PROGRAMME



XV Progress in Motor Control: "Crossroads between Neurophysiology and Applications"

DAY 1, JUNE 30 (MONDAY) – Auditorium at the Center for Biotechnology and Life Sciences (CBLS #100)

- 07:30 12:00 Registration, CBLS Lobby (Poster setup)
- 07:30 08:45 Continental Breakfast, CBLS Foyer
- **08:00 17:00** Exhibitors, CBLS Lobby

09:00 – 09:15 Opening remarks

Chair of the Organizing Committee: Mariusz Furmanek, PhD, PT Dean of the College of Health Sciences: Patrick Vivier, MD, PhD President of the University of Rhode Island: Marc B. Parlange, PhD President of the ISMC: Gene Tunik, PhD, PT

PART I: THEORETICAL ADVANCES IN MOTOR CONTROL

Chairs: Mindy F. Levin, PhD, PT & Gene Tunik, PhD, PT

- 09:15 09:40 Mark L. Latash, PhD: Origins of processes within the uncontrolled manifold
- 09:40 10:05 Jonathan R. Wolpaw, MD: Heksor: The CNS substrate of a skilled behavior
- 10:05 10:45 Coffee break, CBLS Foyer

Chairs: Shirley Handelzalts, PT, PhD & Reza Shadmehr, PhD

- 10:45 11:10 Alaa A. Ahmed, PhD: Movement slowing and rational decision making in healthy aging
- 11:10 11:35 Edward Large, PhD: Musical neurodynamics
- 11:35 12:00 David A. Rosenbaum, PhD: Preparedness in thought and action

12:00 – 13:00 Lunch – Mainfare Dining Hall (Hope Commons, 19 Butterfield Rd)

13:00 – 15:00 POSTER SESSION I: "Motor control theory and mechanisms" – CBLS Foyer

PART II: MOTOR LEARNING AND NEURAL PLASTICITY

Chairs: Giselle M. Petzinger, MD & Stuart N. Baker, PhD

- 15:00 15:25 Gene Tunik, PhD, PT: Posterior parietal contributions to motor learning
- **15:25 15:50** Michael Vesia, PhD: *Effects of multi-day state-dependent parietal intermittent theta burst stimulation on the motor control network*
- **15:50 16:15 Daniela Corbetta, PhD**: *Body mapping and the development of goal-directed reaching in infancy*
- **16:15 16:40** Raoul M. Bongers, PhD: Searching for new coordinative structures in degrees of freedom space
- 16:40 16:50 Q&A

- 07:30 12:00 Registration, CBLS Lobby
- 07:30 08:30 Continental Breakfast, CBLS Foyer
- 08:30 08:45 Yoga Session I: "Breathwork for mindfulness", CBLS #010
- 08:00 16:00 Exhibitors, CBLS Lobby

PART III: ADVANCES IN UNDERSTANDING NEUROPHYSIOLOGICAL MECHANISMS

Chairs: Alaa A. Ahmed, PhD & Mark L. Latash, PhD

- **09:00 09:25** Stuart N. Baker, PhD: *Relative contributions of corticospinal and reticulospinal tracts to control of the primate upper limb*
- 09:25 09:50 Reza Shadmehr, PhD: The potent vectors of the cerebellum
- 09:50 10:15 Mathew Yarossi, PhD: Measuring corticospinal recruitment gain with TMS
- 10:15 10:45 Coffee break, CBLS Foyer

Chairs: Daniela Corbetta, PhD & Jonathan R. Wolpaw, MD

- **10:45 11:10** Cristian Cuadra, PhD, PT: *The dual roles of vestibulospinal reflexes: excitatory and inhibitory influences on limb muscle activity*
- 11:10 11:35 Richard E.A. van Emmerik, PhD: Locomotor coordination, shock attenuation and dynamic visual acuity
- 11:35 12:00 2025 Early Career Award Presentation Greg Pearcey, PhD, CSEP-CE: Decoding human motoneuron firing behaviour illuminates diversity in movement control

12:00 – 13:00 Lunch – Mainfare Dining Hall (Hope Commons, 19 Butterfield Rd)

12:10 – 13:00 ISMC Board Meeting, CBLS #152

PART IV: MOTOR DISORDERS MECHANISMS AND REHABILITATION

Chairs: Ela Plow, PhD & Raoul M. Bongers, PhD

- **13:00 13:25** Michael W. Jakowec, PhD: Astrocytes bridging motor behavior and synaptic plasticity in Parkinson's Disease
- 13:25 13:50 Brooke Dexheimer, PhD, OTD, OTR/L: *Multimodal approaches for identifying lateralized motor learning mechanisms and their implications in early Parkinson's Disease*
- **13:50 14:15 Giselle M. Petzinger, MD**: *The association of cognitive and motor performance in Parkinson's Disease: understanding the role of cerebellum and related circuitry*

14:15 – 14:45 Coffee break, CBLS Foyer

Chairs: Monica A. Perez, PhD & Danielle Piscitelli, PhD, PT

14:45 – 15:10	Aiko K. Thompson, PhD: Non-invasive neurobehavioral training to improve motor
	behaviors and functions of the targeted pathway in CNS disorders
15:10 – 15:35	Evangelos A. Christou, PhD: Ataxic symptoms in essential tremor: can DBS help?
15:35 – 16:00	Andrea L. Behrman, PhD, PT, FAPTA: The lens matters: walking recovery after
	pediatric spinal cord injury
16:00 - 16:10	Q&A

Free time (Newport, Narragansett, Providence) Dinner on your own (make sure to make a reservation)

- 07:30 12:00 Registration, CBLS Lobby (Poster setup)
- 07:30 08:00 Yoga Session II: "Body awareness" (outdoor in front of the CBLS)
- 07:30 08:45 Continental Breakfast, CBLS Foyer
- **08:00 15:00** Exhibitors, CBLS Lobby

PART V: RECOVERY OF MOTOR FUNCTION

Chairs: Brooke Dexheimer, PhD, OTD, OTR/L & Michael Vesia, PhD

09:00 – 09:25 Mindy F. Levin, PhD, PT: Translation of motor control principles to functional movement improvement after stroke

- 09:25 09:50 Monica A. Perez, PhD: Strategies to maximize functional restoration following spinal cord injury
- **09:50 10:15** Danielle Piscitelli, PhD, PT: Motor control as a pathway to recovery in neurorehabilitation
- 10:15 10:45 Coffee break, CBLS Foyer

	<u>Chairs: Andrea L. Behrman, PhD, PT, FAPTA & Michael W. Jakowec, PhD</u>
10:45 – 11:10	Shirley Handelzalts, PT, PhD: Understanding lower-limb coordination deficits to
	facilitate gait recovery after stroke
11:10 – 11:35	Ela Plow, PhD: The undamaged motor cortex in stroke: friend or foe?
11:35 – 12:00	Manuel F. DaSilva, MD: Hand control: intersection of biomechanics, motor control,
	and implications for clinical practice

12:00 – 13:00 Lunch, CBLS Foyer

12:15 – 13:15 Journal of Motor Control Board Meeting, CBLS #152

- 13:00 15:00 POSTER SESSION II "Motor impairments and rehabilitation" CBLS Foyer
 - 15:00 15:30 2025 Bernstein Prize Presentation Introduction: Mark L. Latash, PhD T. Richard Nichols, PhD: Determinants of the force-length characteristic
 - 15:30 15:35 Annual General Meeting Presentation President of the ISMC: Gene Tunik, PhD, PT 15:35 – 15:40 Best Poster Presentation Awards

PART VI: HISTORY AND FUTURE OF THE EQUILIBRIUM-POINT HYPOTHESIS

(Tribute to Anatol G. Feldman, PhD)

- 15:40 15:50 David A. Rosenbaum, PhD
- **15:50 16:00** Mindy F. Levin, PhD, PT
- **16:00 16:10** Gene Tunik, PhD, PT
- 16:10 16:20 Danielle Piscitelli, PhD, PT
- 16:20 16:30 Raoul M. Bongers, PhD
- 16:30 16:40 Mark L. Latash, PhD
- 16:40 16:50 Concluding statement by Anatol G. Feldman, PhD

18:30 - 19:00 Aperitif (Mosby Center, 230 S Ferry Rd)

19:00 – 21:00 Closing dinner, (Mosby Center, 230 S Ferry Rd), dress code: smart casual