

Presented by The Ohio State University Neurological Institute and the Stanley D. and Joan H. Ross Center for Brain Health and Performance

EXPLORING THE LATEST DISCOVERIES AND INNOVATIONS:  
LINKING BRAIN HEALTH TO PERFORMANCE, RECOVERY, HEALING AND WELLNESS

# 2017 Global Brain Health and Performance Summit

April 27–29  
Hilton  
Columbus Downtown



THE OHIO STATE UNIVERSITY  
WEXNER MEDICAL CENTER

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# Global Brain Health and Performance Summit

*Presented by*

*The Ohio State University Wexner Medical Center Neurological Institute*

**Stanley D. and Joan H. Ross Center for Brain Health and Performance**



Dear Colleagues,

Welcome to the 2017 Global Brain Health and Performance Summit. This unique event, hosted by The Ohio State University and the Stanley D. and Joan H. Ross Center for Brain Health and Performance, brings together researchers, clinicians, educators, entrepreneurs, authors, media, and community and corporate leaders from a myriad of fields to share their work and vision for addressing the complex questions within the field of neuroscience.

Our program features experts across disciplines including cognitive neuroscience, neurology, neurosurgery, internal medicine, psychiatry, psychology, social work, athletics, physical and athletic training, rehabilitation, health and wellness, and engineering. While each of us may focus on particular areas of study, we share a dedication to solving one of our greatest challenges: decoding the mysteries of the human brain for the benefit of humanity. Our expert speakers and specialized programs approach this challenge from many vantage points, including military training, athletic performance, scientific research, patient care, and technological development.

It is my hope that these three days of programming are informative, inspiring, and serve as a catalyst for future collaborations and breakthroughs. I hope you enjoy the presentations and discussions and that you will learn from and share your knowledge and perspective with your fellow attendees. After all, we are all stakeholders in the quest to understand and optimize our brain health and performance—and collaboration is our way forward.

Sincerely,

**Ali R. Rezai, MD**

Director, Ross Center for Brain Health and Performance

Director, The Ohio State Neurological Institute

Associate Dean, Neuroscience

## Keynote Speakers



**Deepak Chopra, MD**  
Pioneer and Advocate  
in Integrative Medicine



**Dan Buettner**  
National Geographic  
Fellow,  
Author of "Thrive",  
"The Blue Zones" and  
"The Blue Zones  
Solution"



**Nathan Price, PhD**  
Institute for Systems  
Biology (ISB), 100K  
Wellness Project



**J.D. Vance, JD**  
Author, "Hillbilly  
Elegy"



*Stanley D. and Joan H. Ross Center for Brain Health and Performance*  
**Summit Planning Committee**



**JENNIFER BOGNER, PhD, ABPP**  
 Professor, Physical Medicine and Rehabilitation  
 Division Director, Rehabilitation Psychology  
 Vice-Chair of Research and Academic Affairs



**CHELSEA KANE, PsyD**  
 Director, Outreach and Communications, Ross Center for Brain Health and Performance  
 Post-Doctoral Fellow, Physical Medicine and Rehabilitation



**JANINE OMAN, MS, PT/AT**  
 Associate Athletic Director, Department of Athletics



**JESSICA BUSKIRK, MBA**  
 Director of Operations  
 Ross Center for Brain Health and Performance



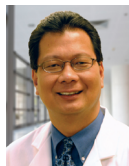
**JANICE KIECOLT-GLASER, PhD**  
 Distinguished Professor, Psychiatry, Psychology, Health Behavior and Health Promotion  
 Director, Institute for Behavioral Medicine Research



**JAN SCHWAB, MD, PhD**  
 Professor, Neurology, Physical Medicine and Rehabilitation and Neuroscience



**JOHN CORRIGAN, PhD, ABPP**  
 Director, Knowledge Translation, Ross Center for Brain Health and Performance  
 Emeritus Professor, Physical Medicine and Rehabilitation  
 Director, Ohio Valley Center for Brain Injury and Prevention



**ULYSSES MAGALANG, MD**  
 Professor, Pulmonary, Allergy, Critical Care and Sleep Medicine and Neuroscience  
 Director, Sleep Disorders Program



**PER SEDERBERG, PhD**  
 Chief Scientist, Ross Center for Brain Health and Performance  
 Associate Professor, Psychology, Cognitive Area



**SCOTT GALSTER, PhD**  
 Senior Advisor, Ross Center for Brain Health and Performance  
 Lead, Outreach and Collaboration Programs, Senior International Focal Point, Airman Systems Directorate, Air Force Research Laboratory, Wright-Patterson Air Force Base



**DIPANJAN "DJ" NAG, PhD, MBA**  
 The Ohio State University  
 Associate Vice President Technology Commercialization



**KYLE TRAVER, MS**  
 Director, Research and Development, Ross Center for Brain Health and Performance  
 Program Manager, Applied Neuroscience Branch, Airman Systems Directorate, 711 Human Performance Wing, Air Force Research Laboratory, Wright-Patterson Air Force Base



**TONI HARE, MBA**  
 Director, Neurological Institute Marketing



**RANDY NELSON, PhD**  
 Distinguished Professor, Psychology and Neuroscience  
 Chair, Department of Neuroscience  
 Co-Director, Neuroscience Research Institute



## Plenary & Featured Speakers

Keynote, plenary and breakout sessions will feature top scientists from academia, industry and government to discuss innovations in research and development designed to enhance brain health and human performance.



**JEREMY ABBATE**  
Scientific American,  
Publisher



**PETE EDWARDS JR., MD**  
Columbus Crew,  
Team Physician



**WALTER GREENLEAF, PhD**  
Pear Therapeutics  
Chief Science Officer



**MICHAEL APUZZO, MD**  
Yale University  
Distinguished  
Adjunct Professor of  
Neurosurgery



**NAOMI EISENBERGER, PhD**  
University of California,  
Professor Social  
Psychology



**BRUNO HERBELIN, PhD**  
Swiss Federal Institute  
of Technology,  
Deputy Director for  
Neuroprosthetics



**MOSHE BAR, PhD**  
Bar-Ilan University,  
Harvard University, Israel  
Brain Technologies



**IGOR ELMAN, MD**  
Wright State University  
Chair, Department of  
Psychiatry



**JOSH HAGEN, PhD**  
Air Force Research  
Laboratory, Head of  
STRONG Team



**ERIC BROWN, PhD**  
IBM Watson Healthcare,  
Director of Foundational  
Innovation



**GREG FIORE, MD**  
Fiore Healthcare  
Advisors  
Founder and CEO



**JON HAMILTON**  
NPR, Science  
Correspondent



**JOHN CAMPO, MD**  
The Ohio State University  
Wexner Medical Center  
Chair, Department of  
Psychiatry and Behavioral  
Health



**ELLEN FRANK, PhD**  
HealthRhythms,  
Co-Founder and Chief  
Scientific Officer



**ADAM HANINA, MBA**  
AiCure  
CEO and Co-Founder



**CHRISTOPHER COBURN, MPA**  
Partners HealthCare,  
Chief Innovation  
Officer



**DAVID FRIEDENBERG, PhD**  
Battelle  
Principal Research  
Statistician



**MARK HURST, MD**  
Ohio Department of  
Mental Health and  
Addiction Services  
Medical Director



**JAMES DAVIS**  
Assistant Fire Chief  
Columbus Fire  
Department



**RICHARD FRIEDMAN, PhD**  
Weill Cornell Medical  
College, Professor of  
Clinical Psychiatry



**AMIR KALALI, MD**  
QuintilesIMS  
Global Head,  
Neuroscience Center of  
Excellence



**MICHAEL DEPALMA**  
Managing Director, Digital  
Health and Innovations,  
WeFund Health



**SCOTT GRAFTON, MD**  
University of California  
Santa Barbara,  
Professor and  
Presidential Chair of  
Neuroscience

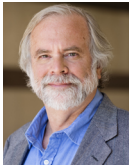


**SANMI KOYEJO, PhD**  
University of Illinois at  
Urbana-Champaign  
Assistant Professor,  
Computer Science





**WILLIAM KRAEMER, PhD**  
The Ohio State University, Professor of Kinesiology



**ARTHUR KRAMER, PhD**  
Northeastern University, Professor and Senior Vice Provost



**MATT KUCHAN, PhD**  
Abbott, Science Lead, Center for Nutrition, Learning and Memory



**MARK KVAMME**  
Drive Capital, Partner



**LIEL LEIBOVITZ, PhD**  
Thunder 11, Co-founder



**SARAH LENZ LOCK, JD**  
AARP, Executive Director of the Global Council on Brain Health



**ABBY LEVY, MBA**  
Thrive Global, President



**CLAY MARSH, MD**  
West Virginia University, Vice President and Executive Dean for Health Sciences



**WILLIAM MARTIN II, MD**  
The Ohio State University, Dean, College of Public Health



**ANDREW MILLER, MD**  
Emory University, Director, Adult Outpatient Psychiatry



**VICTOR MIRANDA, MD**  
GE Healthcare, Chief Medical Officer-Neurology



**KEVIN NOONAN, PhD**  
McDonnell Boehnen Hulbert & Berghoff LLP Partner



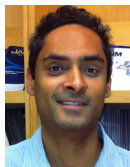
**JAMES OLDS, PhD**  
National Science Foundation, Assistant Director for the Directorate for Biological Science



**RUCHIKA PRAKASH, PhD**  
The Ohio State University, Professor of Psychology



**HARALD PRUESS, MD**  
Charité – Universitätsmedizin, Campus Mitte Berlin, Neurology-Attending



**ASHISH RAJ, PhD**  
Cornell University, Assistant Professor of Neuroscience / BrainWire, CEO



**DAN RIZZUTO, PhD**  
University of Pennsylvania, Director of Cognitive Neuromodulation



**LT. COL. STEPHEN SAVELL**  
Air Force Research Laboratory, Commander, 350 TS



**ANDREA SERINO, PhD**  
MindMaze, Head Scientist / Swiss Federal Institute of Technology in Lausanne



**GAURAV SHARMA, PhD**  
Battelle, Senior Research Scientist, Medical Devices & Neuromodulation



**MORLEY STONE, PhD**  
Air Force Research Laboratory, Chief Technology Officer



**STEVE TASHJIAN, MPT, CSCS**  
Columbus Crew, High Performance Director



**JEFFREY WADSWORTH, PhD**  
Battelle, CEO



**KEVIN WASSERSTEIN, MS, MBA**  
Neurotechnology Innovations Translator (NIT), Co-Founder



**CAROL WHITACRE, PhD**  
The Ohio State University, Senior Vice President for Research



**BRETT WINGEIER, PhD**  
Halo Neuroscience, Chief Technology Officer



**PHYLLIS ZEE, MD, PhD**  
Northwestern University, Professor / Associate Director, Center for Sleep and Circadian Biology

## AGENDA

To learn more and register visit [go.osu.edu/brainhealth](https://go.osu.edu/brainhealth).

### Thursday, April 27

## Special Symposium: Opioid Addiction and the Brain: Crisis in the Heartland George Bellows Ballroom ABCD

| Moderators: John Campo, MD, The Ohio State University and Liel Leibovitz, PhD |  |  |
|---|--|--|
| 11:30 a.m.  | Lunch Served   |  |
| 11:40 a.m.  | Welcome  | <b>Ali Rezai, MD</b> , The Ohio State University   |
| 11:45 a.m.  | Keynote Introduction   | <b>John Campo, MD</b> , The Ohio State University  |
| 11:50 a.m.  | Socioeconomic Underpinnings  | <b>JD Vance, JD</b><br>Author, "Hillbilly Elegy: A Memoir of a Family and Culture in Crisis"   |
| 12:15 p.m.  | <b>Panel Discussion:</b><br>The Public Health Impact<br><br><b>Moderator: Liel Leibovitz, PhD</b><br>Thunder11 | <b>JD Vance, JD</b><br><b>Mark Hurst, MD</b><br>Ohio Department of Mental Health and Addiction Services<br><b>William Martin II, MD</b><br>The Ohio State University, College of Public Health<br><b>James Davis</b><br>Columbus Fire Department |
| 12:45 p.m.  | Break  |  |
| 1 p.m.  | The Scope of the Problem   | <b>Mark Hurst, MD</b><br>Ohio Department of Mental Health and Addiction Services   |
| 1:15 p.m.   | The Neuroscience of Opioid Addiction   | <b>Igor Elman, MD</b><br>Wright State University   |
| 1:30 p.m.   | Challenges in the Management of Opioid Addiction   | <b>John Campo, MD</b><br>The Ohio State University   |
| 1:45 p.m.   | West Virginia's Developing Model to Address Opioid Addiction   | <b>Clay Marsh, MD</b><br>West Virginia University  |
| 2 p.m.  | Technological Innovations: Seeking Game Changers   | <b>Greg Fiore, MD</b><br>Fiore Healthcare Advisors<br><b>Ali Rezai, MD</b><br>The Ohio State University  |
| 2:20 p.m.   | Panel Discussion   | Moderators: <b>John Campo, MD</b> and <b>Liel Leibovitz, PhD</b>   |



## Thursday, April 27

### Plenary Session 1: The Global Ecosystem of Brain Health George Bellows Ballroom ABCD

| Moderator: Jeremy Abbate, Scientific American |   |  |
|---|---|--|
| 4 p.m.  | Opening Address   | <b>Ali Rezai, MD</b><br>The Ohio State University Neurological Institute, Director   |
| 4:15 p.m.                                     | Roundtable Discussion:<br>What is Brain Health?<br><br><b>Moderator: Jeremy Abbate</b><br>Scientific American, Publisher<br><br><i>No CME</i> | <b>Moshe Bar, PhD</b><br>Bar-Ilan University<br><br><b>Christopher Coburn, MPA</b><br>Partners HealthCare<br><br><b>Richard Friedman, PhD</b><br>Cornell University<br><br><b>Sarah Lenz Lock, JD</b><br>AARP<br><br><b>James Olds, PhD</b><br>National Science Foundation |
| 5:15 p.m.                                     | Keynote Introduction  | <b>Clay Marsh, MD</b><br>West Virginia University  |
| 5:20 p.m.                                     | <b>KEYNOTE:</b><br>Population Studies:<br>Applications to Brain Health  | <b>Nathan Price, PhD</b><br>Institute for Systems Biology (ISB)  |
| 5:45 p.m.                                     | Roundtable Discussion:<br>Population Brain Health<br>Studies<br><br><b>Moderator: Jon Hamilton</b><br>NPR                                     | <b>Amir Kalali, MD</b><br>QuintilesIMS<br><br><b>Clay Marsh, MD</b><br>West Virginia University<br><br><b>Nathan Price, PhD</b><br>Institute for Systems Biology (ISB)<br><br><b>Victor Miranda, MD</b><br>GE Healthcare   |
| 6:15 p.m.                                     | <b>Brain Health Hero Award</b>  | Presented by <b>Carole Whitacre, PhD</b> ,<br>The Ohio State University, with <b>Stanley D.</b> and <b>Joan H. Ross</b>  |
| 6:30 p.m.                                     | Opening Reception: Emerson Burkhardt AB   |  |

**Friday, April 28**

## Breakfast Symposium: Watson Cognitive Healthcare Elijah Pierce AB

|           |                             |   |
|-----------|-----------------------------|---|
| 7:00 a.m. | Watson Cognitive Healthcare | <b>Eric Brown, PhD</b><br>IBM Watson Health |
|-----------|-----------------------------|---|

## Plenary Session 2: Technological Advances for Understanding Brain Health George Bellows Ballroom ABC

| Moderator: Per Sederberg, PhD, The Ohio State University |   |   |
|--|---|---|
| 8:00 a.m.  | Welcome   | <b>Michael Apuzzo, MD</b><br>The Ohio State University                |
| 8:05 a.m.  | Partnering in Cutting Edge Neurotechnology                                    | <b>Jeffrey Wadsworth, PhD</b><br>Battelle                             |
| 8:25 a.m.  | Modeling Progression in Neurodegenerative Diseases Using Network Connectivity | <b>Ashish Raj, PhD</b><br>Cornell University                          |
| 8:45 a.m.  | Cortical Control of the Autonomic Nervous System                              | <b>Scott Grafton, MD</b><br>University of California at Santa Barbara |
| 9:05 a.m.  | The Proactive Brain   | <b>Moshe Bar, PhD</b><br>Bar-Ilan University, Harvard University      |
| 9:25 a.m.  | Plenary Panel Discussion  | <b>Moderator: Per Sederberg, PhD</b><br>The Ohio State University     |
| 9:45 a.m.  | Morning Break with Exhibitors   |   |





## Friday, April 28

### Plenary Session 3: Brain-Body Connection and Physical Performance George Bellows Ballroom ABCD

| Moderator: Scott Galster, PhD, Air Force Research Laboratory |   |  |   |
|--|---|--|---|
| 10:10 a.m.   | The Harry T. Mangurian, Jr. Foundation Lecture*: Athletic Applications  |  | <b>Josh Hagen, PhD</b><br>Air Force Research Laboratory<br><br><b>William Kraemer, PhD</b><br>The Ohio State University   |
| 10:30 a.m.   | Third Offset  | <b>Morley Stone, PhD</b><br>Air Force Research Laboratory  |   |
| 10:50 a.m.   | State of the Science Military Applications  | <b>Lt. Col. Stephen Savell</b><br>Air Force Research Laboratory  |   |
| 11:10 a.m.   | Performance Roundtable:<br><br><b>Moderator: Scott Galster, PhD</b><br>Air Force Research Laboratory                    | <b>Josh Hagen, PhD</b><br>Air Force Research Laboratory<br><br><b>William Kraemer, PhD</b><br>The Ohio State University<br><br><b>Lt. Col. Stephen Savell</b><br>Air Force Research Laboratory | <b>Morley Stone, PhD</b><br>Air Force Research Laboratory<br><br><b>Steve Tashjian, MPT, CSCS</b><br>Columbus Crew  |
| 11:30 a.m.   | Keynote Introduction  | <b>Gail Marsh</b><br>The Ohio State University   |   |
| 11:35 a.m.   | <b>KEYNOTE:</b><br>Blue Zones: Secrets of a Long Life   |  | <b>Dan Buettner</b><br>National Geographic  |
| 12:15 p.m.   | Lunch   |  |   |
| 1 p.m.   | Brain Health Commercialization Panel<br><br><b>Moderator: Jeremy Abbate</b><br>Scientific American<br><br><i>No CME</i> | <b>Christopher Coburn, MPA</b><br>Partners HealthCare<br><br><b>Abby Levy, MBA</b><br>Thrive Global<br><br><b>Kevin Wasserstein, MS, MBA</b><br>Neurotechnology Innovations Translator (NIT)   | <b>Brett Wingeier, PhD</b><br>Halo Neuroscience<br><br><b>Mark Kvamme</b><br>Drive Capital, Partner<br><br><b>Andrea Serino, PhD</b><br>MindMaze, Swiss Federal Institute of Technology in Lausanne |
| 2 p.m.   | Digitizing Neuroscience: Research & Development<br><br><b>Moderator: Amir Kalali, MD</b><br>QuintilesIMS                | <b>Ellen Frank, PhD</b><br>HealthRhythms<br><br><b>Adam Hanina, MBA</b><br>AiCure  | <b>Walter Greenleaf, PhD</b><br>Pear Therapeutics   |
| 2:35 p.m.  | Break with Exhibitors   |  |   |

\*The Harry T. Mangurian, Jr. Foundation, a Fort Lauderdale-based private foundation, supports medical and neurological research programs throughout the country, including The Ohio State University Wexner Medical Center Neurological Institute.



## Friday, April 28

### Sense, Assess & Augment Breakouts:

3 p.m. - 5:45 p.m.

Breakout sessions will be structured around the Sense, Assess and Augment framework with sessions dedicated to each element.

- **Sense:** Examines current and emerging technologies which allow for detection of functional states
- **Assess:** Focuses on big data analytic approaches to extract meaningful information from the data gathered from "sensing" activities
- **Augment:** Showcases strategies, techniques and technology to optimize performance, health and readiness based on "sense" and "assess" findings

### Breakout Session 1: 3 - 4:15p.m.

|                                  | <b>Sense</b><br>George Bellows Ballroom E<br><br><b>Moderators:</b><br>Kyle Traver, MS,<br>Air Force Research Lab<br>Bart Barthelmy, PhD,<br>Wright Brothers Institute | <b>Assess</b><br>Emerson Burkhardt A<br><br><b>Moderators:</b><br>Per Sederberg, PhD,<br>The Ohio State University<br>Scott Galster, PhD,<br>Air Force Research Lab | <b>Augment</b><br>Emerson Burkhardt B<br><br><b>Moderator:</b><br>Ashwini Sharan, MD<br>Thomas Jefferson University   |
|----------------------------------|--|---|---|
| 3:00 p.m.                        | <b>Advances in Sweat Sensing</b><br>Jason Heikenfeld, PhD<br>Eccrine Systems, Inc.   | <b>Artificial Neural Networks</b><br>Kevin Durkee<br>Aptima, Inc.   | <b>Virtual Reality: Neuroprosthetic Clinical Applications</b><br>Bruno Herbelin, PhD<br>Swiss Federal Institute of Technology in Lausanne                               |
| 3:15 p.m.                        | <b>Neuroprosthetic Body Awareness: Sensing through the Eyes of a Brain-Computer Interface</b><br>Marcia Bockbrader, MD, PhD<br>The Ohio State University               | <b>Extended Kalman Filtering</b><br>Mingjun Zhang, PhD<br>The Ohio State University   | <b>Neuroprosthetics-enabled Cortical Control of a Paralyzed Hand: From Restoring Individual Finger Movements to Functional Grasps</b><br>Gaurav Sharma, PhD<br>Battelle |
| 3:30 p.m.                        | <b>Big Data Challenges in Decoding Cortical Activity in a Human with Quadriplegia to Inform a Brain Computer Interface</b><br>David Friedenberg, PhD<br>Battelle       | <b>Endocrine-Brain Connections</b><br>William Kraemer, PhD<br>The Ohio State University   | <b>Examining Modifiable Factors to Prevent Post-op Cognitive Decline</b><br>Michelle Humeidan, MD, PhD<br>The Ohio State University                                     |
| 3:45 p.m.                        | <b>Non-invasive Physio Sensing Technologies</b><br>John Bell, PhD<br>Michigan State University   | <b>Biomarkers of Stress and Performance: Special Operations</b><br>Regina Shia, PhD<br>Air Force Research Laboratory  | <b>Advances in Transcranial Direct Current Stimulation</b><br>Andy McKinley, PhD<br>Air Force Research Laboratory   |
| 4:00 p.m.                        | <b>Noninvasive Monitoring of Intracranial Hemorrhage</b><br>George Shaw, PhD<br>Sense Diagnostics, LLC   | <b>Fused Model Approaches for Assessment</b><br>Omid Dehzangi, PhD<br>University of Michigan  | <b>DARPA RAM: Developing Neurostimulation Therapies for Patients with Memory Disorders</b><br>Daniel Rizzuto, PhD<br>University of Pennsylvania                         |
| Break with Exhibitors: 4:15 p.m. |  |   |   |





## Breakout Session 2: 4:30 - 5:45 p.m.

| Special Lectures<br>George Bellows Ballroom E<br>Moderators:<br><i>John Corrigan, PhD, The Ohio State University<br/>Chelsea Kane, PsyD, The Ohio State University</i> |  | Assess<br>Emerson Burkhardt A<br>Moderators:<br><i>Kevin Durkee, Aptima<br/>Mingjun Zhang, PhD, DSc,<br/>The Ohio State University</i>  | Augment<br>Emerson Burkhardt B<br>Moderator:<br><i>Lee Shackelford, MD</i>   |
|--|--|---|--|
| 4:30 p.m.  | <b>Arts &amp; Rehabilitation Roundtable<br/>Chronic Brain Injury Discovery Theme</b><br><i>The Ohio State University</i><br>Moderator: <i>Lise Worthen-Chaudhari, MFA, MS, CSC</i> | <b>Concussion Spotting in Intercollegiate and Professional Athletics</b><br><i>Jason Eckerle, ATC<br/>Air Force Research Laboratory</i> | <b>Mindfulness Meditation for Behavioral Disorders and Chronic Pain</b><br><i>Stephanie Lopez, LISW-S<br/>Integrative Restoration Institute</i>                                      |
| 4:45 p.m.  | <i>Panelists: Jim Phelan, PhD, Jerry Mysiw, MD, Yune Lee, PhD, Eugenia Costa-Giomi, PhD, Kyle Sebastian</i>  | <b>HRV Wearables and the Future of Healthcare</b><br><i>Ron Gharbo, DO<br/>Eastern Virginia Medical School</i>                          | <b>Treating Military PTSD</b><br><i>Stephanie Lopez, LISW-S<br/>Integrative Restoration Institute</i>  |
| 5:00 p.m.  | <b>Schulte Lecture*</b><br><b>The Cognitive Revolution</b><br><i>Per Sederberg, PhD<br/>The Ohio State University</i>  | <b>Elaborate Interactions Between the Immune and Nervous Systems</b><br><i>Jan Schwab, MD, PhD<br/>The Ohio State University</i>        | <b>Sports Performance Roundtable</b><br>Moderator: <i>Janine Oman, MS, PT/AT<br/>The Ohio State University</i><br>Moderator: <i>Michael Apuzzo, MD<br/>The Ohio State University</i> |
| 5:15 p.m.  | <b>Schulte Lecture*</b><br><b>Consistent Variability in Motor Recovery</b><br><i>Lynne Gauthier, PhD<br/>The Ohio State University</i>   | <b>fMRI Modeling of Functional Brain Connectivity</b><br><i>Scott Grafton, MD<br/>University of California Santa Barbara</i>            | <i>Steve Tashjian, MPT, CSCS<br/>Columbus Crew</i><br><i>Josh Hagen, PhD<br/>Air Force Research Lab</i>  |
| 5:30 p.m.  | <b>Schulte Lecture*</b><br><b>Sleep &amp; Light</b><br><i>Uly Magalang, MD<br/>The Ohio State University</i>   | <b>Cranial Cloud</b><br><i>Pierre-Francois D'Haese, PhD<br/>Vanderbilt University</i>   | <i>Pete Edwards Jr., MD<br/>Columbus Crew</i><br><i>Don Moxley, MA<br/>The Ohio State University</i><br><i>Jeff Volek, PhD<br/>The Ohio State University</i>                         |
| <b>Poster Reception: 5:45 p.m. George Bellows Ballroom ABC</b>   |  |   |  |

\*The Rudi Schulte Research Institute (RSRI), a 501(c)(3) charitable foundation located in Santa Barbara, California, was founded in 1974 by its namesake whose many inventions included the shunt for hydrocephalus. RSRI has a long history of promoting better treatment for hydrocephalus, as well as other groundbreaking research on the intersection of technology and brain function.



Saturday, April 29

Breakfast Panel: Data as the Next Frontier of Commercialization in Neuroscience  
Elijah Pierce AB

|           |  |  |   |
|-----------|--|--|---|
| 7:00 a.m. | Data as the Next Frontier of Commercialization in Neuroscience<br><b>Moderator:</b><br>Dipanjan “DJ” Nag, PhD, MBA<br>The Ohio State University<br><i>No CME</i> | <b>David Friedenber</b> g, PhD<br>Battelle<br><br><b>Kevin Noonan</b> , PhD<br>McDonnell Boehnen<br>Hulbert & Berghoff LLP | <b>Sanmi Koyejo</b> , PhD<br>University of Illinois at<br>Urbana-Champaign<br><br><b>Michael DePalma</b><br>WeFund Health |
|-----------|--|--|---|

Plenary Session 4: Inflammation and the Brain-Body Connection  
George Bellows Ballroom ABCD

| Moderator: Janice Kiecolt-Glaser, PhD, The Ohio State University |  |   |
|--|--|---|
| 8:00 a.m.  | Welcome  | <b>Scott Galster</b> , PhD<br>Air Force Research Laboratory                       |
| 8:05 a.m.  | Depression, Inflammation and Cognition                         | <b>Andrew Miller</b> , MD<br>Emory University                                     |
| 8:25 a.m.  | Immune Dysfunction and the Effects on Cognition                | <b>Harald Pruess</b> , MD<br>Charité – Universitätsmedizin, Campus Mitte – Berlin |
| 8:45 a.m.  | The Effects of Inflammation on Social and Affective Experience | <b>Naomi Eisenberger</b> , PhD<br>University of California Los Angeles            |
| 9:05 a.m.  | Plenary Panel Discussion                                       | <b>Moderator: Janice Kiecolt-Glaser</b> , PhD<br>The Ohio State University        |
| 9:20 a.m.  | Morning Break with Exhibitors                                  |   |





## Saturday, April 29

### Plenary Session 5: Lifestyle and Brain Health George Bellows Ballroom ABCD

| Moderator: Ruchika Prakash, PhD, The Ohio State University |  |   |
|--|--|---|
| 9:40 a.m.  | Exercise and Cognition                                       | <b>Arthur Kramer, PhD</b><br>Northeastern University, Senior Vice Provost |
| 10 a.m.  | Nutrition and Brain Health<br><i>No CME</i>                  | <b>Matt Kuchan, PhD</b><br>Abbott   |
| 10:20 a.m.   | Circadian Alignment and Sleep                                | <b>Phyllis Zee, MD, PhD</b><br>Northwestern University                    |
| 10:40 a.m.   | Meditation, Mindfulness and Augmentation                     | <b>Ruchika Prakash, PhD</b><br>The Ohio State University                  |
| 11 a.m.  | Plenary Panel Discussion                                     | <b>Moderator: Ruchika Prakash, PhD</b><br>The Ohio State University       |
| 11:15 a.m.   | <b>KEYNOTE INTRODUCTION</b>                                  | <b>Michael Drake, MD</b><br>The Ohio State University, President          |
| 11:20 a.m.   | <b>KEYNOTE</b>   | <b>Deepak Chopra, MD</b><br>Integrative Medicine Pioneer                  |
| 12 p.m.  | Closing Discussion   | <b>Deepak Chopra, MD</b><br>Integrative Medicine Pioneer                  |
|  | <b>Moderator: Ali Rezai, MD</b><br>The Ohio State University | <b>Ruchika Prakash, PhD</b><br>The Ohio State University                  |
| 12:15 p.m.   | Summit Adjourns  |   |

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of CME Outfitters, LLC and Ohio State University Stanley D. and Joan H. Ross Center for Brain Health and Performance. CME Outfitters, LLC is accredited by the ACCME to provide continuing medical education for physicians.

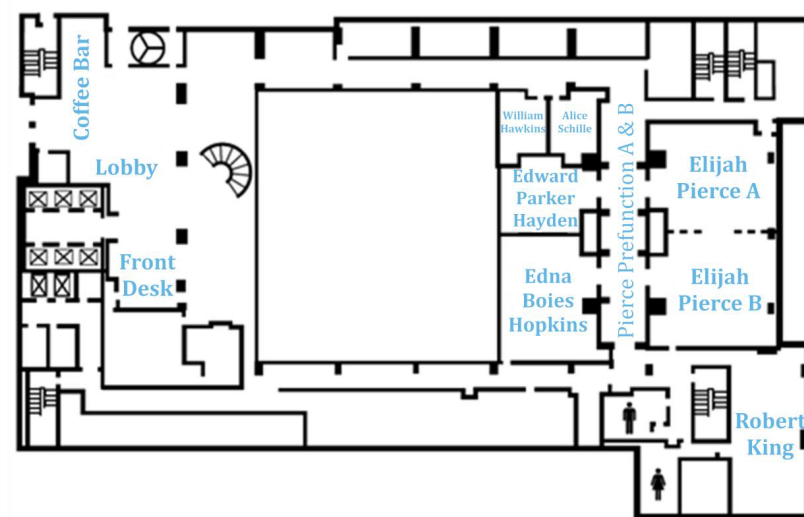
CME Outfitters, LLC designates this live activity for a maximum of **15.25 AMA PRA Category 1 Credit(s)<sup>TM</sup>**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CNE Credit (Nurses): Provider approved by the California Board of Registered Nursing, Provider Number CEP 15510, for 15.25 contact hours.

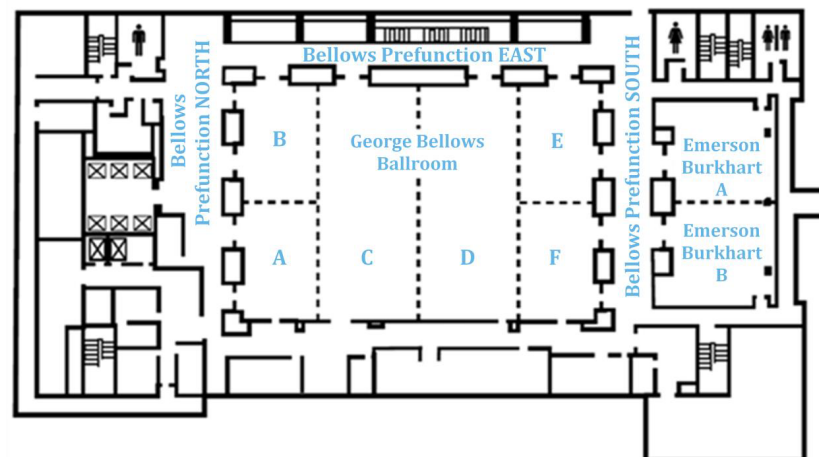
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## Hilton Columbus Downtown

Lobby Level



Lower Level



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### *Stanley D. and Joan H. Ross Center for Brain Health and Performance*

This program is made possible because of the generous support of Stan and Jodi Ross and their funding of the Stanley D. and Joan H. Ross Center for Brain Health and Performance. The mission of the Ross Center for Brain Health and Performance is to optimize health and performance by revolutionizing the understanding of the brain.



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