A New Era of Scientific Collaboration

NCAA-U.S. Department of Defense Grand Alliance Concussion Conference

Fifth Annual • April 21, 2022

NCAA | SPORT SCIENCE INSTITUTE™

DEPARTMENT OF DEFENSE · UNITED STATES OF AMERICA

ACC™

Presented in partnership with the Atlantic Coast Conference and University of North Carolina, Chapel Hill.

Conference Description

The NCAA Sport Science Institute and U.S. Department of Defense, in partnership with the Atlantic Coast Conference and the University of North Carolina, Chapel Hill, are pleased to present the fifth annual Grand Alliance Concussion Conference: A New Era of Scientific Collaboration.

The conference will build on the prior sport-related concussion conferences hosted in partnership with the NCAA, Department of Defense, and participating member schools and conferences. During the event, concussion experts and researchers will share preliminary and recently publicized data from the NCAA-U.S. Department of Defense Grand Alliance, the largest concussion study and educational grand challenge ever conducted. Lectures will be didactic and demonstrative, and there will be ample time for panel discussions and questions and answers.

Target Audience

The purpose of this virtual conference is to provide a platform to present and discuss emerging information and policy implications from the NCAA-DoD Grand Alliance. The virtual conference site can host up to 1,000 athletic trainers, team physicians, sports medicine clinicians, and athletic health care administrators from NCAA member schools, military medical facilities, and other key stakeholders who oversee and manage sport-related concussion and repetitive head impacts.

Conference Date and Time

Thursday, April 21, 2022
8 a.m.-4:30 p.m. Eastern time

Course Learning Objectives

- Describe the public health and safety implications of concussion in sport and in the military.
- Describe the knowledge gaps in concussion and repetitive head impact exposure.
- Explain the rationale for developing the NCAA-DoD Grand Alliance, which includes the largest, prospective, longitudinal clinical and advanced research study to investigate concussion and repetitive head impact exposure.
- Identify and understand emerging clinical and advanced research developments from the NCAA-DoD Concussion Assessment, Research and Education Consortium.
- Discuss clinical and policy implications from emerging concussion and repetitive head impact exposure research results.
- Discuss how science can transform policy and societal views on concussion and repetitive head impacts.

CME

Accreditation Statement

The School of Medicine of the University of North Carolina at Chapel Hill is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Statement

The School of Medicine of the University of North Carolina at Chapel Hill designates this live internet activity for a maximum of *7.0 AMA PRA Category 1 Credit(s)™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Disclosure Statement

This activity has been planned and implemented under the sole supervision of the Course Director Jason Mihalik, Ph.D., and the planning committee in association with the UNC Office of Continuing Professional Development (CPD). The course director, planning committee and CPD staff have no relevant financial relationships with ineligible companies as defined by the ACCME.

The presenters have no relevant financial relationships with ineligible companies as defined by the ACCME.

Planning Committee

Steve Broglio, University of Michigan
LaGwyn Durden, NCAA (management)
Thomas McAllister, Indiana University School of Medicine
Michael McCrea, Medical College of Wisconsin
Jason Mihalik, UNC, Chapel Hill (course director)
Paul Pasquina, Uniformed Services University of Health Sciences

Accreditation for Athletic Trainers

Approved Provider

The University of North Carolina at Chapel Hill: BOC AP# P600 is approved by the Board of Certification, Inc. to provide continuing education to Athletic Trainers. This program is eligible for a maximum of 7.0 Category A hours/CEUs. ATs should claim only those hours actually spent in the educational program.

PRESENTERS

Michael Aderman
Research Coordinator with the John A. Feagin Jr. Sports Medicine Fellowship Department of Orthopaedic Surgery at Keller Army Community Hospital in West Point, New York

Steven Broglio, Ph.D., ATC
Associate Dean for Graduate Students and Professor of Athletic Training at the University of Michigan School of Kinesiology and Director of the NeuroTrauma Research Laboratory and Michigan Concussion Center

Kenneth Cameron, Ph.D., MPH, ATC
Director of Orthopaedic and Sports Medicine Research at Keller Army Hospital in West Point, New York

Gian-Gabriel Garcia, Ph.D.
Assistant Professor in the H. Milton Stewart School of Industrial and Systems Engineering at Georgia Tech University

Christopher Giza, M.D.
Professor of Pediatric Neurology and Neurosurgery at the David Geffen School of Medicine and Mattel Children's Hospital; Director of the Steve Tisch BrainSPORT Program at the University of California, Los Angeles

Kevin Guskiewicz
Chancellor of the University of North Carolina, Chapel Hill

Brian Hainline, M.D.
Clinical Professor of Neurology at the Indiana University School of Medicine and New York University School of Medicine; Chief Medical Officer, NCAA

Nikki Hoffman, Ph.D., ATC
Assistant Professor of Athletic Training in the School of Kinesiology and Recreation at Illinois State University

Katherine Hunzinger, Ph.D., CEP
Postdoctoral Researcher in the Department of Biostatistics, Epidemiology, and Informatics at the University of Pennsylvania Perelman School of Medicine

Col. Jonathan Jackson
Chief of Primary Care Sports Medicine at the Air Force Academy

Anthony P. Kontos, Ph.D.
Director of Research for the University of Pittsburgh Sports Medicine Concussion Program and Associate Professor in the Department of Orthopaedic Surgery at the University of Pittsburgh

Thomas W. McAllister, M.D.
Albert Eugene Sterne Professor and Chairman at the Indiana University School of Medicine Department of Psychiatry

PRESENTERS

Michael McCrea, Ph.D., M.D.
Professor and Chair in the Department of Neurosurgery at the Medical College of Wisconsin; Vice Chair of Research and Co-Director of the MCW Center for Neurotrauma Research

Jason Mihalik, Ph.D., CAT(C), ATC, FACSM, FNATA
Professor in the Department of Exercise and Sport Science and Co-Director of the Matthew Gfeller Sport-Related Traumatic Brain Injury Research Center at the University of North Carolina, Chapel Hill

Ret. Col. Paul Pasquina, M.D.
Professor and Chair of the Department of Rehabilitation Medicine and Director of the Center for Rehabilitation Sciences Research at the Uniformed Services University of Health Sciences; Chief of the Department of Rehabilitation at Walter Reed National Military Medical Center

James J. Phillips, Ph.D.
Combe Family Vice President for Athletics & Recreation at Northwestern University; Atlantic Coast Conference Commissioner

Megan Roach, Ph.D., ATC
Musculoskeletal Health Specialist for the Extremity Trauma and Amputation Center of Excellence at Womack Army Medical Center in Fort Bragg, North Carolina

Joel Robb, PT, DPT, ATC
Concussion Researcher and Clinician at the U.S. Air Force Academy and Retired U.S. Air Force Lieutenant Colonel

Julianne D. Schmidt, Ph.D.
Associate Professor (Exercise Science, Athletic Training) in the Department of Kinesiology at Mary Frances Early College of Education at the University of Georgia

Yu-Chien Wu, M.D., Ph.D., DABMP
Associate Professor of Radiology and Imaging Sciences and Scientific Director of In-Vivo Imaging Core at the Indiana University School of Medicine

AGENDA

8 to 8:10 a.m.

Welcome and introduction.

Kevin Guskiewicz

8:10 to 8:15 a.m.

Opening remarks.

James J. Phillips

8:15 to 8:20 a.m.

Conference overview.

Brian Hainline

8:20 a.m. to 10:20 a.m.

Part 1: CARE 1.0

Civilian sport concussion: Key findings and clinical translation.

Optimal clinical assessment and return to play after concussion. (:20)
Gian-Gabriel Garcia

Influence of post-concussion sleep duration on concussion recovery. (:20)
Nicole Hoffman

Longitudinal analysis of recovery trajectories after concussion. (:20)
Steve Broglio

Clinical implementation and utility of the vestibular/ocular motor screening. (:20)
Anthony Kontos

Diffusion tensor imaging of concussion: A longitudinal analysis. (:20)
Yu Chien Wu

Discussion. (:20)

10:20 to 10:35 a.m.

Break.

10:35 a.m. to 12:35pm

Part 1: CARE 1.0 continued

Military special interest group: Key findings and clinical translation.

Blood biomarkers and their role in combative training. (:20)
Christopher Giza

Implications of symptom burden on graduated return to activity protocols. (:20)
Michael Aderman

Are service members with concussion at an increased risk of musculoskeletal injury? (:20)
Megan Roach

Sex differences in risk and recovery after concussion in rugby service academy athletes. (:20)
Katherine Hunzinger

Implementing a concussion care program by understanding practice patterns within a military setting. (:20)
Joel Robb

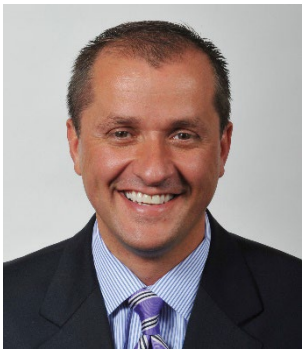
Panel discussion: Military special interest group within CARE/SALTOS: Unanswered questions and next steps. (:20)
Kenneth Cameron, Jonathan Jackson, Joel Robb and Paul Pasquina

AGENDA

12:35 to 1:30 p.m.	**Lunch.**
1:30 to 2 p.m.	**Part 2: CARE 2.0 – Persistent and cumulative effects of concussion and repetitive head impact exposure.** Update on data collection, analysis and priorities. (:25) **Mike McCrea**
2 to 2:30 p.m.	**Part 3: CARE-SALTOS integrated study.** Overview of CSI study aims, methods and deliverables. (:25) **Tom McAllister**
2:30 to 2:45 p.m.	**Break.**
2:45 to 3:45 p.m.	**Part 4: An overview of UNC concussion research: Insights from a CARE/ARC member school.** **Jason Mihalik (:30)** **Discussion. (:30)**
3:45 to 4:15 p.m.	**Part 5: Updates on improving perceived norms and the culture of concussion safety: An extension of Mind Matters.** **Julianne Schmidt (:30)**
4:15 to 4:30 p.m.	**Concluding remarks.** **Brian Hainline**

Questions?

If you have any questions, please contact the NCAA Sport Science Institute at **ssi@ncaa.org**.

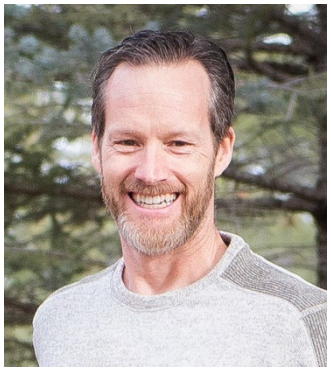
Speaker Bios	NCAA-U.S. Department of Defense Grand Alliance Concussion Conference April 21, 2022
8 to 8:10 a.m.	Welcome and introduction. Kevin Guskiewicz, University of North Carolina, Chapel Hill
 **Kevin Guskiewicz**	**Kevin Guskiewicz**, a neuroscientist, academic leader and concussion researcher, is the 12th chancellor of the University of North Carolina at Chapel Hill. A Kenan Distinguished Professor of Exercise and Sport Science, he has been a member of Carolina's faculty since 1995. He is the founding director of the Matthew Gfeller Sport-Related Traumatic Brain Injury Research Center, founding director of the Center for the Study of Retired Athletes, and is a MacArthur Fellowship winner for his work on sport-related concussions. Prior to his appointment as chancellor, he served as dean of the College of Arts & Sciences.
8:10 to 8:15 a.m.	Opening remarks. James J. Phillips
 **James J. Phillips**	**James J. Phillips, Ph.D.,** began his tenure as Atlantic Coast Conference Commissioner on February 1, 2021. The fifth commissioner in the history of the ACC, Phillips brings more than three decades of experience in Division I athletics, a track record of tremendous achievement, a vision for the future of intercollegiate athletics and a passion for helping student-athletes achieve impact and success in competition, in the classroom and in their communities.
8:15 to 8:20 a.m.	Conference overview. Brian Hainline, NCAA
 **Dr. Brian Hainline**	**Brian Hainline, MD**, is Chief Medical Officer of the National Collegiate Athletic Association (NCAA). As the NCAA's first Chief Medical Officer, Brian oversees the NCAA Sport Science Institute, a national center of excellence whose mission is to promote and develop safety, excellence, and wellness in college student-athletes, and to foster life-long physical and mental development. The NCAA Sport Science Institute works collaboratively with member institutions and Centers of Excellence across the United States. Brian is Clinical Professor of Neurology at New York University School of Medicine and Indiana University School of Medicine.

Part 1: CARE 1.0	Civilian sport concussion: Key findings and clinical translation.
8:20 to 10:20 a.m.	Optimal clinical assessment and return to play after concussion. Gian-Gabriel Garcia, Georgia Tech University.
 **Gian-Gabriel Garcia**	**Gian-Gabriel Garcia, Ph.D.** is an Assistant Professor in the H. Milton Stewart School of Industrial and Systems Engineering at Georgia Tech. In his research, Dr. Garcia is interested in developing data-driven frameworks, which integrate prediction and decision analytics as motivated by high-impact problems in health policy, personalized medicine, and medical decision-making. He is especially interested in how health equity, interpretability, and social/behavioral dynamics impact decision-making at the patient and policy levels. His research in concussion includes acute concussion assessment and return-to-play decision making, with recent interests in how to incorporate behavioral dynamics in concussion management decisions and how to equitably determine the allocation of baseline tests in resource-limited settings.
	Influence of post-concussion sleep duration on concussion recovery. Nicole Hoffman, Illinois State University.
 **Nikki Hoffman**	**Nikki Hoffman, PhD, ATC,** is an assistant professor of athletic training in the School of Kinesiology and Recreation at Illinois State University. She currently serves as the graduate sequence coordinator for the Post-Professional Master's Program in Athletic Training at ISU. Upon starting her appointment, Dr. Hoffman initiated new collaboration efforts with ISU's Student Health Services where university students can undergo a full comprehensive concussion evaluation in order to improve concussion management. The main focus of her research is on concussion recovery and acute sleep disturbances in young adults.

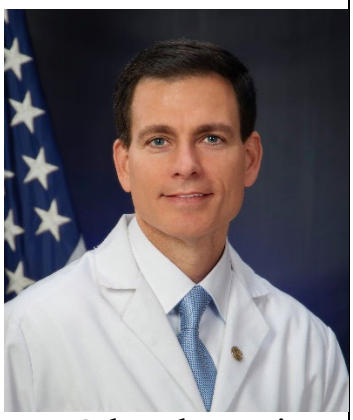
	Longitudinal analysis of recovery trajectories after concussion. Steve Broglio, University of Michigan.
 **Steven Broglio**	**Steven Broglio** is a Professor of Kinesiology, Neurology, and Physical Medicine and Rehabilitation at the University of Michigan in Ann Arbor. Dr Broglio completed his training at the University of Georgia, took his first faculty position at the University of Illinois at Urbana-Champaign, and has been at the University of Michigan since 2011. At Michigan, Dr. Broglio is the Director of the Michigan Concussion Center and the NeuroTrauma Research Laboratory where he oversees clinical care, educational outreach, and multi-disciplinary research aimed at fundamental questions on concussion prevention, identification, diagnosis, management, and outcomes. His research has been supported by the National Athletic Trainers' Research and Education Foundation, the National Institutes of Health, the National Collegiate Athletic Association, and the Department of Defense. Dr Broglio was awarded the Early Career Investigator Award by the International Brain Injury Association, the Early Career award by the National Athletic Trainers' Association, and Fellowship in the American College of Sports Medicine and National Athletic Trainers' Association.
	Clinical implementation and utility of the vestibular/ocular motor screening. Anthony Kontos, University of Pittsburgh.
 **Anthony Kontos**	**Dr. Anthony P. Kontos** is Research Director for the University of Pittsburgh Sports Medicine Concussion Program and professor with tenure in the Departments of Orthopaedic Surgery and Sports Medicine and Rehabilitation at the University of Pittsburgh. He has specialized in concussion research for 17 years and has 205 peer-reviewed publications and 360+ professional presentations. His research is funded by Centers for Disease Control and Prevention, Department of Defense, National Institutes of Health, and National Football League and focuses on active, precision treatments and clinical trials; risk factors; neurocognitive/neuromotor effects; psychological issues; and concussion in military, pediatric, and sport populations.

	Diffusion tensor imaging of concussion: A longitudinal analysis. Yu Chien Wu, Indiana University.
 **Yu-Chien Wu**	**Dr. Yu-Chien Wu** studied physics at National Taiwan University with the Samuel Ting scholarship and then entered Kaohsiung Medical School and received an MD degree and license in Taiwan in 2000. Integrating her knowledge in both disciplines, she earned a PhD program in Medical Physics at the University of Wisconsin-Madison in 2006. While her medical physics background covers a wide range of imaging instruments, she is an MRI Physicist by training and received Board Certification in 2016. She serves as the Scientific Director of the In-Vivo Imaging Core at Indiana University School of Medicine. The research focus of her own laboratory is to develop innovative MRI neuroimaging technologies for elucidating disease mechanisms, facilitating early diagnoses, and identifying optimal treatments. Her research activities have been summarized in more than 55 peer-reviewed papers and numerous conference abstracts.
	Discussion.
10:20 to 10:35 a.m.	**BREAK**
Part 1: CARE 1.0 (cont.)	**Military special interest group: Key findings and clinical translation.**
	Blood biomarkers and their role in combative training. Christopher Giza, University of California, Los Angeles
 **Dr. Christopher Giza**	**Dr. Christopher Giza** graduated from Dartmouth College, received his M.D. from West Virginia University and completed his internship at the University of Pennsylvania. Dr. Giza then trained in Adult and Pediatric Neurology at UCLA, after which he worked on the Yosemite Search and Rescue team. In 1998, he returned to UCLA and joined the Brain Injury Research Center. Dr. Giza leads the Pediatric TBI program at UCLA. He traveled to Afghanistan in 2011 as a civilian advisor to the Department of Defense and in 2012 established UCLA BrainSPORT, a comprehensive sports concussion/mild TBI program for prevention, outreach, research and treatment. Dr. Giza co-Chaired the American Academy of Neurology's committee that developed an evidence-based Practice Guideline for Management of Sports Concussions in 2013. He serves on the Center for Disease Control's Pediatric mild TBI committee, the NCAA Concussion Task Force, and the Major League Soccer Concussion Program Committee. He directs the NFL Neurological Care Program at UCLA. He is currently Professor of Pediatric Neurology and Neurosurgery at the David Geffen School of Medicine and Mattel Children's Hospital - UCLA.

	Implications of symptom burden on graduated return to activity protocols. Michael Aderman
 **Michael Aderman**	**Michael Aderman** started his career at the United States Military Academy at West Point as an athletic trainer with their NCAA football team in 2017. In 2019, he transitioned to the role of research coordinator with the John A. Feagin Jr. Sports Medicine Fellowship Department of Orthopaedic Surgery Keller Army Community Hospital at West Point where he primarily works with the NCAA-DoD Grand Alliance CARE Consortium studying concussions. Prior to West Point, he earned a Bachelor of Science from the University of Norhtern Colorado, he completed a two-year athletic training internship with the Denver Broncos, then earned a Master of Science from South Dakota State University.
	Are service members with concussion at an increased risk of musculoskeletal injury? Megan Roach, Fort Bragg, North Carolina
 **Megan Roach**	**Dr. Megan Roach** is the Musculoskeletal Health Specialist for the Extremity Trauma and Amputation Center of Excellence at Womack Army Medical Center - Fort Bragg, NC. Prior to joining the EACE, Dr. Roach directed the NCAA-DoD Grand Alliance Concussion Assessment, Research and Education (CARE) Consortium at the United States Military Academy at West Point. Dr. Roach's research efforts have primarily focused on patient outcomes and health-related quality of life following musculoskeletal injury and mild traumatic brain injury. She has an interest in understanding the overlap between MSKI and mTBI and utilizing novel rehabilitation strategies to enhance patient-centered care and reduce the long-term consequences of injury.

	Sex differences in risk and recovery after concussion in ruby service academy athletes. Katherine Hunzinger, University of Pennsylvania
 **Katherine Hunzinger**	**Dr. Katherine Hunzinger** completed her undergraduate in Kinesiology at Northern Illinois University where she was a member of the Women's Rugby Team. She then completed a Master's in Health and Exercise Science at Wake Forest University under the mentorship of Dr. Stephen Messier where she continued to work in cardiac rehabilitation as a clinical exercise physiologist and as a research interventionist on three randomized controlled trials after graduation. She completed her PhD in Biomechanics and Movement Science at the University of Delaware under the mentorship of Dr. Tom Buckley and Dr. Buz Swanik where her research focused on the long-term effects of prolonged repetitive head impact exposure in adult rugby players. She is currently a postdoctoral researcher in the Department of Biostatistics, Epidemiology, and Informatics at the University of Pennsylvania Perelman School of Medicine under the mentorship of Dr. Doug Wiebe and Dr. Andrea Schneider. Her current research focuses on later-in-life cognitive and physical outcomes in individuals with a history of head injury or TBI.
	Implementing a concussion care program by understanding practice pattersn within a military setting. Joel Robb, U.S. Air Force Academy
 **Joel Robb**	**Joel Robb** is a Physical Therapist board certified in sports physical therapy and a certified Athletic Trainer. After graduating the USAF Academy and the U.S. Army-Baylor University graduate program in PT, he then completed a sports residency and a post-professional master's degree at the University of Pittsburgh, followed by a transitional doctor of PT from Baylor University. After 22 years in the US Air Force, he retired as a Lieutenant Colonel, with service in stateside, overseas, and deployed wartime locations. For the past 6 years, he has worked as a Clinical Researcher for the Geneva Foundation on the DoD-NCAA CARE project in the cadet clinic at the U.S. Air Force Academy. He also serves as the co-chair of the Military Service Academy Concussion SIG.

	Panel discussion: Military special interest group within CARE/SALTOS: Unanswered questions and next steps. Kenneth Cameron, Jonathan Jackson, Joel Robb and Paul Pasquina
 **Kenneth Cameron**	**Dr. Kenneth Cameron** currently serves as the Director of Orthopaedic and Sports Medicine Research at Keller Army Hospital, West Point, New York, where he holds faculty appointments with the John A. Feagin Jr. Orthopaedic Sports Medicine Fellowship and the US Army-Baylor University Sports Physical Therapy Doctoral Program. Dr. Cameron also serves as a Professor in the Departments of Surgery and Physical Medicine and Rehabilitation at the Uniformed Services University of the Health Sciences. Dr. Cameron was competitively selected to participate in the U.S. Bone and Joint Decade Young Investigator's Initiative in 2007 and he has subsequently obtained research funding support as a principal investigator from The Orthopaedic Research and Education Foundation, The National Athletic Trainers' Association Research and Education Foundation, and The U.S. Army Medical Research and Material Command's Post-Traumatic Stress Disorder and Traumatic Brain Injury Research, Peer Reviewed Medical Research, and Peer Reviewed Orthopaedic Research programs, respectively.
 **Col Jonathan Jackson**	**Col Jon Jackson** is a military sports medicine physician currently assigned at the United States Air Force Academy. He grew up in Salt Lake City, Utah. He received his Bachelor of Science degree from Brigham Young University and his Doctor of Medicine degree from the Uniformed Services University of the Health Sciences. He graduated from the David Grant Family Medicine Residency (at Travis Air Force Base, California). He completed a Sports Medicine Fellowship and a Faculty Development fellowship (both through the University of North Carolina-Chapel Hill). He has been on active duty in the U.S. Air Force since 2002. His past military physician assignments include the 3rd Medical Group and the 99th Medical Group. His current professional focus is clinical care for cadets and cadet-athletes, teaching medical students and family medicine residents, and research regarding concussion injury. He is team physician for several of the Academy intercollegiate athletic programs including the football, men's basketball, hockey, and women's and men's tennis teams. Col Jackson was appointed to serve as Chief of Sports Medicine for 10th Medical Group/U.S. Air Force Academy in August 2020. He lives in Colorado Springs with his wife Megan and their three children.

 **Ret Col Paul Pasquina**	**Colonel (Ret.) Paul. F. Pasquina, M.D.** is the Professor and Chair of the Department of Rehabilitation Medicine and Director of the Center for Rehabilitation Sciences Research at the Uniformed Services University of the Health Sciences. He is also the Chief of the Department of Rehabilitation at Walter Reed National Military Medical Center. He is a graduate of the United States Military Academy at West Point and USUHS, completed his residency at Walter Reed Army Medical Center and completed a fellowship in primary care sports medicine at Georgetown/USUHS. His board certifications include PM&R, Electrodiagnostic Medicine, and Pain Medicine. His current research efforts are focused on exploring new technologies to enhance the recovery, rehabilitation, and reintegration of combat casualties, primarily through his work as the Director of the Center for Rehabilitation Sciences Research.
12:35 to 1:30 p.m.	**Lunch**
Part 2: CARE 2.0	**Persistent and cumulative effects of concussion and repetitive head impact exposure.**
1:30 to 2 p.m.	Update on data collection, analysis and priorities. Mike McCrea, Medical College of Wisconsin
 **Dr. Michael McCrea**	**Dr. Michael McCrea** is Tenured Professor, Eminent Scholar, and Vice Chair of Research in the Department of Neurosurgery at the Medical College of Wisconsin, where he also serves as Co-Director for the MCW Center for Neurotrauma Research. He has an appointment as a research neuropsychologist at the Clement Zablocki VA Medical Center in Milwaukee, Wisconsin. Dr. McCrea earned his doctoral degree from the University of Wisconsin-Milwaukee, then completed his internship training in neuropsychology at Vanderbilt University School of Medicine, followed by a postdoctoral fellowship in clinical neuropsychology at Northwestern University Medical School. Dr. McCrea is ABCN board-certified in clinical neuropsychology. He is past President of the American Academy of Clinical Neuropsychology and is immediate past President of the American Psychological Association's Society for Clinical Neuropsychology. Dr. McCrea has led several large, multi-center studies on the effects of traumatic brain injury and sport-related concussion. He currently is co-PI on the NCAA-DoD CARE Consortium and several other large-scale studies investigating the acute and chronic effects of TBI in various populations at risk. Dr. McCrea is also a key investigator on the TRACK-TBI and TBI Endpoint Development studies of civilian brain injury.

Part 3:	**CARE SALTOS integrated study.**
2 to 2:30 p.m.	Overview of CSI study aims, methods and deliverables. Tom McAllister, Indiana University
 **Dr. Tom McAllister**	**Thomas W. McAllister, M.D.,** is the Albert Eugene Sterne Professor and Chairman, Indiana University School of Medicine Department of Psychiatry. Dr. McAllister has been working in the field of brain injury recovery for over 25 years. He has written widely on the neuropsychiatric sequelae of TBI, and has been the principal investigator of several grants focused on the biomechanical basis of concussion, and effects of concussion on brain structure and function in contact sport athletes. He is one of three Principal Investigators of the NCAA and Department of Defense funded Concussion Assessment, Research, and Education (CARE) Consortium, and leads the Administrative and Operations Core for that initiative.
2:30 to 2:45 p.m.	**Break**
Part 4:	**An overview of UNC concussion research: Insights from a CARE/ARC member school.**
2:45 to 3:15 p.m.	Jason Mihalik, University of North Carolina, Chapel Hill
 **Jason Mihalik**	**Jason Mihalik** is a Professor in the Department of Exercise and Sport Science. He is the Co-Director of the Matthew Gfeller Center and the Chief Executive Officer for the center's THRIVE Program. He holds adjunct appointments in the Department of Neurosurgery and Department of Allied Health Sciences. He also serves as Affiliate Faculty at the UNC Injury Prevention Research Center in the TBI focus area. Jason's primary research interest intersects head trauma biomechanics with clinical outcomes in civilian athletes and military warfighters. He investigates the effectiveness of innovative concussion assessment, management, and rehabilitation technologies. He is additionally interested in the interrelationships between ocular and vestibular function, as well as the utility of neuroimaging and neurophysiology, in the context of the concussion management paradigm. He has developed smartphone applications designed to assist lay rescuers in recognizing concussion signs and symptoms and intervening accordingly. Jason also studies field management of neurotraumatic spine-related injuries.
3:15 to 3:45 p.m.	Discussion.

Part 5:	Updates on improving perceived norms and the culture of concussion safety: An extension of Mind Matters.
3:45 to 4:15 p.m.	Julianne Schmidt, University of Georgia
 **Julianne Schmidt**	**Dr. Julianne Schmidt** completed her bachelor's in Athletic Training at Point Loma Nazarene University in San Diego, CA. She then completed her master's and PhD at the University of North Carolina, Chapel Hill. She began her current position at the University of Georgia in 2013 where she serves in the areas of athletic training and biomechanics. Dr. Schmidt co-directs the UGA Concussion Research Laboratory and the Biomechanics Laboratory. Dr. Julianne Schmidt's primary research interest is the clinical continuum of concussion. More specifically, her research focuses on concussion care seeking, post-concussion evaluation and management techniques, and the biomechanics of sport-related concussion.
4:15 to 4:30 p.m.	Concluding remarks. Brian Hainline, NCAA.