Hydrocephalus Society

International Society for Hydrocephalus
and Cerebrospinal Fluid Disorders

2025 HYDROCEPHALUS WORLD CONGRESS

5-8 September | Toulouse, France

www.hydrocephalus-meeting.com

CONGRESS BOOK

Become a Member Now

The Hydrocephalus Society is an open community that encourages collaboration, partnerships and networking between all professionals related to the field of Hydrocephalus and CSF Disorders.

As a member of the Hydrocephalus Society, you will join a community of peers that fosters an environment of cooperation and works towards ensuring ethical, high-quality care for patients, and increasing awareness regarding Hydrocephalus and CSF disorders on a global scale.

Hydrocephalus Society members enjoy several benefits related to personal and professional development, as well as to the creation of opportunities for collaborations and partnerships.

The benefits we offer to our members are the following:

EDUCATION	DISCOUNTS	PROFESSIONAL DEVELOPMENT & NETWORKING
• Exclusive access to the video minutes of all Hydrocephalus World Congresses • Exclusive access to the recordings of the Hydrocephalus Society Global Webinar Series (2021,2022,2023,2024,2025) • Exclusive access to all abstract books of previous Hydrocephalus World Congresses	• Significant Members' discount for the Annual Hydrocephalus World Congress *(€200+ depending on registration category)* • Special Discount for scientific paper publications at the Fluids & Barriers of the CNS Journal with impact factor 6.2	• Observership opportunities in high volume Hydrocephalus departments • Right to participate and vote at the General Assembly of the Hydrocephalus Society • Right to be elected as Board Director • The chance to host the Hydrocephalus World Congress in your country • Access (by request) to the Members' Directory of the Society

Hydrocephalus Society
International Society for Hydrocephalus and Cerebrospinal Fluid Disorders

READY TO JOIN? VISIT THE HYDROCEPHALUS SOCIETY WEBSITE

ishcsf.com

HYDROCEPHALUS SOCIETY

Hydrocephalus Society
International Society for Hydrocephalus and Cerebrospinal Fluid Disorders

The Hydrocephalus Society was inaugurated in September 2008 and registered as a nonprofit organization in December of the same year. From the beginning, its mission has been to advance the art and science of the field of clinical care and research in hydrocephalus and CSF disorders, and thereby promote the best possible care for patients with these disorders. You are encouraged to join the Society to promote international exchanges, worldwide representation, and stimulating research and debate.

The Hydrocephalus World Congress is held annually in different locations around the globe, bringing together experts, researchers, and professionals to advance knowledge and collaboration in the field. In recent years, the congress has taken place in Gothenburg, Sweden (2022), Hamburg, Germany (2023) and Nagoya, Japan (2024). Looking forward, we are excited to host future congresses in Toulouse, France (2025), São Paulo, Brazil (2026), Baltimore, USA (2027), and Rome, Italy (2028).

FLUIDS AND BARRIERS OF THE CNS

FLUIDS AND BARRIERS OF THE CNS

The Hydrocephalus Society has entered into a partnership with BioMed Central's open access journal Fluids and Barriers of the CNS (FBCNS), in which FBCNS is now an official journal of our Society. The open access publishing model provides articles for free to the general public as well as scientists, clinicians and other healthcare practitioners throughout the world. FBCNS provides a dedicated avenue for the dissemination of research into all molecular, physiological and pharmacological aspects of brain fluids and barrier systems and their role in neurological disorders.

Members are eligible for a 15% discount on the article-processing charge when publishing with FBCNS and should log into the society's members area to obtain the reference code to use at submission.

HYDROCEPHALUS 2025 ABSTRACTS PUBLICATION

Fluids and Barriers of the CNS is an open access, peer-reviewed, online journal that considers manuscripts on all CNS fluids and barrier systems in health and disease.

Fluids and Barriers of the CNS is affiliated to the International Brain Barriers Society (IBBS) and the International Society for Hydrocephalus and CSF Disorders.

The presented abstracts of the Hydrocephalus 2025 World Congress, September 5-8, 2025, will be published in the online journal Fluids and Barriers of the CNS.

CONGRESS PRESIDENT'S WELCOME ADDRESS

Dear Colleagues and Friends,

It is with immense pleasure and honor that we welcome you to France, and to the radiant city of Toulouse, for the 2025 Hydrocephalus World Congress. Toulouse, nestled in the heart of the Occitanie region, is a city that gracefully balances heritage and progress. Known as "La Ville Rose" for its luminous pink-hued façades, it is equally celebrated for its art de vivre, where science, gastronomy, music, and conviviality flourish side by side. With the Garonne river and the Canal du Midi, a UNESCO world heritage treasure, Toulouse is a place where life and inspiration flow.

But more than its charm, Toulouse stands as a beacon of innovation and science. It is the beating heart of Europe's aerospace and engineering industries, home to Airbus and an ecosystem of research, design, and technological audacity. This spirit of modernity drives Hydrocephalus 2025.

This year's congress embraces a resolutely avant-garde vision of hydrocephalus. Our scientific program challenges boundaries, fosters multidisciplinarity, and dares to ask the questions to explore new territories of our field. The Educational Seminar "Beyond Idiopathic Normal Pressure Hydrocephalus" invites participants to reframe their assumptions, confront uncertainty, and think ahead. Our dedicated session on "Fundamental Physics Applied to Hydrocephalus" will exemplify how mathematical modelling, physical sciences and engineering, now stand at the forefront of innovation.

We welcome not only neurosurgeons, neurologists, pediatricians, geriatricians, radiologists, and psychiatrists, but also engineers, physicists, neuropsychologists, nurses, therapists, data scientists and others. But crucially, we celebrate this year the voices of patients and advocates, especially through our collaboration with the Hydrocephalus Association and the CSF Leak Association, because true progress is always patient-centered.

On behalf of the Hydrocephalus Society, we invite you to experience a truly avant-garde congress, one that is both scientifically bold and deeply human. A time to connect, challenge ideas, and dream over a glass of wine of new frontiers in hydrocephalus and CSF-related care, all in the spirit of Toulouse.

Warm regards,

Eric Schmidt
President of the Hydrocephalus 2025 World Congress

HYDROCEPHALUS SOCIETY PRESIDENT'S WELCOME ADDRESS

Dear Colleagues & Friends,

It is my honour and sincere pleasure to welcome you to Hydrocephalus 2025, the 17th World Hydrocephalus Congress arranged by the Hydrocephalus Society (The International Society for Hydrocephalus and Cerebrospinal Fluid Disorders).

The Hydrocephalus Society was formed in 2007 with a goal to create an International Society that addressed the entire field of hydrocephalus. During these past 18 years, the Society has grown, engaging more member scientists and clinicians around the world to advance hydrocephalus research and clinical care. Hydrocephalus Society is increasingly engaged in different activities including the educational Global Webinar Series presently running its fourth season, efforts to increase awareness as well as collaborations with other societies. Our Society has worked with the Society Secretariat (Artion) since late 2015 for management of both Society affairs and the Annual Meeting. Fluids and Barriers of the CNS is the official journal of the Hydrocephalus Society and now has an impact factor of 7.3. Over the years, we have witnessed significant progress with our understanding of what hydrocephalus and other cerebrospinal fluid disorders are and do to children and adults and how to improve the care of affected patients. Please consider becoming a full member of the Hydrocephalus Society if you presently are not one.

The peak of our year is the Annual World Congress bringing together experts within this exciting field for some intense days when we share scientific advances and new developments as well as network to foster collaboration. The Young Investigators Award competition has become a crown jewel of the meeting highlighting junior researchers and our annual Keynote speakers are exceptional world experts.

We are very grateful to our host and meeting president Prof. Eric Schmidt and his entire team, to our secretariat Artion and to all people who have contributed to this conference. This year, we have prepared a very exciting scientific program that includes the new, cutting-edge developments in adult and paediatric hydrocephalus and CSF disorders within both clinical and experimental research. Our Keynote speakers are selected for their outstanding records. However, to make the conference a real success, we need your participation, your input, your questions and participation in discussions, i.e. your contributions to the congress. We thank you for making this conference a special, fruitful, and inspiring event.

On behalf of the Hydrocephalus Society, I wish you great days in the lovely city of Toulouse and hope you will bring many new insights and enjoyable memories back home.

Mats Tullberg, Professor
President of the Hydrocephalus Society

CONGRESS PRESIDENT

Eric Schmidt

CONGRESS SCIENTIFIC CHAIR

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CONGRESS SECRETARIAT

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conferences & events

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HYDROCEPHALUS 2025 WORLD CONGRESS

TOULOUSE, FRANCE | 5-8 SEPTEMBER 2025

WWW.HYDROCEPHALUS-MEETING.COM

The Hydrocephalus World Congress - the 17th Meeting of the Hydrocephalus Society Toulouse, France, 05/09/2025 - 08/09/2025 organized by International Society for Hydrocephalus and Cerebrospinal Fluid Disorders - Hydrocephalus Society has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) for a maximum of 19.0 European CME credits (ECMEC®s).

Each medical specialist should claim only those credits that he/she actually spent in the educational activity.

Through an agreement between the European Union of Medical Specialists and the American Medical Association, physicians may convert EACCME® credits to an equivalent number of AMA PRA Category 1 Credits™. Information on the process to convert EACCME® credits to AMA credits can be found at *https://edhub.ama-assn.org/pages/applications*.

Live educational activities occurring outside of Canada, recognised by the UEMS-EACCME® for ECMEC® credits are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

Credit will be converted based on one (1) hour of participation equalling one credit for all activities. Physicians wishing to convert EACCME® credits to AMA PRA Category 1 Credit™ will be required to access the AMA website at *https://edhub.ama-assn.org/pages/applications* to obtain the necessary paperwork and instructions. Physicians and other health care professionals will be required to pay a processing fee to the AMA.

For other countries, please contact the relevant national/regional accreditation authority.

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2025 HYDROCEPHALUS

World Congress

5-8 September | Toulouse, France

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14:00-14:30	Coffee Break
14:30-15:45	Educational Seminar: Beyond Idiopathic Normal Pressure Hydrocephalus
15:45-16:15	Award Ceremony

Saturday, 6 September 2025

	ARIANE FOYER				
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DETAILED PROGRAM

Friday, 5 September 2025

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12:30-13:00	**Welcome and Get Together**
13:00-13:15	**After Hydrocephalus: Redefining CSF-Related Diseases** **Mats Tullberg**
13:15-13:30	**iNPH in the Modern Landscape of Neurodegenerative Diseases** **Chifumi Iseki**
13:30-13:45	**Functional Neurosurgery iNPH. A Neuromodulation Hypothesis** **Benjamin Elder**
13:45-14:00	**Hallmarks and Biomarkers of NPH: Moving Towards Precision Medicine** **Eric Schmidt**
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14:45-15:00	**Neurophysiology in NPH: Measuring What Matters** **Ahmed Toma**
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15:15-15:45	**Discussion**
15:45-16:15	**Award Ceremony**

Saturday, 6 September 2025

	ARIANE FOYER
07:00-08:00	**Registrations**
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09:20-09:30	Impact of Symptom Duration on Brain Imaging Findings in Spontaneous Intracranial Hypotension **Petra Cimflova**
09:30-09:40	Idiopathic Normal Pressure Hydrocephalus: Validation of the DESH Score in the Capital Region of Denmark **Bjarni Johansson**
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09:20-09:30	Correlation Between Caregiver Burden and the Normal Pressure Hydrocephalus (Hakim's) triad: A Patient-Caregiver Dyad Analysis **Juan Daniel Ramirez Muñoz, Rocio Nino**
09:30-09:40	Epidemiology of iNPH in Korea: Analysis of Prevalence, Mortality, and Treatment Trends. **Minju Kim**
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09:50-10:00	Cognitive Assessment Methods and Outcomes Following Shunt Surgery in Idiopathic Normal Pressure Hydrocephalus (iNPH): A Systematic Review and Meta-Analysis **Lisa Healy**
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	AUDITORIUM DE SAINT EXUPÉRY
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10:40-10:50	Cognitive-Linguistic Improvements after Shunt Surgery in Idiopathic Normal Pressure Hydrocephalus: Insights from Eye-Tracking during Lexical Retrieval Tasks **Seongeun Kwon**
10:50-11:00	Bioinspired Anti-Fouling Catheter Material and Design **Haritosh Patel**
11:00-11:10	Comparison of Gray Matter Alterations Between Normal Pressure Hydrocephalus and Alzheimer's Disease **Hongliang Li**
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11:30-11:40	Diagnostic Process, Misdiagnosis, and Bias in Suspected Idiopathic Intracranial Hypertension: A Retrospective Observational Cohort Study **Nadja Skadkær**
11:40-11:50	Refining Treatment Paradigms in Idiopathic Normal Pressure Hydrocephalus: A Patient Centric Cluster-Based Approach to Shunt Selection **Arya Abaee**
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14:35-14:50 **Dynamic Intracranial Compliance to Better Understand NPH**
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14:50-15:05 **Measuring and Modelling CSF Pulsatility**
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15:15-15:25 Toward Smart Shunting: Predicting Body Position using Artificial Intelligence in Patients Undergoing Intracranial Pressure Monitoring
Emalee Burrows

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CASSIOPÉE

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Chairs: **Giorgio Palandri, Ahmed Toma**

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Trine Toft-Bertelsen

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Stephane Goutagny

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Daniele Rigamonti

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Madoka Nakajima

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14:30-14:40	Modeling Ciliary Genes in Xenopus Uncovers Novel Mechanisms for Congenital Hydrocephalus **Engin Deniz**
14:40-14:50	Optimization of Human Neural Stem Cells in Transparent Anionic Nanofibrillar Hydrogel as a Model for the Ventricular and Subventricular Xone. **Sydney Milo**
14:50-15:00	Analysis of Hydrocephalus Cases in Brazil: Prevalence, Mortality, and Regional Differences (2000–2023) **Kim Wouters**
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15:10-15:20	Predicting Endoscopic Third Ventriculostomy with Choroid Plexus Cauterization (ETV/CPC) Outcome in Infant Hydrocephalus **Pei-Yi Lin**
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	EXHIBITION AREA
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	AUDITORIUM DE SAINT EXUPÉRY
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	Abstract for this Session is on page 89
16:05-16:15	**Interim Results of a Randomized, Blinded Placebo-Controlled Trial of the Efficacy of Shunting for Idiopathic Normal Pressure Hydrocephalus** **Mark Hamilton**
16:15-17:35	**SESSION 9:** **NEUROIMAGING** Chairs: **Chifumi Iseki, Federico Cagnazzo**
	Abstracts for this session are on pages 90 - 95
16:15-16:35	**Spontaneous Intracranial Hypotension and Idiopathic Intracranial Hypertension: Clinical Insights, Brain Volume Evolution, and Pressure Dynamics After Treatment** **Federico Cagnazzo**
16:35-16:45	Cerebrospinal Fluid Redistribution After Shunt Placement **Marcel Wrantjes**
16:45-16:55	Are Arachnoid Granulations Necessary for CSF Physiology? **Milan Rados**
16:55-17:05	Diagnostic Accuracy of Artificial Intelligence-Based Imaging for Idiopathic Normal Pressure Hydrocephalus: Systematic Review and Meta-Analysis **Stefeson Gomes Cabral Junior**
17:05-17:15	Validating Post-Operative Trans-Burr Hole Ultrasound to Measure Cerebral Ventricular Size in Hydrocephalus: Comparison of Ultrasound to Computed Tomography **Ryan Lee**
17:15-17:25	Distinct White Matter Connectivity Profiles in iNPH Revealed by Quantitative Anisotropy Connectometry **Daniele Piccolo**
17:25-17:35	CDESH Decreases After Shunting and Changes Correlate Strongly with Measures of Gait Improvement **Jeffrey Gunter**
	CASSIOPÉE
16:15-17:45	**SESSION 10:** **EXPERIMENTAL HYDROCEPHALUS** Chairs: **Pat McAllister, Richard Edwards**
	Abstracts for this session are on pages 96 - 105
16:15-16:25	Influence of CSF System Experimental Blockade on Hydrocephalus Development **Ivana Jurjevic**

16:25-16:35	Inhibition of TRPV4 as a Pharmacological Treatment of Posthemorrhagic Hydrocephalus **Trine L. Toft-Bertelsen**
16:35-16:45	Brain Pathology in the Model Mice of Chronic Hydrocephalus Concomitant with Alzheimer's Disease **Kaito Kawamura**
16:45-16:55	Shunt-Related CSF Overdrainage – A Multicenter Consensus Definition **Marianne Juhler**
16:55-17:05	Alteration of Neuroinflammation and Intracranial Microbiome with Antibiotic Impregnated Catheters **Mark Luciano**
17:05-17:15	CSF Proteomics in Spontaneous Intracranial Hypotension: A metabolic disease? **Amir El Rahal**
17:15-17:25	Effect of Anesthesia and Blood Oxygenation on Rodent CSF Secretion. **Thomas Nielsen**
17:25-17:35	Aquaporin 1 is not Required for CSF Secretion and Brain Fluid Homeostasis in Mice **Nana Macaulay**
17:35-17:45	Role of the Choroid Plexus in Amyloid-β Clearance in PTPN20 Knockout Mice **Ryo Miyahara**
	SPOT
16:15-17:30	**SESSION 11:** **YOUNG INVESTIGATORS SPECIAL SESSION** Chairs: **Anne Benninghaus, Fabian Flürenbrock & Monica Chau**
16:15-16:20	Session Introduction **Anne Benninghaus & Fabian Flürenbrock**
16:20-16:30	Problem-Solving with Purpose: Navigating a Career in Bioengineering and Hydrocephalus **Carolyn Harris**
16:30-16:40	Not All Who Wander Are Lost **Michael Williams**
16:40-16:50	Cerebral Hydrodynamics and Translational Engineering: Toward a Smarter Future for Hydrocephalus Management **Eric Schmidt**
16:50-17:10	**Panel Discussion and Q&A with Speakers**
17:10-17:30	**Networking Activity**

Sunday, 7 September 2025

	AUDITORIUM DE SAINT EXUPÉRY
08:30-09:20	**SESSION 12:** **HYDROCEPHALUS SOCIETY & HYDROCEPHALUS ASSOCIATION JOINT SESSION - STRONGER TOGETHER: HOW PATIENT - PROFESSIONAL ALLIANCES CAN IMPROVE HYDROCEPHALUS CARE** Chairs: **Mats Tullberg, Diana Gray**
08:30-08:45	**Strengthening Hydrocephalus Care, Research and Awareness Through Collaboration** **Diana Gray,** *Hydrocephalus Association President*
08:45-09:00	**The Significance of Collaborations with Patient Associations. Lessons from Sweden** **Mats Tullberg,** *Hydrocephalus Society President*
09:00-09:20	Roundtable Discussion: **Diana Gray, Monica Chau, Ahmed Toma, Mats Tullberg**
	AUDITORIUM DE SAINT EXUPÉRY
09:20-10:50	**SESSION 13:** **YOUNG INVESTIGATORS AWARDS II** Chairs: **Carolyn Harris, Monica Chau**
	Abstracts for this session are on pages 106 - 114
09:20-09:30	Exploring the Role of Lateral Ventricle Geometric Features in Detecting Extracellular Deposition of Amyloid-β Peptides in Patients with Idiopathic Normal Pressure Hydrocephalus **Andrius Penkauskas**
09:30-09:40	Normal Pressure Hydrocephalus: The Role of Emergency Services and Primary Care in its Early Diagnosis **Lucia Rodriguez**
09:40-09:50	Evaluating the Additive Properties of Differential Pressure Valves in a Novel Benchtop Shunt Model **Sai Chandan Reddy**
09:50-10:00	Brain Tissue Mimicking Hydrogel for Benchtop Investigation of Hydrocephalus Mechanisms **Gwendolyn Williams**
10:00-10:10	Postoperative Delirium Following CSF Shunt Surgery for Normal Pressure Hydrocephalus: A 5-Year Retrospective Analysis of 326 Patients **Aimilia Moraiti**
10:10-10:20	Gait Outcomes of Wheelchair Dependent Patients with Idiopathic Normal Pressure Hydrocephalus Following Shunt Placement **Rahul Kumar**
10:20-10:30	Quantitative Gait Analysis Using a Deep Learning-Based Application Reveals Distinct Upper and Lower Limb Movement Patterns in Hakim's and Parkinson's Disease **Atsuhito Taishaku**

10:30-10:40	Hypnonatremia in Pediatric Patients Under 2 Years Wth Non-Tumour Hydrocephalus Seen at the Kenyatta National Hospital **Robert Tabu**
10:40-10:50	**Discussion**
	EXHIBITION AREA
10:50-11:20	**Coffee Break & Exhibition**
	AUDITORIUM DE SAINT EXUPÉRY
11:20-12:45	**SESSION 14:** **CHARTING NEW DIRECTIONS IN HYDROCEPHALUS** Chairs: **Uwe Kehler, Romain Manet**
	Abstracts for this session are on pages 115 - 120
11:20-11:35	**Update on Basal Ganglia Circuit Dysfunction in NPH** **Fredrik Lundin**
11:35-11:45	**The Neurological Foundations of Hydrocephalus: A Critical Perspective** **Cristopher Carswell**
11:45-11:55	Feasibility and Safety of the Non-Invasive Tap Test (Pumping-Test) in Shunted NPH-Patients **Uwe Kehler**
11:55-12:05	Home ICP Monitoring – A New Paradigm for Management of Patients with Hydrocephalus **Simon Malpas**
12:05-12:15	How Low Can We Go? The Optimal Initial Opening Pressure Setting for Idiopathic Normal Pressure Hydrocephalus **Rodolfo Reis**
12:15-12:25	The Textbooks were Right - The Intracranial Pressure-Volume Relationship Holds Up in Long-Term, at-Home ICP Monitoring of Hydrocephalus. **Simon Malpas**
12:25-12:35	A Link Between Radiological Features and Intracranial Pressure Waveform Components in Normal Pressure Hydrocephalus **Magdalena Kasprowicz**
12:35-12:45	Upright Cerebral Venous Pressure and Its Implications for Glymphatic Driving Forces and Sulcal Narrowing in Normal Pressure Hydrocephalus **Yoshinaga Kajimoto**
	CASSIOPÉE
11:20-12:45	**SESSION 15:** **ADULT HYDROCEPHALUS** Chairs: **Nicole Keong, Sevil Yasar**
	Abstracts for this session are on pages 121 - 127
11:20-11:35	**NPH: A Silent Challenge with Far-Reaching Societal Consequences** **Fernando Pinto**

11:35-11:45 A Study on Optimal Valve Pressure After Ventriculoatrial Shunt in Patients with Normal Pressure Hydrocephalus
Ryosuke Takagi

11:45-11:55 Necessity of the Tap Test in Patients with DESH: Validation of the Japanese Treatment Guidelines
Ryo Oike

11:55-12:05 From MRI Imaging to Infusion: Investigating the Role of Convexity Tightness in CSF Circulation Impairment
Afroditi Lalou

12:05-12:15 Stability Analysis of Intracranial Pressure
Michael Egnor

12:15-12:25 Spontaneous Intracranial Hypotension (SIH) Affects all Ages and Body Types: Results from 397 Patients.
Katharina Wolf

12:25-12:35 DRAIN – Double-blind Randomized Acetazolamide trial in Idiopathic Normal pressure hydrocephalus
Johan Virhamar

12:35-12:45 Advancing Hydrocephalus Patient Education and Support: Implementing and Assessing Improvements in a Virtual Normal Pressure Hydrocephalus Support Group
Jeff Chen

SPOT

11:20-12:45 **SESSION 16:**
TECHNICAL ADVANCES IN TREATMENT AND DIAGNOSIS
Chairs: **Anne Benninghaus, Sylvie Lorthois**

Abstracts for this session are on pages 128 - 134

11:20-11:30 **Brain and Eye in Space: Impact of Real and Simulated Microgravity**
Anne Pavy le Traon

11:30-11:40 The Brain in Space: MRI Quantification of Structural Changes to the Cerebrospinal Fluid, Brain and Eye in Astronauts
Bryn Martin

11:40-11:50 CSFsim: A Simulation Framework for Cerebrospinal Fluid Dynamics and Hydrocephalus Shunt Systems
Fabian Fluerenbrock

11:50-12:00 New Ce-Authorized Non Invasive Adjustable CSF Flow Device with a Real off Function for the Treatment of Complex Hydrocephalus
Jan Muegel

12:00-12:10 Endoscopic Ventricular Lavage Versus Conventional External Drainage in Spontaneous Intraventricular Haemorrhage: Matched-Cohort Evidence of Superior Clot Clearance and Outcomes
Thomas Radovnicky

12:10-12:20 Management of Chronic Subdural Hematoma in Spontaneous Intracranial Hypotension
Amir El Rahal

12:20-12:30	Quantitative Analysis of Neurofluid Dynamics in Chiari Syndrome: Toward a Better Understanding of Symptom Genesis **Pauline Carlier**
12:30-12:40	Diagnostic Accuracy of Shuntography in Suspected Cerebrospinal Fluid Shunt Malfunction: A Safe and Effective Non-Invasive Imaging Modality **Hassan Bin Ajmal**
12:45-14:00	**Industry Sponsored Lunch Seminar** (CARAVELLE 1)
	AUDITORIUM DE SAINT EXUPÉRY
14:00-15:30	**SESSION 17:** **YOUNG INVESTIGATOR AWARDS III** Chairs: **Sara Qvarlander, Jürgen Beck**
	Abstracts for this session are on pages 135- 143
14:00-14:10	Assessing Intracranial Fluid Dynamics Using Fundoscopy **Mathias Just Notrvig**
14:10-14:20	Cognitive Reasoning in Adult Ventriculoperitoneal (VP) Shunt Surgery: A Human Factors Pilot Study **Yuewei Tao**
14:20-14:30	Valve-Agnostic Cranial Implant in Normal Pressure Hydrocephalus Ventriculoperitoneal Shunting: A Case Series **Cristopher Lane**
14:30-14:40	Management of Shunted Hydrocephalus During Transition from Childhood to Adulthood: Is Routine Clinic Review Required? **Taufiq Khan**
14:40-14:50	Assessing Cognitive Change in iNPH Using the Sound Symbolic Words Texture Recognition Test (SSWTRT) **Chihiro Kamohara**
14:50-15:00	Idiopathic Normal Pressure Hydrocephalus Diffusion Imaging Abnormalities in Relation to a Biomechanical Model of Ventricular Expansion **Martina Del Giovane**
15:00-15:10	Early Cranioplasty as a Risk Factor for Post-Traumatic Hydrocephalus **Emily Blakeney**
15:10-15:20	Endoscopic Third Ventriculostomy versus Ventriculoperitoneal Shunt for Idiopathic Normal Pressure Hydrocephalus: A Systematic Review and Updated Meta-analysis **Raphael Bertani**
15:20-15:30	Application of Machine Learning-Based Clustering to Identify Clinical Subgroups and Treatment Outcomes in Normal Pressure Hydrocephalus **Emalee Burrows**
	EXHIBITION AREA
15:30-16:10	**Coffee Break & Exhibition**

	AUDITORIUM DE SAINT EXUPÉRY
16:10-17:20	**SESSION 18:** **PEDIATRIC HYDROCEPHALUS** Chairs: **Richard Edwards, Mats Tullberg**
	Abstracts for this session are on pages 144 - 148
16:10-16:30	**Genotype vs Phenotypes of Hydrocephalus** **Kristopher Kahle**
16:30-16:40	Research Priorities for Improving Cognitive and Neuropsychological Outcomes in Hydrocephalus **Monica Chau**
16:40-16:50	Dual-Approach Surface Engineering of Ventricular Catheters to Reduce Cellular Occlusion in the Treatment of Hydrocephalus **Seunghyun Lee**
16:50-17:00	Proximal Hole Disocclusion via Retrograde Flushing: In Vitro Evaluation **Michael Le**
17:00-17:10	Change in Optic Nerve Sheath Diameter and Cerebrospinal Fluid Shunt Failure in Children **Brian Hanak**
17:10-17:20	Long-term Clinical Outcomes of the Flow Ventricular Catheter for Hydrocephalus: A Follow-up Study **Raphael Bertani**
	CASSIOPÉE
16:10-17:30	**SESSION 19:** **NEUROIMAGING** Chairs: **John Oshinski, Karin Kockum**
	Abstracts for this session are on pages 149 - 156
16:10-16:20	Diagnostic Utility and Clinical Correlates of Automated MRI Indices in Normal Pressure Hydrocephalus (NPH) **Padraig Osuilleabhain**
16:20-16:30	Comparison of Infusion-Derived and Physiological Craniospinal Compliance in Chronic Hydrocephalus Patients **Kimi Owashi**
16:30-16:40	Volumes and Velocities: Meta Analysis of PC MRI Studies in Normal Pressure hydrocephalus **Petr Skalicky**
16:40-16:50	Can Semi-Automated Brain Morphometrics Distinguish Between Asymptomatic and Symptomatic Type I Chiari Malformation, and Age and Gender Matched Controls? **Mark Luciano**
16:50-17:00	Cardiac Frequency by Itself can Change CSF Dynamics in the Brain Compartments. A New Realistic 2D Numerical Model Investigation **Olivier Baledent**
17:00-17:10	The Utility of Phase-Contrast MRI and ICP Monitoring in Chiari I Malformations: A Systematic Review **Shivani Rajkumar**

17:10-17:20	Age-Related Changes in Venous Drainage in Adults with Chiari Syndrome Assessed by Phase-Contrast MRI **Heimiri Monnier**
17:20-17:30	Study Protocol: A randomized Clinical Trial on Non-Invasive Evaluation of Shunt Obstruction in Adult Hydrocephalus at Two Hydrocephalus Research Centers in Sweden **Rebecca Groenning**
	SPOT
16:10-17:30	**SESSION 20:** **GERIATRIC HYDROCEPHALUS** Chairs: **Sevil Yasar, Lawrence Bories**
	Abstracts for this session are on pages 157 - 163
16:10-16:20	**From Home to Care Home: The Role of Hydrocephalus in Loss of Independence** **Lawrence Bories**
16:20-16:30	Bridging Gaps in Geriatric Neurosurgery: A Public and Professional Perspective on Normal Pressure Hydrocephalus in Brazil **Caio Arruda Maciel**
16:30-16:40	Role of Multidisciplinary Approach in the Diagnosis and Therapy of Normal Pressure Hydrocephalus: A Single Center Experience **Stefano Borsa**
16:40-16:50	Correlation Between Cerebrospinal Fluid Tau Biomarkers and CSF Tap Test Responsiveness in iNPH Patients **Yan Xing**
16:50-17:00	Cerebral Blood and CSF Flow Dynamics in Healthy Elderly Subjects and Chronic Hydrocephalus Patients **Kimi Owashi**
17:00-17:10	A Minimally Invasive Approach for Disconnection of Cerebrospinal Fluid Venous Fistula **David Rowland**
17:10-17:20	Was Foramen Magnum Decompression Surgery Inappropriately Performed in Patients with Spontaneous Intracranial Hypotension? **Gillian Pace**
17:20-17:30	Orthostatic Headache: Treatment Response Stratified by Spinal Imaging Findings **Olga Fermo**

Monday, 8 September 2025

AUDITORIUM DE SAINT EXUPÉRY

08:00-10:30 SESSION 21:
HYDROCEPHALUS SOCIETY-EANS-CSF LEAK ASSOCIATION SESSION
Chairs: **Jürgen Beck, Manjit Mantharu**

Abstracts for this session are on pages 164 - 168

08:00-08:20 **Introduction to SIH: Clinical Presentation & Differential Diagnosis**
Manjit Mantharu

08:20-08:40 **Imaging Basics and Recent Advances**
Lalani Carlton Jones

08:40-09:00 **From Bloodpatch to Endovascular Therapy**
Tomas Dobrocky

09:00-09:20 **Surgical Treatment of Spinal CSF Leaks**
Jürgen Beck

09:20-09:40 Roundtable Discussion:
How to get Started in SIH; How to Build a Center; What Convinced you to Take up the Cause of SIH Leak Patients; Post-Treatment Headaches-What do we Miss?
Moderated by Rigmor Højland Jensen and Eric Schmidt

09:40-09:50 Socioeconomic Effect of Surgical Treatment of Spinal CSF Leaks in Spontaneous Intracranial Hypotension
Amir El Rahal

09:50-10:00 Spinal CSF Volumetry in Patients with SIH Before and after Treatment
Eike Immo Piechowiak

10:00-10:10 Locating Spinal Leaks in Spontaneous Intracranial Hypotension: How Many Dynamic Myelographies Does It Take?
Toma Dobrocky

10:10-10:20 Evaluation of Finger Function in iNPH: A Comparative Cueing Study
Yoko Shimizu

10:20-10:30 Investigation of Coexisting Disproportionately Enlarged Subarachnoid Space Hydrocephalus (DESH) on Imaging in Cases of Dementia with Lewy Bodies (DLB)
Chifumi Iseki

CASSIOPÉE

08:00-09:20 SESSION 22:
TECHNICAL ADVANCES IN TREATMENT AND DIAGNOSTICS
Chairs: **Olivier Baledent, Andreas Spiegelberg**

Abstracts for this session are on pages 169 - 174

08:00-08:10 **Delivering High-Quality Care with Low-Tech Solutions for Hydrocephalus Management?**
Romain Manet

08:10-08:20 **Optimizing Hydrocephalus Surgery: Preoperative Simulation and Symptom Improvement Prediction**
Shigeki Yamada

08:20-08:30 B-waves in Non-Invasive Capacitance Signal Correlate with B-waves in ICP in Recordings of 51 Patients
Andreas Spiegelberg

08:30-08:40 Laparoscopic Peel-Away Sheath Technique versus Mini-Open Laparotomy for Lumboperitoneal Shunt in Idiopathic Normal Pressure Hydrocephalus: A Prospective Comparative Cohort Study
Xuhao Fang

08:40-08:50 Wearable, Non-Invasive Spot Check Measurements of Shunt Flow via Thermal Anisotropy: Device Advancements for Improving Depth of Measurement
R. Chad Webb

08:50-09:00 Shunt Flow Throughout Daily Life: Data from the First use of Continuously Worn Cerebrospinal Fluid Shunt Flow Monitors on 25 Shunted Hydrocephalus Subjects Over 30-Day Periods.
R. Chadd Webb

09:00-09:10 Beyond Monitoring at Rest: Real-Life Insights into ICP Dynamics
Andreas Bunge

09:10-09:20 Higher Harmonic Centroid in Hydrocephalus: Early Insights from Telemetric Intracranial Pressure Monitoring.
Sang Ho Kim

SPOT

08:00-09:20 **SESSION 23:**
ADULT HYDROCEPHALUS
Chairs: **Sevil Yasar, Giulia Bommarito**

Abstracts for this session are on pages 175 - 181

08:00-08:10 Predictive Value of Risk Analysis Index and Modified Frailty Index for Gait Outcomes Following Shunt Surgery in Idiopathic Normal Pressure Hydrocephalus
Abdelrahman Hamouda

08:10-08:20 Impact of Volume Input Frequency on Craniospinal Compliance: A Spectral Approach
Agniezska Kazimierska

08:20-08:30 Is ICP Really Normal in NPH? - First Insights from Home-Based Telemetric Monitoring
Sang ho Kim

08:30-08:40 Feasibility of Patient-Led Home ICP Monitoring
Sang Ho Kim

08:40-08:50 Effect of a Structured Exercise Program on Center of Mass Variables During Walking in Individuals with Idiopathic Normal Pressure Hydrocephalus: A Preliminary Study
Sunee Bovonsunthonchai

08:50-09:00 Handwriting Analysis in Patients with Normal Pressure Hydrocephalus: A Study on 18 Patients
Gianpaolo Petrella

09:00-09:10 Pre- and Post-Shunt Evaluation of Auditory Signs in Patients with Normal Pressure Hydrocephalus
Juan Daniel Ramirez Munoz

09:10-09:20 **Validation of a Prognostic Prediction Table for Hakim disease (iNPH)**
Teruo Kimura

	CASSIOPÉE
09:20-10:20	**SESSION 24:** **INTRACRANIAL PRESSURE** Chairs: **Fernando Pinto, Anne Benningahus**
	Abstracts for this session are on pages 182 - 187
09:20-09:30	Beyond the Cardiac Pulse Waves: Gait-Related Oscillations in Intracranial Pressure Profiles **Andreas Bunge**
09:30-09:40	Establishing a Standard Protocol for Telemetric ICP Monitoring: Learning Points from Externalized Shunt Systems **Hassan Bin Ajmal**
09:40-09:50	Neurosurgical Management of Idiopathic Intracranial Hypertension (IIH): Preliminary Insights From the European Association of Neurosurgical Societies Guidelines **Filippos Chelmis**
09:50-10:00	Impact of Distal Catheter Tip Placement on Ventriculoperitoneal Shunt Dynamics **Martina Roncoroni**
10:00-10:10	What Happens to the Brain after a CSF Tap-Test? **Marcel Warntjes**
10:10-10:20	Investigating the Utility of ICP Monitoring in Chiari I Malformation: Insights from a Long-Term Observational Study **Shivani Rajkumar (Virtual)**

	SPOT
09:20-10:20	**SESSION 25:** **ADULT HYDROCEPHALUS** Chairs: **Ignacio Jusue Torres, Shigeki Yamada**
	Abstracts for this session are on pages 188 - 192
09:20-09:30	**Hydrocephalus Does not Matter** **Gianpaollo Petrella**
09:30-09:40	Physical Therapy-Evaluated Shunt Taps in the Management of Incomplete Response and Relapse in Shunted Idiopathic Normal Pressure Hydrocephalus **Ryan Lee**
09:40-09:50	Challenges in Neuropsychological Improvement After Shunt Surgery for Idiopathic Normal Pressure Hydrocephalus **Ondrej Bradac**
09:50-10:00	Implementing a Clinical Pathway for Normal Pressure Hydrocephalus (NPH): A Standardized Approach for the Care of NPH Patients Undergoing Ventriculoperitoneal Shunt Insertion **Jeff Chen**
10:00-10:10	The Economic Impact of Underdiagnosis in Idiopathic Normal Pressure Hydrocephalus **Gianpaolo Petrella**
10:10-10:20	Identifying Secondary Hydrocephalus in Post-Intensive Care Patients: An Infusion Study Approach **Laurent Gergele**

	EXHIBITION AREA
10:30-11:00	**Coffee Break & Exhibition**
	AUDITORIUM DE SAINT EXUPÉRY
11:00-12:30	**SESSION 26:** **HYDROCEPHALUS SOCIETY-SOCIETY FOR RESEARCH INTO HYDROCEPHALUS AND SPINA BIFIDA JOINT SESSION** Chairs: **Carolyn Harris, Hannah Botfield**
	Abstracts for this session are on pages 193 - 198
11:00-11:15	**Session Introduction** **Pat MacAllister**
11:15-11:30	**Modulating CSF Dynamics for Hydrocephalus Therapy** **Hannah Botfield**
11:30-11:40	Benchtop Investigation of Tissue Pull-In of Shunt Catheters in Hydrocephalus **Kenae Thompson**
11:40-11:50	A Material-Mediated Decrease in Neurological Cell Adhesion to Hydrocephalus Shunt Catheters **Quentin Aten (Virtual)**
11:50-12:00	Ventricular and Choroid Plexus Volume Changes in Alzheimer's and Non-Alzheimer's Dementias: Implications for Shared Pathological Features and Cerebrospinal Fluid Dynamics **Yuyue Qiu**
12:00-12:10	Investigating Choroid Plexus Organogenesis Using an Organoid Model **Celine Thao-Quyen**
12:10-12:20	Changes in Choroid Plexus Macrophages Across Neonatal Development in a Genetic Model of Hydrocephalus **Audrey Kruse**
12:20-12:30	Biomarkers of Neurodegeneration: Comparison Between iNPH, Lova, and Other **Neurodegenerative Diseases**
	CASSIOPÉE
11:00-12:35	**SESSION 27:** **ORAL FLASH PRESENTATIONS OF EPOSTERS** Chairs: **Shigeki Yamada, Zofia Czosnyka**
	Abstracts for this session are on pages 213 - 231
11:00-11:05	Hydrocephalus in Leptomeningeal Metastasis May Lack Typical Imaging Features of Normal Pressure Hydrocephalus **Ko-Ting Chen**
11:05-11:10	No Correlation Between Functional Dopaminergic Imaging, Iron Load and CSF Outflow Resistance in Suspected Idiopathic Normal Pressure Hydrocephalus **Lubin Klotz**
11:10-11:15	Transmission of Pulsatility Across the Level of the Foramen Magnum in Chiari Syndrome: Alteration of Mobile Compliance? **Pauline Carlier**

11:15-11:20 Diagnostic Accuracy of Thermal Transcutaneous Flow Compared with Radionucleotide Shunt Patency Study to Detect Shunt Obstruction in Adults with Hydrocephalus- A Cross Sectional Analytic Study
Naomi Abel

11:20-11:25 Continuous Telemetric Intracranial Pressure Measurement (ctICPM) Assessing the Effect of Different Body Positions, Activity, Time and Shunt Valve Adjustments
Vincent Prinz

11:25-11:30 Pure Endoscopic Cysto Ventriculostomy for Arachnoid and Glioependymal Cysts: Technical Aspects in a Cohort Series with Long Follow up
Francesco Tuniz

11:30-11:35 Fluid Dynamics Model of the Cerebral Ventricle System
Haritosh Patel

11:35-11:40 Wireless Monitoring of CSF Flow Rate, Pressure, and Device Patency for Timely Diagnosis of Hydrocephalus Shunt Failure
Sascha Lee

11:40-11:45 Lumboperitoneal Shunt Is Comparable to Ventriculoperitoneal Shunt for the Treatment of Idiopathic Normal Pressure Hydrocephalus
Yasuaki Inoue

11:45-11:50 Predictive Accuracy of a Clinical Model for Pathogenic Gene Carriage in PUMCH Dementia Patients with a Positive Family History
Jialu Bao

11:50-11:55 Lack of Correlation Between Functional Imaging and Brain Volumetry in Idiopathic Normal Pressure Hydrocephalus: A Multimodal Diagnostic Study
Lubin Klotz

11:55-12:00 Treatment-Responsive Changes in Positional Cerebral Compliance in Patients with Idiopathic Normal Pressure Hydrocephalus Demonstrated by Non-Invasive Monitoring
Giana Fote

12:00-12:05 Spacing Shunt Valves In Series: A Novel Strategy to Mitigate Siphon-Induced Overdrainage
Michael Le

12:05-12:10 MRI Evidence of Choroid Plexus Enlargement in Post-Hemorrhagic Pediatric Hydrocephalus
Leandro Castaneyra Ruiz

12:10-12:15 Determining the Utility of Baseline Gait and Cognitive Assessments in the Decision for Trial of CSF Drainage in Suspected Normal Pressure Hydrocephalus
Matthew Boissaud-Cooke

12:15-12:20 Utility of Blood Biomarkers in Prediction of Post-Operative Outcomes in Patients with Idiopathic Normal Pressure Hydrocephalus
Abdelrahman Hamouda

12:20-12:25 Evaluating the Effect of the Tap Test on Cognitive Test Scores in Suspected Idiopathic NPH
Matthew Boissaud-Cooke

12:25-12:30	Quantifying Changes in Measures of Gait Following Tap Test to Validate Clinical Decision Making for Shunt Surgery in Suspected Idiopathic Normal Pressure Hydrocephalus **Matthew Boissaud-Cooke**
12:30-12:35	Hierarchical Bayesian Modeling Improves Shunting Outcome Prediction in NPH Patients **Jeremi Chabros**
	SPOT
11:00-12:35	**SESSION 28:** **ORAL FLASH PRESENTATIONS OF EPOSTERS** Chairs: **Masakazu Miyajima, Snejana Jurici**
	Abstracts for this session are on pages 231 - 247
11:00-11:05	Is Davson's Equation Reliable in Hydrocephalus? A Systematic Review and Meta-Analysis **Ihsane Olakorede**
11:05-11:10	Adjusting the Unknown: Intracranial Pressure and Clinical Outcomes in Idiopathic Intracranial Hypertension Using Non-Invasive Telemetric Monitoring **Hannah Eskender**
11:10-11:15	Telemetric Intracranial Pressure Monitors: Current Status and Future Trends – A Systematic Review **Andreas Bunge**
11:15-11:20	Surgical Findings in Chronic Post Dural Puncture Headache Syndrome **Amir El Rahal**
11:20-11:25	Influence of CSF Volume Changes and Body Position on Cranial and Spinal CSF Pressure in Patients with iNPH **Nenad Kudelic**
11:25-11:30	Application of Lumboperitoneal Shunting in the Treatment of Complex Cranial Wound Healing Disorders **Vincent Prinz**
11:30-11:35	Expanding Hakim's Triad: Shunting Enhances Upper-Limbs Function in Idiopathic Normal Pressure Hydrocephalus – The Pro Hydro Study **Arianna Vignaroli**
11:35-11:40	Effects of a Ventriculoperitoneal Shunt on Hearing in Patients with Normal Pressure Hydrocephalus – Interim Results of a Prospective Cohort Study **Emily Wang**
11:40-11:45	Clinical Outcomes of Lumboperitoneal Shunt Surgery for Normal Pressure Hydrocephalus: A 5-Year Single-Center Retrospective Study of Patients with at Least 1 Year of Follow-Up **Ki-Su Park**
11:45-11:50	Geriatrics and Normal Pressure Hydrocephalus: A Science Mapping Review **Liliana Mazza**
11:50-11:55	Desh Score Reliability In Chronic Hydrocephalus **Cyrille Capel**

11:55-12:00	Elevated CSF Acceleration at the Craniospinal Junction Suggests Reduced Spinal Compliance in iNPH: A Phase-Contrast MRI Study **Katharina Wolf**
12:00-12:05	The Impact on the Caregiver in the Treatment in Patients with Normal Pressure Hydrocephalus **Gianpaolo Petrella**
12:05-12:10	Creative Strategies in Managing Complex Cerebrospinal Fluid Dynamics: A Case Series on Multi-Valve Shunt Systems **Alexandra Ramos Marquez**
12:10-12:15	Sensitivity of Physiotherapy-Based Clinical Tests in Detecting Gait and Balance Performance Following a 50 mL CSF Tap Test in Idiopathic Normal Pressure Hydrocephalus **Kardelen Akar**
12:15-12:20	Evaluating Outcome of Shunt Insertion in Idiopathic Normal Pressure Hydrocephalus (iNPH) Patients within a Dedicated NPH Clinic **Afsana Afrin Nisa**
12:20-12:35	**Discussion**
12:35-13:40	**Industry Sponsored Lunch Seminar** (CARAVELLE 1)
	AUDITORIUM DE SAINT EXUPÉRY
13:40-15:30	**SESSION 29:** **ADULT HYDROCEPHALUS** Chairs: **Ben Elder & Gianpaolo Petrella**
	Abstracts for this session are on pages 199 - 209
13:40-13:50	Differential Improvement in Patient-Reported Outcomes Measurement Information System (PROMIS) Domains after Ventriculoperitoneal Shunting (VPS) for Idiopathic Normal Pressure Hydrocephalus (iNPH) **Rahul Kumar**
13:50-14:00	Is Shunting Worthwhile for Bedridden Patients with Normal Pressure Hydrocephalus? **Romain Manet**
14:00-14:10	Development of a Non-invasive Multimodal System for NPH Monitoring Through Speech, Gaze, Gait, and Hearing Parameters **Jiho Lee**
14:10-14:20	Cerebral pseudoatrophy in Normal Pressure Hydrocephalus (Hakim's syndrome): Clinical and Volumetric Changes Following Shunting **Fernando Hakim**
14:20-14:30	Targeted CSF Metabolomics Suggests Potential Diagnostic Biomarkers for Idiopathic Normal Pressure Hydrocephalus **Ulrika Hofling**
14:30-14:40	CSF Biomarkers are Related to Symptomatology and Outcome in Idiopathic Normal Pressure Hydrocephalus – The Gothenburg POiNT-CSF Study **Mats Tullberg**
14:40-14:50	AK9 Mutations and Normal Pressure Hydrocephalus: Validating Genetic Evidence from a Case-Control Study **Yoav D. Piura**

14:50-15:00	Transcranial Doppler during CSF infusion test **Afroditi Lalou**
15:00-15:10	Variability of Cerebral Venous Drainage in Patients with Chronic Hydrocephalus: A Phase-Contrast MRI Study **Heimiri Monnier**
15:10-15:20	Beyond Idiopathic: Secondary Normal Pressure Hydrocephalus (sNPH) – Etiological Patterns and Surgical Outcomes **Alexandra Ramos Marquez**
15:20-15:30	Speed Matters: Maximal 10m Walking Test is superior to Normal Pace in Predicting Gait Recovery following Ventriculoperitoneal Shunt Insertion in Normal Pressure Hydrocephalus **Christoph Wiest**
	CASSIOPÉE
13:40-15:30	**SESSION 30:** **ORAL FLASH PRESENTATIONS OF EPOSTERS** Chairs: **Cristopher Carswell, John Pickard**
	Abstracts for this session are on pages 248 - 269
13:40-13:45	Real-time Phase Contrast MRI of CSF flow in Patients with Hydrocephalus. Heart or Lung! Which is the Driver? **Olivier Baledent**
13:45-13:50	Mapping Clinical Measures of CSF Responsiveness vs. Non-Responsiveness in Complex Normal Pressure Hydrocephalus using the Strategy of the Periodic Table of DTI Elements **Nicole Keong**
13:50-13:55	Clinical Relevance of DESH Subtypes in Normal Pressure Hydrocephalus (Hakim's Syndrome): Implications for Therapeutic Outcomes **Juan Daniel Ramirez**
13:55-14:00	Association Between Cerebral Microbleeds and Idiopathic Normal Pressure Hydrocephalus **Chun Yan Liu**
14:00-14:05	Quantification of the Contribution of Metabolism-Derived Water to Cerebrospinal Fluid in Humans and Rats **Cecilie Hvass**
14:05-14:10	Mapping Human Glymphatic Flow with 7T MRI: A Safer Alternative to Intrathecal Imaging **Danielle van Westen**
14:10-14:15	Is Sagittal T2 Flow Void MRI in Diagnosing Third Ventriculostomy Reliable? **Arianna Vignaroli**
14:15-14:20	Ventriculomegaly after Vestibular Schwannoma Treatment : Assessing Cerebral Hydrodynamics to Guide Hydrocephalus Management **Vincent Grandjean**
14:20-14:25	Glioblastoma and Ventriculomegaly: Hydrodynamic Disturbances as Emerging Biomarkers for Hydrocephalus Diagnosis and Management **Vincent Grandjean**

14:25-14:30	Environmental Impact of Shunt Surgery: A Green Work of the French Neurosurgery Scientific Committee on Eco-Responsibility **Tuan Le Van**
14:30-14:35	Evaluating Baseline Cognitive Impairment and Impact of Treatment in Idiopathic Normal Pressure Hydrocephalus (iNPH) Using a Standardised Assessment Battery and Composite Score **Lisa Healy**
14:35-14:40	Functional Response to Large Volume Lumbar Puncture Predicts Shunt Surgery and Perceived Benefit in Suspected Normal Pressure Hydrocephalus **Mark Luciano**
14:40-14:45	Brain Compliance in Normal Pressure Hydrocephalus and Post-Traumatic Hydrocephalus: Use of Novel Radiographic and Non-invasive Intracranial Waveform Methodologies **Jeff Chen**
14:45-14:50	To shunt or Not to Shunt : Idiopathic Normal Pressure Hydrocephalus and Physical Frailty **Dounia Rouabhia**
14:50-14:55	Surgical Effects in Patients with Normal-Pressure Hydrocephalus Based on CT Perfusion Imaging **Hao Xu**
14:55-15:00	Association of Pre-Shunt MRI Metrics with Gait Outcomes after Shunt in Idiopathic Normal Pressure Hydrocephalus **Rahul Kumar**
15:00-15:05	Diagnostic Performance Of The Main Diagnostic Tools In Chronic Hydrocephalus **Cyrille Capel**
15:05-15:10	No Predictive Value of Aqueduct CSF Flow Dynamics for Shunting Efficacy in Idiopathic Normal Pressure Hydrocephalus **Afroditi Lalou**
15:10-15:15	CSF Lysophospholipids as Potential Biomarkers for Hydrocephalus **Teruhiko Yoshida**
15:15-15:20	LP Shunt in Patients with iNPH : Surgical Technique **Naoyuki Samejima**
15:20-15:25	MRI-Based Characterization of Torcular Configurations in Chronic Hydrocephalus Patients and Healthy Controls **Heimiri Monnier**
15:25-15:30	Pericatheter Cysts as a Postoperative Complication of VP and VA Shunt Procedures **Koichi Miyazaki**
	SPOT
13:40-15:00	**SESSION 31:** **ORAL FLASH PRESENTATIONS OF EPOSTERS** Chairs: **Laurence Watkins, Fernando Hakim**
	Abstracts for this session are on pages 270 - 285
13:40-13:45	Atypical Manifestations of Idiopathic Normal Pressure Hydrocephalus **Gianpaolo Petrella**

13:45-13:50 Phase-contrast MRI Cerebrospinal Fluid Flow Parameters as Predictive Markers of ETV Efficacy in Idiopathic Normal Pressure Hydrocephalus: Prospective Observation Study
Karel Pistek

13:50-13:55 The impact of Alzheimer's and Vascular Dementia on Shunt Outcomes in Idiopathic Normal Pressure Hydrocephalus, a Systematic Review of 1.394 Patients
Kim Wouters

13:55-14:00 Long-Term Body Weight Changes in the Patients with Normal Pressure Hydrocephalus Received Ventriculoatrial Shunt
Kiyoshi Takagi

14:00-14:05 Awareness of Normal Pressure Hydrocephalus in Healthcare Personnel
Gianpaolo Petrella

14:05-14:10 Simultaneous Clinical Assessment of Siblings with Familial Normal Pressure Hydrocephalus (Hakim's Syndrome)
Juan Daniel Ramirez

14:10-14:15 From Cure to Control: Redefining Success in Normal Pressure Hydrocephalus Management
Ahmed Toma

14:15-14:20 Maternal-Child Characteristics at Birth and Congenital Hydrocephalus: A Population-Based Case-Control Satudy
Kim Wouters

14:20-14:25 Molecular Genetics as a Tool for Personalised Treatment of Hydrocephalus
Tina Noergaard Munch

14:25-14:30 Head Circumference in Hydrocephalic Children: Differential Pressure Valve versus Anti Siphon Devices
Stefanie Kaestner

14:30-14:35 Implementation of CSF Flow MRI in the Management of Pediatric Hydrocephalus in Ivory Coast
Vakaramoko Mohamed Kone

14:35-14:40 Neural Tube Defects, Hydrocephalus, and Associated Central Nervous System Malformations: A Nationwide Ecological Study in Latin America
Juan Fernando Ramon

14:40-14:45 Shunt Revision and Long-Term Durability in Hydrocephalus: Insights from 589 Patients
Niclas Lynge Eriksen

14:45-14:50 Endoscopic Third Ventriculostomy vs Ventriculoperitoneal Shunt for iNPH: Effects on Neuropsychological and Motor Function— ENVENTOR-iNPH: Study Protocol
Francesca Graziano

14:50-14:55 Development of a New Gait Rating Tool for Patients with Idiopathic Normal Pressure Hydrocephalus
Rick Mills

14:55-15:00 Non-Invasive ICP Waveform Analysis in Hydrocephalus: Comparing Asymptomatic Patients and Those with Shunt Dysfunction
Raphael Bertani

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15:30-16:30	**Closing of the Congress**
15:35-15:45	**Highlights from the Hydrocephalus World Congress** **John Pickard**
15:45-15:55	**Young Investigators Awards-Winners Announcement** **Sevil Yasar**
15:55-16:05	**Closing Address by the Hydrocephalus 2025 World Congress President** **Eric Schmidt**
16:05-16:15	**Closing Address by the Hydrocephalus Society President** **Mats Tullberg**
16:15-16:25	**Hydrocephalus Society Presidency Handover** **Mats Tullberg, Giorgio Palandri**
16:25-16:30	**Hydrocephalus 2026 World Congress Sao Paulo Welcome** **Fernando Pinto**

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EP20	SIMPLIFIED LUMBOPERITONEAL SHUNT SURGERY USING TWO SMALL SKIN INCISIONS **Yukihiro Goto**
EP25	REVERSIBLE MIMIC OF NORMAL PRESSURE HYDROCEPHALUS: A CASE HIGHLIGHTING THE NEED FOR CAREFUL PRE-SHUNT ASSESSMENT **Peter Adidharma**
EP27	VENTRICULOPERITONEAL SHUNT INFECTION IN PEDIATRIC PATIENTS – A BIBLIOMETRIC ANALYSIS **Reza Akbar Bastian**
EP35	A PRAGMATIC DIAGNOSTIC PATHWAY FOR INPH PATIENTS : INTEGRATING GERIATRIC AND HYDRODYNAMIC ASSESSMENT IN A TERRITORIAL HOSPITAL **Snejana Jurici**
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EP56	VENTRICULOPERITONEAL SHUNTING IN INPH WITH NEURODEGENERATIVE COMORBIDITIES: A META-ANALYSIS OF FUNCTIONAL OUTCOMES **Victor Alves Santana**
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