2018 NIH Hydrocephalus Workshop: State-of-the-Science and Future Directions

Mount Washington Conference Center
5801 Smith Ave, Baltimore, MD 21209

AGENDA

Wednesday, April 18, 2018

7:30 – 8:00 am **REGISTRATION**
Refreshments provided

Opening and Welcome

8:00 – 8:10 am **Welcome and introduction**
Nina Schor, Deputy Director, NINDS

8:10 – 8:20 am **Overview of NIH efforts**
Jill Morris, Program Director, NINDS

8:20 – 9:20 am **An overview of developments in hydrocephalus research**
James (Pat) McAllister, Washington University in St. Louis

Session 1

Genetics of Hydrocephalus

Chair: Hannah Tully

9:20 – 10:05 am **Genetics of hydrocephalus: causes and contributory factors**
Hannah Tully, Seattle Children's Research Institute

10:05 – 10:35 am **Human genetics of congenital hydrocephalus**
Kristopher Kahle, Yale University School of Medicine

10:35 – 10:50 am **BREAK**

10:50 – 11:20 am **Genetics of idiopathic normal pressure hydrocephalus**
Mark Johnson, University of Massachusetts Memorial Health Care

11:20 – 11:50 am **New insights from the choroid plexus in development and disease**
Maria Lehtinen, Boston Children's Hospital

11:50 – 1:00 pm **WORKING LUNCH: PANEL DISCUSSION**
Discussion of Objective 1: Advances in the genetics of hydrocephalus
- Genetic of congenital hydrocephalus
- Genetics of adult idiopathic hydrocephalus

Panel: *Hannah Tully, Kristopher Kahle, Mark Johnson, Maria Lehtinen*

Session 2

Normal Pressure Hydrocephalus

Chair: Mark Hamilton

1:00 – 1:30 pm	**Adult hydrocephalus: Changing the paradigm** *Mark Hamilton, University of Calgary*
1:30 – 2:00 pm	**Putting NPH and NPH research into perspective** *Michael Williams, University of Washington School of Medicine*
2:00 – 2:30 pm	**High resolution 3D MRI for classification of adult hydrocephalus** *Ari Blitz, Johns Hopkins Hospital*
2:30 – 3:00 pm	**Precision medicine in normal pressure hydrocephalus: gait and CSF biomarkers** *Abhay Moghekar, Johns Hopkins University*
3:00 – 3:15 pm	**BREAK**
3:15 – 3:45 pm	**Automatic MR image segmentation of the CSF spaces in NPH** *Lotta Ellingsen, University of Iceland and Johns Hopkins University*
3:45 – 4:15 pm	**NPH: epidemiology, diagnosis, management, biomarkers and etiology** *Neill Graff-Radford, Mayo Clinic Jacksonville*
4:15 – 4:45 pm	**NPH underlying neurodegeneration in two third of cases** *Alberto Espay, University of Cincinnati*
4:45 – 5:15 pm	**Designing a clinical trial for the effectiveness of shunting in NPH** *Mark Luciano, Johns Hopkins Hospital*
5:15 – 6:00 pm	**PANEL DISCUSSION** **Discussion of Objective 2:** Normal Pressure Hydrocephalus: Should shunting be stopped now? • Need for differential diagnosis • Need for biomarkers • Need for clinical trials **Panel:** *Mark Hamilton, Ari Blitz, Abhay Moghekar, Lotta Ellingsen, Neill Graff-Radford, Alberto Espay, Mark Luciano, Mark Johnson, Mike Williams*

Dinner

Presentation by the Sponsors

6:30 – 8:30 pm	**Mt. Washington Tavern** 5700 Newbury St, Baltimore, MD 21209 *Dinner is sponsored by the Hydrocephalus Association*

Thursday, April 19, 2018

7:30 – 8:00 am	**REGISTRATION** *Refreshments provided*

Session 3

Preclinical Research

Chair: Jerold Chun

8:00 – 8:30 am	**Cytoarchitecture directs the brain's ventricle system topography: stem cell function in hydrocephalus** *Joanne Conover, University of Connecticut*
8:30 – 9:00 am	**The TRPV4 channel in choroid plexus: Implications for the treatment of hydrocephalus** *Bonnie Blazer-Yost, Indiana University-Purdue University Indianapolis*
9:00 – 9:30 am	**Investigations of motile cilia functions in the CSF flow dynamics** *June Goto, Cincinnati Children's Hospital Medical Center*
9:30 – 9:45 am	**BREAK**
9:45 – 10:15 pm	**Inflammatory hydrocephalus and the innate immune system** *Kristopher Kahle, Yale University School of Medicine*
10:15 – 10:45 pm	**Posthemorrhagic hydrocephalus – Bringing someday closer to today** *Shenandoah (Dody) Robinson, Johns Hopkins University*
10:45 – 11:15 am	**Targeting CSF secretion for neonatal brain hemorrhage** *John Zhang, Loma Linda University*
11:15 – 11:45 am	**New aspects of LPA-initiated hydrocephalus** *Jerold Chun, Sanford Burnham Prebys Medical Discovery Institute*
11:45 – 1:00 pm	**WORKING LUNCH: PANEL DISCUSSION** **Discussion of Objective 3:** Preclinical Research: What are the paths forward? **Panel:** *Jerold Chun, Joanne Conover, Bonnie Blazer-Yost, June Goto, Kristopher Kahle, Dody Robinson, John Zhang*

Session 4

Clinical Research

Chair: John Kestle

1:00 – 1:30 pm	**The role of fetal Spina Bifida repair in reducing symptomatic hydrocephalus; MOMS and beyond** *Jay Wellons, Vanderbilt Children's Hospital*
1:30 – 2:00 pm	**Imaging and CSF biomarkers for diagnosis and management of pediatric hydrocephalus** *Dave Limbrick, St. Louis Children's Hospital*
2:00 – 2:30 pm	**Risk factors for CSF shunt infection and reinfection** *Tamara Simon, University of Washington and Seattle Children's Hospital*
2:30 – 2:45 pm	**BREAK**

2:45 – 3:15 pm **Endoscopic treatment versus shunting for infant hydrocephalus in Uganda**
Benjamin Warf, Boston Children's Hospital

3:15 – 3:45 pm **ETV/CPC versus shunt for infants in North America**
Abhaya Kulkarni, The Hospital for Sick Children

3:45 – 4:45 pm **PANEL DISCUSSION**
Discussion of Objective 4: Clinical Research: What are the paths forward?

- Biomarker validation
- Clinical outcomes
- Comparison of ETV/CPC and shunt placement

Panel: *John Kestle, Dave Limbrick, Tamara Simon, Jay Wellons, Benjamin Warf, Abhaya Kulkarni*

Summary and Moving Forward

4:45 – 5:30 pm OPEN DISCUSSION