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## Creatine and Cognitive Functioning: Part 1 Body Composition

Jessica Garcia

*Nova Southeastern University*, [jg2943@mynsu.nova.edu](mailto:jg2943@mynsu.nova.edu)

Catherine Weber

*Nova Southeastern University*, [cw1547@mynsu.nova.edu](mailto:cw1547@mynsu.nova.edu)

Alexsandra Alvarez-Beaton

*Nova Southeastern University*, [aa2637@mynsu.nova.edu](mailto:aa2637@mynsu.nova.edu)

Akshita Patel

*Nova Southeastern University*, [ap2153@mynsu.nova.edu](mailto:ap2153@mynsu.nova.edu)

Alexandra C. Nieto

*Nova Southeastern University*, [an867@mynsu.nova.edu](mailto:an867@mynsu.nova.edu)

*See next page for additional authors*

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**Presenter(s)**

Jessica Garcia, Catherine Weber, Aleksandra Alvarez-Beaton, Akshita Patel, Alexandra C. Nieto, Paige Napolito, Haley Watters, Rithin Manimaaleth, Jonathan B. Banks, and Jose Antonio

# **SOCIETY FOR NEUROSPORTS**

## **1<sup>st</sup> ANNUAL CONFERENCE**

**Friday, November 15, 2019 & Saturday, November 16, 2019**  
**9:00 a.m. – 5:00 p.m.**  
**Deerfield Beach, Florida**

This two-day conference covers fundamental topics in Sports Neuroscience including how exercise affects brain health and cognition, psychological strategies to increase athletic performance, the relationship between sleep and performance, and cognitive and psychological variables in contact sports. The conference will also offer strategies and techniques for performance enhancement and skills training. The conference is designed to be interdisciplinary in nature and particularly useful to mental health professionals with expertise in sports psychology or geropsychology. The Society for NeuroSports conference seeks to connect researchers and professionals across academic disciplines who are interested in brain and exercise/sports relationships. This is the first academic conference in the field of Sports Neuroscience.

*Level of Curriculum Content: Introductory*

### **PROGRAM LOCATION**

Wyndham Deerfield Beach Resort  
2096 NE 2<sup>nd</sup> Street  
Deerfield Beach, FL 33441

For maps and directions to the Wyndham Deerfield Beach Resort, please visit their web site at <http://www.wyndhamdeerfieldresort.com> or call (954) 428-2850.

## ABOUT THE PRESENTERS

**Rachel Seidler, Ph.D.** is a professor in the Department of Applied Physiology and Kinesiology at the University of Florida. With the support of the NIH, the NSF, NASA, the National Space Biomedical Research Institute (NSBRI), and a variety of private foundations, her research focuses on the neural control of movement in health and disease, with a specific focus on motor learning.

**Scott Forbes, Ph.D.** is an assistant professor in the Department of Physical Education at Brandon University, Canada. His research focuses on nutritional and training interventions to enhance athletic performance, specifically for optimal muscle and health in older adults.

**Patrick Fuller, Ph.D.** is an associate professor of neurology at Harvard Medical School and within the Department of Neurology at Beth Israel Deaconess Medical Center. With a multidisciplinary scientific background, his research focuses on being able to link the in vivo activity of molecularly-defined sets of neurons with neurobehavioral, electroencephalographic and physiological responses in behaving animals.

**Ellen Glickman, Ph.D.** received her doctoral degree from the University of Pittsburgh in 1995 and is currently the School Director of Health Sciences at Kent University. Globally recognized as an expert in the area of environmental physiology, she focuses on mentoring her colleagues and students in exercise science, health education, athletic training, and speech pathology/audiology.

**Joyce Gomes-Osman, PT, Ph.D.** is a physical therapist, rehabilitation neuroscientist, and assistant professor at the University of Miami. After completing her physical therapy degree in her native country of Brazil, she obtained her Ph.D. at the University of Miami Miller School of Medicine, and a postdoctoral fellowship at Harvard Medical School. Her work focuses on answering questions that can impact people's ability to live more functional and independent lives.

**Elyse Lovett, MBA, M.S.** is the senior marketing manager for Kyowa Hakko USA where she oversees Kyowa's marketing activities in the nutrition and pharmaceutical areas for North and South America. Earning her MBA and MS from New York Institute of Technology in Marketing and Clinical Nutrition, her work focuses on the cognitive health market in particular ingredients and dietary supplements formulated for sports nutrition.

**Jonathan Mike, Ph.D.** is a professor in the Exercise Science and Sports Performance program at Grand Canyon University in Phoenix, AZ. Obtaining his doctoral degree in Exercise Sciences at the University of New Mexico, Dr. Mike has written nine book chapters in areas of sports nutrition and strength training and conditioning. In addition, he has co-authored many articles on a variety of topics in IDEA Fitness Journal and has contributed to dozens of online fitness outlets in the country.

**Tony Ricci, D.Sc.** is a Fellow and Advisory Board member of the ISSN and an Advisory Board member of the Society of NeuroSports. Holding separate master's degrees in Exercise Physiology and Human Nutrition along with a doctorate in Health Sciences, Dr. Ricci is currently an assistant professor of Exercise Physiology and Nutrition at Long Island University.

**Robert Seifer, Ph.D.** is a licensed psychologist specializing in athletic psychological performance enhancement. Earning his doctoral degree from Nova Southeastern University in 2002, he is currently an associate professor in NSU's College of Psychology. He is the team clinician for the Miami Dolphins and a sport psychologist for the Miami Marlins, working with athletes to improve their elite athletic discipline.

**Tommy Shavers, D.M.** is the co-founder & CEO of NESTRE Health & Performance, a human potential and brain performance company focused on increasing brain health, behavioral wellness, and cognitive performance by building better brains. A former college professor and radio show host, Dr. Shavers has published works in the areas of social status, power, and athlete behavior. He holds a M.A. in Interpersonal Communication and D.M. in Organizational Leadership.

**Kevin Williams, Ph.D.** is currently an assistant professor in the Division of Hypothalamic Research at the Department of Internal Medicine at the University of Texas Southwestern Medical Center. Receiving his doctoral degree in neuroscience from Tulane University in New Orleans, Dr. Williams aims to identify rational targets for developing potential therapeutic strategies for obesity, eating disorders, diabetes, and hypertension

## PROGRAM AGENDA

### Day 1 – Friday, November 15<sup>th</sup>:

- 8:45 a.m. – 9:00 a.m. Introduction: From Lab Bench to Weight Bench  
*Jaime Tartar, Ph.D. & Corey Peacock, Ph.D.*
- 9:00 a.m. – 10:00 a.m. Blood Sport: Training for Combat Involves Acquired Mental Qualities  
*Tony Ricci, D.Sc.*
- 10:00 a.m. – 11:00 a.m. Cellular and Synaptic Reorganization After Exercise Training  
*Kevin Williams, Ph.D.*
- 11:00 a.m. – 11:10 a.m. BREAK
- 11:10 a.m. – 12:10 p.m. Sleep Science and “Swoleness”: Close Your Eyes For Size  
*Jonathan Mike, Ph.D.*
- 12:10 p.m. – 1:30 p.m. LUNCH ON YOUR OWN
- 1:30 p.m. – 2:30 p.m. **KEYNOTE ADDRESS:** Cognitive Contributions to Motor Learning  
*Rachel Seidler, Ph.D.*
- 2:30 p.m. – 3:30 p.m. Environmental Physiology: The Effects of Cognition on Physical Performance  
*Ellen Glickman, Ph.D.*
- 3:30 p.m. – 4:30 p.m. Not Just For Performance: Creatine and Brain Health  
*Scott Forbes, Ph.D.*
- 4:30 p.m. – 5:00 p.m. The SNS Data Blitz: Science at the Speed of Light

### Day 2 – Saturday, November 16<sup>th</sup>:

- 10:00 a.m. – 11:00 a.m. Sleep and Circadian Linkage to Performance  
*Patrick Fuller, Ph.D.*
- 11:00 a.m. – 12:00 p.m. Exercise for Brain Health: From the Neuroscience to the Practical Advice  
*Joyce Gomes-Osman, PT, Ph.D.*
- 12:00 p.m. – 1:00 p.m. Psychological Interventions and Sports Performance  
*Robert Seifer, Ph.D.*
- 1:00 p.m. – 2:00 p.m. LUNCH ON YOUR OWN
- 2:00 p.m. – 3:00 p.m. Poster Presentations
- 3:00 p.m. – 4:00 p.m. Nootropics: What Does the Market Have for Brain Supplements  
*Elyse Lovett, MBA, M.S.*
- 4:00 p.m. – 5:00 p.m. A Look Into the Locker Room: Practical Applications of Neuroscience in NCAA Football and the NFL  
*Tommy Shavers, D.M. & Julius Thomas, B.S.*

## PROGRAM OBJECTIVES

Participants will be able to:

- Explain how participation in fight sports changes cognitive processes and provides an overview of gene-environment interactions
- Discuss recent evidence that exercise rapidly alters the activity of neurons in brain regions that regulate body weight and blood glucose levels
- Examine the science of sleep and performance and extend this science by focusing on practical recommendations for all abled-bodied and athletic populations
- Show which cognitive processes support skill acquisition and how they map onto underlying neural pathways
- Discuss the benefits of exercise across the lifespan and the markers that attenuate the decline in cognitive and physiologic function
- Outline how creatine works in the brain, review the literature pertaining to creatine and cognitive function, and discuss future areas of research and practical recommendations
- Describe how circadian mechanisms in the brain and sleep pathways are linked directly to performance
- Discuss the latest evidence regarding what exercises promote and maintain maximal mental sharpness among older adults
- Explain key techniques and interventions that can be used by coaches and trainers to enhance performance
- Describe the latest science behind nutritional supplements for brain health and human performance
- Describe how the field of neuroscience can be applied to NCAA Football and the NFL

**For additional information on continuing education policies, please visit our web site at <http://psychology.nova.edu/ce>**

## CONTINUING EDUCATION INFORMATION

**Psychologists:** Nova Southeastern University's College of Psychology is approved by the American Psychological Association to sponsor continuing education for psychologists. Nova Southeastern University maintains responsibility for this program and its content.

**Clinical social workers, mental health counselors, and marriage and family therapists:** Nova Southeastern University's College of Psychology is approved by the state of Florida's Board of Clinical Social Work, Marriage and Family Therapy, and Mental Health Counseling to offer continuing education. Provider number: BAP# 330, Exp. 03/31/21.

**School psychologists:** Nova Southeastern University's College of Psychology is approved by the state of Florida's Board of Medical Therapies/Psychology, Office of School Psychology, to offer continuing education. Provider number: SCE# 11, Exp. 11/30/21.

Nova Southeastern University's College of Psychology is approved by the National Association of School Psychologists to offer continuing education for school psychologists. Nova Southeastern University maintains responsibility for this program and its content. Provider# 1024

**Professional counselors:** Nova Southeastern University's College of Psychology has been approved by NBCC as an Approved Continuing Education Provider, ACEP No. 4548. Programs that do not qualify for NBCC credit are clearly identified. Nova Southeastern University's College of Psychology is solely responsible for all aspects of the programs.

**All mental health professionals will receive 12 continuing education credits for the workshop. Full attendance is required. No partial credit will be awarded. Check your licensing state's rules and regulations for more information regarding your continuing education requirements.**

Nova Southeastern University is committed to making its programs accessible to all prospective attendees. Let us know if you have specific requirements due to a disability.

## ABOUT THE SPONSOR

Nova Southeastern University's College of Psychology is dedicated to providing high-quality training, education, research, and service its students and to the community. The college offers two American Psychological Association (APA)-accredited doctoral programs (Ph.D. and Psy.D. in Clinical Psychology); a specialist and a doctoral program in school psychology; master's degree programs in counseling clinical mental health counseling, school counseling, substance abuse counseling, and applied behavioral analysis), forensic psychology, experimental psychology, and general psychology; and bachelor's degree programs in psychology and behavioral neuroscience. The College of Psychology has two APA accredited doctoral internship programs, the South Florida Consortium Internship Program and the Psychology Services Center Internship program.

## NOTICES OF ACCREDITATION, MEMBERSHIP, AND NONDISCRIMINATION

Nova Southeastern University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, Georgia 30033-4097; Telephone number 404-679-4501) to award bachelor's, master's, educational specialist, and doctoral degrees. The university is chartered by the State of Florida. The College of Psychology Doctor of Philosophy (Ph.D.) program is accredited by the Commission on Accreditation of the American Psychological Association. The College of Psychology Doctor of Psychology (Psy.D.) program is accredited by the Commission on Accreditation of the American Psychological Association. The College of Psychology has two APA accredited doctoral internship programs, the South Florida Consortium Internship Program and the Psychology Services Center Internship program. Questions related to the programs' accredited status should be directed to the Commission on Accreditation: Office of Program Consultation and Accreditation, American Psychological Association, 750 1st Street, NE, Washington, D.C., 20002-4242, Phone: (202) 336-5979, Email: [apaaccred@apa.org](mailto:apaaccred@apa.org), Web: [www.apa.org/ed/accreditation](http://www.apa.org/ed/accreditation). The college's master's degree program in school counseling and specialist program in school psychology are approved by the Florida Department of Education. In addition, the specialist and doctoral programs in school psychology holds the designation of National Recognition by the National Association of School Psychologists (NASP). The College of Psychology offers two programs, (1) the M.S. in School Counseling and (2) the Psy.S. in School Psychology, for practitioners in P-12 schools that have been accredited by the National Council for Accreditation of Teacher Education (NCATE). The accreditation for these programs is awarded to the university through the Fischler School of Education as follows: The Fischler School of Education at Nova Southeastern University is accredited by the National Council for Accreditation of Teacher Education (NCATE), [www.ncate.org](http://www.ncate.org). This accreditation covers initial teacher preparation programs and advanced educator preparation programs at all university locations and online. However, the accreditation does not include individual education courses that the institution offers to P-12 educators for professional development, relicensure, or other purposes.

Nova Southeastern University admits students of any race, color, sex, age, nondisqualifying disability, religion or creed, sexual orientation, or national or ethnic origin to all the rights, privileges, programs, and activities generally accorded or made available to students at the school, and does not discriminate in administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other school-administered programs.