The 2nd Annual Society for NeuroSports Conference
March 26-27th, 2021
Deerfield Beach, FL

Society for NeuroSports
from lab bench to weight bench

Wyndham Deerfield Beach Resort
2096 NE 2nd Street, Deerfield Beach, Florida 33441Phone:

EARN your CEUs, too! APA 9, NASM 1, NSCA .8, ISSN 6

Sponsors:

College of Psychology
NOVA SOUTHEASTERN UNIVERSITY

NSU Florida

OUTRIGHT

bang

CELSIUS

NSU Florida
Dr. Pallavi Patel College of Health Care Sciences
NOVA SOUTHEASTERN UNIVERSITY

Dear NeuroSports Members and Friends,

We are extraordinarily grateful for your help in establishing NeuroSports as a new academic home for the field of Sports Neuroscience. This has been a challenging year for many of us and we hope that this hybrid format will allow for an exciting exchange of ideas and information in a safe, yet exciting way! As attendees and presenters at our 2nd annual conference, you are at the forefront in helping us to steer the direction of this organization in the coming years. **Welcome to the second conference in the field of Sports Neuroscience!**

Jaime Tartar, Ph.D. President

SUMMARY OF PROGRAM:

Friday, March 26th

- 8:00am – 4:00pm: Registration opens
- 12:00pm – 1:00pm: Lunch on your own! Plenty of choices on the beach!
- 5:00pm – 5:30pm: Data Blitz! Science at the Speed of Light!
- 5:30 pm – 6:30pm: Poster Session/Happy Hour – All Invited!

Saturday, March 27th

- 8:00am – 12Noon: Registration
- 12:00pm – 1:00pm: Lunch on your own! Plenty of choices on the beach!

Refund Policy for the Conference Registration: THERE ARE NO REFUNDS

Note: Green background indicates a virtual speaker all talks are in person and webinar. All times are EST.

DAY 1 MARCH 26TH: ROYAL PALM BALLROOM & VIRTUAL		
9:30 am - 9:40 am	**Welcome/Opening Remarks**	Jaime Tartar and Julius Thomas

9:40 am - 10:45 am	**Keynote Address**	
9:40 am - 9:45 am	Keynote Introduction	Henriette van Praag, Ph.D.
9:45 am -10:45am	The Astonishing Effects of Exercise on Your Brain	Wendy Suzuki, Ph.D.

10:45 am - 10:55 am	Break

10:55 am -12:00 pm	**Brain Injury and Post-Injury Training**	**Session Chair: Joseph Clark, Ph.D.**
11:00 am -11:05 am	Session Introduction	Joseph Clark, Ph,D.
11:00 am -11:20 am	Brain Training with Sports training Injury	Joseph Clark, Ph,D.
11:20-am-11:40 am	Does a Concussion ever end?	Kester Nedd, D.O.
11:40 am-12:00 pm	Rehab Strategies in Patients Post Chronic Symptoms	Matt Antonucci, Ph.D.

12:00 pm -1:00 pm	LUNCH BREAK: AT YOUR HOME OR ON THE BEACH

1:00 pm-2:05 pm	**Exercise and Neuroplasticity**	**Session Chair:** **Henriette van Praag, Ph.D.**
1:00 pm-1:05 pm	Session Introduction	Henriette van Praag, Ph.D.
1:05 pm-1:25 pm	Impact of Muscle Contraction (in the Absence of Hippocampal Activation) on Neuroplasticity	Justin S Rhodes, Ph.D.
1:25pm - 1:45 pm	Molecular Mediators of the Cognitive Benefits of Exercise	Christiane Wrann, DVM, Ph.D.
1:45 pm - 2:05 pm	Exercise and Hippocampal Memory Systems	Henriette van Praag, Ph.D.

2:05 pm - 2:15 pm	Break

2:15 pm-3:30 pm	**Gains are Made in the Bedroom: The Role of Sleep in Recovery and Performance**	**Session Chair:** **Allison Brager, Ph.D.**
2:15 pm -2:20 pm	Session Introduction	Allison Brager, Ph.D.
2:20 pm - 2:40 pm	A Simple Guide to CNS Recovery and Performance	David Barr, M.S.
2:40 pm -3:30 pm	Sleep like the Pros: Research, Consulting, and Public Policy with Collegiate and Professional Organizations	Allison Brager, Ph.D. Michael Grander Ph.D. Meeta Singh, M.D.

3:30 pm - 3:40pm	Break

Sports Neuroscience Application		
3:40 pm-4:25 pm	**Breath and the Brain: The Role of Breathing in Performance, Pain, and the Nervous System**	**Session Chair:** **Katie Dabrowski, PT, DPT**
3:40 pm - 3:45 pm	Session Introduction	Katie Dabrowski, PT, DPT
3:45-am-4:05 pm	Breathing: Clinical and Real-World Applications	Katie Dabrowski, PT, DPT
4:05pm-4:45 pm	Underlying Mechanisms of Breathing and Pain in the Nervous System	Marlon Wong, PT, Ph.D.

4:45 pm – 5:00 pm	Break

5:00 pm – 5:30 pm	Data Blitz: Sports Neuroscience at the Speed of Light	Moderated by: Chris Algieri, M.S.

5:30 pm 6:30 pm	Poster Session / Happy Hour

DAY 2 MARCH 27TH: ROYAL PALM BALLROOM & VIRTUAL		
9:00 am -10:05 am	**Sports Neuroscience and the Elite Athlete**	**Session Chair: Corey Peacock, Ph.D.**
9:00 am -9:05 am	Session Introduction	Corey Peacock, Ph.D.
9:05 am-9:25 am	Applied Sports Neuroscience INC.- the Makings of a Corporate Athlete	Kamil Celoch, M.S., M.A.
9:25 am-9:45 am	Workload and Neurological Performance in Division 1 Anaerobic Athletes	Gabriel J. Sanders, Ph.D.
9:45 am-10:05 am	NFL Concussion Data and Performance Validity	Douglas P. Gibson, Psy.D.

10:05 am - 10:15am	Break

10:15 am 11:20 am	**Cognition and Performance**	**Session Chair: Jonathan Banks, Ph.D.**
10:15 am - 10:20 am	Session Introduction	Jonathan Banks, Ph.D.
10:20 am - 10:40 am	Focus Your Attention: The Role of Mindfulness and Stress in Athletic Performance	Jonathan Banks, Ph.D.
10:40 am - 11:00 am	The Role of Sleep in Emotion and Mood Processing	Jennifer Goldschmied, Ph.D.
11:00 am - 11:20 am	Get Moving! Your Memory Will Thank You	Matthew Collins, Ph.D.

In Person 11:20 am -12:00 pm	**Interactive Research Roundtables**	
	Cross-Train the Brain - The Use of Mental Skills Training to Improve Athlete Health and Performance	Tony Ricci, Ed.D.
	The Next Generation of Sports Neuroscience- What Does the Future Hold?	Drew Gonzalez M.S., graduate student extraordinaire
	The Application of Nutritional Strategies for Brain Health and Cognition: From the Lab to the Human.	Erik Bustillo, M.S., R.D.
Virtual 11:20 am -12:00 pm	**Discussion** What Athletes Need from Sports Neuroscience.	Julius Thomas, B.S. Chris Algieri, M.S. John "JD" Snyder CSCS, D*, USAW, ASCA, CSNS

12:00 pm - 1:00 pm	LUNCH BREAK: AT YOUR HOME OR ON THE BEACH

1:00 pm - 1:45 pm	**Evolutionary Biology and Performance**	**Session Chair: Omar Eldakar, Ph.D.**
1:00 pm - 1:05 pm	Session Introduction	Omar Eldakar, Ph.D.
1: 05 pm - 1: 25 pm	Left-Handed Advantage and the Right Sided Selection Hypothesis in Interactive Sports.	Andrew Gallup, Ph.D.
1:25 pm- 1:45 pm	The Influence of Winner and Loser Effects on the Outcome of Sporting Competitions	Omar Eldakar, Ph.D.

1: 45 pm - 1:55 pm	Break

1: 55 pm - 3:00 pm	**Sports Supplements - Good for the Noggin'**	**Session Chair: Jose Antonio, Ph.D.**
1:55 pm - 2: 00 pm	Session Introduction	Jose Antonio, Ph.D.
2:00 pm-2:20 pm	Energy Drinks: All Brain No Brawn?	Cassandra Evans, B.S.
2:20 pm-2:40 pm	Caffeine and Sexual Performance - Now I am Awake	Lia Jiannine Ph.D.
2:40 pm-3:00 pm	Sports Nutrition for e-Gamers - Nerds on Supplements	Douglas Kalman Ph.D., RD

3: 00 pm - 3: 10 pm	Break

3: 10 pm - 4: 15 pm	**Mind-Body Approaches to Exercise**	**Session Chair: Michael Mannino, Ph.D.**
3:10 pm - 3: 15 pm	Session Introduction	Michael Mannino, Ph.D.
3:15 pm - 3: 35 pm	The Moving Mind: An Embodied Cognitive Approach to Physical Fitness	Michael Mannino, Ph.D.
3:35 pm - 3:55 pm	Flow State as a Counter Measure to Mental Fatigue	Chris Bertram, Ph.D.
3: 55 pm - 4:15 pm	Sports Psychology and Embodiment: An Overview	Brent Hogarth, Ph.D.

4:15 pm - 4:25 pm	**Closing Remarks**	Jaime Tartar, Ph.D. Jose Antonio, Ph.D. Corey Peacock, Ph.D.

Speaker Biographies and Talk Description

Keynote Speaker

Wendy Suzuki Ph.D.
Dr. Wendy Suzuki is an award-winning Professor of Neural Science and Psychology at New York university where she studies the effects of physical activity on the brain. She is also a TED speaker and best-selling author of the book Healthy Brain Happy Life that was recently made into a PBS special. Suzuki is a passionate thought leader, spreading the understanding of how physical activity can change, improve, and protect your brain.

Description: Can the way I move my body affect my brain? Exciting new and cumulative data show that physical activity has significant immediate, long-lasting, and protective effects on a range of mood and cognition functions and that these effects can be seen at all age-groups examined. In this talk, Professor Wendy Suzuki will describe her studies focused on the behavioral and EEG effect of exercise on the human brain staring with the immediate or acute effects of exercise on cognitive and mood functions. Second, she will describe how these immediate effects of exercise relate to the effects of long-term changes of physical activity on the brain in both low-fit as well as mid- to high-fit populations. Third, she will describe how these results support cross sectional studies showing the long-term protective effects of exercise on the aging brain. She will discuss the implications of these findings for enhancing learning in educational settings and protecting brain and cognitive function in the context of normal aging as well as in the face of neurodegenerative disease states including MCI, Alzheimer's disease, and Parkinson's disease.

Henriette van Praag, Ph.D.
The van Praag lab aims to understand the beneficial effects of exercise on brain function and behavior, with a particular focus on the running-induced increase in new neurons in the adult rodent dentate gyrus of the hippocampus, a brain area that is essential for learning and memory. Henriette van Praag received her Ph.D. from Tel-Aviv University (Israel). She obtained postdoctoral training at Robert Wood Johnson Medical School, NJ, followed by a position as a staff scientist at the Salk Institute for Biological Studies in La Jolla, CA. Dr. van Praag started her own research group at the National Institute on Aging in Baltimore in 2007. She moved her laboratory to the Brain Institute at Florida Atlantic University (FAU) in 2018. She is an Associate Professor of Biomedical Sciences at the Charles E. Schmidt College of Medicine and FAU Brain Institute and serves as co-Editor-in-Chief for the IOS Press journal *Brain* Plasticity.
Description: The hippocampus is important for learning and memory. The number of newborn hippocampal cells is strongly upregulated by voluntary wheel running in rodents. Enhanced adult hippocampal neurogenesis is correlated with changes in synaptic plasticity, new neuron networks, spatial navigation and pattern separation in rodents. We aim to investigate the

peripheral triggers that may mediate exercise induced changes in the brain. Using proteomic analyses, we identified lysosomal enzyme Cathepsin B (Ctsb) as a novel myokine that influences brain function. Analyses across species in mice, monkeys and humans showed that this factor upregulated in plasma with exercise. In humans, these changes correlated with improved fitness and hippocampus-dependent memory function. A recent focus of our work is to determine whether myokine levels may be upregulated in aging subjects following an exercise intervention. Overall, our research evaluating the relationship between myokines, adult hippocampal neurogenesis, neurotrophic levels and memory function aims to further our understanding of effects of exercise on the brain.

Joseph Clark, Ph.D.

Joseph Clark, Ph.D. Professor of Neurology and Rehabilitation Medicine will be talking on rehabilitation strategies and methods following sports related concussion. Dr. Clark participates in and helps manage the TBI clinic in the of Cincinnati Sports Medicine division. He sees patients, runs concussion baselines and designs concussion prevention programs for athletes. Dr. Clark has over 150 peer reviewed publications, published several books and written numerous book chapters.

Description: We will introduce the theme of aggressive rehabilitation following sports related concussion in the immediate time after the injury. The concept of looking for deficiencies before a patient complains of difficulties can head off problems and shorten recovery time. Some methods to be discussed are neuro sensory and neuro visual rehab methods.

Kester Nedd, D.O.

Dr. Nedd is a Board-Certified Neurologist, with subspecialty training in Neurological Rehabilitation and Neuro-trauma. He currently serves as the Managing Partner of Design Neuroscience Center, a comprehensive brain injury center involved in the evaluation and treatment of individuals with traumatic brain injury and other neurological disorders. For 25 years, Dr. Nedd served as the Medical Director of Neurological Rehabilitation and Medical Neuro-trauma at Jackson Memorial Hospital's Ryder Trauma Center. He was also an Associate Professor of Neurology and served as Medical Director of the Sports Concussion Program at the University of Miami Miller School of Medicine until May of 2020. Dr. Nedd completed his medical training at the Kansas City University of Bioscience and Medicine. He received his postgraduate Neurology, Neurological Rehabilitation, and Neuro-Trauma training at the University of Miami - Jackson Memorial Health System. Dr. Nedd has been on the forefront of issues related to concussions for over 30 years and is involved in the evaluation and treatment of the most complicated cases of patients with this condition. He developed the Brain Hierarchical Evaluation and Treatment (BHET) method, a unique multidimensional approach that considers the hierarchical organization of the brain and how this order is impacted by injury and the recovery process. He believes that the evaluation and treatment of neurological disorders, including concussions and TBI, should focus on a clearer, hierarchical approach, which would limit misdiagnosing and incorrect treatment, and give those affected a better chance of recovery.

Description Our recent understanding of a concussion indicates that there are significant long-term changes in the brain that places the person in a state of vulnerability despite being asymptomatic. This issue impacts on return to work, return to play, and return to “normalcy.”

Matt Antonucci, D.C.

Dr. Antonucci is an experienced chiropractic neurologist, functional neurology practitioner, researcher, and international lecturer with over a decade of clinical experience. He proudly has participated in the health transformation of thousands of patients with complex neurological conditions and performance challenges, through the prescription and administration of client-specific neurological rehabilitation programs. He is a highly sought-after speaker who has delivered thousands of hours of education, to tens of thousands of healthcare providers both domestically and internationally and has authored several peer-reviewed publications. He is a loving husband and the father of five amazing boys, whom he hopes to inspire to follow in his footsteps. While in graduate school, Dr. Antonucci became fascinated with the nervous system, particularly the brain. After receiving his doctorate in chiropractic medicine, he became a board-certified diplomate in the sub-specialty of chiropractic neurology. He completed a fellowship in functional neurology, training for 2 years directly with Professor Frederick R. Carrick, in the rehabilitation of complex neurological conditions. Dr. Antonucci continued to engage in the advancement of his knowledge through completing 1-year fellowships in each of the following: childhood developmental disorders, vestibular rehabilitation, neurochemistry, and nutrition, as well as a 2-year fellowship in traumatic brain injury rehabilitation. In 2015, he was nominated by his peers, and approved for a lifetime fellowship into the International College of Chiropractic. Dr. Antonucci finds particular interest in treating individuals with neurological challenge, creating educational curricula and teaching healthcare providers about brain rehabilitation, and the creation of a systematic approach to the practice of functional neurology. He is currently an editorial reviewer for the journals Frontiers in Neuroscience, Frontiers in Public Health, Elsevier's Journal of Clinical Biomechanics, and an Associate Professor of Clinical Neurology for the Carrick Institute. He is also the co-founder and president of Plasticity Brain Centers in Orlando, Florida.

Description: New research suggests that 4 out of 7 individuals will sustain at least one conclusion in their lifetime, with over 4 million concussions occurring each year. It is also estimated that approximately 15% of all concussions will have persistent symptoms that enter the domain of chronicity (greater than 12 months). If symptoms persist longer than 3 years, they are considered permanent. From my team's experience, we find that individuals in the chronic and "permanent" phases can have substantial and significant improvement in symptoms and quality of life. In this presentation we will identify a fundamentally different approach to the treatment of all phases of concussion and discuss outcomes from said approach.

Justin S. Rhodes, Ph.D.

Dr. Rhodes received his undergraduate BS degree in Biology from Stanford University in 1995, a MS in Fisheries from the University of Washington in Seattle in 1998, and a MS in Statistics and PhD in Zoology from the University of Wisconsin-Madison in 2002. He was a postdoc at Oregon & Health & Science University before taking a job as an Assistant Professor in the Department of Psychology at the University of Illinois at Urbana-Champaign in 2005. Dr. Rhodes is currently a Professor and is affiliated with the Neuroscience Program, Program for Ecology and Evolution and Conservation Biology, the Carl R. Woese Institute for Genomic Biology, Center for Nutrition, Learning, and Memory, Division of Nutritional Sciences, and the Molecular and Cellular Foundations of Intelligent Systems group at the Beckman Institute for Advanced Science and Technology. His fields of research include behavior genetics, neuroscience of motivation and addiction, effects of exercise and diet on brain function using mice as a model organism.

Description: Regular exercise is crucial for maintaining cognitive health throughout life. Recent evidence suggests muscle contractions during exercise release factors into the blood which cross into the brain and stimulate adult hippocampal neurogenesis. However, no study has tested whether muscle contractions alone are sufficient to increase adult hippocampal neurogenesis and improve behavioral performance. Adult male, C57BL/6J mice were anesthetized and

exposed to bilateral hind limb muscle contractions (both concentric and eccentric) via electrical stimulation (e-stim) of the sciatic nerve twice a week for 8 weeks. Each session lasted approximately 20 min and consisted of a total of 40 muscle contractions. The control group was treated similarly except without e-stim (sham). Acute neuronal activation of the dentate gyrus (DG) using cFos immunohistochemistry was measured as a negative to control to confirm that the muscle contractions did not activate the hippocampus, and in agreement, no DG activation was observed. Relative to sham, e-stim training increased DG volume by approximately 10% and astrogliogenesis by 75%, but no difference in neurogenesis was detected and no improvement in behavioral performance was observed. E-stim also increased astrogliogenesis in CA1/CA2 hippocampal subfields but not in the cortex. Results demonstrate that muscle contractions alone, in absence of DG activation, are sufficient to increase adult hippocampal astrogliogenesis, but not neurogenesis or behavioral performance in mice.

Christiane Wrann, DVM, Ph.D.

Dr. Wrann Massachusetts General Hospital (MGH) and the Harvard Medical School in Boston. Dr. Wrann is also an affiliate of the Henry and Allison McCance Center for Brain Health and the Harvard Stem Cell Institute. She is the recipient a K99/R00 Pathway to Independence Award from the NINDS and the Hassenfeld Cardiovascular Research Scholar Award. Her research is funded by NIA, Cure Alzheimer's Fund, and the Alzheimer's Association. Her research focuses on the beneficial effects of exercise and metabolism on the brain, and specifically secreted factors in exercise as potential drug targets. Dr. Wrann studied veterinary medicine at the University of Veterinary Medicine Hannover, the University of Cambridge, and Cornell University. She received her Ph.D. with Summa cum laude in Immunology from the University of Veterinary Medicine Hannover in 2008. She concluded her postdoctoral in the laboratory of Dr. Bruce Spiegelman at Dana-Farber Cancer Institute and Harvard Medical School. In April 2016 she joined the faculty of the CVRC to start her own laboratory.

Description: Identifying secreted mediators driving the cognitive benefits of exercise holds great promise for the treatment of cognitive decline in aging or Alzheimer's disease (AD). We have identified the novel exercise hormone irisin as an important mediator of the benefits of exercise in the brain. Here, we are evaluating irisin as potential therapeutic for treating cognitive disorders including AD.

David Barr, M.S.

From sex to smarts to sports, David Barr has spent more than 2 decades optimizing human performance across multiple domains. His experience has spanned from protein molecules to professional athletes, including his research for NASA at the Johnson Space Center, and work for both the NSCA and ACSM. His Autistic brain has innovated for T-Nation, Bodybuilding.com, and EliteFTS, and published 4 books as well as 4 textbook chapters. David is revered throughout the world for his frequent use of hyperbole.

Description: What is your chronotype? Tshi session will review how to identify and apply this important concept. On nocturnal recovery, we'll explore how to: facilitate, maintain, and deal with its inadequacy. Mr. Barr will also review his recent NASA research experiences as it relates to recovery and subsequent performance.

Allison Brager, Ph.D.

Major Allison J. Brager, PhD is presently the Director of Human Performance and Outreach Education for the United States Army Recruiting Command. She is the recipient of two National Research Service Awards from the National Institutes of Health and a National Academy of Sciences fellowship for research on biomarkers that promote physiological resilience in extreme environments. She helped co-write the first edition of the NCAA mental health handbook for student-athletes. She also sits on fatigue management and neurocognitive enhancement working groups for the US government and NATO. At present, she is under applicant selection for the Army Astronaut Program in order to do research on the International Space Station. She is the author of the popular science book, "Meathead: Unraveling the Athletic Brain" and > 30 publications in flagship journals. She holds several leadership and editorial board positions for sleep and neuroscience-focused societies in addition to being asleep and performance consultant for professional and Olympic sports teams, major metropolitan fire and police academies, and Fortune 500 companies. Major Brager was a two-time CrossFit Games (team athlete), individual CrossFit Regionals athlete, and a former D1 collegiate athlete (track & field).

Michael Grander, Ph.D.

Dr. Grandner is a licensed clinical psychologist, board-certified in Behavioral Sleep Medicine. He is the Director of the Sleep and Health Research Program at the University of Arizona and Director of the Behavioral Sleep Medicine Program at the Banner-University Medical Center in Tucson. He is Associate Professor of Psychiatry, Psychology, Medicine, Nutritional Sciences, and Clinical Translational Science at the University of Arizona. Dr. Grander is an internationally recognized expert in sleep health, has over 150 academic publications, and frequently consults with health, technology, athletics, and nutritional companies and organizations regarding sleep, health, and performance. He has worked with organizations including the NCAA, MLB, IOC, Team USA, and others.

Meeta Singh, M.D.

Dr. Meeta Singh is a board-certified physician focused on the applied science of sleep. In her practice, Dr. Singh is the Service chief of sleep medicine, and section head and medical director at the Henry Ford sleep center in Michigan. After completing her training in Psychiatry at the Mayo clinic and a sleep fellowship at the Henry Ford hospital, Dr. Singh became board-certified by the American Board of Psychiatry and Neurology (under the American Board of Medical Specialties) as a psychiatrist and sleep medicine subspecialist. In addition, she is a member in good standing of the American Academy of Sleep Medicine. Her approach concentrates on improving sleep health with the aim of enhancing physical and mental performance, health, and quality of life. Dr Singh's talks on sleep science inspire and challenge the status quo by using science-based knowledge to optimize sleep and accelerate performance on the personal and team level.

Panel Description for Drs. Brager, Grander, and Singh: This discussion panel will discuss pioneering and groundbreaking changes in how governing bodies (NCAA) and professional and elite collegiate athletic programs approach performance optimization through leveraging clinical sleep medicine and research. The panelists are active sleep researchers and clinicians serving athlete and military populations. They are sleep and performance consultants for the recent World Series Champions (Washington Nationals), Washington Capitals, and the athletic departments of University of Arizona and Louisiana State University. The panelists have also contributed to the NCAA mental health task force, having co-wrote the first edition of the handbook.

Katie Dabrowski, PT, DPT

Dr. Dabrowski is a physical therapist and co-founder of Old Bull Sports Medicine and Rehabilitation, a private practice in Miami, FL that specializes in blending the worlds of injury prevention, training, performance, recovery, and rehabilitation. Dr. Dabrowski is also an adjunct professor in the Department of Psychology and Neuroscience at NSU's College of Psychology. She earned her Bachelor's of Science in Psychology and Behavioral Neuroscience at NSU, was a member of the women's NCAA DII rowing team, and studied the effects of exercise on cognition. She earned her Doctor of Physical Therapy from the University of Miami, where she was a Neuroscience Graduate Assistant and studied the impacts of exercise on neuroplasticity using transcranial magnetic stimulation paradigms. Her clinical approach as a physical therapist focuses on proper movement patterns, injury prevention, and incorporating breath work in everyone ranging from US Olympic athletes to individuals experiencing chronic pain. She blends her love of neuroscience and exercise in order to optimize recovery and performance for her patients.

Description: Dr. Dabrowski's talk blends the science of breathwork with real-world, clinical applications she uses in her clinic for patients of all ranges of function and skill levels. We take an average of 20,000 breaths per day, and if we're breathing inefficiently, that's 20,000 missed opportunities to improve health and performance.

Marlon Wong, PT, Ph.D.

Marlon Wong received his Master of Science in Physical Therapy from Florida International University in 2002. He then went on to complete his transitional DPT and residency training through the Ola Grimsby Institute, followed by completion of a PhD in Physical Therapy from Nova Southeastern University. Dr. Wong is an Assistant Professor at the University of Miami Department of Physical Therapy, where he teaches pain science in the entry-level DPT program, serves as the Director of the UMPT Orthopedic Residency Program, and serves as the Assistant Vice Chair of Clinical Services. He is also currently on work groups tasked with developing a clinical practice guideline for pain education and conducting a practice survey study for pain specialization. Dr. Wong's current research focus and areas of interest include neuropathic pain, the underlying mechanisms for the relationship between spinal pain and movement dysfunction, and clinical measures for pain and movement dysfunction.

Description The respiratory system is often overlooked as a contributing factor to pain and movement dysfunction in the orthopedic and sport settings. However, there is a growing body of evidence linking breathing pattern disorders and deficient strength and endurance of the respiratory muscles with pain and movement dysfunction. The speaker will summarize this growing body of literature and use his active research to describe the histological, biochemical, neuromuscular, and biomechanical rationale for the link between pain and the respiratory system.

Kamil Celoch, MS, MA, CSNS, CISSN, CPPS

Kamil runs KC-performance.com where he champions evidence and research-based practices, as they pertain to cognitive and athletic performance. His keen interest in the neurobiological processes underpinning motivation saw him speak at conferences on both sides of the Atlantic. In his consulting work, Kamil successfully applies sports neuroscience findings to restore his client's sense of agency over their performance. With over 4000 hours, Kamil's interdisciplinary educational background spans 4 EU countries and includes a European Commission co-funded MA degree and an Advanced MS from Jean Monnet Centre of Excellence at Vrije Universiteit Brussel. As one of the first candidates to successfully complete the Society for NeuroSports certification (CSNS), Kamil remains fully invested in Society's mission to unravel the intricacies of bidirectional relationship between the brain and performance. In 2019, he was appointed the Society's official brand ambassador. Based in the heart of Europe, Kamil was the first sports performance coach in Belgium to earn the Certified Physical Preparation Specialist (CPPS) qualification

(hosted at the WWE Performance Centre, Orlando, FL). He is also a Certified Nutritionist (CISSN) of the International Society of Sports Nutrition and serves as a peer reviewer for the Journal of the International Society of Sports Nutrition. In his previous life, Kamil enjoyed a diverse career spanning foreign affairs (national government and EU level) conference interpreting and digital media. In 2017 and 2018, he won the national championship of the Belgian American Football League (BAFL Elite Division) with Brussels Black Angels

Description Much like athletes, many high-level executives and managers face tremendous pressure in a professional setting and need every bit of brain power available to them. In my presentation, I will talk about how to successfully apply subcomponents of sports neuroscience (exercise science, neuroscience and sports nutrition) to maximize performance outcomes when working with this subset of population.

Gabriel J. Sanders, Ph.D., CSCS, CSNS, CISSN

Dr. Sanders is a Professor of Exercise Science at Northern Kentucky University. As a researcher and sports scientist, Dr. Sanders has consulted with professional organizations and other universities that range from Power 5 to mid-major conferences to research and analyze sports science and wearable technology data. At NKU, Dr. Sanders works with the Director of Sports Performance to assess student-athlete's physiological data and training workloads with the main goal of reducing injuries, improving performance, and enhancing student-athlete health and well-being throughout their career at NKU. His research focuses on neuro and physiologic testing and monitoring athlete's daily workloads utilizing wearable microsensor technology. A large component of this research includes detailed secondary data analyses with the goal to identify beneficial or harmful workloads and how they influence performance and perceived exertion.

Description: Managing daily external and internal workloads in athletes is a key component to maximizing athletic performance. Readiness to perform can be assessed via neuromuscular performance tests. Combining the data from neuromuscular tests and daily workloads throughout a season can yield information that may be beneficial to enhance practice periodization protocols thus optimizing game performance in athletes.

Douglas P. Gibson, Psy.D., MPH, ABPP

After completing his internship at The Medical College of Virginia/Virginia Commonwealth University School of Medicine, Dr. Gibson completed his residency in rehabilitation/neuropsychology at Hollywood Medical Center before entering private practice. Dr. Gibson was an Adjunct Professor at Nova Southeastern University from 1998-2005. He joined the faculty at Virginia Commonwealth University/Medical College of Virginia (2005-2012), where he was an Associate Professor of Psychiatry and Surgery serving primarily on the liver, heart, kidney and lung transplant teams. While at VCU/MCV, he was the primary supervisor for the medical school's new post-doctoral fellowship in Clinical Health Psychology and he provided training, supervision and mentoring to many medical students, residents and post-doctoral fellows. Dr. Gibson left VCU/MCV in order to commission with the Central Intelligence Agency, serving as a forensic subject matter expert and Agency's clinical neuropsychologist. He was one of the developers of the Agency's traumatic brain injury program and served as co-chair to their special evaluations review board. Additionally, he served as a certified intelligence instructor world-wide with an emphasis on leadership and resilience. Dr. Gibson retired from the Central Intelligence Agency on 9/11/2020. Dr. Gibson has provided expert consultation on thousands of medically complicated cases, including mTBI, TBI, PTSD and poly-trauma, providing expert testimony throughout the country. He has published research and authored book chapters in psychological assessment, neuropsychology, cardiology and gastroenterology. His research interests are in medical factors affecting neurocognitive functioning as well as heart rate variability, peak-performance, resilience and

concussion. Dr. Gibson is Board Certified by the American Board of Professional Psychology (ABPP-Health). He remains a commissioned officer in the U.S. Army Reserves

Description This talk will define Performance and Symptom validity as it relates to neuropsychological assessment. Various "gold standard" measures will be discussed along with "embedded" (non-stand alone) methods of assessing effort. Data from retired NFL players seeking compensation will be reviewed with particular attention paid to the high levels of failure on validity measurers. Possible reasons for this finding will be discussed along with recommendations for accurate neurocognitive assessment.

Jonathan Banks, Ph.D.

Dr. Banks is an Associate Professor in the Department of Psychology and Neuroscience at NSU's College of Psychology. His research focuses on working memory, mind wandering, and attentional control. Specifically, he is interested in the role of working memory in controlling mind wandering and the impact of emotionally valanced mind wandering on current task performance. Dr. Banks' research also examines the impact of acute and chronic stress on cognitive function and is examining mechanisms responsible for stress related working memory and executive functioning impairments. In this line of research Dr. Banks is interested in interventions that may alter the impact of stress, including expressive writing and mindfulness meditation.

Description: Attention plays an important role in athletic performance. The ability to focus attention and inhibit distracting information is critical to being able to carry out many performance tasks. However, athletic performance is often occurring under periods of high stress. Attention is often impaired during periods of high psychological stress. Reducing the impact of stress on attention may be possible with mindfulness training.

Jennifer Goldschmied, Ph.D.

Dr. Jen Goldschmied is a licensed clinical psychologist and assistant professor in the Department of Psychiatry at the Perelman School of Medicine of the University of Pennsylvania. She received her doctorate in Clinical Psychology from the University of Michigan and completed her postdoctoral fellowship at the Center for Sleep and Circadian Neurobiology and Department of Psychiatry at the University of Pennsylvania. Her program of research aims to identify the mechanisms by which sleep modulates mood and emotional processing, and she was recently awarded an NIH Career Development Award to study the relationship between sleep slow-wave activity, neuroplasticity and mood in depression. In addition to her research, Dr. Goldschmied also engages in clinical work in behavioral sleep medicine, treating patients with sleep disorders and comorbid psychiatric illness.

Description: In this talk, Dr. Jen Goldschmied provides an overview of the impact of sleep loss on mood and discusses the most current research on how to improve emotional functioning using approaches to better sleep.

W. Matthew Collins, Ph.D.

W. Matthew Collins is an Associate Professor of Psychology and the Director of the B.S. Psychology program in the Department of Psychology & Neuroscience at Nova Southeastern University. His area of expertise is Cognitive Psychology, and his research interests lie in memory, language, and embodied cognition. He is a member of the Psychonomic Society.

Description: Research has demonstrated the benefits of moderate aerobic exercise on cognitive function (Coles & Tomporowski, 2008; Skriver et al., 2014). Here, we present research that examines the relationship between aerobic exercise, encoding rate, and forgetting. Participants either watched a movie or performed an acute bout

of aerobic exercise for 30 minutes (walking or running). Participants then completed a paired-associate-learning task, which involved learning word pairs and then recalling one word of the pair when presented with the other to measure the rate of learning. Two days later, participants returned and were given a surprise recall task to measure forgetting. Results indicated that participants in both the exercise groups learned the words faster and recalled more words at follow-up. These results show that exercise benefits both the rate at which we learn and long-term recall of that material.

Omar Eldakar, Ph.D.

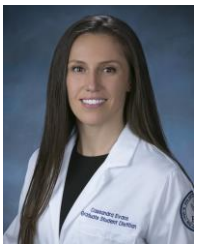
Dr. Eldakar is an evolutionary biologist interested in the evolution of cooperation and conflict in social organisms. Dr. Eldakar also maintains broad interests in adaptive behavior and physiology. Dr Eldakar earned his PhD in evolutionary biology from Binghamton University in New York, and then continued to a postdoctoral fellowship at the Center for Insect Science at the University of Arizona. He is currently an associate professor in the Department of Biological Sciences at Nova Southeastern University.

Description: Across the animal kingdom it has been observed that outcomes of conflicts are influenced by past experiences, whereby previous winners are likely to keep winning and losers are likely to continue losing. These so-called “winner and loser effects” are hypothesized to result from factors such as information acquisition and endocrine responses following the initial bouts. This talk applies the understanding of this phenomenon to a novel domain: patterns of winning and losing in baseball and softball double headers. Findings suggest that winner and loser effects contribute to the outcomes of sporting contests which has implications for sports scheduling and sports psychology.

Andrew Gallup, Ph.D.

Dr. Andrew Gallup is an Assistant Professor of Evolutionary Psychology at the State University of New York (SUNY) Polytechnic Institute. He holds a Ph.D. in Biological Sciences and is currently co-editing a special issue in the journal *Evolutionary Behavioral Sciences* on sports, games, and athletics from an evolutionary perspective.

Description: From an evolutionary perspective, the maintenance of left-handedness in humans has been explained by frequency-dependent advantages in fighting. Consistent with this view, left-handers are overrepresented in interactive sports such as boxing, baseball, and tennis, but not within non-interactive sports such as gymnastics. While investigations into the factors contributing to the left-hand advantage have been the focus of past research in this area, the benefits reaped by lefties in interactive and combat sports have important implications for right-sided athletes. That is, the relatively fewer righties that manage to reach elite levels of competition in these domains should possess distinct performance-based attributes in order to compensate for their inherent disadvantage. We term this the right-sided selection hypothesis. Here we discuss initial tests of this hypothesis in two separate sports: baseball and soccer. In particular, different performance metrics of righties and lefties were analyzed from over 3,500 top adolescent baseball prospects in the United States and over 2,900 professional soccer players from the five best European leagues. Findings across both studies support the right-sided selection hypothesis, suggesting that the left-sided advantage in interactive sports may select for superiority in other physical dimensions among highly successful right-sided athletes.



Cassandra Evans, B.S.

Ms. Evans is a graduate student dietitian at Nova Southeastern University. She studied sports nutrition and completed an internship with University of Miami's Sports Nutrition team and Nova Southeastern University's sports performance team. She holds a bachelor of science in Exercise and Sports Science and received her CISSN in 2018. Several of her peer-reviewed manuscripts include The Effects of an Energy Drink on Psychomotor Vigilance in Trained Individuals and Nutritional interventions and supplementation for rheumatoid arthritis patients: A systematic review for clinical application.

Description: The effects of energy drink consumption will be explored using recent studies. Studies will include the effects of BANG energy drinks on an individual's ability to respond to a visual stimulus and muscular endurance. Additionally, the effects of acute consumption of Redline energy drink on physical performance, reaction time and cognition will be discussed.

Lia Jiannine, Ph.D.

Dr. Jiannine is a Florida Native. She received both her bachelor's and master's degree from the University of Florida's College of Health and Human Performance. She holds a Ph.D. in Curriculum and Instruction specializing in Sport Science with a cognate in Public Health. She currently an Assistant Professor in Exercise Science at Nova Southeastern University. Dr. Jiannine's research interests focus on sport supplementation, physical fitness, and sexual functioning. Additionally, she researches the validity of body composition analysis methods as well as the effectiveness of NFL combine training programs. Her most recent projects involve creatine supplementation and the effect of hydration on bioelectrical impedance analysis.

Description: Sexual dysfunctions are present in 43% of women and 31% of men. Pharmaceutical aids, synthetic testosterone, and homeopathic supplements are often used to increase sexual functioning in men. However, it turns out the most widely used drug is also erection friendly. So put the jolt in your java and the bang in your Bang.

Douglas Kalman, Ph.D., RD

Dr. Kalman is the Vice President of Scientific Affairs for Nutrasource three Scientific Journals. Dr. Kalman received his undergraduate degree from Florida State University, Master's Degree from Hunter College - City University of New York and Doctorate in exercise and nutritional biochemistry (Health Research) from Touro University International. He is an Active Member and or Spokesperson with many organizations (ISSN, NSCA, APS, ACSM, etc.) and a co-founder of The International Society of Sports Nutrition (www.theissn.org). He has worked with Olympic Athlete's (Nagano, Japan, Salt Lake City, UT, Torino, Italy, London, England, Rio de Janiero, Brazil and has athletes in the pending Tokyo, Japan 2021 Olympics) for Winter and Summer sports. In addition, Dr. Kalman works with and has worked with professional athletes (i.e., USTA, WTT, MLB, NFL, NBA, UFC/Bellator/ONE Championship), musicians and musical groups, collegiate athletes and teams as well as Nike's Elite Distance Racing Team (Oregon Project). Dr. Kalman has edited four academic textbooks, contributed to more than five academic textbooks as well as two "popular press" books. He has been interviewed on various media outlets such as NBC, MSNBC, CBS Evening News, CNN, Discovery Channel plus others along with a host of radio shows. Dr. Kalman is currently an Adjunct Assistant Professor in the Dr. Kiran C. Patel College of Osteopathic Medicine at Nova Southeastern University (NSU), while also holding appointments in the College of Psychology and the College of Healthcare Sciences. He has been the Nutrition Program Consultant for IMG Academies in Bradenton, Florida and the Team Nutritionist for Coral Springs Aquatic Center while being a nutrition consultant to the United States Tennis Association - Player Development Program (USTA). He has taught at New York University, C.W. Post-Long Island University and Florida Atlantic University.

Description: Traditionally, sports nutrition is the application of nutrition and nutritional strategies to promote and support enhanced performance. In addition, the role of nutrition within sports is to provide enough energy for the sporting

demand, as well as to help maintain normal physiological processes, including supporting normal immune system function and athletic recovery. Sports often involve the ability to make decisions and take actions based upon a multitude of factors. The question of can nutrition and nutritional strategies augment the brain (the body's central processing unit) and support cognitive performance is a great area of interest. From military applications to that of the e-gamer, nutrition for cognitive performance matters. This session will cover the latest in research surrounding cognitive performance as potentially impacted by nutrition and nutritional product strategies so that the attendee will have a good understanding of how the brain matters to the performance of the body. The attendee will experience greater awareness of the integration of cognition in performance and that cognitive sports performance is more than reaction time for the user. This session aims to instigate awareness and excitement for the growth and continuation of research for means of supporting enhanced cognitive function for the e-gamer as well as the everyday person who may work in an environment where the speed and accuracy of decision-making matters.

Michael Mannino, Ph.D.

Michael is currently Director of Programs at the Institute for Data Science and Computing at the University of Miami. He holds a PhD in neuroscience, having researched networks of the human brain involved in perception, learning and memory, attention, as well as embodied cognition, exercise, and vagal nerve stimulation. Michael is also an amateur athlete, focusing on a variety of different movement modalities, and interested in peak performance, and the intersection of neuroscience and fitness. He is also a peak performance coach with the Flow Research Collective, as well as researching flow science.

Description: In her seminal work using chaos theory and dynamical systems to study how babies learn to walk and interact with the world, Esther Thelen remarked, "The mind simply does not exist as something decoupled from the body and experience." From the theoretical perspective of embodied cognition, the mind does not only originate from the brain and its processes. Rather, the mind is *enactively embodied*, and the body moves within, and interacts with, the world – it is the dynamic interplay of the brain-in-a-body and the environment that produce cognition and the mind. Simply put: the mind and it cognitive processes like attention, learning and memory, perception, and thinking, only exist as a system of interacting components, in this case, the brain, the body and the world. Perhaps nowhere is this more apparent than in the new fitness world, of movement, Yoga, functionality, improvisation, and a variety of different forms of exercise. In this talk, we will examine fitness and exercise from this (neurophilosophical) perspective, all while keeping the conversation grounded in empirical evidence.

Chris Bertram, Ph.D.

Dr. Chris Bertram is the Director of Applied Neuroscience at EXOS and an Associate Professor at the University of the Fraser Valley (UFV). Dr. Bertram specializes in creating environments that are designed to maximize learning, build resilience, and optimize performance. 10 years as Director of the Human Performance Centre at UFV. His research and teaching focus is in the area of skill acquisition with an emphasis on the nature of expertise and elite-level performance. Dr. Bertram has published more than 70 scientific articles across the spectrum of human performance, and has been featured in the *Globe and Mail*, *The Vancouver Sun*, the *New York Times* as well on the *Golf Channel*. Dr. Bertram's consulting work encompassing a wide array high-performing individual including PGA Tour winners, collegiate National Champions, Olympic Champions, XGames Champions, military leaders, special forces operators, as well as corporate leaders of Fortune 500 companies. In his role as *Skill Acquisition Lead and Flow Coach* with Canada Snowboard, he works regularly with Canada's National Slope Style and Big Air athletes and coaches on strategies for optimizing learning and performance by tapping into flow state. Dr. Bertram also conducts workshops for several national teams through Canada's *Own the Podium* program. Dr. Bertram earned a Ph.D. from Simon Fraser University in Vancouver, British Columbia and completed a postdoctoral fellowship at Arizona State University.

Description: The purpose of this talk is to define and overview the topics of 1) mental fatigue, and 2) flow state and how each can differentially impact the physical, mental, and emotional aspect of performance.

Brent Hogarth, Ph.D.

Dr. Brent Hogarth has earned a Masters in Sport Psychology and a Doctorate in Clinical Psychology. He currently resides in Vancouver, Canada. He is an expert in training flow-state, mindfulness, and self-control for both sport and corporate athletes. Brent has significant training and experience providing performance enhancement and mental health counselling. This includes, but is not limited to, working with Olympic and professional athletes, serial entrepreneurs, members of the USA military, computer engineers, authors, hedge fund managers and more. Brent's clinical counseling experience is vast, and he sees everyone as having the ability to be a high performer. He completed his Doctoral fellowships at the University of Texas, at El Paso, and at Lehigh University, in Bethlehem, PA. In both placements Dr. Hogarth worked with Division 1 student-athletes, their teams, coaches and athletic admin. Before entering graduate school, Brent earned an undergraduate degree in Kinesiology. After a short stint as a fitness trainer, he traveled to India where he lived in a Buddhist Monastery and completed a Yoga Teacher training Course. It was at this moment - sitting in meditation on the hills of McLeod Ganj, India - that Brent committed to becoming a psychologist. Dr. Hogarth identified with Humanistic-Existential theoretical orientations. His theoretical orientation is Acceptance and Commitment Therapy (ACT). ACT uses acceptance and mindfulness strategies, together with commitment and behavior change strategies, to increase psychological flexibility. Psychological flexibility means contacting the present moment fully, and based on what the situation affords, changing or persisting in behavior in the service of clients chosen values. Brent is an avid athlete and aspiring author. He represented B.C in gymnastics as a youth, loves to ski (ask Steven if he's any good) and play basketball. Recently he completed a full Ironman and is training for his first 100-mile ultra-marathon. He is currently building on his breakthrough dissertation - Shining Light on the Dark Side of Flow: is Mindfulness in High-Flow-State Athletes Predictive of Improved Emotion-Regulation and Self-Control? - into his first book.

NeuroSports 2021 Admin Team:

Julius Thomas

Julius Thomas is a former American football tight end. He played college football and basketball at Portland State, and was drafted by the Denver Broncos in the fourth round of the 2011 NFL Draft and was a two-time Pro Bowl tight end. He has also played for the Jacksonville Jaguars and Miami Dolphins. Mr. Thomas is currently a Psy.D. student at Nova Southeastern University where he has published on multiple research topics ranging from the neurobiology of addiction to sex differences in pain perception.

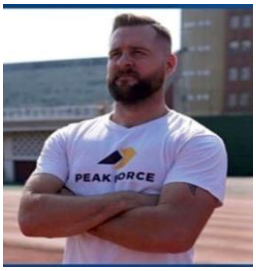
Chris Algieri, M.S.

Chris Algieri is the Former World Boxing Organization (WBO) Jr. Welterweight Boxing Champion, ISKA World Welterweight Kickboxing Champion and WKA World Super Welterweight World Kickboxing Champion, with over 13 years professional fight experience. Mr. Algieri graduated from Stony Brook University and holds a Master's degree from the New York Institute of Technology. He is certified as a Sports Nutritionist (CISSN) through the International Society of Sport Nutrition (ISSN).

Webinar Management: Carlos Perez, Ed.D.
Carlos Perez, Ed.D., has served in an outreach capacity at Nova Southeastern University for over a decade. In addition to serving in a public relations and promotions role, Dr. Perez teaches in the Doctor of Education Human Services Concentration. He is proud to support graduate education, psychology and social sciences graduate programs including community clinics and alumni initiatives. Research areas and academic interests include multiple intelligences, student services, organizational leadership, and arts. Previously, Dr. Perez worked as the director of student life at the University of Michigan-Flint and served community health/education organizations as a founding partner in Cenergy Productions, Miami. Much of his work included developing educational awareness campaigns and fundraising activity to aid youth and disadvantaged populations. Dr. Perez lives in Fort Lauderdale, Florida, and has traveled extensively across six continents with special interest in emerging cities. He enjoys visual arts, landscaping, fitness, yoga, independent/world cinema, and hiking

Tony Ricci, Ed.D, DSc
Dr. Ricci is the CEO of Fight Science Insitute. He is a Fellow and Advisory Board member of the International Society of Sports Nutrition (ISSN). Tony holds separate Masters Degrees in Exercise Physiology and Human Nutrition, with Doctoral work in Health Sciences. He is an Assistant Professor of Exercise Physiology and Nutrition at Long Island University in Brooklyn, NY. Additionally, he is the founder of Fightshape International, a multi-discipline performance enhancement company, through which he has coached scores of professional athletes in fight-sports including 6 World Champions.Tony serves on the Scientific Advisory Board of Dymatize Nutrition, holds State and Board Certifications as a Nutritionist, (CNS/CDN) certifications in Strength & Conditioning with the NSCA and NASM. Along with achieving black belts in several martial arts, he continues rigorous training in fight-sports and serves as the Sports Science Advisor for Team Serra-Longo MMA.

Eric Bustillo, M.S., R.D.
A first-class yoga instructor, salsa dancer, and organic sundried tomatoes connoisseur, Eric is a Registered Dietitian who attended Florida International University and earned his B.S. in Dietetics & Nutrition and his M.S. in Applied Exercise Science with a concentration in Sports Nutrition from Concordia University Chicago. Additionally, Erik is a Certified Sports Nutritionist (CISSN) a Certified Strength Coach (NCSF-CSC), and a Certified Personal Trainer (NSCA).



John (J.D). Snyder, M.S.
Mr. Snyder is a Performance Coach working abroad to help athletes access their highest potential. Strength, Speed, and Solidarity. He is an experienced Strength and Conditioning Coach with a demonstrated history of applied laboratory and practical skills to optimize performance in national, collegiate, and developmental athletes. He holds advanced proficiency in strategic goal setting, leadership dynamics, technology and data management in sports performance. Mr. Snyder is currently a high performance coach at Peak Force International. He has also served as a performance coach for the Chinese Olympic Committee

Drew Gonzalez M.S.

Mr. Gonzalez is a PhD student at Texas A&M University (TAMU) studying Kinesiology under the supervision of Dr. Richard Kreider. Mr. Gonzalez currently works as a Graduate Teaching Assistant in the Physical Education Activity Program (PEAP) at TAMU in addition to working as a Student Research Assistant in the Exercise and Sport Nutrition Laboratory (ESNL) in the Human Clinical Research Facility at TAMU. He completed his Masters' degree in Exercise Science under the supervision of Dr. Matt McAllister at Texas State University. He is certified through the National Strength and Conditioning Association as a Certified Strength and Conditioning Specialist (CSCS,*D) and a Tactical Strength and Conditioning Facilitator (TSAC-F,*D), both with Distinction. Additionally, Mr. Gonzalez is certified as a Strength and Conditioning Coach Certified (SCCC) through the Collegiate Strength and Conditioning Coaches Association, Sports Nutritionist (CISSN) through the International Society of Sports Nutrition, a Certified Medical Exercise Specialist through the American Council on Exercise, and he is certified through the Society of NeuroSports (CSNS).His career/research focus is within sport science and tactical populations. Currently, he is working in the ESNL, researching within the sports nutrition realm. Drew aims to continue conducting research with respect to sports nutrition and relate the findings and application to tactical populations.

Camryn Pajon

Camryn is currently an undergraduate student at Nova Southeastern University studying Neuroscience and Biology with a minor in Public Health. She is an undergraduate research assistant studying the effect of periodic disturbances in the spatial structure of a microbial community and its effect on bacterial interactions and composition. Camryn is planning on attending medical school and is passionate about expanding representation of minorities and reducing inequalities in health. She enjoys community engagement and spending time with animals.

Frankie Pizzo

Frankie is currently an undergraduate student at Nova Southeastern University studying Biology and Neuroscience with a minor focus on public health. He is an undergraduate research assistant in the Tartar lab, focusing on the mechanisms and consequences of acute and chronic stress. Frankie plans on attending medical school with the goal of providing competent and compassionate care to positively impact underserved communities. In his free time, Frankie enjoys spending time at the beach and volunteering at various non-profit organizations.

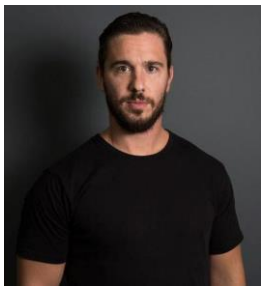
Andre (Dre) Huggins

Dre is currently an undergraduate student at Nova Southeastern University studying Neuroscience and Spanish. He is an undergraduate research assistant to Dr Tartar studying the effects of COVID-19 on the exercising population. Dre aspires to become a Neurologist which his time in the military as an advanced combat medic has inspired him greatly. He teaches martial arts, weapons training, CPR, First-aid, a self-proclaimed personal trainer/nutritionist, and avid traveler and culturist.

NeuroSports Leadership

Jaime Tartar, Ph.D. President

Jose Antonio, Ph.D. Vice President



Corey Peacock, Ph.D.
Director of Certifications

Special Thanks!

Photographer: Ramona Stewart
A very special thank you to Ramona Stewart for volunteering her skills! We are sincerely grateful to her.

Session Chairs: Joseph Clark, Ph.D., Henriette van Praag, Ph.D., Allison Brager, Ph.D., Katie Dabrowski, PT, DPT, Corey Peacock, Ph.D., Jonathan Banks, Ph.D., Omar Eldakar, Ph.D., Jose Antonio, Ph.D., Michael Mannino, Ph.D.

Data Blitz Judges: Myron Burns, Ph.D., Annette Zapp, CSCS, James Munoz, Ph.D.
Poster Judges: Tony Ricci Ed.D., Erik Bustillo, M.S., Allie Holschbach, Ph.D., Tobin Silver, Ph.D. William Kochen, Ph.D.

Thank you to Dean Karen Grosby, NSU College of Psychology, for the amazing support!

SEE YOU AT NEUROSPORTS 2022!!!

Society for NeuroSports
from lab bench to weight bench