "Ketone Esters for Treatment of Angelman Syndrome" U.S. Patent and Trademark Office (USPTO) #9,795,580. https://patents.google.com/patent/US9364456B1/en
10. **Dominic P. D'Agostino**; Shannon Kesl; Patrick Arnold: Composition for suppressing appetite and/or promoting ketosis and weight loss in a mammal.(Patent: US2014350105-A1)
11. **Dominic P. D'Agostino**; Patrick Arnold; Poff AM: Treating metabolic dysregulation such as Alzheimer's disease and cancer, comprises administering a ketogenic diet to an animal, and subjecting the animal to a hyperbaric oxygen-enriched environment. (USPTO US2014072654-A1)
12. **Dominic P. D'Agostino**; Patrick Arnold; Dean J.B: Treating neurological disorders e.g. Alzheimer's disease arising from impaired brain metabolism involves inducing mild ketosis in a subject by administering a dose of ketone ester. (USPTO: CA2873057-A1)
13. **Dominic D'Agostino**, Janine DeBlasi, Andrew Koutnik, Angela Poff; Pharmacological Ascorbic Acid and Hyperbaric Oxygen as Pro-oxidative, Metabolic, Anti-cancer Therapies. USF Ref. No.: 17A044
14. Ari, C., Arnold P., **D`Agostino, D.P**. Technology Title: "Elevated Blood Ketone Levels by Ketogenic Diet or Exogenous Ketone Supplements Induced Increased Latency of Anesthetic Induction" USF Ref. No. 16A018PR
15. Ari, C., Arnold P., **D`Agostino, D.P.** Technology Title: "Exogenous Ketone Supplementation Improved Motor Function in Sprague-Dawley Rats." USF Ref. No: 16A019
16. Ari, C., Arnold P., **D`Agostino, D.P.** Technology Title: "Lowering of Blood Glucose in Exercising and Non-Exercising Rats Following Administration of Exogenous Ketones and Ketone Formulas." USF Ref. No: 16A049
17. Ari, C., Arnold P., **D`Agostino, D.P**. Technology Title: "Ketone Supplementation Elevates Blood Ketone Level and Improves Motor Function in GLUT1 Deficiency Syndrome Mice." USF Ref. No: 16B116 (provisional patent)
18. Ari, C., Arnold P., **D`Agostino, D.P.** "Neuroregeneration improved by ketone." USF Ref. Publication#: 20210290581, Sep 23, 2021
19. Ari, C., **D`Agostino, D.P.** Dean, J.B. Delayed Latency to Seizure by Combinations of Ketone Supplements. Publication date: August 22, 2019; Publication number: 20190255003
20. Andrew Koutnik; **Dominic P. D'Agostino**. Ketone Bodies Multifaceted Anti-Aging/Pro-Longevity Therapeutic Effect. USF Tech. ID: 20A012; USF Ref. No.: 62/964,952.
21. Andrew Koutnik; **Dominic P. D'Agostino.** Provisional Patent Application entitled "Methods to Mitigate Symptoms of Hypoglycemia" USF Ref. No.: 19B134PR_Koutnik
22. **Dominic P. D'Agostino**; Patrick Arnold; Jay B. Dean; Raffaele Pilla; "Ketone esters for prevention of CNS oxygen toxicity" USPTO#. 10,842,767 on November 24, 2020
23. Ari, C., Arnold P., **D`Agostino, D.P.** Technology Title: "Exogenous Ketone Supplements for Reducing Anxiety Behavior" USPTO. 10,980,764 on April 20, 2021
24. Ari C, **Dominic P. D'Agostino**, Jay B. Dean Delaying Latency to Seizures with Combinations of Ketone Supplements USPTO: 10,945,975 on March 16, 2021
28.
29. Sara Moss; Angela Poff; **Dominic P. D'Agostino**: Methods for Treating Symptoms of Kabuki Syndrome; Provisional; USF ref. 20A059WO; PCT on April 26, 2022

30. Andrew Koutnik; Dominic P. D'Agostino; 20A012PR; "Ketone Bodies Attenuate Wasting in Models of Atrophy" USPTO: 11,452,704 on Sept. 27, 2022
31. Andrew Koutnik; Angela Poff; **Dominic P. D'Agostino**: Utility Patent Application entitled "*Composition and Methods for Weight Loss Maintenance*" USF Ref. No. 17B162PR2WO (Jan. 2021), USPTO: 11,596,616 on March 7, 2023. https://patents.justia.com/patent/11596616
32. **Dominic P. D'Agostino**; Shannon Kesl; "*Metabolic Therapy for Wound Healing*"; United States Letters Patent No. 11,806,328 on November 7, 2023
33. D'Agostino Ari, C., **D`Agostino, D.P.** Technology Title: "Exogenous Ketone Supplements for Reducing Anxiety Behavior" USPTO United States Letters Patent No. 11,766,417 on September 26, 2023.
34. Zsolt Kovacs, Csilla Ari D'Agostino, **Dominic D'Agostino**, Brigitta Brunner, Eniko Rauch. Ketone Supplements-evoked effects on absence epilepsy by co-administration of uridine. United States Letters Patent No. 11,974,973 on May 7, 2024.

OUTREACH: INVITED PRESENTATIONS, LECTURES AND KEYNOTES

1. Acid Maltase Deficiency Association Conference; *Utilizing Nutritional Ketosis to Improve the Infantile Onset Pompe Disease Phenotype in C57/BL6 NJ Mice*, San Antonio, TX, May 4-5, 2024
2. Institute for Human and Machine Cognition (IHMC); Evening Lecture Series entitled: *Cardiometabolic Biomarkers*, Ocala, FL, Feb. 29, 2024
3. Institute for Human and Machine Cognition (IHMC); Evening Lecture Series entitled: *Metabolic Based Strategies for Neuroprotection and Brain Health*, Pensacola, FL: April 28, 2023
4. Dubin Center for Alzheimer's disease: *Targeting Brain Energy Metabolism and Signaling*. March 1, 2023
5. New Worlds Conference 2022; The Foundation for the Future; Health Biomarker Monitoring for Deep Space Missions. October 29, 2022
6. Swedish Medical Center's Metabolic Health and Nutrition CME Symposium *Prevention and Treatment of Diseases through Research: Metabolic-based Strategies for Targeting Epilepsy, Neurodegenerative Diseases, and Cancer*, June 11, 2022
7. Metabolic Psychiatry Roadmap Retreat, Baszucki Group. *Exogenous Ketones and MCT For Brain Health*, May, 2022 in Santa Barbara, CA
8. Stanford University: Continuing Studies Course BIO11: "*Emerging Applications of Nutritional Ketosis and Associated Biomarker Monitoring*" April 9, 2022
9. Johns Hopkins Hospital, Department of Neurology, Metabolism in Neurologic Diseases (MINDS); *Review of the Science and Neurological Applications of Exogenous Ketones* March 3, 2022
10. American Diabetes Association (ADA): Mini-Symposium: Presentation Title. *Low Carbohydrate Intake Optimizes Performance and Glycemia*- June 25-28, 2021
11. University of Chicago; Presentation: "Training and Research on NASA NEEMO 22 and 23 Missions"; Emergency Medicine; Institute for Integrative Physiology, April 29, 2021
12. Federal Emergency Management Agency (FEMA); U.S. Department of Homeland Security; U.S. Spine & Sport Foundation Project *Implementation of a Regional*

Firefighter Wellness Initiative: Ketogenic and Low Carbohydrate Nutrition (Virtual Workshop; Feb. 2021)

13. American Epilepsy Society (AES) 2020 Investigator Workshop (IW): *Metabolism-Targeted Treatments for Epilepsy*; December 2020.
14. NIH National Institute of Neurological Disorders and Stroke (NINDS), Bethesda, Maryland US; Workshop: *Metabolism-based Therapies for Epilepsy* Nov. 9-10, 2020
15. University of Florida (Gainesville, FL): Food Science and Human Nutrition; Nutritional Sciences Fall Theme Seminar; "*Emerging Applications of Nutritional Ketosis and Methods of Implementation*" September 17, 2020
16. University. Chicago: Presentation entitled "*Physiology in Extreme Hyperbaric Environments*"; Emergency Medicine; Institute for Integrative Physiology. May 2020.
17. NASA Johnson Space Center CB/Astronaut Office (Houston, TX); *Nutritional Ketosis: Science to Operational Applications*. August 2, 2018
18. NASA Johnson Space Center: Human Research Program (HRP) Presentation: (Houston, TX; July 30, 2018); *Metabolic Effects on Genes and Signaling*
19. Medical College of Wisconsin (May 16, 2018): Biochemistry Department; *Nutritional Ketosis: Emerging Applications*
20. Science and Technology Club of Sun City (May 15, 2018): Evening Lecture Series: *Applications and Practical Implementation of Nutritional Ketosis*
21. Integrated Health Symposium (New York City; (Feb. 22, 2018): Panel Discussant hosted by Dr. David Perlmutter: "*Is there a best diet for humans*?"
22. Moffitt Cancer Center Seminar Series (Tampa, FL; Dec. 7, 2017); *Nutritional Ketosis: Changing Metabolic Physiology to Target Tumor Metabolism and Signaling*
23. USF Alumni Association Annual Evening Lecture Series (USF MCOM; Tampa, FL; Nov. 16, 2017); *Emerging Applications of Nutritional Ketosis*
24. Clearwater Rotary Club (Clearwater, FL; Nov. 15, 2017): *Undersea to Space: Research on NASA NEEMO 22 Mission*
25. Advanced Applications in Medical Practice (AAMP) Conference (Portland, OR Oct 27-29, 2017): *Targeting Neurodegeneration and Inflammation*
26. HBOT2017 (International Hyperbaric Medicine Foundation) (New Orleans, LA: August 19-20th): *Overview on the use of Hyperbaric Oxygen Therapy for Cancer* http://hbot2017.com/
27. Glucose Transporter 1 Deficiency Syndrome (GLUT1DS) Conference; (Nashville, TN: July 2017); *Exogenous Ketone Research: Therapeutic and Signaling Effects* http://www.g1dfoundation.org/conferences-2/2017-conference-nashville/
28. University of Florida, McKnight Brain Institute; Department of Neuroscience; (March 2, 2017); *Emerging Applications of Exogenous Ketones*
29. Boston College; Invited speaker: Department of Biology; (Nov. 15, 2016): *Therapeutic Ketosis: Regulation, Signaling and Applications*
30. Fifth Ketogenic Diet Symposium (Sept 23, 2016; Banff, Canada): Invited speaker: *In Vitro Model Systems for Cancer* Moderator and Panel Discussant for Ketogenic Diet and Cancer.
31. Keiser University (Tampa, FL; May 24, 2016). Guest Lecture: *Metabolic-Based Research and Approaches to Target Neurological Disorders*
32. Office of Naval Research Workshop on Decompression Sickness (DCS) and Central Nervous System (CNS) Oxygen Toxicity: (ONR; Washington DC; May 13, 2016); *CNS Oxygen Toxicity: Mitigation Strategy*

33. US Army Research, Development and Engineering Command; Natick Soldier Research Center (Natick, MA; January 21-23, 2016): *Nutritional Ketosis: Implications for Warfighter Health, Performance and Resilience*
34. Office of Naval Research (ONR) Undersea Human Performance Workshop; Naval Research Laboratory (San Diego, CA; 2016); *Metabolic Countermeasures for Performance and Resilience in the Undersea Environment*
35. US Special Operations Command (SOCOM): (Fort Bragg; NC; January 5-6, 2016); *Nutritional Ketosis: Implications for Warfighter Health, Performance and Resilience*
36. SEAL FIT Workshop: (San Diego, CA: Dec 4-5, 2015): *Exogenous Ketones for Warfighter Safety Performance and Resilience*
37. University of Alabama at Birmingham (UAB); Nutrition Obesity Research Center and Department of Nutrition Sciences. (Birmingham, Alabama; Oct. 6 -7, 2015): *Nutritional Ketosis: Implications for Obesity and Associated Disease States*
38. UCB Epilepsy Summit I: Advancing Innovative Science into Patient Solutions (Braine-l'Alleud, Belgium; Sept. 30 – Oct.1, 2015); *Metabolism of glioma cells and tumors associated with epilepsy – role of ketogenic diet*
39. NASA Johnson Space Center: Department of Biomedical Research & Environmental Sciences; (Houston, TX; August 27, 2015); *Metabolic Countermeasures Nutritional Strategies for Long Duration Space Flight*
40. NASA Johnson Space Center: Department of Exercise Physiology; Human Research Program (HRP): (Houston, TX; August 26, 2015); *Superfuel: Synthetic Ketones as a Strategy for Long Duration Space Flight: Mitigating Physiological Risks*
41. NASA-sponsored meeting on Biological Countermeasures (BCMs) against Space Radiation Risks (IHMC Pensacola; Aug 18-19, 2015); *Metabolic Approaches to Reducing Radiation-Induced Carcinogenesis, Oxidative Stress and Inflammation*
42. NASA-sponsored meeting on Human Performance and Resilience in Space and Undersea Environments (IHMC Pensacola; August 11-12, 2015); *Metabolic Countermeasures Against Physiological Effect of Space and Undersea Environments*
43. Genentech, Department of Molecular Oncology (San Francisco, CA; June 19-20); *Understanding the Molecular Mechanism of the Ketogenic Diet; Druggable Targets*
44. Drexel University 4th Annual Sport Nutrition Conference (Philadelphia, PA: May 19, 2015); *Keynote*: *Metabolic Strategies for Enhanced Performance and Body Composition*
45. McKnight Brain Institute; University of Florida (UF; Gainesville. FL; April 27, 2015); *Neuroprotective Metabolic Strategies*
46. NASA BlueSky Workshop on Exercise Technologies and Methods for Space Exploration (IHMC Pensacola; Feb 11-12, 2015); *Metabolic Strategies to Preserve and Enhance Exercise Performance and Adaptation for Human Spaceflight*
47. University of Tampa Conference on Human Performance and Nutrition; Department of Exercise Physiology (Tampa, FL; Feb, 2015): *Keynote Lecture: Ketogenic Dieting: Emerging Evidence of Fat and Ketones as Fuel*
48. Eötvös Loránd University; Institute of Biology; (Budapest Hungary; Oct 15, 2014); *Ketogenesis as an antiseizure and anticancer strategy: Cellular and molecular mechanism.*
49. Global Symposium for Dietary Therapies for Epilepsy and other Neurological Disorders for Health Care Professionals (Liverpool, UK, Oct 7-11, 2014): *Moving towards Neuroprotection?*
50. Institute for Human and Machine Cognition (IHMC, Ocala, FL: September 25, 2014): Evening Lecture Series: *Metabolic Therapies: Therapeutic Applications and Practical Implementation.*

51. International Hyperbaric Oxygen Therapy Conference (New Mexico: Aug 22-24); *Hyperbaric Oxygen and Ketogenic Diet as an Adjuvant for Cancer Therapy*
52. Ancestral Health Symposium (AHS; Berkeley, CA; Aug 6-9); Panel Speaker: *Ketogenic Diet for Cancer*
53. International Society of Sports Nutrition (ISSN; Clearwater, FL; June 19-21, 2014); *Metabolic Strategies for Enhanced Physical and Cognitive Performance*
54. Epilepsy Pipeline Conference (San Francisco, CA; June 5-7, 2014); *Ketogenic Compounds for the Treatment of Epilepsy*
55. NASA Blue Sky Workshop at Cosmos Club (Washington D.C.; May 29-June 1, 2014); Presentation entitled: *Ketones for Astronaut Safety, Performance and Resilience*. Workshop proceedings written up as technical report.
56. Beckman Institute, University of Illinois (Champaign, IL; May 2014); Biochemistry Department: *Metabolic Strategy for Enhancing Physiological and Cognitive Resilience*
57. Alzheimer's Disease International (ADI) Conference (Puerto Rico, May 2014); *Medium Chain Triglycerides and Ketone Supplementation for Alzheimer's Disease*
58. Institute for Human and Machine Cognition (IHMC, Pensacola, FL: April 2014): Evening Lecture Series entitled: *Metabolic Therapies: Therapeutic Applications and Practical Implementation*
59. American Epilepsy Society (AES); (Washington D.C.; Dec 2013): *Ketone Esters for Seizures: A Ketogenic Diet in a Pill?*
60. TEDx Talk Tampa Bay (St. Pete, FL; Palladium Theater; Oct, 2013); *Cancer as a Metabolic Disease: Implications for Therapies.* https://www.youtube.com/watch?v=3fM9o72ykww
61. National Cancer Institute (NCI) Workshop on Cancer Metabolism, Oxidative Stress and the Warburg Effect. Arizona State University. (Phoenix, Arizona; Nov. 6-8, 2013): *Hyperbaric Oxygen as an Adjuvant for Cancer Therapy*
62. Glucose Transporter 1 Deficiency Syndrome (GLUT1DS) Family Conference; (Houston, TX: July 2013); *Ketone Ester Research: Application for GLUT1DS.*
63. University of Tampa; Department of Exercise Physiology (Tampa, FL; June 7, 2013): *Ketogenic Strategies for Enhancement of Cognitive and Physical Performance*
64. Food and Drug Administration (FDA): Considerations Regarding Food and Drug Administration Review and Regulation of Drugs for the Treatment of Amyotrophic Lateral Sclerosis (ALS); (Silver Spring, Maryland, Feb 25, 2013); *Ketones and Alternative Fuels for ALS.* http://www.fda.gov/Drugs/NewsEvents/ucm339833.htm
65. Israel Society for Hyperbaric and Diving Medicine (ISHDM), XII biennial International High Pressure Biology Group (IHPBG). (Eilat, Israel; November 9, 2012); *Metabolic Mitigation Strategy for CNS Oxygen Toxicity Seizures*
66. Glucose Transporter Type 1 Deficiency Syndrome Conference; Remi Savioz Glut1 Foundation (RSG1); (Orlando, FL; July 2012); *Development and Testing of Metabolic Therapies for Seizure Disorders*
67. Eötvös Loránd University; Institute of Biology; (Budapest Hungary; July 2012); *Development and Testing of Metabolic Therapies for Neurological Disorders and Cancer*
68. Eötvös Loránd University; Szivarvany Institute; (Budapest Hungary; July 2012); *Nutritional Management of Neurological Disorders and Cancer: Epigenetics"*
69. University of Tampa; Department of Exercise Physiology (Tampa, FL; June 2012): *Overtraining Syndrome: Nutritional and Metabolic Strategies to Prevent Central Nervous System Fatigue*

70. Barrow Neurological Institute (Phoenix, AZ; February 2012); *Therapeutic Ketosis for Seizures and Cancer Treatment*
71. University of Oxford (Oxford, United Kingdom: September 2011). *Therapeutic Ketosis for Neurological Disorders*
72. University of Padua (Italy; September 2011). *Ketogenesis as a Therapeutic Strategy for CNS Oxygen Toxicity and Other Neurological Disorders*
73. ONR Undersea Medicine Program Review (Seattle, Washington, August 2010): Project Summary*: Cellular and Molecular Studies of CNS oxygen toxicity*
74. University of Florida (Gainesville, FL; April 2010). *Metabolic Therapy as a strategy to Target Malignant Brain Cancer*
75. Undersea and Hyperbaric Medicine Society (UHMS) Meeting/ONR Undersea Medicine Program Review (Salt Lake City, Utah, July 2008): Project Summary (Yr3*): Hyperbaric Atomic Force Microscopy Analysis Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
76. ONR Undersea Medicine Program Review (Groton, CT; July 2007): Project Summary (Yr2): *Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
77. Società Italiana di Medicina Subacquea ed Iperbarica (Fidenza, Italy, 2007). *Atomic Force Microscopy (AFM) Analysis of Hyperoxia-Induced Morphological Changes in Cellular Membranes*
78. ONR Undersea Medicine Program Review (Duke University; July 2006): Project Summary (Yr1): *Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
79. Experimental Biology: Pre-doctoral Award Presentation (*FASEB*; San Diego, CA; April 12, 2003); *Hypoxic Chemosensitivity of Neurons in the Pre-Botzinger Complex of the rostral Ventro-lateral Medulla*
80. Dartmouth College: Dartmouth Medical School (Hanover, NH; Dec. 12-13 2002). *Hypoxic Chemosensitivity and the Neural Control of Autonomic Regulation: Role of Heme Oxygenase-2 (HO-2).*
81. International Congress of Physiological Sciences (IUPS): Workshop on neural control of breathing (Christchurch, New Zealand, Sep 6-7, 2001). Presentation Title: *Hypoxic chemosensitivity of cardiorespiratory regions of the rostral ventrolateral medulla (RVLM)*

MAGAZINE, BOOK FOREWORDS AND ONLINE NEWS ARTICLES

1. Newport MT (Author), Brownlow M., **D'Agostino DP**, (Foreword). Clearly Keto: For Healthy Brain Aging and Alzheimer's Prevention. Turner Publishing Company, 11/29/2022
2. Travis Christofferson (Author), **Dominic D'Agostino (Foreword)**; Tripping over the Truth: How the Metabolic Theory of Cancer Is Overturning One of Medicine's Most Entrenched Paradigms. Publisher: Chelsea Green Publishing, 10/01/2019
3. Christoffersen T; **D'Agostino DP**. (2015). Paleo Solution. *The Origin (and future) of the Ketogenic Diet* –(3 part series)
4. Poff AM, **D'Agostino DP**. (May 2014) Hyperbaric oxygen therapy. *The South African Journal of Natural Medicine, Vol. 107.*
5. Poff AM, **D'Agostino DP**. (April 2014) The ketogenic diet and how it affects weight loss. *The South African Journal of Natural Medicine, Vol. 106.*
6. Koutnik, AP., Poff AM., Storoschuk K., **D'Agostino DP**. The Ketogenic Diet and Cancer. Paleo Magazine: Special Edition. Keto: The definitive guide. February 2020.

OUTREACH: INTERVIEWS, NEWS, MEDIA

1. Dr. Ken Ford and Dr. Dawn Kernagis; IHMC STEM Talk; *Metabolic Based Strategies for Neuroprotection and Brain Health*: April 29, 2023
2. Dr. Iain Campbell and Matt Baszucki, Bipolarcast Episode 18: https://www.youtube.com/watch?v=kUmAQt4if48
3. Shawn Stevenson; TMHS #612: Nutritional Therapy To Protect Your Brain And Metabolism. https://themodelhealthshow.com/dr-dominic-dagostino/
4. Max Lugavere: Genius Life Episode #250; Boost Brain Health and Health Your Mind. https://www.maxlugavere.com/podcast/250
5. Dr. Rhonda Patrick; Found my Fitness Episode #74; Developing a Well-Designed Ketogenic Diet and Harnessing Its Benefits. https://www.foundmyfitness.com/episodes/dominic-dagostino-2
6. Dr. Peter Attia; Drive Podcast #120 – AMA with Dom D'Agostino, Ph.D., Part II of II: https://peterattiamd.com/domdagostinoama02/
7. Dr. Peter Attia; Drive Podcast #116 - AMA with Dom D'Agostino, Ph.D., Part I of II: https://peterattiamd.com/domdagostinoama01/
8. Cultivated Podcast: Science and Faith. https://www.christianitytoday.com/ct/podcasts/cultivated/cultivated-dominic-dagostino-on-reconciling-science-and-fai.html
9. NBC News Channel 8 Interview: Keto and Clinical Applications. https://www.wfla.com/bloom/keto-and-clinical-applications/
10. AAMC.Org: Research at the Ends of the Earth: https://www.aamc.org/news-insights/research-ends-earth
11. Dr. Julie Foucher-Urcuyo, MD, Podcast, Episode 120; https://pursuing-health.com/ep-120-dom-dagostino/
12. Danny Zederman, The Armchair Nutritionist (ESPN): https://podtail.com/en/podcast/armchair-nutritionist/an19-dominic-d-agostino/
13. Genova Diagnostics: Lab Report Podcast; "Your Brain and Body on Ketones" with Drs. Michael Chapman and Patti Devers. https://omny.fm/shows/the-lab-report/your-brain-and-body-on-ketones-with-dr-dom-dagosti
14. Charlie Foundation YouTube Series: Exogenous Ketones. https://www.youtube.com/watch?v=IhEIzUCwKak&feature=youtu.be
15. USF Health Care Blog: Managing Chronic Conditions with the Ketogenic Diet https://hscweb3.hsc.usf.edu/careblog/2019/12/12/managing-chronic-conditions-with-the-keto-diet/
16. Alert Diver (DAN Magazine): "Ketones, Manta Rays and Extreme Environments" http://www.alertdiver.com/Dominic-Csilla-DAgostino?fbclid=IwAR1IWtTdrx1ilh7tjIlUNWlczQQErBjQMc-4IWy5mFJeXfmGeXxjjsvvzR8
17. Genetic Literacy Project: https://geneticliteracyproject.org/2019/11/11/keto-diet-as-a-cancer-treatment-researchers-explore-potential-to-treat-diseases-seizures/
18. IHMC STEM Talk Episode #87: https://www.ihmc.us/stemtalk/episode-87/
19. WFLA News: USF Ketone research study: https://www.wfla.com/news/local-news/keto-craze-taking-off-in-tampa-bay/1932582612
20. NASA NEEMO 23 Mission news: https://stpetecatalyst.com/usf-researchers-may-be-first-married-couple-in-underwater-nasa-mission/
21. USF Health Morsani College of Medicine Wellness Series: https://www.youtube.com/watch?v=-QJ1mXAaUx8
22. Ohio State University Nutrition Conference: https://www.youtube.com/watch?v=z3oEKm7Jrg4
23. Diet Doctor: Q&A about Nutritional Ketosis: https://www.youtube.com/watch?v=E488b5TYPPs
24. USF MCOM Fall Alumni Lecture Series: https://vimeo.com/237633126

25. Ketogenic Supplements Delay Seizures Without Dietary Restrictions: http://news.usf.edu/article/templates/?a=8724&z=234&fbclid=IwAR0-Zlh_zV0D3Z999fza2LjJSUR1KuutGnxDGFTOKlv6gPjDmAoD5rSz-Z8
26. USF Health Morsani College of Medicine News: https://hscweb3.hsc.usf.edu/blog/2019/01/11/ketogenic-supplements-may-significantly-delay-seizures-without-dietary-restrictions/
27. Men's Health "Inside the Rise of the Ketogenic Diet": https://www.menshealth.com/nutrition/a25775330/keto-diet-history/?fbclid=IwAR0nTloFZ7RXhaAYiB30LM6ZeRi5PyR4_5ZLK0C2hTDTk-mCCXgMgWkYZ04
28. Joe Rogan Experience Podcast #1176: https://www.youtube.com/watch?v=u93oh9kC-rU
29. WINK News Florida (August, 2018): Understanding the Keto Diet: http://www.winknews.com/2018/08/09/fort-myers-mom-shares-results-of-keto-diet/
30. Pompe Warrior Foundation: Pompe Disease and Ketogenic Dietary Treatment (July, 1, 2018) http://www.pompewarriorfoundation.com/educate/
31. The Drive: Dr. Peter Attia Podcast: https://peterattiamd.com/domdagostino/
32. COPD Podcast with Professor Peter Barnes: https://copdathlete.com/copd-news/episode-7-dominic-dagostino-peter-barnes-steve-welch/
33. Episode 20: Evolving past Alzheimer's disease: Host: Cleveland Clinic's Center for Functional Medicine, Dr. Bergman: https://evolvingpast.com/podcast/ketogenic-diet-alzheimers-brain-dom-dagostino/
34. Warrior Soul Podcast: *Nutritional Ketosis for Warfighters and Veterans*: https://warriorsoulagoge.com/blogs/podcast/ketosis-for-warfighters-veterans-and-athletes-a-discussion-with-dom-dagostino
35. The Joe Rogan Experience Episode 994: http://podcasts.joerogan.net/podcasts/dom-dagostino ; http://podcastnotes.org/2017/09/07/the-joe-rogan-experience-episode-994-with-dom-dagostino/
36. NPR: WSRQ Talk Radio for Sarasota (Heidi Godman: Life as an Aquanaut and Mission Objectives for NASA NEEMO22. http://sarasotatalkradio.com/
37. Roundup Reads: NASA JSC; (July 2017) https://roundupreads.jsc.nasa.gov/pages.ashx/667/Sea%20you%20later%20NEEMO%2022%20splashes%20up%20after%2010day%20mission
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49. Smart Drug Smarts: *Science and Application of Exogenous Ketone Supplementation for Cognition* http://smartdrugsmarts.com/episode-147-ketosis-cognition/
50. Tim Ferriss Podcast #2 (July 2016); *Power of the Ketogenic Diet; Answering Listener Questions.* http://fourhourworkweek.com/2016/07/06/dom-dagostino-part-2/
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64. Online Lecture: Institute for Human and Machine Cognition (2014: IHMC; Pensacola) https://www.youtube.com/watch?v=gONeCxtyH18
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PERSONAL ONLINE RESOURCES

RESEARCHER ID: I-6196-2012: http://www.researcherid.com/rid/I-6194-2012
Academia: https://usf.academia.edu/DominicDAgostino/Papers
Research Gate: https://www.researchgate.net/profile/Dominic_DAgostino
Linked In: https://www.linkedin.com/pub/dominic-d-agostino/b/14/156
Personal website: www.ketonutrition.org

RESEARCH INTERESTS

Epilepsy and other Seizure Disorders (EEG), Central Nervous System Oxygen Toxicity (seizures), Electrophysiology (Intracellular and Extracellular), Physiology of Extreme Environments (Space, Undersea Medicine), Brain and Metastatic Cancer, Alzheimer's Disease, Wound Healing, Hyperbaric Oxygen Therapy, Atomic Force Microscopy (Biological applications), Confocal Microscopy, Ketogenic Diet Therapies, including Exogenous Ketones, Inborn Errors in Metabolism, Glucose Transporter Type 1 Deficiency Syndrome Therapies, Kabuki Syndrome, Angelman's Syndrome, Metabolic-Based Drugs, Repurposing Drugs, Biowearables, Breath Ketone Monitoring, Continuous Glucose Monitoring (CGM), Continuous Ketone Monitoring (CKM)

TECHNICAL EXPERTISE

Electrophysiology, whole-cell patch clamp; Atomic Force Microscopy (AFM); laser scanning confocal microscopy, intragastric gavage, cardiac puncture, metabolite measurements, metabolomics studies, peroxidation assays, spectrophotometric assays, immunohistochemistry; fluorescence/light microscopy; ratiometric fluorescence imaging of reactive oxygen species (ROS), reactive nitrogen species (RNS), pH_i, intracellular Ca, Live/Dead cell analysis, polarographic measurements of PO_2; and hyperbaric/hypobaric technology, behavioral testing, ELISA assays, validating and testing equipment and techniques under hyperbaric conditions

OUTREACH

1. 2010-2017: Big Brothers Big Sisters (BBBS)
2. 2009-Present: TIME 4:13 Mission; (nonprofit 501c3)
3. 2010-2014: Humane Society of Tampa Bay
4. 2011-2014: Metropolitan Ministries (http://www.metromin.org/)
5. 2010-2011: Lifelink Organization
6. 2010-2012: Florida Blood Services http://www.oneblood.org/
7. 2012-Present: Winning the Fight Against Neurodegenerative Diseases; (nonprofit 501c3)
8. 2013-Present: Manta Pacific Foundation: http://www.mantapacific.org/#!volunteers/c231k

KEY COLLABORATORS

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OTHER CERTIFICATIONS, INTERESTS

SCUBA (PADI), Wreck Diver; Rescue Diver (PADI), HIPPA certification, CITI certification, REDcap, First Aid, CPR, AED, DAN O2 Delivery, Saturation Diver (NEEMO 22), Research Diver (NEEMO 23), Agriculture

REFERENCES

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