

Full Program

Wednesday, August 6, 2025

- 07:00-18:00** **Registration**
07:00-08:50 **Breakfast**
08:50-09:00 **Opening Remarks: Albert Isaacs, MD PhD**
09:00-09:30 **Welcome Address: Stephen Kern, PhD**
 Title: Historical Background to Modern Neuroscience
09:30-10:30 **Keynote Lecture: David Limbrick, MD PhD**
 Title:
10:30-10:45 **Break**

Session 1: Engineering in Hydrocephalus

- 10:45-11:15** **Invited Lecture I: Peter Chiarelli, MD DPhil**
 Title: Investigation of CSF Flow Dynamics for Improved Hydrocephalus Management
11:15-11:45 **Invited Lecture II: Raudel Avila, PhD**
 Title: Engineering Modeling insights for Hydrocephalus - from Biomechanics to Skin-like Devices

- 11:45-12:37** **Abstract Presentations I**
 Moderators – Karen Diefenbach, MD & Carolyn Harris, PhD

Time	Presenter	Title
11:45-11:58	Amy Huang 2024 Waite Bursary Award Recipient	<i>Bio-inspired self-cleaning catheter material and design</i>
11:58-12:11	Ahmad Faryami, PhD	<i>Investigation of Overdrainage and Underdrainage Using a Novel Benchtop Model</i>
12:11-12:24	Kenae Thompson, BS	<i>Benchtop Investigation of Tissue Pull-In of Shunt Catheters in Hydrocephalus</i>
12:24-12:37	Prashant Hariharan, PhD	<i>Choroid plexus-on-a-chip: A microfluidic model to study cerebrospinal fluid secretion and blood-cerebrospinal fluid barrier function</i>

- 12:37-13:30** **Lunch**

Session 2: Engineering in Spina Bifida & Hydrocephalus

- 13:30-14:00** **Invited Lecture III: June Goto, PhD**
 Title: Targeting Microglia and the Choroid Plexus: Preclinical Insights into Therapies for Neonatal Hydrocephalus
14:00-14:30 **Invited Lecture IV: James Pat McAllister II, PhD**
 Title: Preclinical Device Testing in Hydrocephalus: A Critical Review
14:30-15:22 **Abstract Presentations II**
 Moderator – Mark Hester, PhD

Time	Presenter	Title
14:30-14:43	Kenae Thompson, BS	<i>Brain tissue mimicking hydrogel for benchtop investigation of hydrocephalus mechanisms</i>
14:43-14:56	Andrew Tidball, PhD	<i>Investigating Spina Bifida and Hydrocephalus in a Novel Ventriculoid Model</i>
14:56-15:09	Jorge A. de Tejada, PhD [Virtual Presentation]	<i>Surface-enhanced Raman spectroscopy and machine learning as an accurate and early diagnostic tool for hydrocephalus</i>
15:09-15:22	Luis Manuel Rodriguez Perez, PhD [Virtual Presentation]	<i>Neural Stem Cell (NSC) behavior after intraventricular hemorrhage: in vivo and in vitro alteration in NSC potential</i>
15:22-15:30	Break	
15:30-16:30	Fireside Chat: Innovations and the Future of Engineering in Spina Bifida and Hydrocephalus	
	Moderator: Monica Chau, PhD	
	Expert Panel: Peter Chiarelli, MD DPhil; June Goto, PhD; Raudel Avila, PhD; Carolyn Harris, PhD	
16:30-17:30	Poster Session & Networking	
	Presenter	Title
	Jaren Sandbeck	<i>Novel method for hydrocephalus catheter obstruction removal</i>
	Gregory Larkin, MS	<i>Regulatory Mechanisms of Pediatric Post-Hemorrhagic Hydrocephalus: A Gene Network Approach</i>
17:30-18:00	Annual General Meeting [SRHSB Members Only]	

Thursday, August 7, 2025

07:00-18:00 **Registration**
07:00-08:50 **Breakfast**
08:50-09:00 **Opening Remarks: Albert Isaacs, MD PhD**

Session 3: Advances in Hydrocephalus

09:00-09:30 **Invited Lecture V: Bonnie Blazer-Yost, PhD**
Title: Modulation of TRPV4 in Animal Models of Hydrocephalus

09:30-10:47 **Abstract Presentations III**
Moderators – June Goto, PhD

Time	Presenter	Title
09:30-09:41	Aaron Gonzales, MS	<i>Primary human astrocyte response to topographical surfaces and shear</i>
09:41-09:52	Santino Cua, MD	<i>Proteomic insights into blood-CSF barrier disruption and WBC migration in post-infectious and post-hemorrhagic hydrocephalus</i>
09:52-10:03	Owen Limbrick	<i>T-cell infiltration is associated with increased reactive astrocyte and proinflammatory cytokine activity in post-hemorrhagic hydrocephalus</i>
10:03-10:14	Asma Redwan, PhD	<i>Extracellular vesicles and the inflammatory response in neonatal post-hemorrhagic hydrocephalus</i>
10:14-10:25	Laiba Taufiq, MS 2023 Waite Bursary Award Recipient [Virtual Presentation]	<i>Intersecting Pathologies of Depression and Hydrocephalus: A Rodent Study on Stress, Brain Structure, and Multivitamin Intervention</i>
10:25-10:36	Madelynn Thomas, BS	<i>Impact of ventricular dilation and ventricular catheter placement on obstructive catheter failure in pediatric hydrocephalus patients: insights from a multicenter shunt biobank study</i>
10:36-10:47	Frank Kaphesi, BSc. [Virtual Presentation]	<i>Comparing motor development in children with hydrocephalus after treatment with ventriculoperitoneal shunt and endoscopic third ventriculostomy: a cross-sectional study</i>

10:48-11:00 **Break**

Session 4: Advances in Spina Bifida & Related Disorders I

11:00-11:30 **Invited Lecture VI: Bermans Iskandar, MD**
Title: The University of Wisconsin P.A.S.T.U.R.E.S. Program: Preclinical Advancements in Spina Bifida Treatment Using Research in Experimental Sheep

11:30-12:22 **Abstract Presentations IV**
Moderators – Eric Sribnick, MD PhD & Adolfo Etchegaray, MD

Time	Presenter	Title
11:30-11:43	Sasidhar Karuparti, MS	<i>Myelomeningocele versus Myeloschisis: Comparison of Brain Development and Need for CSF Diversion</i>
11:43-11:56	Fabio Rossi, MS 2025 Waite Bursary Award Recipient [Virtual Presentation]	<i>Cerebral folate metabolism in human hydrocephalus</i>
11:56-12:09	Sasidhar Karuparti, MS	<i>Prenatal repair and extra-axial CSF are associated with increased BMI in myelomeningocele</i>
12:09-12:22	Ben Hewitt, MD 2024 SRHSB/Integra Travelling Fellowship Award Recipient	<i>Preventing neonatal post-haemorrhagic hydrocephalus with decorin: a preliminary study</i>

12:22-13:30 Lunch

The Welburn Lecture

13:30-13:35 Introduction of Welburn Lecturer – Christy Monson, ACPNP

13:35-14:35 Welburn Lecture: Mr. Joe Blundo

Title: The English Language: A Joyous Mess

14:35-14:45 Break

Session 5: Advances in Spina Bifida & Related Disorders II

14:45 - 15:15 Invited Speaker VII: Steve Hwang, MD

Title: Tethered Cord and 3-Column Osteotomies

15:15 - 15:55 Abstract Presentations V

Moderators – David Limbrick, MD PhD & Jonathan Pindrik, MD

Time	Presenter	Title
15:15-15:25	Sasidhar Karuparti, MS	<i>Endoscopic Third Ventriculostomy versus Ventriculoperitoneal Shunting for Hydrocephalus Treatment following Fetal and Postnatal Myelomeningocele Repair</i>
15:25-15:35	Dhruti Doddaballapur, BSc [Virtual Presentation]	<i>Cerebrospinal Fluid as a Powerhouse for Parkinson's Related Metabolism</i>
15:35-15:45	Gwendolyn Sebring, BS	<i>The development of an adeno-associated virus-mediated therapeutic for the treatment of neonatal hydrocephalus</i>
15:45-15:55	Joan Jasien, MD	<i>Variation in Neurodegeneration-Linked Brain Regions in Young Adult APOE E4 Carriers with Spina Bifida</i>

15:55-16:05 Break

Session 6: Therapeutics, Biomarkers, Experimental Models

16:05-16:30 Invited Lecture VIII: Richard Finnell, PhD

Title: The Biology of Neural Tube Defects: From Prevention Efforts to Stem Cell Therapeutics

16:30-16:55 Invited Lecture IX: Andy Copp, MBBS DPhil FRCPATH FMedSci

Title: Chiari II brain malformation: determining its relationship to spina bifida

16:55-17:47 Abstract Presentations VI

Moderators – Bermans Iskandar, MD & James Pat McAllister, PhD

Time	Presenter	Title
16:55-17:08	Maria Garcia-Bonilla, PhD	<i>Rapamycin as a Potential Therapy for Post-Hemorrhagic Hydrocephalus: Targeting Myeloid mTOR Signaling</i>
17:08-17:21	Dhruti Doddaballapur, BSc. [Virtual Presentation]	<i>Multiple Hits on Cerebral Folate, Tetrahydrobiopterin and Dopamine Metabolism in the Pathophysiology of Parkinson's Disorder</i>
17:21-17:34	Engin Deniz, MD	<i>The role of DIP2A in congenital hydrocephalus: Insights from the Xenopus model</i>
17:34-17:47	Alba Anguita, BSc [Virtual Presentation]	<i>Microglia reaction after intraventricular hemorrhage: understanding effect of a sequential stem cell-based therapy</i>

17:47 – 18:00 SRHSB Amsterdam 2026 Meeting Presentation: Floortje Hoogervorst, RN

19:00 – 21:30 Society Dinner – Goodale Station

Friday, August 8, 2025

07:00-18:00 **Registration**
07:00-08:50 **Breakfast**
08:50-09:00 **Opening Remarks: Albert Isaacs, MD PhD**

Session 7: Multi-Center Collaboration & Stakeholder Engagement

09:00-09:30 **Invited Lecture X: Jay Riva Cambrin, MD MSc**
Title: Collaboration through a Multicentered Approach: The Hydrocephalus Clinical Research Network as a Case Study

09:30-10:00 **Invited Lecture XI: Ms. Dianne Kean**
Title: A Family's Journey with Hydrocephalus

10:00-11:05 **Abstract Presentations VII**
Moderators – Jeffrey Leonard, MD

Time	Presenter	Title
10:00-10:13	Monica Chau, PhD	<i>Research priorities for non-invasive therapies to improve hydrocephalus outcomes</i>
10:13-10:26	Adrien Winning, PhD	<i>Caregiver perspectives on family-based psychosocial interventions for young children with spina bifida</i>
10:26-10:39	Catherine Stephan, PhD	<i>Feasibility and implementation of independence skill screening for youth with spina bifida</i>
10:39-10:52	Jamie Wright, MD PhD	<i>Burden of External Ventricular Drain Leveling Requirements of Current Technology on Patients and Nurses, and In Vivo Data on New Technology</i>
10:52-11:05	Nour Tanbari, BS	<i>Characteristics of geriatric spina bifida patients in Florida emergency departments</i>

11:05-11:10 **Presentation of the Dr. Richard Morgan Prize by Shine Representative Gill Yaz**
11:10-11:20 **Break**

11:20-12:20 **Vision 2030 Fireside Chat: The Future of Hydrocephalus and Spina Bifida Care**
11:20-11:30 **Moderator's Perspective: Jamie Wright, MD PhD**

Title:
11:30-12:20 **Panel Discussion**
Moderator: Jamie Wright, MD PhD
Expert Panel: David Limbrick, MD PhD; Jay Riva-Cambrin, MD MSc; Jeffrey Leonard, MD; Richard Finnell, PhD

12:20-12:30 **President's Remarks: Ian Pople, MD FRCS(N)**
12:30-12:40 **Closing Remarks: Albert Isaacs, MD PhD**