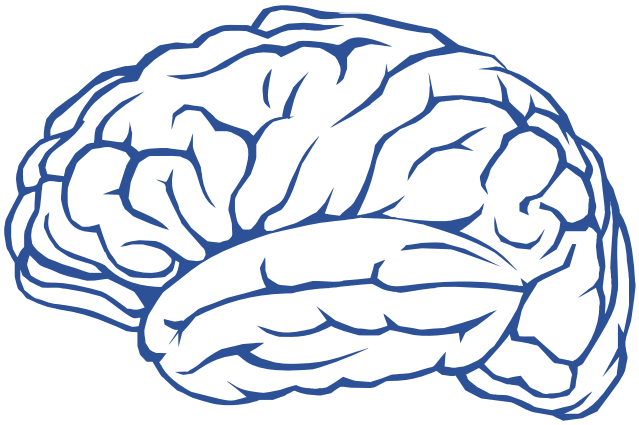

4TH ANNUAL CONFERENCE

SOCIETY FOR NEUROSPORTS

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CONFERENCE PROGRAM

FEBRUARY 17TH-18TH 2023
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Society for NeuroSports
from lab bench to weight bench

A WORD FROM OUR PRESIDENT

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

As attendees and presenters at our 4th annual conference, you are at the forefront in helping us to steer the direction of this organization in the coming years. Welcome to the fourth conference in the field of Sports Neuroscience.

Sincerely,

Jaime Tartar, Ph.D.
Society for NeuroSports President

SPECIAL THANKS:

Data Blitz Judges: Myron Burns, Ph.D., Tobin Silver, Ph.D., Ana Fins Ph.D.

Poster Judges: Mercedes Fernandez, Ph.D., James Munoz, Ph.D., Corey Peacock, Ph.D, Bill Kochen, Ph.D., Omar Eldakar, Ph.D.

Dean Karen Grosby
NSU College of Psychology

Jose Antonio, Ph.D.
Vice-President

A massive thank you to our advisory board members!

Henriette van Praag Ph.D., Allison Brager, Ph.D., Darren Candow, Ph.D., Kevin Williams, Ph.D., Julius Thomas, Chris Algieri, M.S., Ellen Glickman, Ph.D., Joyce Gomes-Osman, Ph.D., Michael Mannino, Ph.D., Markus Dworak, Ph.D. Tony Ricci, Ph.D., Tommy Shavers, Ph.D., Gabriel Sanders, Ph.D, Marcelo Bigliassi, Ph.D and Kamil Celoch, M.S. Communications Director.

And to our NeuroSports volunteers for their contribution:

Tyler Benjamin, Samantha Both, Kristin Bradley, Minh Chau, Alex Jamison, Amanda Nephew, Kelsey Newton, Lauren Rosenberg, Emily Stewart-Stevens, Tessa Triest, Jacob Webb, Teresa Webb, Aaron Weimer, Grace Wong

Society for NeuroSports
from lab bench to weight bench

4TH ANNUAL CONFERENCE PROGRAM

FRIDAY FEBRUARY 17TH, 2023

WYNDHAM DEERFIELD BEACH RESORT, DEERFIELD BEACH, FL

Speakers	Title	Time
Executive Board Members	Welcome and Announcements	9:15-9:30 am
Ross Zafonte, D.O.	KEYNOTE Is Brain Injury a Chronic Disease? Lessons and Caveats	9:30-10:30 am
Marcelo Bigliassi, Ph.D. Session Chair Edson Filho, Ph.D.	Neural Markers of Performance It is Supposed to Hurt? Exploring the Neural Basis of Exercise Tolerance "In the Zone": Neural Markers of Peak Performance Experiences in Sport	10:30-12:00 pm
Lunch	Plenty of Beach Options!	12:00-1:30 pm
Mike T. Nelson, Ph.D. Amar Sayani, O.D., F.A.A.O	ROUNDTABLES How to Measure and Interpret Heart Rate Variability Sports Vision for the Athlete: More Than the Eyes Can See	1:30-2:30 pm
Valerie Starratt, Ph.D.	SPECIAL TOPIC: Biological Sex Differences and Sport Performance: What it is, What it isn't, and Why it Matters	2:30-3:00 pm
Tony Ricci, Ed.D. Session Chair Chris Algieri Ali Levy, M.S.	 Constructing the Mindset of a Champion 1% Better Every Day: Bringing Human Performance Training to Tactical Athletes	3:30-5:00 pm
Multiple Presenters	Data Blitz MC: Eric Bustillo M.S.	5:00-5:30 pm
Multiple Presenters	Poster Session and Happy Hour!	5:30-6:30 pm

Society for NeuroSports

from lab bench to weight bench

4TH ANNUAL CONFERENCE PROGRAM

SATURDAY FEBRUARY 18TH, 2023

WYNDHAM DEERFIELD BEACH RESORT, DEERFIELD BEACH, FL

Speakers	Title	Time
Nancy Klimas, M.D.	**KEYNOTE** Using the Dynamics of an Exercise Challenge to Model Homeostatic Networks in Chronic Illness and in Health	10:00-11:00 am
Scotty Butcher, Ph.D., P.T. Session Chair Katie Dabrowski, D.P.T Michael Mannino, Ph.D	The Body-Brain Relationship: A Somatic Bottom-Up Approach to Autonomic/Psychophysiological Dysregulation Autonomic Regulation/Dysregulation in Exercise Training and Physical Therapy The Body-Brain Relationship: A Cognitive Top-Down Approach to Pain, Movement, and Recovery	11:00-12:00 pm
Lunch	Plenty of Beach Options!	12:00-1:30 pm
Russel Palmer, M.D Richard Gaines, M.D.	**ROUNDTABLES** How to Maintain a Healthy Body and Brain After 40 Testosterone Replacement and Performance: What you Need to Know	1:30-2:30 pm
Robert Speth, Ph.D. Session Chair Scott Collier, Ph.D. Lisa Robison, Ph.D.	Exercise and Neurodegenerative Disease The Effects of Acute Resistance Training on Sleep in Individuals with Parkinson's Disease Exercise vs. Brain Aging and Dementia	2:30-3:30 pm
Drew Gonzalez, M.S.	Virtual Reality and Tactical Athletes	3:30-4:00 pm
Danylo Ferreira Cabral, Ph.D.	Heart Rate Recovery and its Physiological and Clinical Implications on Brain Health and Aging	4:00-4:30 pm
Darryn Willoughby, Ph.D.	**SPECIAL SESSION:** The Hypothalamic Pituitary Adrenal (HPA) Axis and its Role in Regulating Metabolic Responses to Exercise	4:30-5:30 pm
Allison Brager, Ph.D. Session Chair Tara Youngblood	Best Practices in the Sleep Industry for Elite Athletes	5:30-6:30 pm

POSTER TITLES

#	Authors	Poster Title
1	Nita Pedavalli, Karelys Montanez, Minh Chau, Alina Poothurail, Jaime L. Tartar, Valerie G. Starratt	Short, Muscular, and Stressed with High T: Predictors of Aggression in Men
2	Rob Rocanelli, Morgan Siegel, Pete Bommarito, Monique Mokha	Post-activation Performance Enhancement Through Variable Loading Maintains Power Output Over Five Sets in Highly Trained Athletes
3	Christina Nunez, Kayla Thompson, Ryan Bennett	Examining Sex Differences in Baseline and Post-Concussion ImPACT Scores
4	Justin Lauro & Josephine Wiles	The impact of cognitive training and exercise on attentional resources in college athletes
5	Kortne Bajor, Shaini Lal, Pritika S. Vemulapalli, Amulya C. Koritala, Alexis C. Buhrman, Brittany M. Landrum, Amanda S. Holtzman, Mamiko Swanson, & Jonathan B. Banks	Predictors of attention and attention control failures: The role of arousal, stress, mindfulness, and exercise.
6	Sophia Moret, Jillian Murray, Jonah Juergensmeyer, Samantha Vilarino, Erin Kang, & Karina Alvina	Investigating potential neuroprotective effects of running exercise in an Alzheimer's Disease (AD) Mouse Model
7	Domínguez-Sánchez María Andrea, Parra Ramirez Lady Yeraldin; Rodriguez Martinez Cindy Catalina; Martinez Martinez Sergio Daniel, Vivas Diaz Jose Andrés, Correa Bautista Jorge Enrique	Resilience in active women participating in the physical activity programs of the Instituto Distrital de Recreación y Deporte (IDRD) in the city of Bogotá
8	Zachary Peart, Christina Nunez, Alex Baker, Cooper Dunn, Ryan Bennett	The Influence of Sleep Duration on Cognitive Performance Following a Concussion
9	Jonah Juergensmeyer, Charmi Desai, Jillian Murray, Sheehan Pravez, Samantha Vilarino, Karina Alviña	Changes in the expression of the myokine, Irisin, over time following acute exercise in mice
10	Anshika Motiani, Divya Komandooru, Divya Papaiya, Shalet James, Zachary Lawrence, Kenania Tisselin, Valeria Cohen, Abhimannu Majumder, Wei-Ting Lin, Nathan M Albert, Abigail E Salinero, Kristen L Zuloaga, Lisa S. Robison	Microglial responses to high fat diet vary in a sex-specific manner across diverse brain regions
11	Lisa S. Robison, Nikhila Paleati, Nika Kozar, Natalia Noto, Yazmin Restropo, Blanche Tamiya, Nitish Dundigalla, Roshini Bodicherla, Aishwarya Muppoo, Robert Speth, Benedict C. Albensi, William R. Kochen	Repeated mild traumatic brain injuries and increased dementia risk: A pilot study investigating cerebral amyloid angiopathy as a mechanistic link
12	Zachary Lawrence, Shalet James, Natalia Noto, Yazmin Restropo, Iliana Uribe, Ariana Hernandez, Eleanor Wind, Blanche Tamiya, Victoria Pulido-Correa, Meha Pandaya, Robert Speth, Lisa S. Robison	Sex differences in the physiological and cognitive-behavioral effects of high fat and ketogenic diets in mice
13	G. Monique Mokha & Pete Bommarito	Position Specific Training Differences in Coordination Dynamics of NFL Draft Prep Football Players

14	Camille Matusky, Gabriella Coelho, Rebecca Briggs, Leanne Boucher, & W. Matthew Collins	The Effects of Music and Exercise on Learning Rate and Memory
15	Nika Kozar, Drew J. Smith, Mary A. Holschbach, William R. Kochen	Effects of Forced Exercise on Brain Injury
16	Connor O. Foy & Jeremy D. Howard	Effects of a Combined Proprioceptive and Kinesthetic Awareness Intervention on Running Efficiency in Full-Time Army National Guard Soldiers.
17	Jeremy D. Howard & Connor O. Foy	Empowering Self-Efficacy in Army National Guard Soldiers to make healthy decisions for body composition
18	Marissa Bonsangue, Pradeep Vanguri, Amani Khan, Valerie G. Starratt	Assessment of Brain Function and Putting Performance in Collegiate Golfers
19	Hemangi Patel, Pradeep Vanguri, Dianna Levin, Divya Kumar	The Impact of Inadequate Sleep on Overtraining Syndrome in Intercollegiate Athletes
20	Zachary Pizzo, Mamiko Swanson, and Monique Mokha	A Perfect Match? Coach Intended and Runner Perceived Training Loads
21	Ekaterina Oparina, Dr. Gabriele Russo, Dr. Edgar Vieira, Dr. Marcelo Bigliassi	Serial Reaction Time in Adults Who Have Recovered from COVID-19
22	Angeliki M. Mavrantza, Giovanna Calogiuri, Marcelo Bigliassi	This is Your Brain on Green Exercise: A Psychophysiological Study
23	Becker L & Krithivas K	A Case Study on the efficacy of beta-blocker eye drops for patients experiencing PCS and TBI symptoms
24	Gabriel J. Sanders, Corey A. Peacock	Summated Heart Rate Training Load and Preseason Oxygen Consumption as a Predictor of Large, Moderate and Minimal Changes in Neuromuscular Power Throughout a Division I Basketball Season.
25	Corey A. Peacock, Gabriel J. Sanders	Training Load, VO 2max and Weight Changes Predicts Neuromuscular Fatigue Throughout a Division I Basketball Season.
26	Sabrina Gomez Souffront, Angeliki M. Mavrantza, and Marcelo Bigliassi	Self-Talk effects on Free Throw Shooting using a Tik Tok Intervention
27	Allie Janowiak, McKenah Peters, Corey A. Peacock	Caffeine use and anxiety between collegiate softball players and non-softball college students
28	Adrianna Dubay, Valerie Starratt, Dustin Gatens, Ana Fins	The relationship between self-reported sleep quality and mood, soreness, energy, and motivation during a 48-hour post-injury period in collegiate male soccer players
29	Cassandra Evans, Jose Antonio, Amani Khan, Samir Sakaria, Alexandra Vanderkley, Maria Berracoles, Jose Rojas, Juan Carlos Santana, Jason Curtis, Tony Ricci, Jaime Tartar	Low cortisol associated with high beta-activity during first-person shooter games in male e-gamers

SPEAKER BIOGRAPHIES AND TALK DESCRIPTIONS

DAY 1

KEYNOTE SPEAKER

Ross Zafonte, D.O.

Dr. Ross Zafonte is President of Spaulding Rehabilitation Network and Senior VP of Medical Affairs, Research and Education. He is the Earle P. and Ida S. Charlton Professor and Chair of the Department of Physical Medicine and Rehabilitation (PM&R) at Harvard Medical School and Chief of PM&R at Massachusetts General Hospital and Brigham and Women's Hospital. Dr. Zafonte's textbook, *Brain Injury Medicine*, is considered one of the standards in the field of brain injury care. His current research is funded by the NIH, DOD and NIDRR and primarily focuses on understanding mechanisms of recovery after Brain and Spinal Cord Injury.

Talk description

Is Brain Injury a Chronic Disease? Lesson and Caveats

This session will explore the provocative question positing a link between brain injury and chronic disease. This discussion will employ data from large clinical and phenotyping networks as well as those in sports. Data from those with severe and repeated mild injury shall be explored. In specific, we shall review pathologic, epidemiologic, and outcomes-based data to enrich this discussion. The data reflected will explore mortality, medical comorbidities as well as behavioral dysfunction. Limitations in the data and the next steps for advancement will be reviewed.

DAY 2

KEYNOTE SPEAKER

Nancy Klimas, M.D.

Nancy Klimas, MD, has more than 30 years of professional experience and has achieved international recognition for her research and clinical efforts in multi-symptom disorders, myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS), Long COVID, Gulf War illness (GWI), fibromyalgia, and other neuro-immune disorders. She directs the Institute of NeuroImmune Medicine at Nova Southeastern University Dr. Kiran C Patel College of Osteopathic Medicine's . Under her leadership 52 professionals work together to study and treat complex illnesses with this team of laboratory, computational and clinical investigators; taking clinical data to the modeling team and developing innovative treatment strategies from the models they propose. Because the illnesses studied often worsen with exercise they use an exercise challenge to map out and model the complex homeostatic networks of illness and health. They have successfully moved from modelling, through in vitro and animal trials to bring modeled therapies forward to human study.

Talk description

Using the Dynamics of an Exercise Challenge to Model Homeostatic Networks in Chronic Illness and in Health

To describe the complex nature of the homeostatic networks in play in health and sickness, describe the utility of an exercise challenge in creating these models and what they teach us about immune, neuroendocrine and bioenergenic interactions.

Marcelo Bigliassi, Ph.D.

Dr. Bigliassi has been active in the field of psychophysiology and neuroscience for over a decade. His work integrates psychophysiological, psychophysical, and effective measures to further understanding of psychological phenomena during exercise-related situations. He has published over 50 research articles in scientific journals, delivered several guest lectures in national and international conferences, and published hundreds of articles in newspapers and magazines. He has also been awarded on several occasions in the U.K., U.S., and Germany, and is an advisory board member of the Society for NeuroSports. Dr. Bigliassi acts as an editor for prestigious scientific outlets in his field and is an active reviewer for over 35 journals.

Talk description

It is Supposed to Hurt? Exploring the Neural Basis of Exercise Tolerance

Dr. Bigliassi will discuss the importance and significance of pain and discomfort that people experience during exercise tasks performed at high intensities. He will then present the findings of a narrative review he published very recently in Biological Psychology about the functional significance of the dorsolateral prefrontal cortex, and some preliminary results of an experiment designed to investigate the patterns of brain connectivity during situations of physical stress in low- and high-tolerant individuals.

Edson Filho, Ph.D.

Dr. Filho is an Associate Professor of Sport, Exercise, and Performance Psychology and the director of the PRO Center at Boston University. His research centers on performance optimization at both the individual and group levels of analyses. Dr. Filho has edited two books and authored over 100 peer-reviewed manuscripts and book chapters and worked with several youth, college, and professional athletes. He is an established practitioner and supervisor with the International Society of Sport Psychology and a Certified Mental Performance Consultant with the Association for Applied Sport Psychology. Dr. Filho is also a member of the Sport Psychology registry of the United States Olympic Committee.

Talk description

"In the Zone": Neural Markers of Peak Performance Experiences in Sport

My research agenda centers on peak performance and performance optimization at both the individual and team levels of analyses. In this presentation, I discuss my research on peak performance in individual sports, as informed by the individual zones of optimal functioning framework. Specifically, I will present my research on performers “in the zone”, including psychophysiological research with professional race car drivers, golfers, and shooters. I will then present my research on high-performing teams, including brain imaging research in e-sports and dyadic juggling.

Mike T. Nelson, Ph.D., M.S.M.E., C.S.C.S., C.I.S.S.N.

Mike T. Nelson, Ph.D., M.S.M.E., C.S.C.S., C.I.S.S.N., is a research fanatic who specializes in metabolic flexibility, heart rate variability, and human performance. He has spent 20 years of his life learning how the human body works. He has a Ph.D. in Exercise Physiology, and a MS in Mechanical Engineering (biomechanics). He's an Associate Professor at the Carrick Institute, university instructor at Rocky Mountain University, creator of the Flex Diet Certification, and has published research in both physiology and engineering journals. He's even been called in to share his techniques with top military agencies. In his free time he enjoys spending time with his wife, lifting odd objects, going to metal concerts, and kiteboarding. Find out more at www.miketnelson.com

Talk description

How to Measure and Interpret Heart Rate Variability

Heart Rate Variability (HRV) is an accurate method to assess the status of the Autonomic Nervous System (ANS). In the past it was confined to the lab, but with the advent of smart phone applications starting over 10 years ago, it allowed daily measurements to be conducted by athletes. HRV was used by many in sports to predict performance, but is that the best use of it? HRV has become even more popular as it is being added to tons of wearables. What can we learn from the data based on research and practical experience? Here I discuss 3 huge lessons I’ve learned from my use of HRV daily for over a decade with my online clients.

Amar Sayani, O.D., F.A.A.O.

Dr. Amar Sayani was born and raised in Toronto, Ontario, Canada. He graduated from the University of Western Ontario in 2006 with a Bachelor of Arts, majoring in psychology. He earned his Doctor of Optometry at the Pennsylvania College of Optometry at Salus University in Philadelphia, PA in 2010. He completed his residency in pediatrics and vision therapy/rehabilitation at Southern College of Optometry in Memphis, TN in 2013. After a few years in private practice, specifically, adult and pediatric ophthalmology, he joined faculty at Nova Southeastern University College of Optometry. He is currently an assistant professor of optometry.
At Nova Southeastern University he teaches Pediatric Optometry lab, Sports Vision in Primary and Tertiary Optometric Practice course for primarily third year students, precepts third-year and fourth-year students and residents primarily in Pediatrics and Binocular Vision Clinic and is director of Sports Vision and Concussion Clinic at The Eye Care Institute and NSU Sports Medicine Clinic. As director of Sports Vision and Concussion Clinic he serves the visual needs of middle school, high school, collegiate and professional athletes. He is also a proud recipient of a few preceptor of the year awards from his students.

Dr. Sayani prides himself on being a well-balanced pediatric optometrist. He has a special interest in sports vision training and enhancement, post-concussion vision rehabilitation, pediatric pharmacology and learning-related visual dysfunction. He is a fellow of the American Academy of Optometry (AAO).

Dr. Sayani has lectured to optometrists, residents and other healthcare professionals in United States, Canada and Mexico. He has presented lectures and workshops in the area of sports vision enhancement and vision rehabilitation for those suffering from concussions and pediatric pharmacology and pediatric ocular emergencies. He has also presented on the visual effects of prolonged screen-time. He enjoys caring for his patients, training future clinicians and working with the highly skilled faculty at NSU College of Optometry.

Talk description

Sports Vision for the Athlete: More Than the Eyes Can See

This course emphasizes exploration of research supporting sports vision optometric services including analysis of visual and environmental task demands in sports, testing and evaluation techniques and procedures for athletes, treatment and management of sport-related ocular injuries, sport-related traumatic brain injuries (concussion) and optometric intervention including lenses, tints, vision training/rehabilitation for sports vision enhancement and rehabilitation. The course includes inter-disciplinary management of the concussed athlete.

Valerie Starratt, Ph.D.

Dr. Starratt holds a Ph.D. in Evolutionary Psychology with a specialization in Sexual Conflict from Florida Atlantic University. She is currently a Professor in the Department of Psychology & Neuroscience at Nova Southeastern University where she teaches undergraduate and graduate courses in evolutionary psychology, biological bases of behavior, human sexuality, and statistics. Her research focuses on how evolved biological processes underpin modern cognition and behavior, with particular attention to the long reach of human sexual dimorphism. She has published 35 academic articles and chapters and is the author of the textbook *Evolutionary Psychology: How Our Biology Affects What We Think and Do*.

Talk description

Biological Sex Differences and Sport Performance: What it is, What it Isn't, and Why it Matters

This presentation will review core sex differences in human reproductive biology and explore the effects of human sexual dimorphism on a wide range of phenomena relevant to sport and human performance.

Tony Ricci Ed.D., M.S., F.I.S.S.N., C.S.C.S., P.E.S., C.E.S., C.N.S.

Tony Ricci is an Associate Professor in the Departments of Health and Human Performance, and Psychology and Neuroscience at Nova Southeastern University. For the past 35 years, he has dedicated his energies and career to optimizing Human Performance. Tony holds Separate Master's Degrees in Sport Science and Human Nutrition and a Doctorate in Sport Psychology. His research focus is in field of Sport Neuroscience. He holds certifications as a Strength and Conditioning Specialist, Board Certified Nutritionist, and Certified Mental Performance Consultant. He also serves on the Science Advisory Boards for the International Society of Sports Nutrition, National Academy of Sports Medicine and The Society for NeuroSports.

Talk description

Intro - Sport Psychology and Sport Neuroscience - Where we are now and where we can go

Chris Algieri

Chris Algieri is an undefeated ISKA World welterweight and WKA World super welterweight champion and continues to be a successful boxer. He also holds a M.S. in Clinical Nutrition, is a certified nutritionist, and is the author of "The Fighter's Kitchen", While continuing his professional boxing career, Chris also works as a part time faculty at Nova Southeastern University where he teaches Nutritional Neuroscience and is a fight announcer.

Talk description

Constructing the Mindset of a Champion

Chris will discuss the mental qualities that are needed to become a 3X World Champion in Kickboxing and Boxing - Are these qualities innate, learned, trained, and how must they evolve?

Ali Levy

Ali Levy is both the Director of Education and a Mental Performance Specialist at O2X, bringing over a decade of experience in the field of performance training and education to her role. Ali works with leading researchers and experts around the country to create tailored, integrated programs designed to meet the unique demands facing tactical athletes and elite organizations. As one of the first members of the O2X team, Ali plays a key role in ensuring that the training programs and products evolve continuously while upholding the core values and mission of the company. Ali was also a member of the U.S. Freestyle Ski Team where she competed at the World Cup level and was crowned 2 x North American Cup Grand Prix Champion. In 2015 she was inducted into the Ski & Snowboard Club Vail Hall of Fame and Wall of Excellence. After finishing her ski career in 2005, Ali attended Middlebury College where she earned a B.A. in Geography and was a member of the Track and Field team. She went on to complete her M.Ed. in Sport Psychology and Counseling at Boston University. Ali still enjoys skiing and now fuels her athletic spirit with endurance sports including completing a 1,100 mile cycling trip and multiple 50-mile ultramarathons.

Talk description

1% Better Every Day: Bringing Human Performance Training to Tactical Athletes

Cracking the code of bringing science into practice with tactical athletes who are not typically exposed to mental performance training can be challenging but has a major impact on the well-being and performance of individuals and organizations. This session will explore the ways O2X has found success training thousands of tactical athletes in a variety of organizations with differing needs, goals, and job requirements.

Scotty Butcher, Ph.D., P.T.

Scotty has been a Physical Therapist for 25 years and a University Professor for 15. He has advanced training in strength coaching, wellness coaching, mindfulness, meditation, respiratory exercise physiology, and applied biofeedback. Scotty practices, studies, and teaches strength training, biofeedback, exercise recovery methodology, and mindfulness. He is an active Mental Health advocate and has a long personal history of anxiety. Through this experience, he has learned first-hand the importance of using the body to impact both physiology and psychology, and has also learned how to build and refine a mental health skills approach to stressors. Scotty is married with a blended family of 5 young adult children and dedicates his time and energy to being the best father he can be.

Talk description

The Body-Brain Relationship: A Somatic Bottom-Up Approach to Autonomic/Psychophysiological Dysregulation

Pain is a complex, multifactorial psychophysiological phenomena, including lower level ideas such as nociception, to higher order top down cognitive processes such as perception. The explanation of "pain = tissue damage" is no longer sufficient when dealing with acute and chronic injury. Addressing and recovering from pain in order to sustain rehabilitation and exercise training programs is thus crucial for optimal performance. In this series of talks Dr. Dabrowski, Dr. Mannino, and Dr. Butcher will address this from multiple viewpoints, including, psychophysiology, neuroscience, and embodied cognition. For example, what role does the mind play in the "experience of pain"? If cognition (and the mind) is embodied, can this inform recovery protocols, in terms of the relationship between movement and the mind? In general, what is the neurophenomenology of pain, and can this help us understand and optimize exercise training and physical therapy? We will address the neuroscience of pain, and how understanding the brain and body's relationship with pain can optimize pain and injury recovery. From a biopsychosocial perspective, we will discuss the role of the autonomic nervous system, "nocebo" beliefs around pain, and fear-avoidant behaviors that perpetuate the pain response. Additionally, we will address how psychophysiological data (HRV, breathing habits, stress physiology, etc) informs rehabilitation and exercise training, which will include some key research findings on the impact of poor psychophysiological recovery on training adaptations, as well as strategies for physical intervention (exercise, biofeedback, etc) to address psychophysiological concerns.

Katie Dabrowski, P.T., D.P.T., C.S.C.S.

Katie Dabrowski, P.T., D.P.T., C.S.C.S. is a physical therapist and co-founder of Old Bull Athletics, a private practice in Miami, FL that specializes in blending the worlds of strength training, performance, and rehabilitation through a lens of treating movement as medicine. 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 Doctorate 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 a human-centric approach, with an emphasis on pain neuroscience, strengthening, building resiliency, and dispelling myths of pain and injury. She blends her love of neuroscience and exercise in order to optimize recovery and performance for her patients.

Talk description

Autonomic Regulation/Dysregulation in Exercise Training and Physical Therapy

Pain is multifactorial and complex. The explanation of "pain = tissue damage" is no longer sufficient when dealing with acute and chronic injury. Dr. Dabrowski will dive into the neuroscience of pain, and how understanding the brain and body's relationship with pain can optimize pain and injury recovery. She will discuss the biopsychosocial components of pain, including but not limited to the role of the autonomic nervous system, "nocebo" beliefs around pain, and fear-avoidant behaviors that perpetuate the pain response. She will discuss how she explores the pain experience with her patients to ultimately get them stronger and more resilient than they ever thought possible.

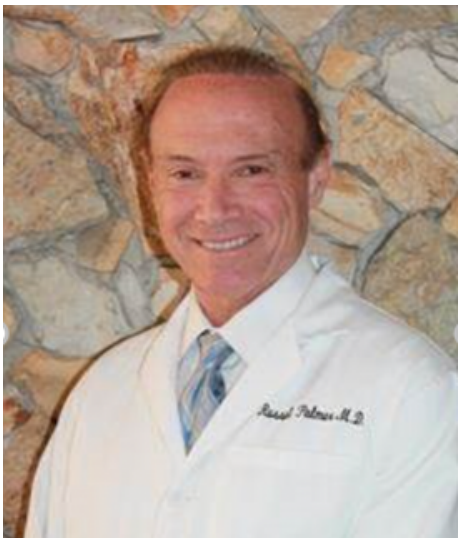
Michael Mannino, Ph.D.

Michael is a neuroscientist, artificial intelligence, and human peak performance expert. He is currently Chief Science Officer of the Flow Research Collective, founded by Steven Kotler. He holds a Ph.D. in neuroscience and complex systems, having researched networks of the human brain involved in attention, and perception. Michael has also served as Director of Programs at the Institute for Data Science and Computing, working on AI/ML projects in a variety of domains. His expertise is in the subjects of peak performance, physical and cognitive enhancement, the intersection of neuroscience and fitness, the science of wellbeing, as well artificial intelligence and technology. Michael also has a Master's degree in philosophy, specializing in philosophy of mind, and consciousness, as well as critical thinking. He has taught these subjects for over 10 years. He is also currently serving on the Singularity University Miami Chapter leadership team. Additionally, he sits on the Scientific Advisory Board of Neuvana Life, a neurotechnology company involving vagal nerve stimulation; Nue.Life, a company blending digital therapeutics with psychedelic assisted therapy; the Society for Neurosports, and several other companies involved in technology, performance, and neuroscience. He is also an amateur athlete, focusing on a variety of different movement modalities, including yoga, animal flow, hand-balancing, and parkour, are among his primary flow activities! He has been the lead peak performance coach at FRC, working with hundreds of clients, from all walks of life, from high level executives, to athletes, surgeons, students, and many more.

Talk description

The Brain-Body Relationship: A Cognitive Top-Down Approach to Pain, Movement, and Recovery

Russel Palmer M.D.



Dr. Palmer attended the University of Miami Medical School until 1980. He completed his internship and general surgery residency at Beth Israel Hospital, Harvard Medical School in 1985 where he was appointed and served as the surgical chief resident. After completing his general surgical training at Beth Israel Hospital, a Harvard University teaching hospital, Dr. Palmer moved to California, where he completed his Plastic Surgery Residency at the UCLA Medical Center. Following his graduation from UCLA in 1987, Dr. Palmer completed a microsurgical and hand surgery fellowship and served as Clinical Assistant Professor in the Division of Plastic Surgery at UCLA in 1988.Once completing his time at UCLA in 1988, Dr. Palmer moved to Hollywood, Fla., where he started his private practice. He has been in private practice since 1989. His safety record is unblemished. He brings his experience of having performed thousands of operations to his established and prospective patients.

Talk description

How to Maintain a Healthy Body and Brain After 40

There are many proactive interventions people can do to maximize brain and body health after the age of 40. It is important to identify what your goals are for aging and decide how much of a commitment you are willing to make towards this goal. Knowing your individual risk factors is important. Putting efforts into individual categories can streamline the process.

Richard Gaines, M.D.

Richard Gaines, MD attended the Boston University School of Medicine and graduated in 1981. After this, he completed his internship at the Tufts University of Medicine and his residency at the Harvard School of Medicine. Dr. Gaines specialized in anesthesiology at the Harvard Brigham Women's Hospital and subsequently served as a physician at Huntington Memorial Hospital and an anesthesiologist at Harvard Community Health and Sheridan Healthcorp. Dr. Richard Gaines is the Chief Medical Officer of LifeGaines regenerative medicine and therapy program.

Talk description

Testosterone Replacement and Performance: What You Need to Know

Testosterone levels naturally decrease with aging. Exogenous supplementation can have positive effects on preserving strength and function and maintaining lean muscle mass and sexual performance. Proper testing is essential in order to maximize benefits and decrease risks. Indications and contraindications for TRT supplementation will be reviewed.

Bob Speth, Ph.D.

Dr. Bob Speth obtained a Bachelor's Degree from Western Maryland College majoring in Biology and Psychology, his Master's Degree in Physiological Psychology at Connecticut College and his Ph.D. at Vanderbilt University studying Pharmacology and Neuroscience. He then went on to do post-doctoral research as an NIH National Research Service Awardee at the University of Arizona under the direction of Dr. Hank Yamamura. Dr. Speth has conducted research focused largely on the brain, the renin-angiotensin system and receptors for neurotransmitters, hormones, drugs and toxins at the Cleveland Clinic, Washington State University College of Veterinary Medicine, at which time he became a founding officer of the Society of Veterinary Medical Ethics, past president and founding editor of its Newsletter; Oregon Health Sciences University, the University of Mississippi (where he chaired the Pharmacology Department of the School of Pharmacy). He is presently Professor of Pharmaceutical Sciences in the College of Pharmacy and Adjunct Professor of Biology and the Honors College at Nova Southeastern University; Adjunct Professor of Pharmacology and Physiology in the School of Medicine, Georgetown University and a Research Associate of the Institute for Ethnomedicine in Jackson, WY. Dr Speth has also prepared radioligands for researchers and his lab since 1982, most recently at Georgetown University. Dr. Speth has received numerous awards for his advocacy of biomedical research with animal models, his support of academic libraries, and scholarly activities. He is a Fellow of the American Association for the Advancement of Science and a Fellow of the American Heart Association. He received "The Provost's Award for Research and Scholarship" from Nova Southeastern University in 2016 and the "World Class Faculty Award" from the Greater Fort Lauderdale Alliance for 2017. He has published over 240 peer-reviewed scientific manuscripts.

Talk description

Exercise and Neurodegenerative Disease

Dr. Speth will give a brief overview of the renin-angiotensin system (RAS) with a focus on the brain's RAS. He will introduce Dr. Lisa Robison's presentation linking exercise, the brain RAS and cognitive function in rodents. Next, he will introduce Dr. Scott Collier's presentation relating to his studies of the value of resistance exercise and sleep as integrative approaches to mitigation
of Parkinson's Disease.

Scott Collier, Ph.D.

Dr. Scott Collier earned his Ph.D. at Syracuse University and investigates vascular remodeling and blood flow control associated with aerobic and resistance exercise training, along with acute and chronic alterations in the autonomic nervous system due to environmental (e.g. orthostatic changes) challenges and pathological (e.g. hypertension, Parkinsons) conditions. Sleep disturbances have been found to increase in Parkinsons disease, including decrease in rapid eye movement and N3 (deep sleep). Currently Dr. Collier is investigating how sleep disruption in Parkinsons disease make deleterious changes within the cardiovascular and autonomic nervous systems, yet increases in exercise may ameliorate these functional changes. Dr. Collier is a Full Professor at Appalachian State University and is the Faculty Director of their Nationally Competitive Scholarships and has an adjunct professor in Italy (Adjunct Faculty/Inter-Professional Ph.D. Program in Università degli Studi di Roma "Foro Italico", Rome, Italy and Ordinario di Metodi e Didattiche delle Attività Sportive Coordinatore del Dottorato in Scienze Applicate a Benessere e Sostenibilità Delegato del Rettore per la Didattica e lo Sport Dipartimento di Scienze Teoriche e Applicate (Di.S.T.A.) for over 10 years.

Talk description

The Effects of Acute Resistance Training on Sleep in Individuals with Parkinson's Disease

This talk will focus on sleep following acute recovery from resistance training in individuals with Parkinson's disease (PD). This presentation will give some background on familiarization for good sleep collection data and then results on the benefits of acute resistance training on sleep in individuals with PD compared to their paired spouses that are sleeping in the same bed.

Lisa Robison, Ph.D.

Lisa Robison, Ph.D. is an Assistant Professor of Neuroscience in the Department of Psychology and Neuroscience at Nova Southeastern University. Dr. Robison's research focuses on determining how lifestyle factors (e.g. exercise, diet, stress) can influence brain health and the risk of disorders with a neurobiological basis, such as mood disorders, addiction, and dementia. She is also interested in identifying novel therapeutics for dementia.

Talk description

Exercise vs Brain Aging and Dementia

Dementia is a major public health issue, affecting more than 55 million people worldwide. There is no cure for any form of dementia, and currently approved treatments are not universally effective at providing symptom relief and altering the progression of disease without significant risk. Physical activity is believed to support healthy brain aging and reduce the risk of several neurological disorders, including dementia. This talk will provide an overview of clinical findings and evidence from animal studies, including those performed by Dr. Robison using rodent models of healthy aging, Alzheimer's disease and cerebral amyloid angiopathy, and will highlight the need for ongoing research in this area.

Drew Gonzalez, M.S.

My name is Drew Gonzalez. I am a third-year PhD student at Texas A&M University (T.A.M.U.) studying Kinesiology under the supervision of Dr. Richard B. Kreider. I currently work as a Graduate Teaching Assistant and Research Assistant in the Department of Kinesiology and Sports Management (K.N.S.M.). I am certified through the National Strength and Conditioning Association as a Certified Strength and Conditioning Specialist (C.S.C.S.,*D.) and a Tactical Strength and Conditioning Facilitator (T.S.A.C.-F.,*D.), both with Distinction. Additionally, I am certified as a Sports Nutritionist (C.I.S.S.N.) through the International Society of Sports Nutrition, a Certified Exercise Physiologist by the American College of Sports Medicine, and I am certified through the Society of NeuroSports (C.S.N.S.). My research is primarily focused on the tactical athlete (i.e., firefighters and law enforcement personnel) and sports nutrition. Presently, I am a Student Researcher in the Exercise and Sport Nutrition Laboratory as well as the Chief Leader of the Tactical Athlete Research Unit at TAMU. Upon graduating, I plan to continue conducting research with respect to tactical athletes and sports nutrition.

Talk description

Virtual Reality and Tactical Athletes

The tactical athlete is subject to various physiological, psychological, and environmental demands that increase the risk for premature mortality. There is growing importance in studying the utility of virtual reality-based occupational training among these individuals in an effort to better prepare tactical athletes for duty. Our research group has primarily focused on virtual reality active shooter scenarios as a means of stress inoculation training to prepare law enforcement personnel for these extremely stressful situations. This talk will cover the recently published data from our research group as well as the future directions of this line of work and what we hope to investigate next.

Danylo Ferreira Cabral, Ph.D.

Dr. Danylo Cabral is a physical therapist and neuroscientist. He holds a PhD in Physical Therapy from the University of Miami. Over the past 4 years, he worked as a research associate at the Neuromotor Plasticity Laboratory and had the opportunity to collaborate in several studies on the use of noninvasive brain stimulation, particularly transcranial magnetic stimulation, and physical exercise to unravel the underlying mechanisms of neuroplasticity in aging adults. The focus of his current work as a postdoctoral research fellow at the Berenson-Allen Center for Noninvasive Brain Stimulation is clinical and translational research using noninvasive brain stimulation and neurophysiologic and neuroimaging studies to gain insights into fundamental human brain functions and brain-behavior relations in health and disease. More specifically, under the supervision of Dr. Peter Fried, he is working on a project that investigates the relationships of brain glutamate, cortical plasticity (coupling TMS-EEG-EMG), and cognitive function in older adults with type-2 diabetes. He is an industrious researcher who has published 13 peer-reviewed scientific articles and presented several abstracts and oral sessions at local, national, and international conferences. He also received the American Council on Exercise Certification in Health and Wellness Coach and has become more interested in health education and wellness coaching strategies aiming to elucidate behavior change paradigms and develop solutions to improve lifestyle health and exercise adherence in the aging population. He is also working on ultimately further developing my scientific career to incorporate the science of behavior change into the neuroscience of exercise and brain health. Dr. Cabral's short-term research goals are to consolidate knowledge in noninvasive brain stimulation, functional brain imaging, and activity measures relevant to cognitive neuroscience and to integrate them with well-established cardiorespiratory fitness and cardiovascular health measures (e.g., VO2max, heart rate recovery, and heart rate variability). He also aims to elucidate the underlying physiological mechanisms associated with cognitive brain health in the aging and clinical population with high cardiovascular risk, such as individuals with type 2 diabetes.

Talk description

Heart Rate Recovery and Its Physiological and Clinical Implications on Brain Health and Aging

Heart rate is a simple but key measurement of physiological function and is often used to prescribe physical exercise. Furthermore, the heart rate response during and after exercise has been shown to provide important prognostic and rehabilitative information. During the session, several topics associated with heart rate will be discussed. First, physiological principles around heart rate and the dynamic mechanisms of autonomic heart rate regulation will be presented, including key factors demonstrating heart rate recovery (HRR) as a well-established and robust measure of cardiorespiratory function in aging adults. Then, the clinical utility of heart rate measures as prognostic markers will be explained as how researchers and clinicians can easily measure through a submaximal exercise fitness assessment. For instance, literature shows that HRR is independently associated with all-cause of mortality, health status, and cognitive function. In addition, this section will discuss the role of HRR as a modifiable physiological measure after employing lifestyle changes such as increased physical activity levels. Finally, this section will propose HRR as meaningful, low-cost, safe, and time-efficient physiological and behavioral measures, which benefit clinicians by including HRR as a potential screening and predictive measure of cardiovascular health and as a surrogate marker of brain health.

Darryn Willoughby, Ph.D.

Talk description

The Hypothalamic Pituitary Adrenal (HPA) Axis and its Role in Regulating Metabolic Responses to Exercise

This presentation will provide a discussion of the anatomy of the HPA axis as it relates to the production and release of various hormones upon sympathetic nervous system activation. Furthermore, there will be discussion of various HPA axis-related hormones and their role and involvement in the biochemical and physiological processes involved in substrate utilization and exercise metabolism.

Dr. Willoughby holds a Ph.D. in Exercise Physiology with sub-emphasis in Nutritional Biochemistry and Molecular Biology from Texas A&M University. He also possesses a graduate clinical certificate in Clinical Anatomy. Dr. Willoughby is a Fellow of the American College of Sports Medicine (A.C.S.M.), International Society of Sport Nutrition (I.S.S.N.), American College of Nutrition (A.C.N.), and American Society of Exercise Physiologists (A.S.E.P.). He is a Certified Strength and Conditioning Specialist through the National Strength and Conditioning Association, a Certified Sports Nutritionist through I.S.S.N., and a Certified Exercise Physiologist through ASEP. He is also a Past-President of the I.S.S.N.. He has also been presented with the Lifetime Achievement Award by the Society of Weight Training Injury Specialists (S.W.I.S.).

At U.M.H.B., Dr. Willoughby is a Professor of Anatomy and Physiology in the Physician Assistant (P.A.) Program where he teaches human gross anatomy and human physiology to the first-year medical students. He is also an adjunct professor if the U.M.H.B. Physical Therapy (P.T.) where he teaches human gross anatomy and neuroanatomy to the first-year P.T. student. He is also a Professor of Exercise Physiology and Nutrition in the School of Exercise and Sport Science where he teaches exercise physiology, exercise biochemistry, and sport nutrition courses, and is also involved in research in the Human Performance Laboratory. Prior to U.M.H.B., Dr. Willoughby was a Professor of Exercise and Nutritional Biochemistry and Molecular Physiology at Baylor University in Waco, TX where he taught graduate level, nutritional biochemistry, exercise physiology, exercise biochemistry, muscle physiology, and exercise endocrinology classes. He was also director of the Exercise and Biochemical Nutrition Laboratory. At Baylor, he also held secondary faculty appointments in the Departments of Biology and Biomedical Science.

Dr. Willoughby has over 150 publications in upper-tiered scientific peer-reviewed research journals. He has also authored and co-authored several book chapters on issues related to exercise and sports nutrition. He also has over 100 research-related presentations and has presented both nationally and internationally.

Allison Brager, Ph.D.

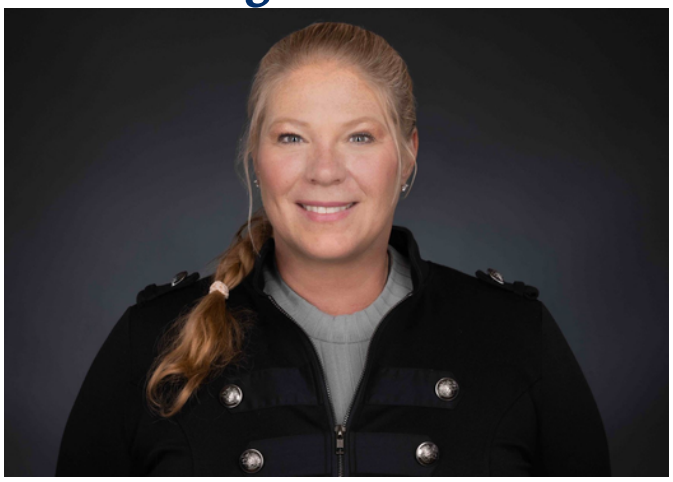
Dr. (Major) Allison Brager is the Chief Science Officer of the John F. Kennedy Special Warfare Center and School. She is the recipient of two National Research Service Awards from the National Institutes of Health and a National Academies of Sciences Fellowship to study physiological resiliency in extreme environments. Dr. Brager's work spans from clinical drug trials to applied field studies with elite athletes, combat divers, and Special Forces in some of the most austere places on earth to include Antarctica. In 2020, Dr. Brager underwent astronaut assessment & selection at NASA. She sits on advisory boards for the NCAA, NATO, Special Operations Command, the Office of the Army Surgeon General, and the federal government. She is the recipient of two presidential Meritorious Service Medals and a Joint Commendation Medal for her clinical and research expertise during the COVID-19 pandemic and the War on Terrorism. Dr. Brager has > 40 peer-reviewed publications in flagship journals to include Science, eLife, Journal of Neuroscience, and Neuropsychopharmacology and is author of *Meathead: Unraveling the Athletic Brain*. She holds an Sc.B in Psychology from Brown University and a Ph.D in Physiology from Kent State University.

Talk description

Best Practices in the Sleep Industry for Elite Athletes

This session will discuss how recent advancements in sleep and circadian science have been leveraged by Olympic, professional, and collegiate teams in order to gain a performance advantage. The speakers will introduce and describe recent success stories with technologies, techniques, and resources used to mitigate jet lag, monitor sleep health, and optimize performance during training and game day.

Tara Youngblood



Tara Youngblood is the Co-Founder of Sleepme Inc./Chilisleep, a company that creates award-winning technologies and apps that are changing the way the world sleeps. Time Magazine Winner of top 100 Inventions of 2022. Her sleep product has been used by Presidents, celebrities, and CEOs. A leading sleep authority, Tara has given a TEDx talk on the recipe for effective sleep. In addition, she has spoken for National Sleep Foundation, Charlotte Science Museum, Wellness conferences, and Health Optimization Summit. Tara is the sleep coach for the Cincinnati Reds and has consulted with the military and veteran groups. She has been interviewed for her expertise by such popular media outlets as:

- Cheddar.com
- MSN
- Fox
- Cnet
- Healthline.com
- Yahoo Life
- The Dr. Oz Show
- Reader's Digest
- Pop Sugar

Tara's exploration of sleep and mental health started when she lost a child and began her ten-year healing journey. Already a trained scientist with a BS in Science and Physics, Tara studied traditional Chinese medicine, Ayurvedic practices, neuroscience, and psychology. Among other things, she concluded that the link between sleep and mental health was essential. These insights form the basis of her work consulting with companies, keynote presentations, and technical innovations. Tara founded and heads the Benjamin Youngblood foundation in honor of her son. The non-profit donates to charities such as the YMCA, Health Reach Clinic, and Pharos Parenting in her community of Mooresville, North Carolina. When she is not helping the world sleep better, Tara is busy raising four boys, two dogs, and three cats. She kayaks on Lake Norman whenever she can and of course, gets a great night's sleep.

NOTES

ABOUT US

We are an academic society dedicated to the interdisciplinary collaboration in the fields of exercise science and neuroscience. This society is the first of its kind in the field of Sports Neuroscience. We are a society of passionate scientists and practitioners with an interest in furthering research-based athletic performance and brain health. It is our hope that the interdisciplinary discussions taking place in this society will increase the effectiveness and potential to reach greater levels of performance.

MISSION STATEMENT

The Society for NeuroSports is a non-profit academic society dedicated to promoting the integration of neuroscience with exercise and sport science.

BECOME A MEMBER

Membership is open to EVERYONE!

Annual Rates:

Student Member* $39

Professional Member $119

*Must be enrolled full-time at the collegiate level and be able to provide proof of enrollment

Journal of the Society for NeuroSports (JSNS)

Our double-blind peer-reviewed journal accepts manuscripts that contain original research related to the overlap of neuroscience and sports science. You can access it here: https://nsuworks.nova.edu/neurosports/

You can view the JSNS papers as research animations at: https://kc-performance.com/jsns-research-hub/

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THANK YOU FOR ATTENDING.
SEE YOU NEXT YEAR AT NEUROSPORTS 2024!

Society for NeuroSports
from lab bench to weight bench