



ISHCSF

HYDROCEPHALUS 2011

COPENHAGEN SEPTEMBER 4 - 7



PROGRAM



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Welcome

Welcome to Copenhagen!

On behalf of the International Society for Hydrocephalus and CSF Disorders and the local congress organizers, we are proud to welcome you to the Hydrocephalus 2011 congress in Copenhagen.

Our challenge is the tradition of scientifically outstanding previous congresses and symposia on hydrocephalus and related topics. The submitted abstracts bear witness of a high scientific quality of research in all areas of hydrocephalus and related areas. The Hydrocephalus 2011 meeting thus includes presentations on diagnostic and clinical development in both adult and pediatric hydrocephalus and also a considerable number of experimental papers.

Nicolaus Steno (Danish scientist and priest (1638-1686) is the "historic patron" for this meeting. His original papers on hydrocephalus, the first ever truly scientific descriptions of the hydrocephalic brain and his dedication to meticulous scientific methodology are still valid in the eyes of modern research.

It is our sincere hope that this meeting will lead one step forward in hydrocephalus treatment for both children and adults.

We cordially welcome you to Copenhagen!



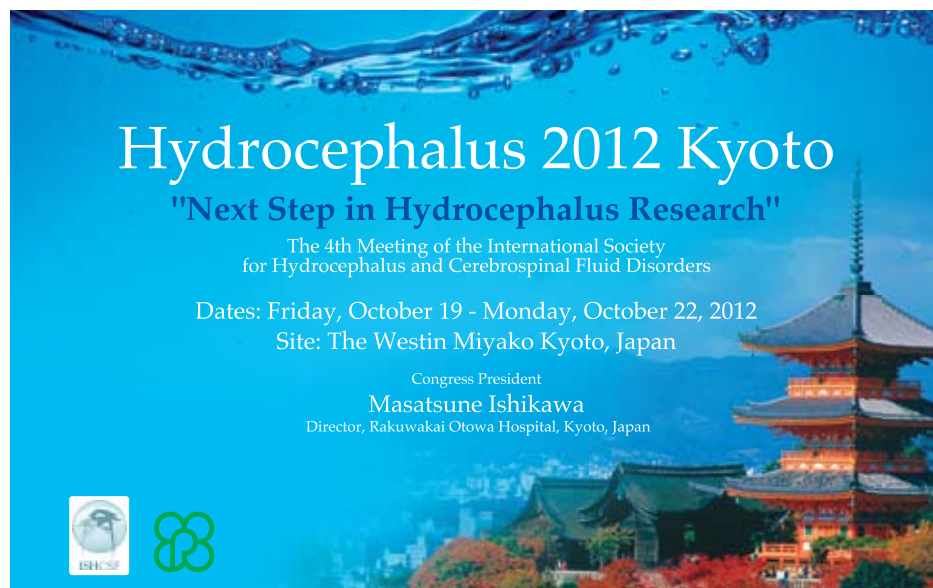
Marianne Juhler, MD DMSc
Professor of experimental neurosurgery,
Copenhagen University
Senior consultant University Clinic of
Neurosurgery, Rigshospitalet



Bertil Romner,
Professor, Dep. of Neurochirurgie,
Rikshospitalet, Copenhagen



Conference partners	2
Welcome	3
General information	5
European faculty and Scientific committee	6
Map of Copenhagen	7
Social program	8-9
Exhibition & Floor plan	10
Scientific program	
-Sunday, Sept 4 th	11
-Monday, Sept 5 th	11-12
-Tuesday, Sept 6 th	12
-Wednesday, Sept 7 th	13
Abstracts	
-Oral presentations	14-19
-Poster presentations	28-32
List of participants	36-39



<http://www.ishcsf2012.jp/>

CONFERENCE AGENCY

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Anna Merkel (Conference coordinator)
Ola Nilsson (Hotel and delegates)

CONFERENCE VENUE

Rigshospitalet
Blegdamsvej 9
2100 København Ø
Denmark

REGISTRATION AND INFORMATION DESK

The registration desk will be open:
September 4th 13.00-17.00
(Also at the Reception, Medical Museion 19.30-21.00.)
September 5th 07.00-18.30
September 6th 07.30-18.30
September 7th 07.30-16.30

PRESENTER ROOM

Please hand in your presentation at least four hours before your lecture, or the day before if your presentation is one of the first sessions of the day.

BUS CARDS

The conference will offer the delegates "bus cards". This will be handed out at the registration desk. (6 trips)

Graphic design: A. Merkel, Malmö Kongressbyrå **Print:** Grafiska Gruppen
Photos: Wonderful Copenhagen, Langelinie pavillon, Tre kronor and Malmö Kongressbyrå

COPENHAGEN



Train

Take the train from the Airport to the Central station (approx.10-15 minutes)

Buses

Info: www.toandfromtheairport.com

Taxi

Codan Taxi Phone: +45-70 25 25 25
Taxa 4x35 Phone: +45-35 35 35 35
Hovedstadens Taxi Phone: +45-38 77 77 77
Taxi from the airport to city takes about 20 minutes and costs about 200 DKK.
(Or, take the train to the Central station or the train to Ørestad, change to the Metro to go to Kongens Nytorv.)

Tourist information

www.visitcopenhagen.com
For more information about Copenhagen please contact the registration desk.

FACULTY MEMBERS

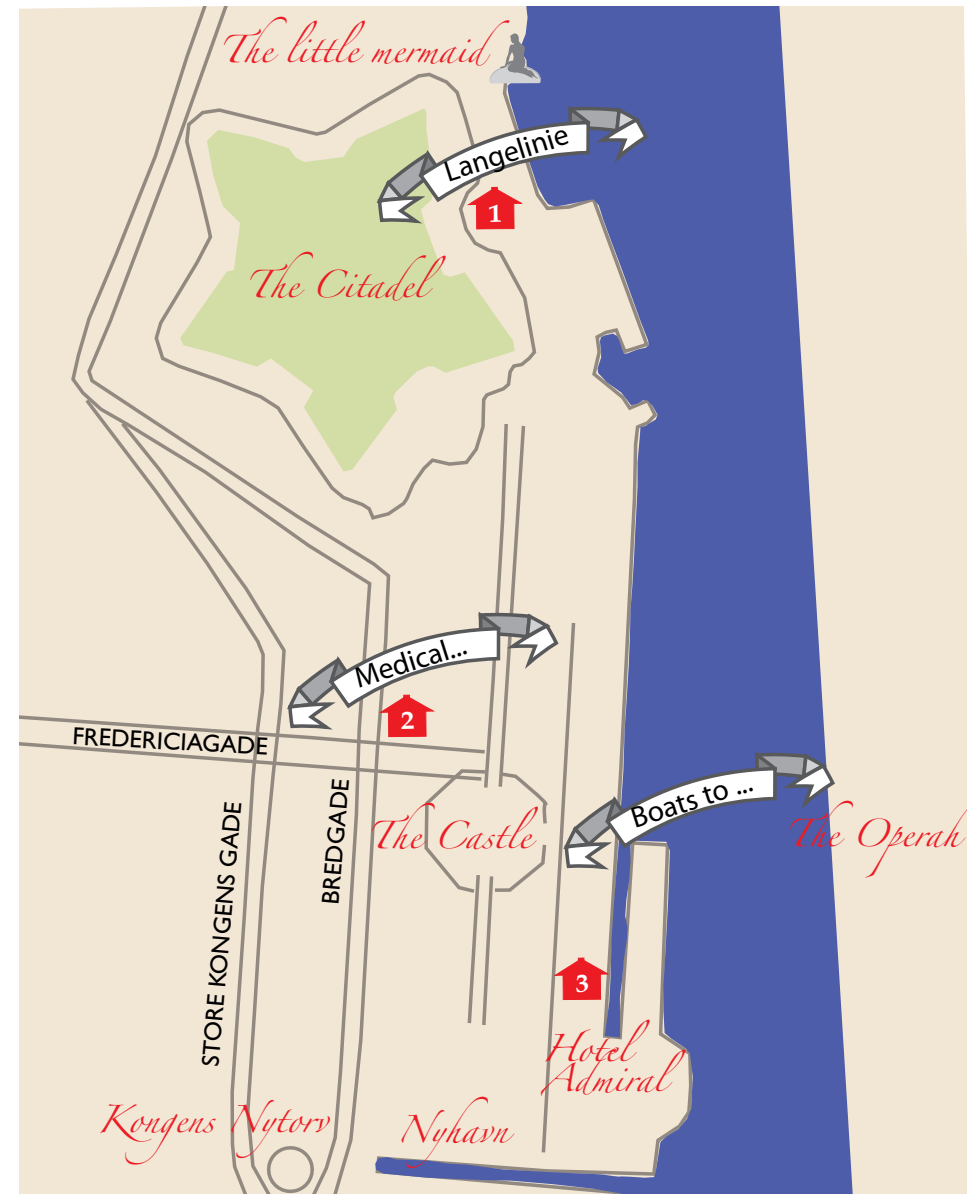
of HYDROCEPHALUS 2011

Casten Wikkelsø, Sweden.
Flemming Gjerris, Denmark
Günes Aygok, USA
Harold Rekate, USA
Henrik Schröder, Germany
Jan Malm, Sweden
John Pickard, UK
JP McAllister, USA
Jun Zhang, USA
Marc delBigio, Canada
Marek Czosnyka, UK
Mark Luciano, USA
Martin Schuhman, Germany
Matthieu Vinchon, France
Norman Relkin, USA
Per Kristian Eide, Norway
Richard Edwards, UK
Roger Bayston, UK

ASSISTANTS

Anders Skjolding
Anders Vedel Holst
Arnar Astradson
Christoffer Blegvad
Jane Skjøth-Rasmussen
Morten Andresen
Tina Munch
Har du några namn som ska in här bertil

Bertil Romner, Denmark (congress president)
Marianne Juhler, Denmark (congress vicepresident)



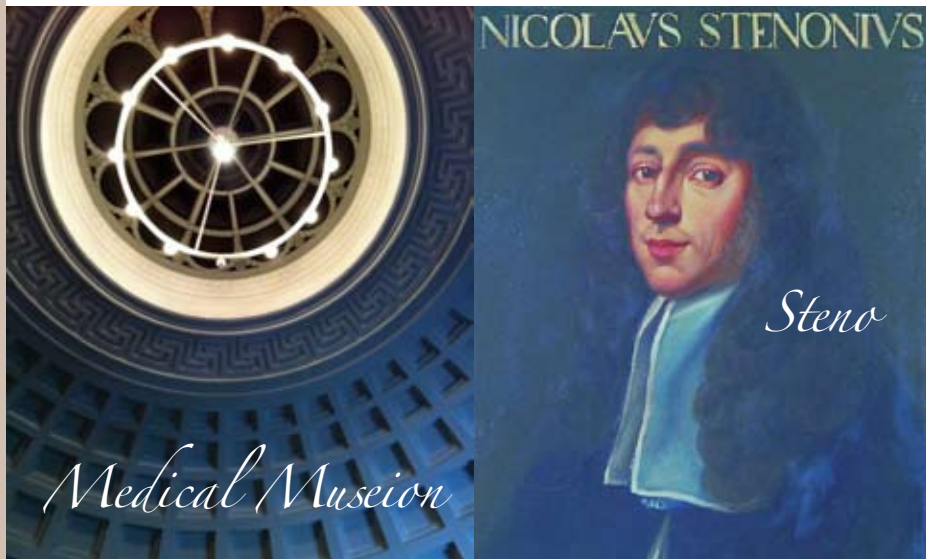
Social Program

September 4, 2011

Registration and reception at the Medical Museion, 19.30-21.00

Medical Museion is an academic unit with collections and exhibitions. Part of the Faculty of Health Sciences at the University of Copenhagen. Their field is the history of health and disease in a cultural perspective, with focus on the material and iconographic culture of recent biomedicine.

Beer, wine and snacks will be served.



September 5, 2011

Canal tour and mingle at the Three Crowns Sea Fortress (Trekroner)

The evening will start with a boat trip through the old and the new parts of Copenhagen. We will then mingle with friends and colleagues at the old sea fortress "Trekroner". A delicious buffee will be served.

Departure from Hotel Admiral Copenhagen, 19.00 (at the quayside)

(Return boat trip approx. 23 hrs)



September 6, 2011

Conference dinner at the Langelinie Pavillon, 20.00

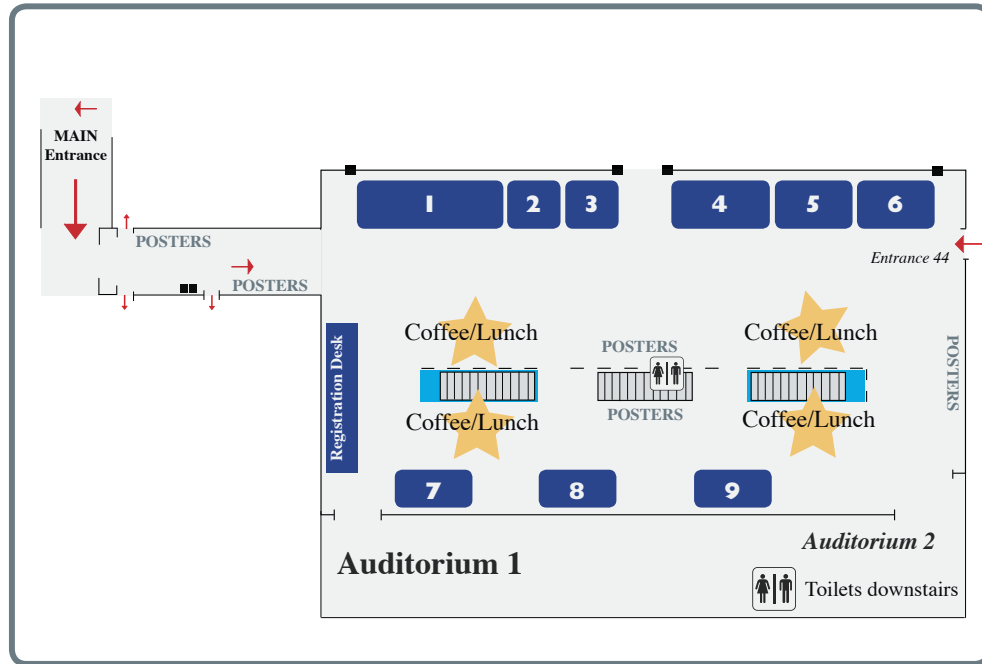
Welcome to an evening of delicious food and wine. We will enjoy a before-dinner drink on the terrace, taking in the view across Øresund and the Little Mermaid monument.

The Langelinie Pavillon is furnished with many of Denmark's finest design classics, such as PH's magnificent artichoke and plate lamps, designed especially for Langelinie Pavillone



Cost: 75 €

EXHIBITION AND FLOOR PLAN



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SCIENTIFIC PROGRAM

Time	Sunday September 4
13.00-17.00	Registration (at the hospital "Rikshospitalet")
14.00-16.00	ISHCSF Board meeting
19.30-21.00	Welcome Reception in the Museum of Medical History (See Social Program) REGISTRATION at the reception

Time	Monday September 5
7.00-18.30	Registration
8:00-8:10	Welcome address
8:10-9:00 Session	NPH – Definition and management Chair: Casten Wikkelsø, Sweden.
9:00-10:00	"What is new in NPH?" Task force session: Co-morbidity Chair: Jan Malm, Sweden
10:00-10:30	Coffee break & visit to the exhibition and posters
10:30-11:20 Session	Advances in shunt technology: what has improved long-term results of shunt treatment? Chair: Mark Luciano, USA
11:20-12:20	Shunt complications/infections Chair: Roger Bayston, UK
12:20-13:45	Lunch & visit to the exhibition and posters
13:45-13:55	In memoriam Solomon Hakim. By dr. Luciano, USA
13:55-14:50 Session	Outcome assessment and Quality of life in adult hydrocephalus. Task force session: QAL and outcome_ adult hydrocephalus. Chair: Günes Aygok, USA
14:50-15:15	Coffee break & visit to the exhibition and posters
15:15-15:45 Key note lecture	Contemporary management of Pediatric hydrocephalus Lecturer: Flemming Gjerris, Denmark
15:45-17:00 Session	Pediatric hydrocephalus. Task force session: Pediatric hydrocephalus Chair: Harold Rekate, USA
17:00-17:45 Session	Outcome assessment and Quality of life in pediatric hydrocephalus. Task force session: QAL and outcome in pediatric hydrocephalus. Chair: Matthieu Vinchon, France

SCIENTIFIC PROGRAM

Time	Monday September 5
17:45-18.30	ISHCSF Membership and Business meeting (Auditorium 1)
17:45-18.30	INFECTION PANEL WEBCAST, live from ISHCSF Annual Congress (Codman) (Auditorium 2)
19.00	Social Event: Trekroner fortress (See Social Program)

Time	Tuesday September 6
08:00-09:30 Session	Status quo and future of ICP measurement and CSF dynamics in the diagnosis of hydrocephalus Chair: Marek Czosnyka, UK
9.30-10:00	Coffee break & visit to the exhibition and posters
10:00-11:15 Session	Developments in non-invasive methods in the diagnosis of hydrocephalus Chair: Bertil Romner, Denmark
11:15-12:00 Special lecture award	Tony Marmarou lecture Nominee: Andreas Unterberg, Germany
12:00-13:30	Lunch & visit to the exhibition and posters
13:30-15.00 Session	Young researchers session: Task force session: Teaching/ education/training Chairs: Martin Schuhman, Germany and Marc delBigio, Canada.
15.00-15:30 Key note lecture	Neuroendoscopy: Does it replace shunting of hydrocephalus? Lecturer: Henrik Schröder, Germany
15:30-16:00	Coffee break & visit to the exhibition and posters
16.00-17:00 Session	Advances in Neuroendoscopic techniques in the management of hydrocephalus and CSF disorders Chair: Richard Edwards, UK
17:00-17:15	Announcement of Young researchers award winner
17:30-18:15	Introducing the new adjustable valve from Codman: CERTAS(TM) Programmable Valve
20.00	Social Event: Langelinie Pavillon (See Social Program)

NOTES

SCIENTIFIC PROGRAM

Time	Wednesday September 7
08:30-09:00 Key note lecture	What can we learn from animal models? Lecturer: JP McAllister, USA
09.00-10.30	Experimental hydrocephalus Chair: Marianne Juhler, Denmark
10.30-11:00	Coffee break & visit to the exhibition and posters
11:00-12:15 Session	Future developments in imaging : Brain function and metabolism. Task force session: Imaging on hydrocephalus. Chair: Norman Relkin, USA
12:15-13:45	Lunch & visit to the exhibition and posters
13:45-14:30 Key note lecture	Hydrocephalus and associated CSF disorders: IIH, Cysts, etc. Lecturer: John Pickard, UK/Petra Klinge, USA
14.30-15.45 Session	Hydrocephalus associated disorders Chair: Per Kristian Eide, Norway
15:45- 16:15 Session	Neurogenetics of hydrocephalus Chair: Jun Zhang, USA
16.15-16.30	Closing address and Goodbye

NOTES

Abstracts - Monday

Flash session. NPH – Definition and management

Orals

- O1** A new continuous, calibrated and aged normed scale for the grading of severity and outcome assessment in INPH. HELLSTRÖM P
- O2** The Southern New England multidisciplinary NPH Center - a one year experience . KLINGE PM.
- O3** Proposal of a new classification on Normal Pressure Hydrocephalus. ISHIKAWA M.
- O4** Interrater agreement in gait and balance outcome measures. SUNDSTRÖM N
- O5** Does patient age at Shunt Insertion influence outcome in NPH? SIVAKUMARAN R.
- O6** Medico-economical analysis of surgical treatment in patients with INPH. ISHIKAWA M.
- O7** APOE4 predicts amyloid-β in cortical brain biopsy but not idiopathic normal pressure hydrocephalus. PYYKKÖ OT.
- O8** Histopathological prevalence of Alzheimer's disease in patients undergoing shunting for Normal Pressure. MOGHEKAR A.
- O9** Cerebrospinal fluid shunts lower concentrations of amyloid β oligomers in cerebrospinal fluid. NAKAJIMA M.

Posters related to this session: P1-P4, YIP 2, YIP 3, YIP4, YIP7, YIP9

Task Force session. What is new in NPH.

Oral

- TF1** Influence of eligibility criteria on potential research subject recruitment for INPH research. WILLIAMS MA.

Session. Advances in shunt technology

- O10** What is the importance of Adjustable Valves in the Treatment of Idiopathic Normal Pressure Hydrocephalus? TISELL M.
 - O11** Preliminary Experience with Programmable Lumboperitoneal Shunt. Nunta-aree S.
 - O12** Theoretical model of the tandem shunt valve system - a novel method for treating hydrocephalus by flexibly controlling cerebrospinal fluid flow and intracranial pressure. AIHARA Y.
 - O13** Clinical experience with a monostep valve and a dualswitch (miethke) valve in the case of elevated cerebrospinal fluid levels of red blood cells and proteins. VYBIHAL V.
 - O14** Clinical experience with the adjustable CERTAS valve. ROMNER B
 - O15** Hydrodynamic Properties of Codman-Certas Valve. CZOSNYKA M.O7
- Posters
- O16** A simple tool to apply accuracy in placement of ventricular catheters. THOMALE U-W

Posters related to this session: P5, P8, P20, YIP9

Session. Shunt complications/infections

- O17** Outline Results and Proposal in The Japan Shunt Registry of INPH (JSR). HASHIMOTO M.
- O18** Reduction of shunt infection rate to minimal value – experiences after 220 surgeries. VACEK P.
- O19** Peritoneal Infections After Ventricular Shunt In Children Under 12 Years In The Fundação Santa Casa de Misericórdia do Pará. CONCEIÇÃO MPS.
- O20** Protocol for treatment premature children with posthemorrhagic hydrocephalus. Zinenko D.U.
- O21** Role of ShuntCheck in diagnosis of Shunt Obstruction. BATRA S. non-invasive nature and high sensitivity to discover flow, we think that ShuntCheck can be our initial screening test to rule out obstruction.
- O22** Do programmable VP shunt valves reduce the shunt revision rate: Clinical audit of 157 cases over a ten year period(2000 -2010) at the Royal Hobart Hospital, Tasmania. GAMBHIR S.
- O23** Flow-related noise in patients with ventriculoperitoneal shunts using gravitational adjustable valves. STOCKHAMMER F.
- O24** Ventriculoatrial Shunt in treatment of Hydrocephalus. BATRA S.

Posters related to this session: P6-P9, YIP5, YIP7, YIP10, YIP11, YIP14, YIP18

Task Force Session. Outcome assessment and quality of life in adult hydrocephalus.

- TF2** The Addenbrooke's Cognitive Examination in the evaluation of the cognitive impairment in patients with idiopathic normal pressure hydrocephalus. VYBIHAL V.
- TF3** Changes in the volumes of the brain and cerebrospinal fluid spaces after shunt surgery in idiopathic normal-pressure hydrocephalus. HIRAOKA K.
- TF4** Conservative versus surgical management of idiopathic normal pressure hydrocephalus, final results of prospective randomized controlled double blind trial. TOMA AK.
- TF5** Estimation of shunt responsiveness in idiopathic NPH using a simple prediction rule. WANG E.

Posters related to this session: P1-P4

Task Force Session. Pediatric hydrocephalus.

- TF6** Financial costs of Surgical Treatment of Paediatric Hydrocephalus at an Australian Hospital. OWLER BK.
 - TF7** Particularities of the csf dynamics in the fetus and in the premature infant. RAYBAUD C
 - TF8** The need of adjustment in gravitational valves for the treatment of childhood hydrocephalus. GEBERT A-F.
- Posters related to this session: P5, P6, P9, P12, P13, P14, P17, P20, P21, P23, YIP 1, YIP6, YIP8, YIP16, YIP17, YIP19**

Task Force Session. Outcome assessment and quality of life in pediatric hydrocephalus.

- TF9** Adults treated for infantile hydrocephalus – a very long term follow-up of clinical, social and cognitive outcome and quality of life. Adults treated for infantile hydrocephalus – a very long term follow-up of clinical, social and cognitive outcome and quality of life. Adults treated for infantile hydrocephalus - a very long term follow-up of clinical, social and cognitive outcome and quality of life. PERSSON E-K.
- TF10** Long-term follow-up in children treated with the flow-regulating valve. MIKOŁAJCZYK - WIECZOREK W.
- TF11** Outcomes of paediatric hydrocephalus - case studies of educational achievement and employment in a cohort of shunt-dependent young adults in Scotland. BROWN AC.F.
- TF12** Re-expandability of the ventricular system in shunt-dependent hydrocephalic children. SAKAMOTO H.

Abstracts - Tuesday

Session. Status quo and future of ICP measurement and CSF dynamics.

- O25** CSF oscillations through V3 aperture after ETV. BALEDENT O.
- O26** Intracranial pulse waveform analysis. KRAUSE I.
- O27** Analysis of the cerebrospinal fluid waveform by means of the central tendency measure. SANTAMARTA D.
- O28** Why we think a pulse amplitude of ICP is not a good predictor of a response to shunting for hydrocephalus. CZOSNYKA M.
- O29** The Reference Pressure Controversy in the Marmarou Model. RAMAN K
- O30** CSF amplitude flow oscillations related to CSF ventricular volume ? CHAARANI B.
- O31** Phase shift between arterial flow and ICP pulse during infusion study. CZOSNYKA ZH.
- O32** Effect of the venous output on the cerebrospinal fluid pulse pressure waveform in normal pressure hydrocephalus. ANILE C.
- O33** CSF formation and absorption in normal infants and those with External Hydrocephalus. BATEMAN GA
- O34** The baseline pressure of intracranial pressure (ICP) sensors can be altered by electrostatic discharges. EIDE PK.
- O35** Diagnostic ICP monitoring in pediatric hydrocephalus: Single-center experience over 8 years in 130 children. SAEHLE T
- O36** Continuous Intracranial Pressure Monitoring in Low Pressure Phenomena. SHAND SMITH J.

Posters related to this session: P10, P11, YIP13

Session. Developments in non-invasive methods.

- O37** Use of a Magnetic Resonance Imaging (MRI) Spin Labeling Technique to Observe Alternations in Cerebral Spinal Fluid (CSF) Movement in Patients with Shunted Hydrocephalus Following a Subarachnoid Hemorrhage (SAH). YAMADA S.
- O38** Temporal changes of the regional apparent diffusion coefficient of the brain during cardiac cycle in idiopathic normal pressure hydrocephalus. MASE M.
- O39** Steady state sequences (ciss*, fiesta*) in the evaluation of arachnoid membranes in hydrocephalus. RAYBAUD C

- O40** The Role of Diffusion Tensor Imaging (DTI) as a Non-Invasive Tool in the Diagnosis of Patients with Normal Pressure Hydrocephalus. KAPSALAKI E.
- O41** The predictive value of a radiologist CT report for shunt responsive idiopathic NPH. PRASAD N.
- O42** Prevalence of ventricular enlargement in a population based cohort of 1247 people from west region of Sweden; Preliminary results. RABIE KR.
- O43** The Characterization of White Matter Injury Patterns in Normal Pressure Hydrocephalus using Magnetic Resonance Imaging. KEONG NC.
- O44** Evaluation of nigrostriatal function in possible idiopathic normal pressure hydrocephalus (iNPH) using 18F-DOPA PET. BUNDO M.
- O45** The value of radionuclide cerebrospinal fluid scintigraphy in the treatment of posttraumatic hydrocephalus. Liu W-P
- O46** Suitability of a porcine animal model to assess long-term performance of a telemetric ICP measurement device. ANTES S.

Posters related to this session: P12, YIP13

Young Researcher's Session.

- Y11** Transverse sinus stenting for idiopathic intracranial hypertension: a review of 52 patients and of model predictions. AHMED RM.
- Y12** Clinical evaluation of the Oscillating Pressure Infusion method. ANDERSSON K.
- Y13** The Impact of Surgeon Experience on Paediatric CSF Shunt Survival. BARUA N.
- Y14** Phantom model of intracranial pressure and cerebrospinal fluid dynamics. BOTTAN S.
- Y15** rCMRglu correlates with clinical status in NPH patients undergoing CSF-shunt: a preliminary study. DE BONIS P.
- Y16** Cerebrospinal fluid transplantation of encapsulated human mesenchymal stem cells producing Glucagon-like peptide-1 in a mouse model of amyotrophic lateral sclerosis. KNIPPENBERG S.
- Y17** Prediction of spinal cord perivascular flow based on a coupled computational simulation of the cardiovascular and cerebrospinal fluid system. MARTIN BA.
- Y18** Familial aggregation of congenital hydrocephalus in a nationwide cohort. MUNCH TN.
- Y19** Diffusion tensor imaging before and after shunt. NICOT B.
- Y110** Reduction of intracranial pulse pressure from shunt surgery relates to clinical improvement. QVARLANDER S.
- Y111** Aquaporin-4 expression in hydrocephalic brain – translational aspects from rat to human. SKJOLDING AD.
- Y112** Relationship between pulsatile arterial volume and cerebral ventricular size. WÄHLIN A.

Posters related to this session: YIP1-YIP19

Flash session. Advances in neuroendoscopic techniques.

- O47** The application of phase-contrast cine magnetic resonance imaging (MRI) in endoscopic aqueductoplasty. CHEN G.
- O48** In patients with non-communicating hydrocephalus is endoscopic third ventriculostomy superior to shunts? RASUL F.
- O49** Morphologic analysis of the third ventricle floor in hydrocephalus patients and its effect on procedure of endoscopic third ventriculostomy. HU ZQ.
- O50** Dynamic changes in periventricular components of chronic hydrocephalus after endoscopic third ventriculostomy and its clinical implication for gait disturbance. NISHIDA NN.
- O51** The Importance of Lumbar Puncture for Obstructive Hydrocephalus Patients Following Endoscopic Surgery. HU ZQ.
- O52** Effectiveness of Endoscopic Third Ventriculostomy and Aqueductal Stenting in the treatment of hydrocephalus in Tasmania, Australia. MUJIC A.
- O53** Endoscopic correction of liquor circulation in case of occlusion of the outlets of the IV ventricle in infants. PETRAKI VL
- O54** Endoscopic plastic and stenting of the aqueduct combined with III-ventriculocisternostomy (ETV) is an efficient method of hydrocephalus treatment in case of occlusion of the cerebral aqueduct in children. PETRAKI VL
- O55** ETV in 'extraventricular intracisternal obstructive hydrocephalus'. NISHIYAMA K.
- O56** Efficacy of Endoscopic Third Ventriculostomy in the management of Normal Pressure Hydrocephalus. RIGAMONTI R

Posters related to this session: P13, P14, YIP6

Abstracts - Wednesday

Session. Experimental hydrocephalus.

- O57** Development of a ferret model of hydrocephalus. DEL BIGIO MR.
- O58** Post-hemorrhagic Hydrocephalus In Neonatal Mice: High Resolution in-vivo Magnetic Resonance Imaging and Histology. AHN ES.
- O59** Animal experience with different coated silicone shunt catheters as a consequence of revised definition of biocompatibility to functional biocompatibility. EYMANN R
- O60** Suboptimal Effects of Ventricular Reservoir Timing and CSF Tapping Based on Signs and Symptoms in Experimental Neonatal Hydrocephalus. PACKER M.
- O61** Capillary Pulsatility in Communicating Hydrocephalus. WAGSHUL ME.
- O62** Initial characterization of diffusion tensor imaging properties in a rat model of infantile hydrocephalus. YUAN W.
- O63** Kaolin-induced hydrocephalus alters amyloid deposition in transgenic rats expressing high levels of human APP and in a double transgenic mouse model associated with early onset Alzheimer's disease. MILLER MC.
- O64** Early cerebral metabolic changes in kaolin-induced hydrocephalus detected by in vivo (13)C magnetic resonance spectroscopy. KONDZIELLA D.
- O65** Changes in VEGFR-2 and blood vessel density in the hippocampus and caudate nucleus after CSF shunting in chronic hydrocephalus. DOMBROWSKI S.
- O66** Enhanced Smad signaling due to TGF-β1-induced communicative hydrocephalus in rats. GUOHAN HU
- O67** Curcumin has bright prospects for the treatment of hydrocephalus by decreasing of the AQP1 level in rat choroid plexus (in-vitro model). NABIUNI M
- O68** An intraventricular model for pharmacological intervention in experimental hydrocephalus. SKJOLDING AD.

Posters related to this session: P15, P16, P17, YIP10, YIP15, YIP18

Task Force session. Future developments in imaging.

- TF13** Idiopathic Normal Pressure Hydrocephalus Pre-Postoperative 1H-MRS changes in Frontal Deep White Matter and the Thalamus. LUNDIN F
- TF14** Measurement of CSF Flow through the Aqueduct: From Where Does it Come, to Where Does it Go? BATEMAN GA
- TF15** MRI Tools for Assessment of Pharmacotherapy in NPH: Preliminary performance evaluation. ALPERIN N.
- TF16** Physiology-based Quantitative Assessment of CSF Flow in Normal Subjects: Preliminary Study. BHADELIARA.
- TF17** Ventriculomegaly — How to change from Evans index to volume measurement. AMBARKI K.

Posters related to this session: YIP19

Flash session. Hydrocephalus associated disorders.

- O69** Long-term Visual Outcomes of Shunting Patients with Pseudotumor Cerebri. RIGAMONTI D.
- O70** Idiopathic intracranial hypertension is not benign – a long-term outcome study. YRI HM
- O71** Venous sinus stent placement effectively treats visual dysfunction in pseudotumor cerebri. MOGHEKAR A.
- O72** Unilateral Endovascular Stenting of Dural Venous Sinus Stenosis for the Treatment of Pseudotumor Cerebri. RADVANY MG.
- O73** The Venous Pathophysiology of Overdrainage Syndrome - A Case Based Update. SCHUHMANN MU.
- O74** Venous Sinus Obstruction in Paediatric Hydrocephalus and Pseudotumour Cerebri. DWYER C.
- O75** Symptomatic intracranial hypertension in patients presenting with cerebrospinal fluid leak. SOLOMON D.
- O76** Hydrocephalus after SAH – prevention and treatment with lamina terminalis fenestration. VAVERKA M
- O77** Management of tumoral hydrocephalus in terminally ill children. VINCHON M.
- O78** Prevalence of arachnoid cysts in a population based cohort of 1247 people from west region of Sweden; preliminary results. RABIE K.
- O79** Microsurgical fenestration is effective in treating patients with symptomatic benign intracranial cysts. HÖGFELDT M.
- O80** Coagulation of cerebellar tonsils and far lateral foramen magnum opening without dural grafting fodecompression of Chiari I. SPADER H.

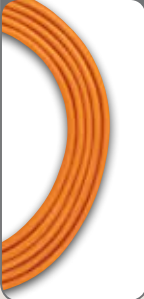



Posters related to this session: P9, P13, P18, P19, P20, P21, P22, P23, YIP2, YIP12, YIP16

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