

7th International Cerebrospinal Fluid Dynamics Symposium



MGSM Conference Centre, 99 Talavera Road, Macquarie Park NSW 2113 Australia

May 13th & 14th, 2024



Organized by Prof. Lynne E. Bilston & Prof. Marcus A. Stoodley

Sponsorship

The 7th International Cerebrospinal Fluid Dynamics Symposium is sponsored by the Bobby Jones Chiari & Syringomyelia Foundation and the Monkton Institute.

The Monkton Institute, Inc., founded in 2002, is a private foundation that funds research and educational initiatives to better understand, diagnose and treat Arnold-Chiari malformation and associated problems of the brain stem.

The Bobby Jones Chiari & Syringomyelia Foundation's mission is to advance knowledge through research and to educate the medical, allied sciences, and lay community about Chiari malformation, syringomyelia and related disorders. Please visit the foundation's website at [Bobby Jones CSF](#).

THE MONKTON
INSTITUTE



MGSM Executive Hotel and Conference Centre by Macquarie University Lake

Schedule

Sunday 12th May 2024

Welcome Reception at MGSM Lend Lease Room, Macquarie University	17:00
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Monday 13th May 2024 – MGSM Room 121 (Caltex Theatre)

Welcome to Conference (Breakfast and Coffee Available Outside Theatre)		8:30
Plenary Lecture <i>Chair:</i> <i>Marcus Stoodley</i>	Spontaneous Spinal CSF Leaks <i>Wouter Schievink</i>	9:00
Session 1 <i>Chair:</i> <i>Claire F. Jones</i>	Bidirectional Infusion Studies and the Divergence of CSF Dynamics in The Cranial and Spinal Compartments <i>Bruce Young</i>	10:00
	Posture-Dependent Cranio-Spinal Pressure Dynamics and Interplay with Other Body Compartments in Sheep <i>Marianne Schmid Daners</i>	10:30
Morning Coffee Break		11:00
Session 2 <i>Chair:</i> <i>Rob Lloyd</i>	CSF And Venous Blood Flow from Childhood to Adulthood Studied by Real-Time Phase-Contrast MRI <i>Steffi Dreha-Kulaczewski</i>	11:30
	Do Neurofluids Dynamics Reflect Clinical Symptoms in Chiari 1 Malformation? <i>Olivier Balédent</i>	12:00
	Relationship of CSF Flow, Brain Motion, and Brain Stiffness in Chiari I Patients before and after Surgery <i>John N. Oshinski</i>	12:30
Lunch & Poster Session – MGSM Lend Lease Room		13:00
Session 3 <i>Chair:</i> <i>John N. Oshinski</i>	Semiautomated Measurement of Craniocervical Structures and Syringes in Chiari I Malformation Patients <i>John D. Heiss</i>	14:00
	A Computational Fluid Dynamics Study to Assess the Impact of Coughing on Cerebrospinal Fluid Dynamics in Chiari Type 1 Malformation <i>Patrick Segers</i>	14:30
Afternoon Tea		15:00
Session 4 <i>Chair:</i> <i>Steffi Dreha-Kulaczewski</i>	Real-time Imaging of Coughing in Patients with Chiari I Malformation <i>Rob Lloyd</i>	15:30
	Disease Severity, CSF Resistance, And Brain Tissue Motion in Adult Chiari Malformation Type I <i>Frank Loth</i>	16:00
Conference Dinner at the Sydney Opera House – event information on final page		18:30

Schedule

Tuesday 14th May 2024 – MGSM Room 121 (Caltex Theatre)

Breakfast and Coffee Available Outside Theatre		8:30
Plenary Lecture <i>Chair:</i> <i>Lynne Bilston</i>	High-Resolution Imaging of Outflow Pathways for Cerebrospinal Fluid to Lymphatic Vessels <i>Steven Proulx</i>	9:00
Session 5 <i>Chair:</i> <i>Kent-Andre Mardal</i>	Modelling Cerebrospinal Fluid Solute Transport: Translation from Bench to Bedside for Treatment of Genetic Diseases of the Central Nervous System <i>Bryn Martin</i>	10:00
	Intravital Imaging of the Mouse Central Nervous System Fluid Spaces using Synchrotron Radiation-Based Micro Computed Tomography for Computational Fluid Dynamics Simulations of Cell and Solute Transport <i>Vartan Kurtcuoglu</i>	10:30
Morning Coffee Break		11:00
Session 6 <i>Chair:</i> <i>Bruce Young</i>	Mechanisms of Transport in a Network Model of Murine Paraarterial Spaces <i>Keith Sharp</i>	11:30
	Cerebrospinal Fluid Pressure and Flow Dynamics in Pig Models of Traumatic and Atraumatic Subarachnoid Space Occlusion <i>Claire F. Jones</i>	12:00
Lunch – MGSM Lend Lease Room		12:30
Session 7 <i>Chair:</i> <i>Vartan Kurtcuoglu</i>	<i>Effect of breathing, blood pressure, and heart rate on spinal fluid flow in a rodent model of CSF obstruction</i> <i>Sarah Hemley</i>	13:30
	Do Cholinergic Basal Forebrain Neurons Control Glymphatic Flow Through Perivascular Spaces by Regulation of Vasodilation? <i>Lizzie Coulson</i>	14:00
	Intracranial Pressure Changes in Idiopathic Normal Pressure Hydrocephalus <i>Matthias Jaeger</i>	14:30
Afternoon Tea		15:00
Session 8 <i>Chair:</i> <i>Frank Loth</i>	A Model of Hydrocephalus as a Disorder of Intracranial Thermodynamics <i>Michael Egnor</i>	15:30
	Modeling Lumbar Infusion Testing in the Context of Glymphatics <i>Kent-Andre Mardal</i>	16:00
Closing Remarks	<i>Lynne Bilston & Marcus Stoodley</i>	16:30
Social Dinner at Ubar, Macquarie University – event information on final page		17:30

Posters

Day 1 – Monday 13th May 2024

Posters	CSF Dynamics And Subarachnoid Space Occlusion Change with Time After Traumatic Spinal Cord Injury in A Pig Model <i>Madeleine Bessen</i>	13:00
	Exploring the Spectral Content of Intrathecal Pressure Signals in A Pig Model of Spinal Cord Injury <i>Nikoo Soltan</i>	
	The Biomechanics of Yawning: Investigating CSF, Blood, Airflow, and Tongue Motion <i>Adam Martinac</i>	

Event Information

Welcome Drinks – Sunday 12th May

Lend Lease Room, MGSM Executive Centre, 5 pm - 7 pm

Address: 99 Talavera Road, Macquarie Park NSW 2113

<https://maps.app.goo.gl/vdYHQ95rDJ4jmFMd9>

Conference Dinner – Monday 13th May

Midden by Mark Olive, 6:30 pm - 9:30 pm

Address: Western Broadwalk Sydney Opera House Sydney, Bennelong Point NSW 2000

<https://maps.app.goo.gl/qgAPHp9DbgNcVny28>

Transport: Provided from MGSM (<https://maps.app.goo.gl/vdYHQ95rDJ4jmFMd9>) for registered attendees, leaving at 5:30pm sharp. Return transport from the drop-off point at the Sydney Opera House will be at 9:45pm and will return to MGSM.

Social Dinner – Tuesday 14th May

Ubar, Macquarie University, 5:30 pm

Address: Macquarie Walk, Macquarie University NSW 2113

<https://maps.app.goo.gl/JYRjmW4EetNZJMaA>

An informal and social finish to the conference if you can make it. Dinner and drinks to be purchased individually.