

Science of Ability Symposium

Breakthroughs in Rehabilitation and Recovery



July 22-23, 2019
Shirley Ryan AbilityLab
355 East Erie Street
Chicago, IL 60611

Science of Ability Symposium: Breakthroughs in Rehabilitation and Recovery

Join us for this unparalleled opportunity to meet fellow thought leaders who are changing the way we think and solve rehabilitation challenges. The first-ever Science of Ability Symposium, hosted by Shirley Ryan AbilityLab, is designed to push the imagination beyond what's possible in both the research and clinical arenas. You will participate in intimate discussions with innovative scientists and clinicians who have made significant advances in their respective fields. Hear insights about their work and what approaches enabled their scientific breakthroughs. Then, we will dig into the clinical applications that make their research so critical to patients and their families. Key themes will include: motor control, neuroscience, technology and musculoskeletal biology. This symposium is designed for a multidisciplinary audience of rehabilitation researchers, clinicians, neuroscientists and anyone interested in novel rehabilitation and recovery strategies. After 2 days, you will leave inspired and ready to reinvent the way you think about recovery and rehabilitation.

WHO SHOULD ATTEND

Engineers, Physiologists, Neuroscientists, Neurosurgeons, Rehabilitation experts, clinicians, and researchers

SYMPOSIUM CHAIRS



Richard L. Lieber, Ph.D.
Senior Vice President & Chief Scientific Officer,
Shirley Ryan AbilityLab

Dr. Lieber earned his Ph.D. in Biophysics from U.C. Davis developing a theory of light diffraction that was applied to mechanical studies of single muscle cells. He received his M.B.A. in 2013 and is currently Chief Scientific Officer and Senior Vice President at the Shirley Ryan AbilityLab and Professor of Physical Medicine & Rehabilitation at Northwestern University in Chicago, IL. Dr. Lieber's work is characterized by its interdisciplinary nature—an approach that is relevant to those who study biomechanics and Orthopaedic Surgery. He has published over 250 articles in journals ranging from the very basic such as *The Biophysical*



William Zev Rymer, MD, Ph.D.
Director of the Single Motor Unit Laboratory
Shirley Ryan AbilityLab

Dr. Rymer received his medical training from the University of Melbourne and his Ph.D. in Neuroscience from Monash University. He served as the Vice President for Research and the John G. Searle Chair of Rehabilitation Research. Dr. Rymer currently has appointments as Professor of PM&R, Physiology, and Biomedical Engineering at Northwestern University. His research concerns the neural control and biomechanics of movement in human and animal models, and the disturbances of voluntary movement and their origins in people with neurological disabilities. He is currently Project Director of a NIDILRR-funded multi-center clinical

Journal and *The Journal of Cell Biology* to those more applied such as *The Journal of Hand Surgery* and *Clinical Orthopaedics and Related Research*. Dr. Lieber's research focuses on design and plasticity of skeletal muscle. Currently, he is developing state-of-the-art approaches to understanding muscle contractures that result from cerebral palsy, stroke and spinal cord injury.

trial to evaluate the effectiveness of intermittent hypoxia therapy in individuals with spinal cord injury.

PRESENTERS



W. David Arnold, MD
Associate Professor
Division of Neuromuscular Diseases, Department of Neurology
Department of PM&R
Department of Neuroscience
Department of Physiology and Cell Biology
The Ohio State Wexner Medical Center

Dr. Arnold completed his medical degree at the University of Louisville and his PM&R residency training at the University of Louisville and Frazier Rehabilitation Institute. He subsequently completed fellowship training in neuromuscular medicine at the Ohio State University and thereafter joined the faculty. During Phase I of the RMSTP, Dr. Arnold defined the natural history of spinal muscular atrophy and the effects of genetic therapies using novel modifications of *in vivo* electrophysiological measures. As part of a multidisciplinary team at the Ohio State University and Nationwide Children's Hospital, he was involved in the first-in-human clinical gene therapy trial in infants with spinal muscular atrophy. Dr. Arnold's research program is primarily focused on translational neuromuscular physiology in health and disease. His laboratory is investigating the role of motor neuron degeneration in age-related loss of physical function and potential therapeutic strategies to address these changes. Dr. Arnold is also interested in developing biomarkers and therapies for genetic neuromuscular disorders, in particular, nondystrophic myotonic disorders as well as myotonic dystrophy.



V. Reggie Edgerton, Ph.D.
Director of the Neuromuscular Research Laboratory
Distinguished Professor of the Departments of Integrative Biology
and Physiology, Neurobiology and Neurosurgery
UCLA

Professor Edgerton received his Ph.D. in Exercise Physiology from Michigan State University and is the Director of the Neuromuscular Research Laboratory and Distinguished Professor of the Departments of Integrative Biology and Physiology, Neurobiology and Neurosurgery and a member of the Brain Research Institute at University of California, Los Angeles (UCLA). He has been teaching and conducting research at UCLA for 50 years. His research is focused on how the neural networks in the spinal cord of mammals, including humans, regain control of standing, stepping and voluntary control of fine movements after paralysis, and how can these motor functions be modified by chronically imposing activity-dependent interventions after spinal cord injury.



Michael Goldfarb, Ph.D.
H. Fort Flowers Professor of Mechanical Engineering
Professor of Electrical Engineering,
Professor of Physical Medicine and Rehabilitation
Vanderbilt University.

Dr. Goldfarb conducts research on the design and control of robotic devices and systems that interact physically with people, and more specifically, on the design and control of intelligent assistive devices that improve quality of life for people with physical disabilities. Dr. Goldfarb has published more than 200 papers on related topics, including papers that were awarded best-paper awards in 1997, 1998, 2003, 2007, 2009, and 2013, and papers that were finalists for best paper awards in 2015 and 2017. Current and prior work includes the development of robotic limbs for upper and lower extremity amputees, and the development of lower limb exoskeletons for individuals with spinal cord injury and stroke.



Eric P. Hoffman, Ph.D.
Professor of Pharmaceutical Sciences and Associate Dean for Research,
Binghamton University – SUNY

Dr. Hoffman is helping establish a new research-focused School of Pharmacy. He co-founded three companies and serves in management capacities in each (ReveraGen BioPharma; AGADA BioSciences; TRiNDS LLC). Dr. Hoffman received his Ph.D. in Drosophila molecular genetics from Johns Hopkins University, and then a post-doctoral fellow and faculty member at Boston Children's Hospital and Harvard Medical School working on the identification of the Duchenne muscular dystrophy gene and protein. He has held professorships at University of Pittsburgh School of Medicine, George Washington University School of Medicine, and Children's National Medical Center before joining Binghamton in 2016. He is an inventor on over 10 patents and has authored over 500 publications.



John W. Krakauer, MD, Johns Hopkins University
John C. Malone Professor at the Malone Center for Engineering in Healthcare
Professor of Neurology and Neuroscience
Professor of Physical Medicine and Rehabilitation
Director of the Brain, Learning, Animation, and Movement Lab, and co-founder
of the Kata Project at the Johns Hopkins University School of Medicine.

Dr. Krakauer is currently John C. Malone Professor of Neurology, Neuroscience, and Physical Medicine and Rehabilitation, and Director of the Brain, Learning, Animation, and Movement Lab (www.BLAM-lab.org) at The Johns Hopkins University School of Medicine. His areas of research interest are : (1) Experimental and computational studies of motor control and motor learning in humans (2) Tracking long-term motor skill learning and its relation to higher cognitive processes such as decision-making. (3) Prediction of motor recovery after stroke (4) Mechanisms of spontaneous motor recovery after stroke in humans and in mouse models (5) New neuro-rehabilitation approaches for patients in the first 3 months after stroke. Dr. Krakauer is also co-founder of the company MSquare Health and of the creative engineering Hopkins-based project named KATA. KATA and MSquare are both predicated on the idea that animal movement based on real physics is highly pleasurable and that this pleasure is hugely heightened when the animal movement is under the control of our own movements. A simulated dolphin and other cetaceans

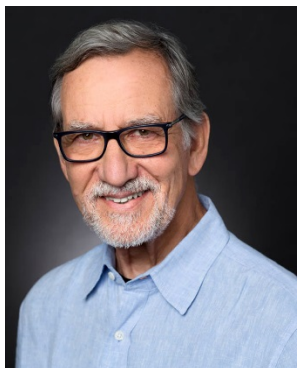
developed by KATA has led to a therapeutic game, interfaced with an FDA-approved 3D exoskeletal robot, which is being used in an ongoing multi-site rehabilitation trial for early stroke recovery. Dr. Krakauer's book, "Broken Movement: The Neurobiology of Motor Recovery after Stroke" will be published by the MIT Press in the autumn of 2017.



Monica A. Perez, PT, Ph.D.

Scientific Chair, Arms and Hands AbilityLab, Shirley Ryan AbilityLab

Dr. Perez received a Ph.D. in physical therapy from the University of Miami School of Medicine. She attended the University of Copenhagen as a post-doctoral fellow where she studied transmission in spinal cord networks. She then completed a postdoctoral fellowship at the Human Motor Human Cortical Physiology and Stroke Neurorehabilitation Section at the National Institutes of Health, where she focused on studies of cortical physiology and plasticity. Her main research interests are in understanding how the brain and spinal cord contribute to the control of voluntary movements in healthy humans and in individuals with spinal cord injury. She uses this mechanistic knowledge to develop rehabilitation therapies following CNS damage.



James Spudich, Ph.D.

Douglass M. and Nola Leishman Professor of Cardiovascular Disease

Department of Biochemistry at Stanford University School of Medicine.

He received his B.S. in chemistry from the University of Illinois in 1963 and his Ph.D. in biochemistry from Stanford in 1968. He did postdoctoral work in genetics at Stanford and in structural biology at the MRC Laboratory in Cambridge, England. From 1971 to 1977 he was Assistant, Associate, and Full Professor in the Department of Biochemistry and Biophysics, University of California, San Francisco. In 1977, he was appointed Professor in the Department of Structural Biology at Stanford University. Spudich served as

Chairman of the Department of Structural Biology from 1979-1984. Since 1992 he has been Professor in the Department of Biochemistry, and served as Chairman from 1994-1998. From 1998 to 2002, he was Co-Founder and first Director of the Stanford Interdisciplinary Program in Bioengineering, Biomedicine and Biosciences called Bio-X. He is also an Adjunct Professor at the National Center for Biological Sciences, Tata Institute of Fundamental Research and InStem in Bangalore, India. In 1998 he co-founded Cytokinetics, focused on treatments for diseases characterized by compromised muscle function like amyotrophic lateral sclerosis and heart failure. In 2012 he co-founded MyoKardia, focused on developing targeted therapies for the treatment of rare genetically-based cardiovascular diseases such as hypertrophic and dilated cardiomyopathy. Spudich has given more than 50 named lectureships and keynote addresses, and has received many honors, including election to the National Academy of Sciences in 1991, and recipient of the Albert Lasker Basic Medical Research Award in 2012.

Over the last several decades the Spudich laboratory studied the structure and function of the myosin family of molecular motors in vitro and in vivo, and they developed multiple new tools, including in vitro motility assays taken to the single molecule level using laser traps. That work led them to their current focus on the human cardiac sarcomere and the molecular basis of hypertrophic and dilated cardiomyopathy. They postulated in 2015 that a majority of hypertrophic cardiomyopathy mutations are likely to be shifting beta-cardiac myosin heads from a sequestered off-state to an active on-state for interaction with actin, resulting in the hyper-contractility seen clinically in HCM patients. This hypothesis is different from earlier prevailing views, and this viewing an old disease in a new light is the basis of their current research.



Carolee J. Winstein, PT, Ph.D., FAPTA, FAHN, FNAK, FASNR
Director, Motor Behavior and Neurorehabilitation Lab, Division of
Biokinesiology and Physical Therapy and Department of Neurology at the
Keck School of Medicine, USC

Dr. Winstein has dedicated her decades-long research career to improving the lives of patients with neurological disorders, particularly in the area of motor learning and rehabilitation of patients after stroke. She is the immediate past president of the American Society of Neurorehabilitation, is a standing member of the NIH Musculoskeletal Rehabilitation Sciences Study section and sits on the editorial board for the journal

Neurorehabilitation and Neural Repair. Dr. Winstein has authored more than 100 academic papers, including chapters, proceedings and commentaries. Her research has been consistently funded for the past 25 years by the National Institutes of Health, National Institute on Disability, Independent Living and Rehabilitation Research and the Foundation for Physical Therapy. Dr. Winstein has been a professor at the USC Division of Biokinesiology and Physical Therapy since 1990. She directs the Motor Behavior and Neurorehabilitation Lab, which is a hub for an interdisciplinary research program focused on understanding rehabilitation outcomes at the systems/person level and promoting optimal recovery of goal-directed movement behaviors that emerge from a dynamic brain-behavior system in brain-damaged conditions. She has a dual appointment with the Department of Neurology at the Keck School of Medicine of USC.

DISCUSSANTS



Julius P.A. Dewald PT, Ph.D.
Chair, Department of Physical Therapy and Human Movement Sciences
Feinberg School of Medicine
Professor of Biomedical Engineering
McCormick School of Engineering
Northwestern University

Dr. Dewald received his Ph.D. in neurophysiology & biophysics from Loma Linda University. He is currently the chairman of the Department of Physical therapy and Human Movement Sciences at Northwestern University, Feinberg School of Medicine, as well as a professor in biomedical engineering. His research focuses on understanding discoordination of the upper and lower limb after hemiparetic stroke and cerebral palsy. His research focuses on understanding the involvement of brain plasticity in recovery, and development of new device-mediated neurotherapeutic interventions to enhance motor control of the upper and lower extremity post unilateral brain injury due to stroke or cerebral palsy. Additional research interests involve pharmacological interventions that seek to alter descending drive from the brain stem to reduce the presence of abnormal limb synergies and spasticity. interneuronal bias.



Michael D. Ellis, PT, DPT
Associate Professor
Department of Physical Therapy and Human Movement Sciences
Feinberg School of Medicine
Northwestern University

Dr. Ellis received both his Master (2000) and Doctor (2003) of Physical Therapy degrees from Emory University. He is currently Associate Professor in the Department of Physical therapy and Human Movement Sciences at Northwestern University, Feinberg School of Medicine. Over the last 15 years he has continuously served as a Co-Investigator, and more recently, as Principle Investigator on federally funded grants studying discoordination in individuals with stroke. He specializes in the development of targeted impairment-based interventions and the administration of randomized clinical trials. Dr. Ellis' clinical trial expertise also includes 18 years of experience in training over 130 PTs, OTs, and MDs in the standardized administration of clinical assessments for government- and industry-sponsored phase III clinical trials. His movement science and rehabilitation research interests continue to focus on the elucidation of the neurological underpinnings responsible for movement discoordination and the subsequent development of quantitative clinical evaluation tools and effective rehabilitation therapies for individuals with functionally debilitating movement impairments.



Richard Harvey, MD
Clinical Chair of the Brain Innovation Center at the Shirley Ryan AbilityLab
Wesley and Suzanne Dixon Stroke Chair of Stroke Rehabilitation Research.
Professor of Physical Medicine and Rehabilitation at Northwestern
University's Feinberg School of Medicine.

Dr. Richard Harvey earned his medical degree from the University of Michigan Medical School and completed residency training at the University of Toledo School of Medicine. His research focuses on novel approaches to task-oriented therapy and the role of neuromodulation as an adjunct to movement recovery after stroke. He is the lead investigator of the NICHE and E-FIT Multicenter Trials on navigated brain stimulation for upper limb recovery after stroke. He has additional research interest in neuromodulation for post-stroke dysphagia, pain management after stroke and the treatment of limb spasticity for both arm and leg. Dr. Harvey is co-editor of the textbook *Stroke Recovery and Rehabilitation*. He also co-authored the recently published updated guidelines for stroke rehabilitation in the American Heart Association journal *Stroke*.



CJ Heckman, Ph.D.
Professor
Physiology, Physical Medicine & Rehabilitation
Physical Therapy & Human Movement Sciences
Northwestern University Feinberg School of Medicine

Dr. Heckman's work on spinal motoneurons began with his Ph.D. at the University of Washington and continued through his post-doc at NIH. At Northwestern, the Heckman lab has continued these studies for over 25 years, with a particular focus their neuromodulatory control both via descending systems and by external electrical stimulation. Techniques span multiple levels of analysis, from single cells to neural circuits to intact preparations to human subjects. Highly realistic computer simulations of spinal neurons are used to synthesize cellular

and circuit information into a coherent framework to provide a basis for understanding the output of motoneurons in humans in both normal and diseases states.



Allison Kessler, MD, MSc
Attending Physician; Spinal Cord Injury Innovation Center
Shirley Ryan AbilityLab
Assistant Professor of Physical Medicine and Rehabilitation Northwestern University's Feinberg School of Medicine

Dr. Allison Kessler earned her medical degree from Northwestern University's Feinberg School of Medicine and completed residency training at Northwestern Medicine and the Shirley Ryan AbilityLab. She also completed her fellowship in Spinal Cord Injury Medicine at the Shirley Ryan AbilityLab. Prior to moving to Chicago she completed a Master's of Science in Biomedicine Bioscience and Society at the London School of Economics and Political Science. Her clinical activities focus on neurorehabilitation with a special interest in spinal cord injury recovery, pregnancy in spinal cord injury, and adolescent SCI as well as research focused on swimming after spinal cord injury. She is involved in medical education and is a curricular thread leader for the Feinberg School of Medicine.



Todd Kuiken, MD, Ph.D.
Director Emeritus, Center for Bionic Medicine (CBM)
Professor of PM&R, BME,

Dr. Todd Kuiken has focused his 30 year career on the treatment and research in the area of amputation. With his team he developed the innovative surgical technique of targeted muscle reinnervation to improve the control of powered arm prostheses and reduce neuroma pain. He is the Director Emeritus of the largest prosthetic and orthotics research lab in the country, Center for Bionic Medicine (CBM), with a staff of over 60 people, and is internationally recognized as a leader in his field. CBM's goal is to improve the function and quality of life for individuals with amputation and other physical disabilities, through innovative rehabilitation technologies. Dr. Kuiken lectures frequently and has mentored many graduate students and post doctoral fellows.



Elizabeth M McNally, MD, Ph.D.
Director, Center for Genetic Medicine
Elizabeth J. Ward Professor of Genetic Medicine
Professor of Medicine (Cardiology) and Biochemistry and Molecular Genetics

Dr. McNally trained in Internal Medicine and Cardiovascular Medicine at the Brigham and Women's Hospital with a postdoctoral fellowship in Genetics in the laboratory of Louis Kunkel at Children's Hospital in Boston, where she began her research in muscular dystrophy. Dr. McNally directs the Cardiovascular Genetics Program at the Bluhm Cardiovascular Institute, which specializes in providing integrated cardiovascular and genetic evaluation for those with cardiomyopathies and other inherited CV disorders. Dr. McNally's research is in the genetic mechanisms that lead to heart failure and muscular dystrophy. Dr. McNally was named a Charles E. Culpeper Medical Scholar and an Established Investigator of the American Heart Association. She has also been recognized for her translational work by the Burroughs Wellcome Foundation and as a recipient a Distinguished Clinical Scientist Award from the Doris Duke Charitable Foundation. She serves

on the Advisory Boards for the Muscular Dystrophy Association, Parent Project Muscular Dystrophy, and is the Vice Chair for the Council on Basic Cardiovascular Sciences of the American Heart Association. She is a past president of American Society for Clinical Investigation and a member of the Association of American Physicians.

COURSE OBJECTIVES

Upon completion of this course, participants will be able to:

- Evaluate recent advances in research and the implications for future approaches in rehabilitation and recovery.
- Review innovative, and evidence-based approaches for rehabilitation and care of patients.
- List the implications that a stroke can have on motor recovery and the pragmatic challenges that face these individuals.
- Review semi-powered approaches to lower-limb prosthetics and exoskeletons.
- Define how clinicians can optimize physical function in older adults.
- Evaluate recent advances in Duchenne muscular dystrophy, from gene discovery to medications.
- Identify issues related to hypertrophic cardiomyopathy, from mechanisms to specific therapies.
- Discuss neuroplasticity after human spinal cord injury.

AGENDA

Monday, July 22

8:00 AM	Registration and Continental Breakfast (Included)
8:30 AM	Welcome and Opening Remarks Joanne Smith, MD, MBA; Rick Lieber, Ph.D. & Zev Rymer, MD, Ph.D., Shirley Ryan AbilityLab
8:45 AM	Motor recovery after stroke: Conceptual puzzle, pragmatic challenge John Krakauer, MD, Johns Hopkins University
9:15 AM	Clinical Significance Discussant: Neuroscience Richard Harvey, MD, Shirley Ryan AbilityLab and Northwestern University
9:25 AM	Open Discussion: Neuroscience Moderator: Julius P.A. Dewald PT, Ph.D
9:45 AM	Break
10:00 AM	Systems to Synapses: Mechanisms for Neuromodulation V. Reggie Edgerton, Ph.D., UCLA
10:30 AM	Clinical Significance Discussant: Motor Control CJ Heckman, Ph.D.
10:40 AM	Open Discussion: Motor Control Moderator: Monica Perez, PT, Ph.D.

11:00 AM	Semi-Powered Approaches to Lower-Limb Prosthetics and Exoskeletons Michael Goldfarb, Ph.D., Vanderbilt University
11:30 AM	Clinical Significance Discussant: Technology Todd Kuiken, MD, Ph.D., Shirley Ryan AbilityLab and Northwestern University
11:40 AM	Open Discussion: Technology Moderator: Jose Pons, Ph.D.
12:00 PM	Lunch and Tours
1:30 PM	Optimizing Physical Function in Older Adults: Exploring the Role of Motor Neuron Form and Function Dave Arnold, MD, Ohio State University
2:00 PM	Clinical Significance Discussant: Neuroscience Julius P.A. Dewald PT, Ph.D., Northwestern University
2:10 PM	Open Discussion : Neuroscience Moderator: Zev Rymer
2:30 PM	Lightning Research Rounds with Poster Presentations
4:00 PM	Cocktail Reception and Networking (Open Bar Included)
6:00 PM	End of Day 1

Tuesday, July 23

8:30 AM	Continental Breakfast (Included)
9:00 AM	Therapies and outcome measures for muscular dystrophy Eric P. Hoffman, Ph.D. Binghamton University, SUNY
9:30 AM	Clinical Significance Discussant: Rehabilitation Elizabeth M McNally, MD, Ph.D., Northwestern University
9:40 AM	Open Discussion : Rehabilitation Moderator: Andrea Domenighetti, Ph.D.
10:00 AM	Break
10:15 AM	Rethinking motor learning: Focus on individual strategies and associated cortical brain circuits Carolee Winstein, PT, Ph.D., FAPTA, FAHN, FNAK, University of Southern California
10:45 AM	Clinical Significance Discussant: Gait Training Michael D. Ellis, PT, DPT

10:55 AM	Open Discussion : Gait Training Moderator: Elliot Roth, MD
11:15 AM	The myosin mesa and hypertrophic cardiomyopathy: Mutations to mechanisms to therapies James Spudich, Ph.D., Stanford University
11:45 AM	Clinical Significance Discussant: Musculoskeletal Elizabeth M McNally, MD, Ph.D., Northwestern University
11:55 AM	Open Discussion: Musculoskeletal Moderator: Rick Lieber PhD
12:15 PM	Lunch
1:45 PM	Neuroplasticity after Human Spinal Cord Injury Monica A. Perez, PT, Ph.D., Shirley Ryan AbilityLab and Northwestern University
2:15 PM	Clinical Significance Discussant: Rehabilitation/ SCI/D Allison Kessler, MD, MSc, Shirley Ryan AbilityLab and Northwestern University
2:25 PM	Open Discussion : SCI / D Moderator: Martin Oudega, Ph.D.
2:45 PM	Research Poster Award with Summary of Key Points Learned
3:30 PM	End of Day 2

POSTER PRESENTATIONS

The Scientific Symposium Poster Presentations (60 minutes)

The poster session provides an interactive forum for researchers to discuss their work. In the lightening round, presenters will give 1 minute presentations to introduce their topic to the audience. A poster session will follow with presenters stationed at assigned locations, organized by topic. Poster boards and magnets will be supplied, and posters should be attached to the boards for display.

REGISTRATION FEE

Registration Fee

\$ 100

LOCATION

The program will be held at the Shirley Ryan AbilityLab. The Symposium site is wheelchair accessible. Accessible materials, sign language interpretation and personal assistance are available with at least 45-days advance notice.

HOUSING

Rooms have been reserved at the Hyatt Centric Chicago Magnificent Mile, 633 North St. Clair, Chicago, Illinois, 60611.

The **Hyatt Centric Chicago Magnificent Mile** is located 1½ blocks from the Shirley Ryan AbilityLab. Please contact their reservation agent from 9:00 am until 5:00 pm at (888) 591-1234 and ask for the Shirley Ryan AbilityLab Science of Ability Symposium room block or make your reservation online using this link: <https://www.hyatt.com/en-US/group-booking/CHIMM/G-ABIL>. The corporate rate is \$189.00 for a Deluxe Guestroom (single or double occupancy) plus *17.4% tax. The daily rate for parking at the Hyatt Chicago is \$69.00/day with in and out privileges. **The cut-off date for room reservations is June 24, 2019.** Please note that the room block could reach its maximum before the cut-off date. Rooms and rates revert to a space-available basis after the room block has reached its maximum or after the cut-off date (whichever comes first.) ***The rates for parking and taxes are subject to change without advanced notice.**

CANCELLATION POLICY

All cancellations must be in writing. Refunds less a 20% administrative charge will be given until **June 1, 2019**. Shirley Ryan AbilityLab reserves the right to cancel or change any programs for due cause. Cancellation of a program by Shirley Ryan AbilityLab will result in a full refund of fee. AbilityLab is not responsible for the refund of travel or hotel expenses under any circumstance.

IMPORTANT REGISTRATION INFORMATION

Registrations will be taken in the order in which payment information is received. We highly encourage you to register online for immediate processing at www.sralab.org/symposium. Full Symposium fee must accompany the registration form in order to confirm a seat. Until you receive your confirmation letter you are not officially registered. Registrations received by standard mail or fax the confirmation may take up to 3 weeks to process. If you do not receive confirmation within this time period, please call 312-238-6042.

One week prior to the Symposium only internet registrations and faxed registrations that include an email will be accepted. Please note that the Symposium could reach its maximum enrollment before this time.

CONTINUING EDUCATION

Physicians



Accreditation Statement

The American Academy of Physical Medicine and Rehabilitation is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Designation of Credit

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of American Academy of Physical Medicine and Rehabilitation and Shirley Ryan AbilityLab. The American Academy of Physical Medicine and Rehabilitation is accredited by the ACCME to provide continuing medical education for physicians.

The American Academy of Physical Medicine and Rehabilitation (AAPM&R) designates this live activity for a maximum of 10.75 *AMA PRA Category 1 Credits™*. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Disclosure

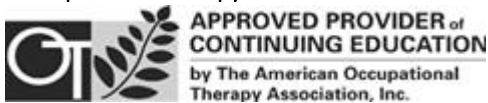
AAPM&R requires all individuals who are in a position to control the content of an educational activity to disclose all relevant financial relationships with any commercial interest, which is any entity producing, marketing, re-selling or distributing health care goods or services consumed by, or used on, patients. Disclosures are made in written form prior to the start of the educational activity and any potential conflicts of interest that exist are resolved prior to the start of the activity through AAPM&R's Conflict of Interest Disclosure and Resolution Policy Process.

Physical Therapy

This course has been approved by the Illinois Physical Therapy Board for 10.50 Contact Hours.

The Shirley Ryan AbilityLab is recognized by the New York State Education Department's State Board for Physical Therapy as an approved provider of physical therapy and physical therapist assistant continuing education. This two-day course has been approved for 10.50 Contact Hours.

Occupational Therapy



The Shirley Ryan AbilityLab is an approved provider for the American Occupational Therapy Association to offer continuing education in occupational therapy. This intermediate level program awards occupational therapists 1.05 CEUs or 10.5 contact hours. The assignment of AOTA CEUs does not imply endorsement of specific course content, products, or clinical procedures by AOTA. AOTA Classification Code: Category 2; Occupational Therapy Process.

Register Online at www.sralab.org or complete the form below and return with payment

Registration Fee: \$ 100

Mail to: Academy
Shirley Ryan AbilityLab
355 E. Erie Street, 12th floor
Chicago, Illinois 60611

Please TYPE or PRINT your name and professional initials (OT, PT) as you would like them to appear on your badge.

First Name _____ Last Name _____

Home Phone (_____) _____ Prof. Initials _____

Home Address _____

City _____ State _____ Zip _____

Organization/Facility _____

Work Address _____

City _____ State _____ Zip _____

Work Phone (_____) _____ Fax (_____) _____

Position _____

E-mail (required) _____

Please note: registration will not be processed without full payment.

Method of Payment: ☐ Check enclosed (**Payable to:** Shirley Ryan AbilityLab)
☐ Credit Card

Credit Card Users Must Complete the Following Information:

☐ MasterCard ☐ VISA ☐ American Express

Credit Card # _ _ _ _ - _ _ _ - _ _ _ - _ _ _ _

Expiration Date _ _ / _ _ CVV _ _ _ (security code on back of card)

Name on Card _____

Billing Address _____

City _____ State _____ Zip _____

Cardholder's Signature _____

Credit card registrations may be mailed or faxed to: 312-238-4451.