ANNUAL
Scientific Meeting
OCT 4 & 5 • 2020

The meeting will go on...
ALL ONLINE!

American Spinal Injury Association
The Craig H. Neilsen Foundation’s funding is dedicated to supporting both programs and scientific research to improve the quality of life for those affected by and living with spinal cord injury.

To learn more about funding opportunities, visit our website at www.chnfoundation.org.
**AWARD ELIGIBLE ORAL PRESENTATIONS**  
*Moderator: Mark Nash*

<table>
<thead>
<tr>
<th>Award Number</th>
<th>Title</th>
<th>Presenter(s)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-1</td>
<td>Development of a Standardized Normative Pediatric Spinal Cord structural template – Shiva Shahrampour, MS</td>
<td>Shiva Shahrampour, MS</td>
<td></td>
</tr>
<tr>
<td>O-2</td>
<td>Transplantation of autologous human Schwann cells accompanied by rehabilitation in participants with chronic spinal cord injury – Katie Gant, PhD</td>
<td>Katie Gant, PhD</td>
<td></td>
</tr>
<tr>
<td>O-3</td>
<td>Survival in Patients after Spinal Cord Injury – Evidence for an Obesity paradox – Ian Schwab, MD, PhD</td>
<td>Ian Schwab, MD, PhD</td>
<td></td>
</tr>
<tr>
<td>O-4</td>
<td>A deep learning approach for detecting hand-object interactions from egocentric videos after cervical spinal cord injury: First results in the home environment – Andrea Bandini, PhD</td>
<td>Andrea Bandini, PhD</td>
<td></td>
</tr>
<tr>
<td>O-5</td>
<td>Targeted spinal cord stimulation and neurorehabilitation for restoring leg motor control in individuals with spinal cord injury – Laura McCracken</td>
<td>Laura McCracken</td>
<td></td>
</tr>
<tr>
<td>O-6</td>
<td>Cardiac-focused hemodynamic management mitigates increases to spinal cord anaerobic metabolism in a porcine model of acute high-thoracic spinal cord injury – Alexandra Williams, PhD</td>
<td>Alexandra Williams, PhD</td>
<td></td>
</tr>
</tbody>
</table>

**SUNDAY, OCTOBER 4TH**

<table>
<thead>
<tr>
<th>TIME (EST)</th>
<th>CONFERENCE ROOM 1</th>
<th>CONFERENCE ROOM 2</th>
<th>CONFERENCE ROOM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 – 10:00 am</td>
<td>Mentor/Mentee Breakfast: Meet the ASIA Early Career Committee and learn about the new ASIA Mentorship Program</td>
<td></td>
<td>Click here to Join Session</td>
</tr>
</tbody>
</table>
| 10:00 – 10:05 am | **Welcome and Introduction**  
Andrei Krassioukov, MD, PhD, FRCPC | ASIA President (2019 - 2021)  
ICORD-BCSS, UBC GF Strong Rehabilitation Centre  
Vancouver, Canada |
| 10:05 – 10:35 am | **Lifetime Achievement Award** – Diana Cardenas, MD, MHA  
Pictured by Amie McLain, MD, FASIA | Diana Cardenas, MD, MHA  
Will be honored as the ASIA 2020 Lifetime Achievement Award recipient. Dr. Cardenas is a physiatrist with an academic career of more than 40 years and a clinical, teaching, administrative, and research career primarily focused on spinal cord injury. |
| 10:35 – 11:25 am | **G. Heiner Sell Lecture** – Miguel Nicolelis, MD, PhD | Miguel Nicolelis, MD, PhD, Distinguished Professor at Duke University and founder of Duke’s Center for Neuroengineering, whose influential work in mammalian brain circuits have guided development of impactful technologies such as brain-machine interfaces. |
| 11:25 – 11:35 am | Passing Period |                     |                    |
| 11:35 am – 1:00 pm | **COURSE 1**  
SCI Clinical Trials by SCOPE: Considering Traditional RCT Study Protocols with Adaptive Design Approaches | **COURSE 2**  
The hand and upper extremity in spinal cord injury – the full spectrum of management | **General Session:**  
Acute Care  
O-7, O-8, O-9, O-10, O-11, O-32, O-33  
(See page 7 for Abstracts) |
| 1:00 – 1:05 pm | Passing Period |                     |                    |
| 1:05 – 2:00 pm | AWARD ELIGIBLE ORAL PRESENTATIONS  
*Moderator: Mark Nash* |                     |                    |
### SUNDAY, OCTOBER 4TH

<table>
<thead>
<tr>
<th>TIME (EST)</th>
<th>CONFERENCE ROOM 1</th>
<th>CONFERENCE ROOM 2</th>
<th>CONFERENCE ROOM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 – 3:00 pm</td>
<td>Lunch Break</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 3:00 – 4:00 pm | **COURSE 4**  
Recommendations for  
Evaluation of Neurogenic  
Bladder and Bowel  
Dysfunction after Spinal  
Cord Injury and/or Disease  
**Moderator:**  
Tracey Wheeler, PhD  
[Click here for Abstract](#) | **COURSE 5**  
Refining Outcome  
Measurements in Humans  
with Spinal Cord Injury  
**Moderators:**  
Monica Perez, PhD &  
Allen Heinemann, PhD  
[Click here for Abstract](#) |                   |
| 4:00 – 4:30 pm | Sponsor Event     |                   |                   |
| 4:30 – 4:40 pm | Passing Period    |                   |                   |
| 4:40 – 5:40 pm | **COURSE 6**  
Novel findings in the  
development and prevention  
of neuropathic pain and the  
impact on neurological  
recovery: Findings from  
bench to bedside to bench.  
**Moderator:**  
Linda Jones, PhD  
[Click here for Abstract](#) | **COURSE 7**  
A Critical Analysis of Four  
Major New Technological  
Innovations for Treatment  
of Chronic Incomplete  
Spinal Cord Injury  
**Moderator:**  
William Rymer, MD, PhD  
[Click here for Abstract](#) | **COURSE 8**  
Networking Tips for Early  
Career Members: Conquering  
an international conference  
and identifying opportunities  
for meeting new mentors  
**Moderator:**  
Stephanie Kolakowsky-Hayner,  
PhD, CBIST  
[Click here for Abstract](#) |
| 5:40 pm       | Presidential Reception  
Hosted by Andrei Krassioukov, MD, PhD, FRCPC |                   |                   |
## Monday, October 5th

<table>
<thead>
<tr>
<th>TIME (EST)</th>
<th>CONFERENCE ROOM 1</th>
<th>CONFERENCE ROOM 2</th>
<th>CONFERENCE ROOM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 – 10:30 am</td>
<td>Virtual Coffee with ASIA President Andrei Krassioukov, MD, PhD, FRCPC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 – 10:40 am</td>
<td>Passing Period</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 10:40 – 11:40 am | **COURSE 9**  
Breathing after Spinal Cord Injury: Plasticity and Therapeutic Advances  
**Moderator:** Michael Lane, PhD  
[Click here for Abstract] | **COURSE 10**  
Transitions of Care: Why They Matter for People with SCI, Clinicians, and Researchers  
**Moderator:** Chloe Slocum, MD  
[Click here for Abstract] | **General Session:**  
Outcomes & Craig H. Neilsen 2017 Awardee  
Sara Kate Frye, MS, OTR/L ATP  
O-12, O-13, O-14, O-15  
[See page 7 for Abstracts] |
| 11:40 am – 12:10 pm | Sponsor Event | | |
| 12:10 – 12:20 pm | Passing Period | | |
| 12:20 – 1:20 pm | **COURSE 11**  
The continuum between swallow and dysphagia is not simple following neural injury  
**Moderator:** Teresa Pitts  
[Click here for Abstract] | **COURSE 12**  
**Moderator:** Leslie Morse, DO  
[Click here for Abstract] | **General Session:**  
Cardiovascular & DiMarco Awardees  
O-16, O-17, O-18, O-19  
[See page 7 for Abstracts] |
| 1:20 – 2:20 pm | Lunch Break | | |
| 2:20 – 2:50 pm | **General Session:**  
Upper Extremity Function  
O-20, O-21, O-22  
[See page 8 for abstracts] | **General Session:**  
Mixed Topics  
O-23, O-24, O-25  
[See page 8 for Abstracts] | scitrialsfinder.net  
Updates |
| 2:50 – 3:00 pm | Passing period | | |
| 3:00 – 4:00 pm | FASIA & Awards Session | | |
**ASIA 2020 ONLINE CONFERENCE**

**MONDAY, OCTOBER 5TH**

<table>
<thead>
<tr>
<th>TIME (EST)</th>
<th>CONFERENCE ROOM 1</th>
<th>CONFERENCE ROOM 2</th>
<th>CONFERENCE ROOM 3</th>
</tr>
</thead>
</table>
| 4:00 – 4:45 pm | [Keynote Speaker](#) – Dr. Federico Montero, Deputy Director at the National Rehabilitation Centre of Costa Rica.  
*Presented by Camilo Castillo, MD*  
Spinal Cord Injuries in Latin America and the Caribbean (LAC)  
History and Perspective of a Journey  
[Click here for Abstract](#) |

**4:45 – 4:55 pm**  
Passing Period

**4:55 – 5:55 pm**

- **COURSE 13**  
  The Spectrum of Translational Research in Spinal Cord Injury: Examples, obstacles, and victories  
  **Moderator:** Argyrios Stampas, MD  
  [Click here for Abstract](#)

- **COURSE 14**  
  America’s Perspectives on Spinal Cord Injury Care  
  **Moderator:** Camilo Castillo, MD  
  [Click here for Abstract](#)

- **COURSE 15**  
  Spinal Cord Injury, Disasters and Climate Change: What professionals need to know  
  **Moderator:** Marcalee Alexander, MD, FASIA  
  [Click here for Abstract](#)

**5:55 – 6:05 pm**  
Passing Period

**6:05 – 7:05 pm**

- **COURSE 16**  
  Predictive value of animal research experiments for emerging clinical studies in SCI  
  **Moderator:** Karim Fouad, PhD  
  [Click here for Abstract](#)

- **COURSE 17**  
  International Standards to Document Autonomic Function after SCI: Revision 2020  
  **Moderator:** Jill Wecht, EdD  
  [Click here for Abstract](#)

- **General Session:**  
  Secondary Conditions  
  O-26, O-27, O-28, O-29  
  O-30, O-31  
  (See page 8 for Abstracts)
GENERAL SESSIONS

ACUTE CARE:  *Meegan Van Straaten, PT*
Sunday, Oct. 4, 2020 / 11:35 am – 12:35 pm • Oral Talks 7-11

**ORAL TALK 7**
Posterior Cervical Spine Fusion Increases the Risk of Feeding Gastrostomy Using a Propensity Score Matched Cohort
Brett Tracy

**ORAL TALK 8**
Ketogenic diet (kd) for improving neurorecovery after acute spinal cord injury - from rodents to humans
*Seren Yarar-Fisher, PT, PhD*

**ORAL TALK 9**
Topological network analysis of high frequency intra-operative monitoring in patients with spinal cord injury reveals precise blood pressure range associated with neurological recovery
*Abel Torres Espin*

**ORAL TALK 10**
During an epidemic of gun violence in the United States, analyzing cervical spinal cord injury from gunshot wounds with respiratory compromise: the role of diaphragm pacing
*Raymond Ouders, MD, FACS, FASIA*

Click! here for abstracts.

MEASUREMENT AND OUTCOMES & CRAIG H. NEILSEN FOUNDATION ALLIED HEALTH 2017 Awardee:  *Heather Russell, PhD*
Monday, Oct. 5, 2020 / 10:40 am – 11:40 pm • Oral Talks 12-15

**CRAIG H. NEILSEN FOUNDATION 2017 ALLIED HEALTH Awardee**
Evaluation of Splinting in Tetraplegia
*Sara Kate Frye, MS OTR/L ATP*

**CRAIG H. NEILSEN FOUNDATION 2018 ALLIED HEALTH Awardee**
Seated Trunk Stability and Orthostatic Tolerance in SCI: Targeting the Diaphragm.”
*Anne E. Palermo PT, DPT*

**ORAL TALK 12**
Evaluation of a self-report method to obtain ASIA Impairment Scale in people with SCI who reside in the community
*Jennifer Coker, MPH*

**ORAL TALK 13**
Comparing SCI Data from Three SCI Registries: Results from the International Spinal Data Network (ISDN)
*Vanessa Noonan, MSc, PT, PhD*

**ORAL TALK 14**
Development of Crosswalks to Aggregate International Spinal Cord Injury Functional Data
*Linda Jones, PhD*

**ORAL TALK 15**
Development of the PedsQL SCI Module
*Miriam Hwang, MD, PhD*

Click! here for abstracts.

CARDIOVASCULAR & 2019 ANTHONY DIMARCO FELLOWSHIP AWARD RECIPIENTS:  *Trevor Dyson-Hudson, MD*
Monday, Oct 5, 2020 / 12:20 pm – 1:20 pm • Oral Talks 16-19

**2019 Anthony DiMarco Fellowship Award Recipient**
2019 Anthony DiMarco Fellowship Award Recipient: Validity of an Interview Based Examination for Spinal Cord Injury (VIBES): Sacral Sparing in the Acute Inpatient Rehabilitation Setting
*Audrey Chun, MD*

**2019 Anthony DiMarco Fellowship Award Recipient**
*Chris Cherian, MD*

**ORAL TALK 16**
Noninvasive Chronic Spinal Stimulation as a Multi-session Therapy to Improve Cardiovascular Function After Spinal Cord Injury
*Kiran Pawar, PhD*

**ORAL TALK 17**
High-level experimental spinal cord injury impairs the cardiac inotropic response to baroreceptor unloading
*Christopher West, PhD*

**ORAL TALK 18**
Heart rate changes associated with spontaneous episodes of autonomic dysreflexia
*Belinda Yee, BSc*

**ORAL TALK 19**
Diverse Cognitive Impairment After Spinal Cord Injury is Associated with Symptoms of Aberrant Cardiovascular Changes
*Tom Nightingale, PhD*

Click! here for abstracts.
## GENERAL SESSIONS

### UPPER EXTREMITY FUNCTION: Jennifer Coker, MPH
Monday, Oct. 5, 2020 / 2:20 am–2:50 pm • Oral Talks 20-22

<table>
<thead>
<tr>
<th>Oral Talk 20</th>
<th>Oral Talk 21</th>
<th>Oral Talk 22</th>
</tr>
</thead>
</table>

### MIXED TOPICS: Meegan Van Straaten, PT
Monday, Oct. 5, 2020 / 2:20 pm – 2:50 pm • Oral Talks 23-25

<table>
<thead>
<tr>
<th>Oral Talk 23</th>
<th>Oral Talk 24</th>
<th>Oral Talk 25</th>
</tr>
</thead>
</table>

### SECONDARY CONDITIONS: Maureen Miner, MD
Monday, Oct. 5, 2020 / 6:05 pm – 7:05 pm • Oral Talks 26-31

<table>
<thead>
<tr>
<th>Oral Talk 26</th>
<th>Oral Talk 27</th>
<th>Oral Talk 28</th>
</tr>
</thead>
<tbody>
<tr>
<td>A case comparison of endogenous fat metabolism during a prandial challenge David McMillan, MS</td>
<td>Increased levels of matrix metalloproteinase-8 &amp; 9 against TIMP-1 predicts poor healing of pressure injury in people with spinal cord injury Rajeshwar Srivastava, MS</td>
<td>A qualitative study of negative health spirals among aging civilians and veterans spinal cord injury James Krause, PhD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oral Talk 29</th>
<th>Oral Talk 30</th>
<th>Oral Talk 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Factors for Heterotopic Ossification Development after Spinal Cord Injury: A Systematic Review and Meta-Analysis Yagiz Yolcu, MD</td>
<td>Electrically Induced Interval Cycling and Nutritional Counseling Produces Healthy Body Composition Changes In Individuals with Spinal Cord Injury David Dolbow</td>
<td>Behavioral Factors and Unintentional Injuries after Spinal Cord Injury Yue Cao, PhD, MSPH</td>
</tr>
</tbody>
</table>
THIS IS LIVING WITH A SPINAL CORD INJURY.

Our physicians, therapists and researchers are opening doors so individuals with spinal cord injuries can live out their dreams. Visit SpinalCordRecovery.org to learn more.

International Center for Spinal Cord Injury
at Kennedy Krieger Institute

ST. LOUIS UNION STATION HOTEL
1820 MARKET STREET
ST. LOUIS, MISSOURI

APRIL 26-28
PRE COURSE • APRIL 25
2021

ST. LOUIS UNION STATION HOTEL • 1820 MARKET STREET • ST. LOUIS, MISSOURI
A standing ovation, Dr. Cardenas.
In honor of you and all those you’ve helped get back on their feet.

Diana Cardenas, MD, MHP

Congratulations to our distinguished colleague on your ASIA Lifetime Achievement Award. It is well deserved.
JacksonRehabCare.org
At MedStar National Rehabilitation Hospital we focus on:

**Rehabilitation**
Individualized treatment using cutting edge technology

**Research**
National leaders in bladder dysfunction and urinary symptoms research

**Health and wellness**
Enhancing a healthy and fulfilling lifestyle

To learn more about MedStar National Rehabilitation Hospital visit: [https://www.medstarhealth.org/ads/mnrh-2020-updates/](https://www.medstarhealth.org/ads/mnrh-2020-updates/)
Mitsubishi Tanabe Pharma is built on a legacy of global innovation to meet unmet medical needs and help people enjoy healthier, more comfortable lives.