



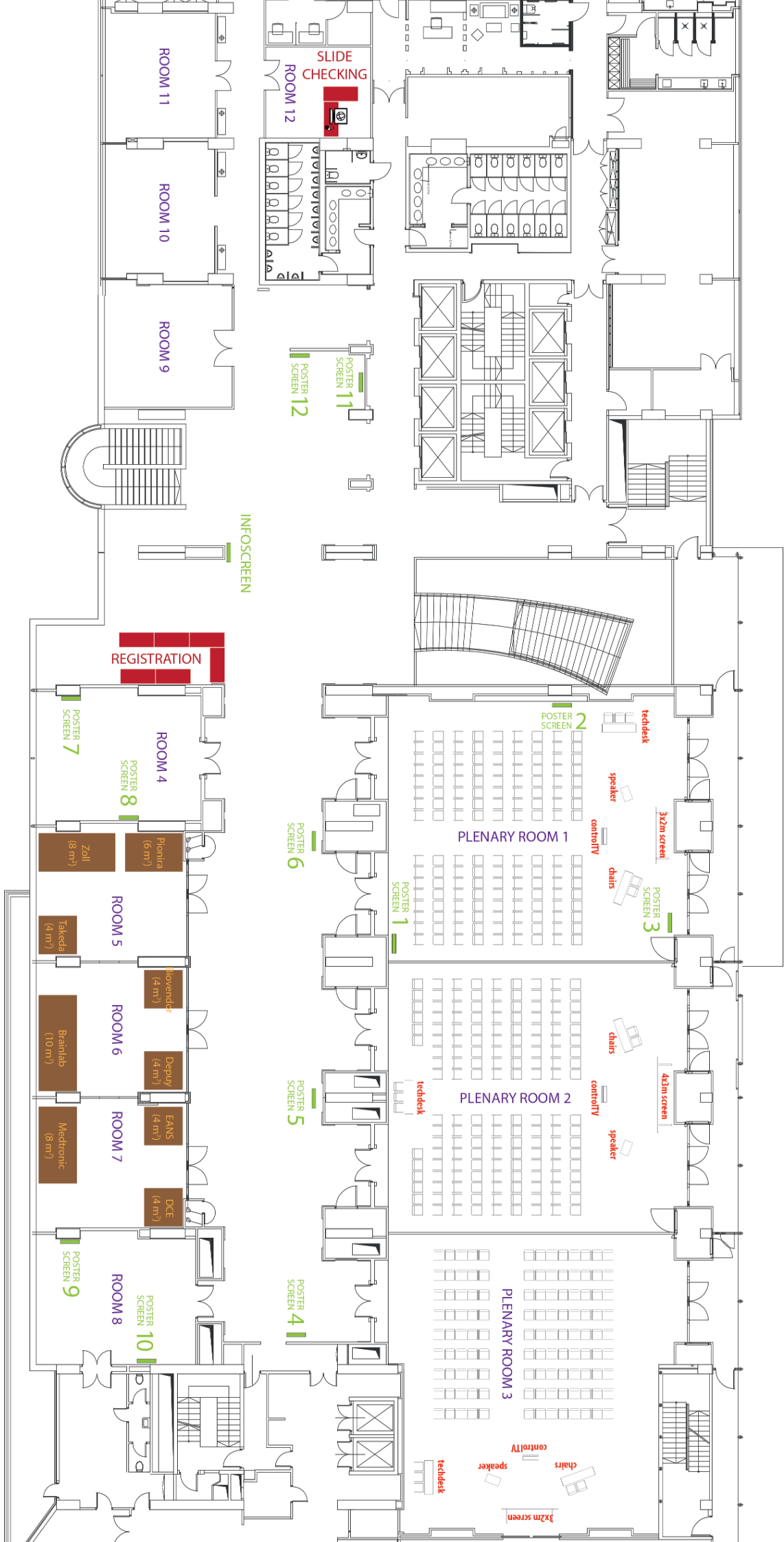
**INTS2014**

**INTERNATIONAL  
NEUROTRAUMA  
SOCIETY  
BUDAPEST, HUNGARY**

**The 11<sup>th</sup> Symposium of The  
International Neurotrauma Society  
March 19–23, 2014  
Hotel InterContinental, Budapest, Hungary**

**[WWW.INTS2014.COM](http://www.INTS2014.COM)**

# CONGRESS VENUE MAP



# WELCOME

Dear Colleagues and Friends,

Traumatic brain and spinal cord injury represent some of the most complex and demanding challenges in the field of medicine, yet the real significance of these diseases remain obscure for the public. Unfortunately this silent epidemic spreads rapidly. Despite of a decreasing incidence in developed countries, neurotrauma evolves as a worldwide health care problem representing the primary cause of death and disability in the young, active population and one of the three most frequent causes of death worldwide.



Despite of ongoing research activities and developments in the last decade the failure of clinical trials has led to a sense of failure and hopelessness in the field. Fortunately due to the devoted work of our scientific community clinical trials tend to address neurotrauma related topics again providing new hope for targeted therapies to well classified subtypes of brain and spine injury.

The International Neurotrauma Society considers the 11<sup>th</sup> INTS Symposium an important milestone in this journey from basic research to the healing of the injured. In the symposium we will strive to unite and coordinate our efforts to ignite and fuel further research programs as well as grants and trials to provide for the better care for the injured in the near future.

The INTS Symposium returns to Europe after 8 years. Symbolically our venue in Budapest is at the border between East and West. The organizers do hope that this location will facilitate new interactions and research plans between representatives of G20 countries and those of the less developed while also providing an opportunity for companies, advocacy groups and clinical research teams to reach out to Eastern Europe, the Balkans and the former Soviet Republics to establish new partnership programs to develop their research potential, implement scientific evidence based guidelines and improve neurotrauma care.

Appreciating that a thorough and rational assessment of the pathobiology of CNS injury, together with a systematic bench to bedside approach, are prerequisite for any breakthrough in patient care, this symposium will strive to address these goals, providing an opportunity for the discussion of new treatment strategies as well as the consideration of the guidelines currently used in the management of patients suffering from severe traumatic brain and spinal cord injury.

More than 400 participants from 46 countries will present over 250 abstracts during the Symposium. We also hope that besides its scientific merit this event will open a new chapter in the history of the International Neurotrauma Society facilitating the spread of scientific evidence based treatment strategies and multinational, multidisciplinary collaborative efforts in the field.

The host city of Budapest harbours a special atmosphere, with features of a medieval Castle-city, embedded with exciting Central-European Party-Center, with colorful touristic attractions, and a unique culinary experience. Despite of its many attractions, the organizers hope that you will recall the town of Budapest as the place where researchers and clinicians from the field of neurotrauma gathered and re-united to make a positive change in the fight against the silent epidemic.

Wish you a pleasant stay and a memorable time in Hungary and Budapest!

Yours truly,

Handwritten signature of András Büki

András Büki M.D., Ph.D., D.Sc.,  
vice president of the INTS  
head of the organizing committee of INTS2014

# GENERAL INFORMATION

István Tarlós, main social patron  
József Pálinkás, main scientific patron

## REGIONAL ADVISORY BOARDS

### Hungarian Advisory Board

Tamás Dóczi (Pécs) president  
György Szeifert (Budapest)  
Pál Barzó (Szeged)  
Zsolt Kopniczky (Szeged)  
Róbert Veres (Budapest)  
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**Western Europe:** Andrew IR Maas chair

**Central and Eastern Europe:** Martin Smrcka chair

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**Baltics and Russi:** Toomas Asser chair

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**Africa:** Anthony Figaji chair

**Australia:** Jamie Cooper chair

**Asia:** Ji-yao Jiang chair

## INTS BOARD, SCIENTIFIC COMMITTEE

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András Büki vice president,  
head of the organizing committee

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Andreas Unterberg  
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Lars Hillered  
Geoffrey T Manley  
Robert Vink  
Takeshi Maeda  
Gourikumar Prusty  
Anthony Figaji  
Doortje Engel  
Michael G Fehlings  
Guoyi Gao  
John T Povlishock  
Minoru Shigemori  
Katsuji Shima  
Nino Stocchetti  
Bo-Michael Bellander

The abstracts of the congress  
will be available in the  
Journal of Neurotrauma  
(see QR code)



<http://online.liebertpub.com/doi/abs/10.1089/neu.2014.9937>



## CONGRESS OFFICE

During the conference you can find us at the registration desk or contact us by phone (see below). We'll do our best to help you in any question.

### Partners Pécs Ltd.

**e-mail:** info@ints2014.com

**web:** <http://ints2014.com/>

**General information:** +36 20 521 22 66

**Sponsorship:** +36 30 298 67 47

## CONGRESS VENUE

### Hotel InterContinental

Apaczai Csere J. str. 12-14.

H-1052 Budapest

## REGISTRATION AND INFORMATION DESK

Wednesday, March 19 <sup>th</sup>	12.00-20.00
Thursday, March 20 <sup>th</sup>	07.00-20.00
Friday, March 21 <sup>st</sup>	07.30-20.00
Saturday, March 22 <sup>nd</sup>	07.30-20.00

## POSTER COMPETITION

Posters selected by the scientific committee will participate at the competition.

Participants will be judged at three steps:

1. Upon abstract evaluations members of the Scientific Committee and the Advisory Boards scored the abstracts from 3-15
2. First half of "flash presentations" is dedicated to those posters participating at the competition; each of the chairs will score from 1-5, again, leading to a cumulative score of 3-15.
3. Upon the **FIRST day of the poster tour** (1<sup>st</sup> day, 20<sup>th</sup> of March) the two chairs assigned to each screen will score those posters that are selected for poster competition (and labelled accordingly) from 1-5.

The cumulative score will thereby range from 8-40 and the first 10 posters will be named and granted on the closing dinner.

## FLASH PRESENTATION

Flash presentations are going to be held between 10:45 and 12:00 on the 2<sup>nd</sup> day (21<sup>st</sup> of March) of the Symposium

The Scientific Committee has come to the decision that the best posters will also be presented in the form of a short lecture called flash presentation.

These are power point presentations based on the topic of the poster, presented in the main auditorium by the authors. Everybody will have 3 minutes to talk, and will be able to use several PPT slides. Time will be strictly monitored by the chairpersons and the microphone will go off after 180 seconds!

You can hand over your presentation in MS PowerPoint format to the technicians (in the plenary rooms at the technical desk) any time but latest in the last coffee break before the presentation. You can submit it on a flash drive, CD, DVD, or an external drive.

## POSTER PRESENTATION

Poster presentations are going to be held between 10:45 and 12:45 on the 1<sup>st</sup> and 3<sup>rd</sup> days (20<sup>th</sup> and 22<sup>nd</sup> of March) of the Symposium

At the INTS 2014 Symposium, all the posters will be presented in digital format on 12 LCD screens in portrait orientation (E-POSTER SESSION). Please note that each screen will project only one image file per poster (PDF or JPEG).

All authors will present their poster twice, first on the 1<sup>st</sup> (20<sup>th</sup>) and next on the 3<sup>rd</sup> (22<sup>nd</sup>) day of the conference in a pre-determined sequence of guided tours. This schedule will provide an opportunity for everyone to attend each presentation of the poster tour, regardless of the length of the poster session (some sessions will be held on two screens simultaneously).

Each poster presentation will include a 2-3 min summary by the author followed by a 3-4 min discussion. Time for each poster is limited to 7 min, strictly monitored by the chair of the session. Each tour will have a moderator, who conducts the presentations. The exact time of the presentations and the layout of the presenting room can be found on our website.

If you miss your presentation, your poster will be skipped, and will be shown during the free poster viewing.

Posters participating at the poster competition will be judged on their FIRST presentation, on the 20<sup>th</sup> of March!

## ORAL PRESENTATION

You can hand over your presentation in MS PowerPoint format to the technicians (in the plenary rooms at the technical desk) any time but latest in the last coffee break before the presentation. You can submit it on a flash drive, CD, DVD, or an external drive.

# USEFUL INFORMATION

## COFFEE

During the coffee breaks, coffee with snacks will be served in the hotel lounge.

Thursday, March 20 <sup>th</sup>	08:55-09:15 15:55-16:10
Friday, March 21 <sup>st</sup>	08:55-09:15
Saturday, March 22 <sup>nd</sup>	08:55-09:15 15:55-16:10

## LUNCH

Lunch is provided as part of the registration fee and will be served during the lunch break in the hotel restaurant.

Thursday, March 20 <sup>th</sup>	12:00-13:45
Friday, March 21 <sup>st</sup>	12:00-14:00
Saturday, March 22 <sup>nd</sup>	12:00-13:45

## LEARNERS FEEDBACK QUESTIONNAIRE

In order to get your EACCME certificate you have to fill out a feedback form (Learners Feedback Questionnaire) and bring it back to the registration desk. This feedback form will be in your congress bag which you will get on arrival.

## TAXI

You may hail taxis in the street, but it is probably cheaper to order a taxi by phone from the hotel reception or the registration desk. We recommend: Főtaxi; phone: +36 1 222 2222; +36 20/222 2222; +36 30/222 2222; +36 70/222 2222.

## SMOKING

INTS-2014 is a non-smoking conference.

## INSURANCE

The Congress Secretariat and organizers cannot accept responsibility whatsoever for injury or damage involving persons and property during the meeting. Participants are advised to make their own arrangements with respect to health and travel insurance.

## CURRENCY EXCHANGE

The official exchange office is: Exclusive Best Change.  
The nearest Exclusive Best Change office:  
1052 Budapest, Váci utca 12.  
Opening hours: 8.00-12.00  
You will find discount coupons at the registration desk.

## Wi Fi INTERNET ACCESS

At the Hotel InterContinental free internet access is provided.

**Your Conference Name:** ICMICE2014  
**Your Password:** ICMICE2014

### Wireless Connection Instructions

1. With your computer turned ON, choose from the wireless networks which is called: InterContinental\_Budapest
2. Launch a web browser
3. Click to the "PC Screen" as requested
4. Click on the button: Conference
5. Choose your conference name as specified here above
6. Enter your password as given here above
7. Click on: Connect
8. Enjoy working with the highest speed Internet in Budapest!



### Wired Connection Instructions

1. With your computer turned OFF, connect an Ethernet cable to your computer.
2. Turn ON your computer and launch a web browser
3. Click to the "PC Screen" as requested
4. Click on the button: Conference
5. Choose your conference name as specified here above
6. Enter your password as given here above
7. Click on: Connect
8. Enjoy working with the highest speed Internet in Budapest!

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# SOCIAL PROGRAMS

Please don't forget to have your badge with you all the time and present your tickets on entering the social events.

## OPENING OF THE CONGRESS

**Date:** 19<sup>th</sup> March, 20.00-22.00

**Venue:** Hotel InterContinental, Budapest, Plenary Room 2

The 11<sup>th</sup> Symposium of the International Neurotrauma Society warmly welcomes its guests at the Opening of the Congress followed by a cocktail reception.



## WINE TASTING AND BUFFET DINNER

**Date:** 20<sup>th</sup> March, 19.00-22.00 The program starts at 19.00 on the ship.

**Venue:** Európa Hajó (Europe Ship), a ship staying near the Hotel InterContinental (see map)



A wonderful opportunity to taste some world famous Hungarian wine. Hungarian wine has a history dating back to at least Roman times. Outside of Hungary, the best-known wines are the white dessert wine Tokaji and the red wine Bull's Blood of Eger (Egri Bikavér) and wine from the southern wine region, Villány. According to experts the wines of the Villány production area are miracles born from blending human skills and nature.

## CLOSING GALA DINNER AND AWARD CEREMONY

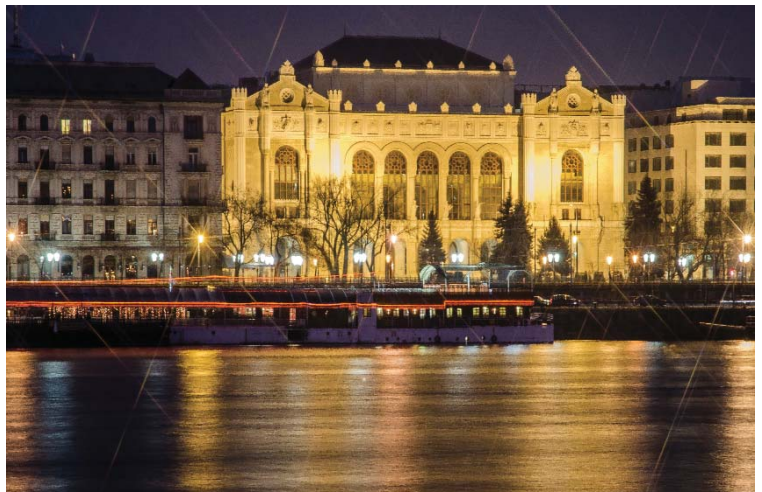
**Date:** 22<sup>nd</sup> March, 19.30-23.00

**Venue:** Vigado Concert Hall (see map)

The Closing ceremony starts at 19.30 at the Vigadó and will finish at 23.00.

From the Hotel it is only a 5 minutes walk to Vigado Concert Hall.

Poster awards, fellowships and grants will be presented and handed over during the closing ceremony. Harmónia Garden will provide a wide range of songs and styles, from jazz and bossa nova, to tango, French manouche, and Hungarian csardas.



# OPTIONAL SOCIAL PROGRAMS

You can inquire about more interesting tourist and cultural programmes at the hotel reception. Also for the accompanying guests the hotel will help to find exciting programmes in Budapest.

## DINNER CRUISE ON THE DANUBE

**Date:** 21<sup>th</sup> March, 19.00-22.00

**Meeting point:** Vén Hajó (Old Ship) Restaurant at 19.00 (see map)

From the hotel you can walk to the port, right outside the hotel, where the boat is waiting for you. The boat trip begins and you can enjoy a special night cruise along the river Danube through the stunning sights of Budapest. During the trip wine and snack will be served while the boat takes you back to Old Ship Restaurant where you will have a superb dinner.



## SIGHTSEEING PROGRAMS

You can choose from the five following programs. If you haven't indicated your choice in advance you can do that at the registration desk on the 20<sup>th</sup> of March the latest. **Please do not forget to bring your ticket with you!**

### Budapest sightseeing - Delicatessen

**Date:** 21<sup>st</sup> of March 16:30

**Duration:** 4-5 hours

**Meeting place:** InterContinental, congress registration desk

**Arrival at the end of the tour:** downtown at the last gourmet stop.

### Budapest sightseeing - Guided Spa Tour

**Date:** 21<sup>st</sup> of March 16:30

**Duration:** 2-3 hours

**Meeting place:** InterContinental, congress registration desk

**Arrival at the end of the tour:** at the spa exit.



### Budapest sightseeing - Tipsy

**Date:** 21<sup>st</sup> of March 18:00

**Duration:** 4 hours

**Meeting place:** InterContinental, congress registration desk

**Arrival at the end of the tour:** downtown at the last bar stop.



### Budapest sightseeing - Women's program - Out of the malls

**Date:** 21<sup>st</sup> of March 13:00

**Duration:** 4 hours

**Meeting place:** InterContinental, congress registration desk

**Arrival at the end of the tour:** downtown.

### Budapest sightseeing - Classic

**Date:** 21<sup>st</sup> of March 15:00

**Duration:** 4 hours

**Meeting place:** InterContinental, lobby

**Arrival at the end of the tour:** congress registration desk



# OPTIONAL SOCIAL PROGRAMS

## WALKING TOUR

### (PROGRAM FOR THE ACCOMPANYING GUESTS)

Date: 20<sup>th</sup> of March, 9:00-10:30

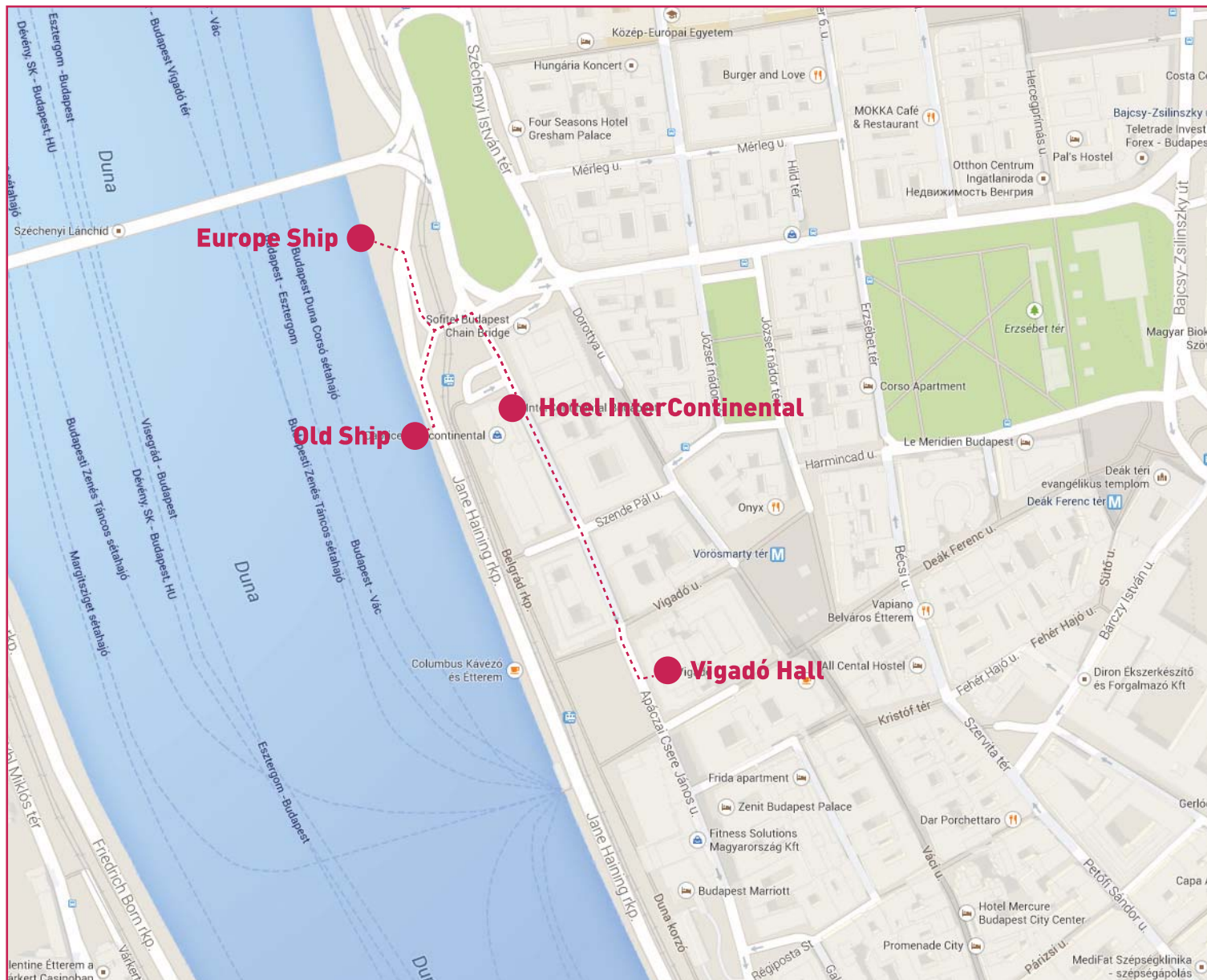
Meeting point: Registration desk at 9:00

Arrival at the end of the tour: registration desk

At 9.00 the tourist guide will come and meet you at the hotel reception. May we kindly ask you to let us know about your willingness to participate at the reception desk the day before.



## AREA MAP



# SPONSORSHIP



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**SZÉCHENYI PLAN**

**SROP-4.2.2.A-11/1/KONV-2012-0017**

„Identification of new biomarkers, especially, regarding the toxicity of free iron deposition in the nervous system, iron toxicity-induced oxidative stress and innate immune reactions with translational investigations”

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The project is supported  
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# TIMETABLE



	PLENARY ROOM 1	PLENARY ROOM 2	PLENARY ROOM 3
17:00-18:30 20:00-22:00		<b>ARRIVAL DAY (19<sup>TH</sup> MARCH, WEDNESDAY)</b>	
		<b>INTS Board meeting (Room 10)</b>	
		<b>Opening of the Congress</b>	
		<b>1<sup>ST</sup> DAY (20<sup>TH</sup> MARCH, THURSDAY)</b>	
7:45-8:55	SS1/1 Spreading Depolarization	<b>Sunrise Seminars</b> SS1/2 Communication with the Comatose Brain	SS1/3 Host factors: Comorbidities, Genomics and Epigenetics
8:55-9:15	Coffee Break – Free poster viewing, visit the exhibitors		
9:15-10:45	<b>Morning Plenary (State-of-the-art Lectures)</b>		
9:15-9:45	PL1 State-of-the-art Lecture on Traumatic Brain Injury		
9:45-10:15	PL2 State-of-the-art Lecture on Spinal Cord Injury		
10:15-10:45	PL3 Lifetime Perspective on Head Injury		
10:45-12:45	<b>Poster Session - first round (Plenary room 1 and Room 4, 8, Prefunction area)</b>		
12:00-13:45	Lunch Break – Free poster viewing, visit the exhibitors		
13:45-15:55	PC1 ICP Monitoring	<b>Pro and Con Session and Parallel Plenary Session</b>	
13:45-15:40		PC2 Preclinical Discovery	
13:45-15:55		PP1 Assessing and Predicting Outcome	
15:55-16:10	Coffee Break – Free poster viewing, visit the exhibitors		
16:10-18:30	PP2 Diffuse Axonal Injury International Society of Nephrology Symposium on Diffuse Brain Injury	<b>Afternoon Parallel Plenary Session</b>	
16:10-18:30		PP3 International Initiatives in Neurotrauma Research	PP4 Advanced Imaging
19:00-22:00	<b>Wine tasting and buffet dinner</b>		
		<b>2<sup>ND</sup> DAY (21<sup>ST</sup> MARCH, FRIDAY)</b>	
7:45-8:55	SS2/4 BBB and Vascular Dysfunction	<b>Sunrise Seminars</b> SS2/5 Pediatric Neurotrauma	SS2/6 Axonal Pathfinding and regeneration
8:55-9:15	Coffee Break – Free poster viewing, visit the exhibitors		
9:15-10:45	<b>Morning Plenary (Mild Traumatic Brain Injury)</b>		
9:15-9:45	PL4 Biomarkers of Mild TBI		
9:45-10:15	PL5 Treatment of Sports Related Concussion: Summary of the Current Recommendations of Three Prominent Sports Medicine Organizations		
10:15-10:45	PL6 Repetitive Mild Traumatic Brain Injuries		
10:45-11:45			<b>Codman Neuro Seminar Surgical Approaches To TBI: Bone Decompression And More</b>
10:45-12:00	<b>Free poster viewing</b>	<b>Flash presentations - Poster competition</b>	
12:00-14:00	Lunch Break		
12:00-13:30	<b>Lunch meeting of the INTS Board (Room 10)</b>		
13:30-15:10			<b>Round Table Discussion on Biomarkers in Neurotrauma</b>
15:15-16:30			<b>Center TBI meeting</b>
» page 6		<b>Optional social programs</b>	
		<b>3<sup>RD</sup> DAY (22<sup>TH</sup> MARCH, SATURDAY)</b>	
7:45-8:55	SS3/7 Hypothermia for Spinal Cord Injury	<b>Sunrise Seminars</b>	SS3/9 Contemporary challenges in the care for severe TBI
7:45-8:55		SS3/8 Therapeutic Windows for Neuro-protection in Animals and Humans	
8:55-9:15	Coffee Break – Free poster viewing, visit the exhibitors		
9:15-10:45	<b>Morning Plenary (Imaging in the assessment of TBI)</b>		
9:15-9:45	PL7 Novel imaging techniques for characterising TBI severity at admission		
9:45-10:15	PL8 Imaging approaches to mapping pathophysiology		
10:15-10:45	PL9 Neuroanatomical substrates of TBI outcomes		
10:45-12:45	<b>Poster Session - second round (Plenary room 1 and Room 4, 8, Prefunction area)</b>		
12:00-13:45	Lunch Break – Free poster viewing, visit the exhibitors		
12:15-13:15	<b>STITCH(trauma) Meeting (Room 9)</b>		
13:45-15:55	PC3 Decompressive craniectomy	<b>Pro and Con Session and Parallel Plenary Session</b>	
13:45-15:50		PP5 Preclinical Neuroprotection	
13:45-15:55		PP6 Rehabilitation in Neurotrauma	
15:55-16:10	Coffee Break – Free poster viewing, visit the exhibitors		
16:10-17:20	PP7 Non-Invasive and Multimodal Monitoring	<b>Afternoon Parallel Plenary Session</b>	
16:10-17:20		PP8 Microdialysis and Metabolomics	PP9 Inflammation and Oxidative Damage in CNS Injury
17:30-18:30	<b>Plenary Meeting of the International Neurotrauma Society</b>		
19:30-23:00	<b>Closing gala dinner - award ceremony (Vigadó Concert Hall)</b>		

# PROGRAM (19<sup>TH</sup> MARCH, WEDNESDAY)

17:00-18:30 **INTS Board meeting** (Room 10)

20:00-22:00 **Opening of the Congress** (Plenary room 2 and Prefunction area)

# PROGRAM (20<sup>TH</sup> MARCH, THURSDAY)

Numbers in brackets are the numbers of the abstract in the Journal of Neurotrauma.

## SUNRISE SEMINARS

7:45-8:55	<b>SS1/1</b> <b>Spreading Depolarization</b> (Plenary room 1)	7:45-8:55	<b>SS1/2</b> <b>Communication with the Comatose Brain</b> (Plenary room 2)	7:45-8:55	<b>SS1/3</b> <b>Host factors: Comorbidities, Genomics and Epigenetics</b> (Plenary room 3)
Chair:	David O Okonkwo - Takeshi Maeda	Chair:	Emmanuel A Stamatakis - Reggie V Edgerton	Chair:	Michael G Fehlings - Oliver W Sakowitz
7:45-8:05	<b>SS1.1 (3) Spreading depolarization in acute neuronal injury</b> Jens P Dreier, Center for Stroke Research, Department of Experimental Neurology and Neurology, Charité University Medicine Berlin, Germany	7:45-8:05	<b>SS2.1 (4) Imaging covert cognition and consciousness</b> Athena Demertzi, Cyclotron Research Centre, University of Liège, Liège, Belgium	7:45-8:05	<b>SS3.1 (75) TBI in an ageing population with co-morbidities and their therapies</b> Fiona Lecky, School of Health and Related Research, University of Sheffield, Sheffield, United Kingdom
8:05-8:25	<b>SS1.2 Arguments why spreading depolarization will lead us nowhere</b> Andreas Unterberg, Department of Neurosurgery, University of Heidelberg, Germany	8:05-8:25	<b>SS2.2 A new fMRI approach for establishing conscious awareness and communication in behaviourally nonresponsive patients (Cancelled attendance)</b> Lorina Naci, The Brain and Mind Institute, Western University, London, ON, Canada	8:05-8:25	<b>SS3.2 Genetic Factors and Outcome Post TBI</b> Ramon Diaz-Arrastia, Center for Neuroscience and Regenerative Medicine, Uniformed Services University of Health Sciences, Rockville, MD, USA
8:25-8:45	<b>SS1.3 (25) Spreading depolarizations: monitoring a neuronal pathophysiologic process in traumatic brain injury</b> Jed A Hartings, Department of Neurosurgery, University of Cincinnati College of Medicine, Cincinnati, OH, USA	8:25-8:45	<b>SS2.3 (140) Right median nerve electrical stimulation improves the outcome of traumatic coma patients</b> Guo-yi Gao, Department of Neurosurgery, Renji Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, People's Republic of China	8:25-8:45	<b>SS3.3 (156) Rehabilitomics Research: Examining Approaches to Personalized Medicine in TBI</b> Amy K Wagner, Department of Physical Medicine and Rehabilitation, University of Pittsburgh, Pittsburgh, PA, USA
8:45-8:55	Discussion	8:45-8:55	Discussion	8:45-8:55	Discussion

8:55-9:15 Coffee Break

**FREE POSTER VIEWING, VISIT THE EXHIBITORS**

## MORNING PLENARY

9:15-10:45 **State-of-the-art Lectures** (Plenary room 1-2)

Chair: Edward D Hall - András Büki

9:15-9:45 **PL1 State-of-the-art Lecture on Traumatic Brain Injury**

John T Povlishock, Department of Anatomy and Neurobiology, Virginia Commonwealth University Medical Center, Richmond, VA, USA

9:45-10:15 **PL2 State-of-the-art Lecture on Spinal Cord Injury**

Michael G Fehlings, Institute, University Health Network; Krembil Neuroscience Centre, Spinal Program, Toronto Western Hospital, University Health Network; Department of Surgery, Division of Neurosurgery and Spinal Program, University of Toronto, Canada

10:15-10:45 **PL3 Lifetime Perspective on Head Injury**

Thomas A Gennarelli, Department of Neurosurgery, Medical College of Wisconsin, Milwaukee, WI, USA

## POSTER SESSION

(Plenary room 1 and Room 4, 8, Prefunction area)

### 10:45-12:45 **Poster Session: Guided poster viewing and poster demonstrations - first round**

Note: Moderators chair and conduct the poster tour at each screen.

Moderators assigned to the screens are:

- Screen 1: Jonathan Lifshitz - Marc J Simard
- Screen 2: Ewout Steyerberg - János Sándor
- Screen 3: Alexandra Brazinova - Guo-yi Gao
- Screen 4: Marek Czosnyka - Miro Vukic
- Screen 5: Attila Schwarz - Oliver W Sakowitz
- Screen 6: Mayumi Prins - Guy Rosenthal
- Screen 7: Jamie Cooper - Randall M Chesnut
- Screen 8: Denes V Agoston - Cristina Morganti-Kossmann
- Screen 9: Robert Vink - Ákos Koller
- Screen 10: Nicole von Steinbüchel - György T Szeifert

**P1 BBB and Vascular Dysfunction** (Screen 1 - P1.1 to P1.6)

**P2 Assessing and Predicting Outcome** (Screen 2 - P2.1 to P2.13, Screen 3 - P2.16 to P2.22)

**P3 Host factors: Comorbidities, Genomics and Epigenetics** (Screen 5 - P3.1 to P3.6)

**P4 Mild Traumatic Brain Injury** (Screen 6 - P4.1 to P4.14)

**P5 Imaging in the assessment of TBI** (Screen 5 - P5.1 to P5.9)

**P6 Neuromonitoring in TBI** (Screen 3 - P6.16 to P6.19, Screen 4 - P6.1 to P6.15)

**P7 Preclinical Neuroprotection and Discovery** (Screen 8 - P7.1 to P7.14, Screen 9 - P7.15 to P7.28)

**P8 Decompressive Craniectomy** (Screen 7 - P8.1 to P8.12)

**P9 Axonal Pathology in TBI** (Screen 1 - P9.1 to P9.7)

**P10 Contemporary challenges and International Initiative in Neurotrauma Research** (Screen 10 - P10.1 to P10.13)

12:00-13:45 Lunch Break

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# PROGRAM (20<sup>TH</sup> MARCH, THURSDAY)

## PRO AND CON SESSION AND PARALLEL PLENARY SESSION

<p><b>13:45-15:40 PC1</b>  <b>ICP Monitoring</b>  <b>(Plenary room 1)</b>  <b>Moderator: David K Menon</b></p>	<p><b>13:45-15:40 PC2</b>  <b>Preclinical Discovery</b>  <b>(Plenary room 2)</b>  <b>Moderator: W Dalton Dietrich</b></p>
<p>13:45-13:50 Moderators intro</p>	<p>13:45-13:50 Moderators intro</p>
<p><b>13:50-14:00 PC1.2 (122) A Swine Model of Intracellular Cerebral Edema</b>  <b>Guy Rosenthal, Fernando Ramirez de Noreiga, Samuel Moscovici, Eyal Itshayek, Ramez Abu Shkara, Yakov Felig, Geoffrey T Manley</b>          Hadassah-Hebrew University Medical Centre, Jerusalem, Israel</p>	<p><b>13:50-14:00 PC2.1 (66) Treatment with combined EPO and BDNF supports hippocampal neurogenesis and improves functional outcome following focal TBI</b>  <b>Nicole Bye, Alison Conquest, Alex Gotama, Jeffrey V Rosenfeld, Maria Cristina Morganti-Kossmann</b>          National Trauma Research Institute, Alfred Hospital and Department of Surgery, Monash University, Victoria, Australia</p>
<p><b>14:00-14:10 PC1.3 (202) Optimal cerebral perfusion pressure - towards individualised treatment in severe traumatic brain injury</b>  <b>Marcel J Aries<sup>1,2</sup>, Angelos G Koliass<sup>1</sup>, Marek Czosnyka<sup>1</sup>, Karol P Budohoski<sup>1</sup>, Luzius A Steiner<sup>3</sup>, Andrea Lavinio<sup>1,4,6</sup>, Ken M Brady<sup>5</sup>, David K Menon<sup>4,6</sup>, John D Pickard<sup>1</sup>, Peter J Hutchinson<sup>1</sup>, Peter Smielewski<sup>1</sup></b>  <sup>1</sup>Division of Neurosurgery, Department of Clinical Neurosciences, Addenbrooke's Hospital &amp; University of Cambridge, Cambridge Biomedical Campus, Cambridge, UK  <sup>2</sup>Department of Neurology, University of Groningen, University Medical Centre Groningen, Groningen, The Netherlands  <sup>3</sup>Department of Anesthesiology, University Hospital Basel, Basel, Switzerland  <sup>4</sup>Neurosciences Critical Care Unit, Addenbrooke's Hospital, Cambridge Biomedical Campus, Cambridge, UK  <sup>5</sup>Department of Anesthesiology and Critical Care Medicine, Texas Children's Hospital, Houston, Texas  <sup>6</sup>Division of Anaesthesia, Addenbrooke's Hospital &amp; University of Cambridge, Cambridge Biomedical Campus, Cambridge, UK</p>	<p><b>14:00-14:10 PC2.2 (114) Characterization of TBI Models and Evaluation of Efficacy of Nicotinamide, Erythropoietin, and Cyclosporin A using Serum Biomarkers: Results from Operation Brain Trauma Therapy</b>  <b>Stefania Mondello<sup>1</sup>, Deborah A Shear<sup>2</sup>, Helen M Bramlett<sup>3</sup>, C Edward Dixon<sup>4</sup>, Kara Schmid<sup>2</sup>, W Dalton Dietrich<sup>3</sup>, Kevin KW Wang<sup>5</sup>, Ronald L Hayes<sup>4</sup>, Frank C Tortella<sup>2</sup>, Patrick M Kochanek<sup>4</sup></b>  <sup>1</sup>Department of Neuroscience, University of Messina, Messina, Italy  <sup>2</sup>Department of Applied Neurobiology, Division of Psychiatry and Neuroscience, Walter Reed Army Institute of Research, Silver Spring, MD, USA  <sup>3</sup>Dept. of Neurosurgery, University of Miami Miller school of Medicine, Miami, FL, USA  <sup>4</sup>Department of Critical Care Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA  <sup>5</sup>Departments of Psychiatry and Neuroscience, University of Florida, Gainesville, FL, USA  <sup>6</sup>Department of Clinical Programs, Banyan Biomarkers Inc., Alachua, FL, USA</p>
<p><b>PRO-CON Debate</b>  <b>14:10-14:40</b>  <b>Randall M Chesnut</b>, Dept. of Neurological Surgery, Harborview Medical Center, University of Washington, Seattle, WA, USA  <b>14:40-15:10</b>  <b>Andrew IR Maas</b>, Department of Neurosurgery, University Hospital Antwerp, Edegem, Belgium</p>	<p><b>14:10-14:20 PC2.3 (44) Extracellular Matrix Biomarkers for Acute Neurological Injury</b>  <b>Jonathan Lifshitz, Caroline Addington, Christine Pauken, Daniel R Griffiths, Sarah Stabenfeldt</b>          Barrow Neurological Institute at Phoenix Children's Hospital, Phoenix, Arizona, USA Department of Child Health, University of Arizona, College of Medicine - Phoenix, Phoenix, Arizona, USA Phoenix Veterans Administration Health Care System, Phoenix, Arizona, USA School of Biological and Health Systems Engineering, Ira A. Fulton Schools of Engineering, Arizona State University, Tempe, Arizona, USA</p>
<p><b>15:10-15:40 Discussion</b></p>	<p><b>15:20-15:40 Discussion</b></p>

<p><b>13:45-15:55 PP1</b>  <b>Assessing and Predicting Outcome</b>  <b>(Plenary room 3)</b>  <b>Chair: Nicole von Steinbüchel - Marc J Simard</b></p>
<p><b>13:45-14:05 PP1.1 (174) Predicting Outcome after TBI: current status and future perspectives</b>  <b>Ewout Steyerberg</b>, Department of Public Health, Erasmus MC - University Medical Center Rotterdam, The Netherlands</p>
<p><b>14:05-14:25 PP1.2 (227) Outcome prediction in persistent post traumatic coma</b>  <b>Louis Puybasset</b>, Department of Anesthesiology and Critical Care; Pitié-Salpêtrière Hospital, Pierre-and-Marie-Curie University, Paris, France</p>
<p><b>14:25-14:45 PP1.3 (158) Head-Injured Patients Who Talk and Deteriorate: Analysis of 192 Cases Registered in the Japan Neurotrauma Data Bank</b>  <b>Takeshi Maeda</b>, Department of Neurosurgery, Nihon University School of Medicine, Tokyo, Japan</p>
<p><b>14:45-15:05 PP1.5 (229) Outcome assessment after acquired brain injury</b>  <b>Nicole von Steinbüchel</b>, Dept. of Medical Psychology and Medical Sociology Georg August University, Göttingen, Germany</p>
<p><b>15:05-15:15 Discussion</b></p>
<p><b>15:15-15:25 PP1.4 (43) Injury Severity and Seizure Development after Traumatic Brain Injury</b>  <b>Helen M Bramlett, Justin Sick, Joseph Wasserman, Amade Bregy, W Dalton Dietrich, Thomas Sick</b>          Departments of Neurological Surgery and Neurology, The Miami Project to Cure Paralysis, University of Miami Miller School of Medicine, Miami, Florida, USA Bruce W. Carter Department of Veterans Affairs Medical Center, Miami, Florida, USA</p>
<p><b>15:25-15:35 PP1.6 (198) CT and MRI findings are not predictive of long-term outcome following mild traumatic brain injury</b>  <b>Paul McMahon, Ava Puccio, Jamie Pardini, Allison Hricik, David O Okonkwo</b>          University of Pittsburgh, Pittsburgh, Pennsylvania, USA</p>
<p><b>15:35-15:45 PP1.7 (223) Factors of influence on surgical decision making and outcome in patients with acute subdural hematoma: a retrospective study of 109 patients with evaluation of quality of live</b>  <b>TA van Essen, GC de Ruiter, WC Peul</b>          Department of Neurosurgery, Leiden University Medical Center, Leiden, The Netherlands Department of Neurosurgery, Medical Center Haaglanden, The Hague, The Netherlands</p>
<p><b>15:45-15:55 Discussion</b></p>



# PROGRAM (20<sup>TH</sup> MARCH, THURSDAY)

15:55-16:10 Coffee Break

**FREE POSTER VIEWING, VISIT THE EXHIBITORS**

## AFTERNOON PARALLEL PLENARY SESSION

<p><b>16:10-18:30 PP2</b>    <b>Diffuse Axonal Injury</b>  <b>International Society for Neurochemistry Symposium on Diffuse Brain Injury</b>  <b>(Plenary room 1)</b>  <b>Chair: John T Povlishock - Guo-yi Gao</b></p>	<p><b>16:10-18:30 PP3</b>  <b>International Initiatives in Neurotrauma Research</b>  <b>(Plenary room 2)</b>  <b>Chair: Andrew IR Maas - Alexandra Brazinova</b></p>	<p><b>16:10-18:30 PP4</b>  <b>Advanced Imaging</b>  <b>(Plenary room 3)</b>  <b>Chair: Péter Bogner - Walter Schneider</b></p>
<p><b>16:10-16:30 PP2.1 (228) The Pathology of Diffuse Axonal Injury</b>  <b>Willie Stewart</b>, Department of Neuro-pathology, Institute of Neurological Sciences, Glasgow, United Kingdom</p>	<p><b>16:10-16:30 PP3.1 (204) NIH Participation in the International Traumatic Brain Injury Research (InTBIR) Initiative</b>  <b>Ramona Hicks</b>, National Institute of Health, National Institute of Neurological Disorders and Stroke, Bethesda, MD, USA</p>	<p><b>16:10-16:30 PP4.1 (172) Quantitative assessment of cortical atrophy and axonal demyelination in severe traumatic brain injury using multimodal neuroimaging</b>  <b>Andrei Irimia</b>, Laboratory of Neuro Imaging, Department of Neurology, University of California, CA, USA</p>
<p><b>16:30-16:50 PP2.2 (207) Tackling Concussion: Neuromechanics and Neuropathology</b>  <b>Douglas H Smith</b>, Center of Brain Injury and Repair, University of Pennsylvania, Philadelphia, PA, USA</p>	<p><b>16:30-16:50 PP3.2 (175) The International Traumatic Brain Injury Research (InTBIR) Initiative</b>  <b>Philippe Cupers</b>, European Commission, Research and Innovation, Brussels, Belgium</p>	<p><b>16:30-16:50 PP4.2 (26) Functional MRI in TBI</b>  <b>Emmanuel A Stamatakis</b>, Division of Anaesthesia, School of Clinical Medicine, University of Cambridge, Cambridge, UK</p>
<p><b>16:50-17:10 PP2.3 Delayed Onset of Axonal Damage Following Experimental TBI: Implications for chronic neurodegeneration in brain injury and disease</b>  <b>Ronald L Hayes</b>, Banyan Biomarkers Inc. / Banyan Laboratories, Alachua, FL, USA</p>	<p><b>16:50-17:10 PP3.3 (222) Canadian Participation in the International Initiative for Traumatic Brain Injury Research (InTBIR)</b>  <b>Anthony G Phillips</b>, Institute of Neurosciences, Mental Health and Addiction, University of British Columbia, Vancouver, BC, Canada</p>	<p><b>16:50-17:10 PP4.3 (234) Recovery of sensory-motor function of the lower limbs after complete paralysis: How, Why and What is to follow?</b>  <b>Reggie V Edgerton</b>, Department of Neurosurgery, University of California, Los Angeles, CA, USA</p>
<p><b>17:10-17:30 PP2.4 Therapeutic Targets</b>  <b>David O Okonkwo</b>, Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA, USA</p>	<p><b>17:10-17:20 Discussion</b>  <b>17:20-17:30 PP3.4 (34) The Austrian Project. Improvement of pre-hospital and early hospital care of TBI patients: Goal and Methods of the study</b>  <b>Alexandra Brazinova<sup>1,2</sup>, Walter Mauritz<sup>2,3</sup>, Marek Majdan<sup>1,2</sup></b>  <sup>1</sup>Dept. of Public Health, Faculty of Health Care and Social Work, Trnava University, Slovakia  <sup>2</sup>International Neurotrauma Research Organisation, Vienna, Austria  <sup>3</sup>Trauma Center „Lorenz Boehler“, Vienna, Austria</p>	<p><b>17:10-17:20 Discussion</b>  <b>17:20-17:30 PP4.4 (120) Dynamic evolution of atrophy after moderate to severe traumatic brain injury</b>  <b>Virginia Newcombe, Christian Ledig, Guilia Abate, Joanne Outtrim, Doris Chatfield, Thomas Geeraerts, Anne Manktelow, Peter J Hutchinson, Jonathan Coles, Guy Williams, Daniel Rueckert, David Menon</b>          Division of Anaesthesia, University of Cambridge Wolfson Brain Imaging Centre, University of Cambridge          Department of Computing, Imperial College, London, UK</p>
<p><b>17:30-17:40 Discussion</b></p>	<p><b>17:30-17:40 PP3.5 (101) The effect of crossovers in the first randomised controlled trial of surgery for traumatic intracerebral haemorrhage [STITCH(trauma)]</b>  <b>Barbara A Gregson, David A Mendelow, Elise N Rowan, Richard Francis, Patrick Mitchell</b>          Newcastle University, Newcastle, UK</p>	<p><b>17:30-17:40 PP4.5 (104) Quantitative Assessments of Traumatic Axonal Injury in the Living Human Brain: Combined Microdialysis and Advanced MRI Approaches</b>  <b>Sandra Magnoni<sup>1</sup>, Christine L Mac Donald<sup>5</sup>, Thomas J Esparza<sup>5</sup>, Valeria Conte<sup>1</sup>, James Sorrell<sup>5</sup>, Giulio Bertani<sup>2,4</sup>, Riccardo Biffi<sup>3</sup>, Mario Macri<sup>4</sup>, Antonella Costa<sup>3</sup>, Brian Sammons<sup>5</sup>, Abraham Z Snyder<sup>5,6</sup>, Joshua Shimony<sup>6</sup>, Fabio Triulzi<sup>3</sup>, Nino Stocchetti<sup>1,4</sup>, David L Brody<sup>5</sup></b>  <sup>1</sup>Department of Anesthesia and Intensive Care, Fondazione IRCCS C Granda-Ospedale Maggiore Policlinico, Milan, Italy  <sup>2</sup>Department of Neurosurgery, Fondazione IRCCS C Granda-Ospedale Maggiore Policlinico, Milan, Italy  <sup>3</sup>Department of Neuroradiology, Fondazione IRCCS C Granda-Ospedale Maggiore Policlinico, Milan, Italy</p>

# PROGRAM (20<sup>TH</sup> MARCH, THURSDAY)

		<p><sup>4</sup>Milan University, Milan, Italy, Fondazione IRCCS C Granda-Ospedale Maggiore Policlinico, Milan, Italy</p> <p><sup>5</sup>Department of Neurology, Washington University, St Louis, Missouri, USA</p> <p><sup>6</sup>Mallinckrodt Institute of Radiology, Washington University, St Louis, Missouri, USA</p>
<p>17:40-17:50 <b>PP2.5 (214) Prognostic relevance of longitudinal brain atrophy estimation in post-traumatic diffuse axonal injury</b></p> <p>Monti Emanuele<sup>1</sup>, Balbi Sergio<sup>1</sup>, Padoia Valentina<sup>2</sup>, Binaghi Elisabetta<sup>2</sup>, Minotto Renzo<sup>3</sup>, Mauri Marco<sup>3</sup>, Sangiorgi Simone<sup>3</sup>, De Benedictis Alessandro<sup>3</sup></p> <p><sup>1</sup>Dipartimento di Biotecnologie e Scienze della vita, Università degli Studi dell'Insubria, Varese</p> <p><sup>2</sup>Dipartimento di Scienze teoriche ed applicate, sezione Informatica, Università degli Studi dell'Insubria, Varese</p> <p><sup>3</sup>Ospedale di Circolo Fondazione Macchi, Varese</p>	<p>17:40-17:50 <b>PP3.6 (99) Results from the first randomised controlled trial of surgery for traumatic intracerebral haemorrhage [STITCH(trauma)]</b></p> <p>David A Mendelow, Barbara A Gregson, Elise Rowan, Richard Francis, Patrick Mitchell</p> <p>Newcastle University, Newcastle, UK</p>	<p>17:40-17:50 <b>PP4.6 (135) Symptoms after mild traumatic brain injury correlate with cerebrovascular reactivity changes in BOLD MRI</b></p> <p>Leodante da Costa, CHB van Niftrik, D Crane, J Fierstra, A Bethune</p> <p>Department of Surgery, Division of Neurosurgery, Sunnybrook Hospital, University of Toronto, Ontario, Canada</p>
<p>17:50-18:00 <b>PP2.6 (182) A Preliminary Study Serum <math>\beta</math>-Actin as Potential Biomarker of Diffuse Axonal Injury in Severe Traumatic Brain Injury</b></p> <p>Antonino Germano, L Merlo, F Cimino<sup>1</sup>, A Speciale<sup>1</sup>, M Cristani<sup>1</sup>, D Fratantonio<sup>1</sup>, G Raffa, S Priola, RV Abritti, A Saija<sup>1</sup>, A David<sup>2</sup></p> <p><sup>1</sup>Department Pharmaco-Biologico, Neurosurgical Clinic, University of Messina, Italy</p> <p><sup>2</sup>Intensive Care Unit, Neurosurgical Clinic, University of Messina, Italy</p>	<p>17:50-18:00 <b>PP3.7 (37) The Austrian Project Improvement of prehospital and early hospital care of TBI patients Results of the study</b></p> <p>Walter Mauritz<sup>1,2</sup>, Alexandra Brazinova<sup>1,3</sup>, Marek Majdan<sup>1,3</sup></p> <p><sup>1</sup>International Neurotrauma Research Organisation, Vienna, Austria</p> <p><sup>2</sup>Trauma Center „Lorenz Boehler“, Vienna, Austria</p> <p><sup>3</sup>Dept. of Public Health, Faculty of Health Care and Social Work, Trnava University, Slovakia</p>	<p>17:50-18:00 <b>PP4.7 (6) Very High Resolution Ultrasound Imaging to Assess the Injured Spinal Cord and Extent of Blood- Spinal Cord Barrier Disruption</b></p> <p>Marc Soubeyrand, Anna Badner, Reaz Vawda, Young Sun Chung, Michael G Fehlings</p> <p>Division of Genetics and Development and Krembil Neuroscience Centre, Toronto Western Research Institute, Toronto, Ontario, Canada</p>
<p>18:00-18:10 <b>PP2.7 (149) The cerebrovascular and axonal responses to repetitive mild traumatic brain injury in the juvenile rat</b></p> <p>Takashi Miyauchi<sup>1,2</sup>, Enoch P Wei<sup>1</sup>, John T Povlishock<sup>1</sup></p> <p><sup>1</sup>Department of Anatomy and Neurobiology, Virginia Commonwealth University, Richmond, Virginia, USA</p> <p><sup>2</sup>Yamaguchi Medical Center, Yamaguchi, Japan</p>	<p>18:00-18:10 <b>PP3.8 (48) The effectiveness evaluation of helicopter ambulance transport among neurotrauma patients in Korea - Neurosurgical helicopter ambulance transport in small country</b></p> <p>Jin Mo Cho, Sook Jin Seo, Se-Hyuk Kim</p> <p>Ajou University, Suwon, Republic of Korea</p>	<p>18:00-18:10 <b>PP4.8 (231) Quantifying White Matter Structural Integrity with High Definition Fiber Tracking in Traumatic Brain Injury</b></p> <p>David O Okonkwo, Walter Schneider, Nora Presson, Sue Beers, Lisa Marrow, Allison Borasso, Ava M Pucci</p> <p>Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA, USA</p>
<p>18:10-18:20 <b>PP2.8 (69) Evaluating APP96-110, a peptide derived from the Amyloid Precursor Protein, as a novel therapeutic agent against traumatic brain injury</b></p> <p>Stephanie Plummer<sup>1</sup>, Emma Thornton<sup>1</sup>, Frances Corrigan<sup>1</sup>, Robert Vink<sup>1</sup>, Roberto Cappai<sup>2</sup>, Corinna van den Heuvel<sup>1</sup></p> <p><sup>1</sup>Adelaide Center for Neuroscience Research, The University of Adelaide, Australia</p> <p><sup>2</sup>Department of Pathology, The University of Melbourne, Australia</p>	<p>18:10-18:30 Discussion</p>	<p>18:10-18:30 Discussion</p>
<p>18:20-18:30 Discussion</p>		

19:00-22:00

**Wine tasting and buffet dinner** (Plenary room 1-2 and Prefunction area)

# PROGRAM (21<sup>TH</sup> MARCH, FRIDAY)

Numbers in brackets are the numbers of the abstract in the Journal of Neurotrauma.

## SUNRISE SEMINARS

7:45-8:55	<b>SS2/4</b> <b>BBB and Vascular Dysfunction</b> (Plenary room 1) Chair: Antonino Germano - Pál Barzó	7:45-8:55	<b>SS2/5</b> <b>Pediatric Neurotrauma</b> (Plenary room 2) Chair: Guy Rosenthal - Zsolt Kopniczky	7:45-8:55	<b>SS2/6</b> <b>Axonal Pathfinding and regeneration</b> (Plenary room 3) Chair: Willie Stewart - Douglas Smith
7:45-8:05	<b>SS4.1 (210) Vascular Compromise in Contusion Expansion</b> J Marc Simard, University of Maryland School of Medicine, Baltimore, MD, USA	7:45-8:05	<b>SS5.1 Clinical Management</b> Anthony Figaji, Institute for Child Health, Red Cross Children's Hospital Rondebosch, University of Cape town, Cape Town, South Africa	7:45-8:05	<b>SS6.1 (141) Regeneration and Relays in the Injured Spinal Cord</b> Armin Blesch, Laboratory for Neuroregeneration, Spinal Cord Injury Center, Heidelberg University Hospital, Heidelberg, Germany
8:05-8:25	<b>SS4.2 (224) Blast-Induced Cerebral Vascular Dysfunction</b> (Cancelled attendance) Douglas DeWitt, Charles R Allen Research Laboratories, Department of Anesthesiology, University of Texas Medical Branch, Galveston, TX, USA	8:05-8:25	<b>SS5.2 (10) Approaches and Decisions for Acute Pediatric TBI - An International Effort</b> Michael J Bell, Safar Center for Resuscitation Research, University of Pittsburgh, Pittsburgh, PA, USA	8:05-8:25	<b>SS6.2 (14) Cytoskeletal Mechanisms of Axonal Growth and Regeneration</b> Frank Bradke, German Center for Neurodegenerative Diseases, Bonn, Germany
8:25-8:45	<b>SS4.3 (136) Blood Brain Barrier Disruption Persists for Years After a Single Traumatic Brain Injury in Humans</b> Jennifer Hay, Department of Neuropathology, Southern General Hospital, Glasgow, UK	8:25-8:45	<b>SS5.3 (22) Animal Models of Pediatric Traumatic Brain Injury</b> Susan Margulies, Penn Engineering, University of Pennsylvania, Philadelphia, PA, USA	8:25-8:45	<b>SS6.3 (188) Modeling spinal cord injury in the primate</b> Jacqueline C Bresnahan, Brain and Spinal Cord Injury Center, Department of Neurological Surgery, University of California, San Francisco, CA, USA
8:45-8:55	Discussion	8:45-8:55	Discussion	8:45-8:55	Discussion

8:55-9:15 Coffee Break

**FREE POSTER VIEWING, VISIT THE EXHIBITORS**

## MORNING PLENARY

9:15-10:45	<b>Mild Traumatic Brain Injury</b> (Plenary room 1-2) Chair: Edward C Dixon - Anthony Figaji
9:15-9:45	<b>PL4 (78) Biomarkers of Mild TBI</b> Bo-Michael Bellander, Department of Clinical Neuroscience, Section for Neurosurgery, Karolinska University Hospital, Stockholm, Sweden
9:45-10:15	<b>PL5 (9) Treatment of Sports Related Concussion: Summary of the Current Recommendations of Three Prominent Sports Medicine Organizations</b> Donald W Marion, The Defense and Veterans Brain Injury Center, Walter Reed Army Medical Center, Washington DC, WA, USA
10:15-10:45	<b>PL6 (23) Repetitive Mild Traumatic Brain Injuries</b> Mayumi Prins, Ronald Reagan UCLA Medical Center, Department of Neurosurgery, David Geffen School of Medicine, Los Angeles, CA, USA

## POSTER SESSION

(Plenary room 1-2)

**10:45-12:00 Flash presentations - Poster competition - Free poster viewing**

**10:45-12:00 3 minute Flash presentations (Plenary room 2)**  
Chair: Esther Shohami - Edward D Hall - Andreas Unterberg

### POSTERS PARTICIPATING IN THE POSTER COMPETITION:

1. (46) **Amelioration of traumatic brain injury-induced increased cerebrovascular permeability by endothelial progenitor cells in mice**  
Nino Muradashvili, Reeta Tyagi, Timothy E O'Toole, Suresh C Tyagi, David Lominadze  
University of Louisville, Louisville, KY, USA
2. (82) **A novel mouse model of penetrating TBI**  
Stefan Plantman, Marten Risling, Johan Davidsson  
Departement of Neuroscience Karolinska Institutet Stockholm, Sweden
3. (87) **Treatment with etifoxine improves functional recovery following traumatic brain injury in rats**  
Emmanuelle Simon O'Brien, Marc Verleye  
Biocodex, Gentilly, France
4. (13) **Seizure susceptibility after traumatic injury to the pediatric mouse brain**  
Bridgette D Semple<sup>1</sup>, Kayleen Gimlin<sup>1</sup>, Terence OBrien<sup>2</sup>, Linda Noble-Haesslein<sup>1</sup>  
<sup>1</sup>Department of Neurological Surgery, and Department of Physical Therapy and Rehabilitation, University of California San Francisco, San Francisco, CA, USA  
<sup>2</sup>Dept. of Medicine (Royal Melbourne Hospital), Melbourne Brain Centre, University of Melbourne, Parkville, VIC, Australia
5. (67) **Characterisation of a Novel Model of Chronic Traumatic Encephalopathy**  
Kelly McAteer, Frances Corrigan, Emma Thornton, Corinna van den Heuvel, Robert Vink  
Discipline of Anatomy and Pathology, School of Medical Sciences, University of Adelaide, Adelaide, Australia
6. (68) **Measurement of biomarkers of brain damage in TBI patients recruited in the EPO-TBI randomised clinical trial**  
Hellewell SC<sup>1,2</sup>, Conquest AL<sup>1,2</sup>, Bye N<sup>1,2</sup>, Morganti-Kossmann MC<sup>3,4,5</sup>  
<sup>1</sup>National Trauma Research Institute, Alfred Hospital, Melbourne, Victoria, Australia  
<sup>2</sup>Department of Surgery, Monash University, Melbourne, Victoria, Australia  
<sup>3</sup>Department of Epidemiology and Preventive Medicine, Monash University, Melbourne, Victoria, Australia  
<sup>4</sup>Australian New Zealand Intensive Care Research Centre, Melbourne, Victoria, Australia  
<sup>5</sup>Barrow Neurological Institute, Department of Child Health, University of Arizona, Phoenix, AZ, USA
7. (47) **Defining platelet function in polytrauma patients with traumatic brain injury upon admission to the emergency department**  
Gretchen M Brophy<sup>1</sup>, Bassem M Mohammed<sup>1</sup>, Nathan J White<sup>2</sup>, Erika J Martin<sup>1</sup>, Jason Newton<sup>1</sup>, Daniel Contaifer<sup>1</sup>, Jingmei Song<sup>1</sup>, Penny S Reynolds<sup>1</sup>, Kevin R Ward<sup>3</sup>, Donald F Brophy<sup>1</sup>  
<sup>1</sup>Virginia Commonwealth University, Richmond, Virginia, USA  
<sup>2</sup>Puget Sound Blood Center, Seattle, Washington, USA  
<sup>3</sup>University of Michigan, Ann Arbor, Michigan, USA
8. (64) **PTSD and mild traumatic brain injury: changes in the serotonergic, noradrenergic and galanin systems**  
Lizan Kawa<sup>1</sup>, T Hökfelt<sup>1</sup>, D Agoston<sup>1,2</sup>, U Arborelius<sup>1</sup>, M Risling<sup>1</sup>  
<sup>1</sup>Karolinska Institutet, Neuroscience, Stockholm, Sweden  
<sup>2</sup>Uniformed Services University of the Health Sciences, Anatomy, Physiology and Genetics, Bethesda, Maryland, USA
9. (129) **Should patients with GCS score 13 be classified as moderate traumatic brain injury?**  
Cathrine Elisabeth Einarsen<sup>1,2</sup>, Rune Hatlestad Karlsen<sup>1</sup>, Stine Borgen Lund<sup>3</sup>, Kent Goran Moen<sup>1,3</sup>, Anne Vik<sup>1,3</sup>, Toril Skandsen<sup>1,2</sup>  
<sup>1</sup>Department of Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway  
<sup>2</sup>Department of Physical Medicine and Rehabilitation, St. Olavs Hospital, Trondheim University Hospital, Norway  
<sup>3</sup>Department of Neurosurgery, St. Olavs Hospital, Trondheim University Hospital, Norway
10. (105) **Different implications of mild traumatic brain injury - our experience**  
Mladen Karan<sup>1</sup>, Kosta Petrović<sup>2</sup>, Vojislava Bugarski<sup>3</sup>, Bojan Jelača<sup>1</sup>, Vladimir Papić<sup>1</sup>, Đula Đilvesi<sup>1</sup>, Željka Nikolašević<sup>4</sup>, Petar Vuleković<sup>1</sup>  
<sup>1</sup>Clinic of Neurosurgery, Clinical Centre of Vojvodina, Novi Sad, Serbia  
<sup>2</sup>Radiology Centre, Clinical Centre of Vojvodina, Novi Sad, Serbia  
<sup>3</sup>Neurology Clinic, Clinical Centre of Vojvodina, Novi Sad, Serbia  
<sup>4</sup>Faculty of Philosophy, University of Novi Sad, Novi Sad, Serbia
11. (107) **Is N-acetylaspartate a measure of mitochondrial dysfunction after traumatic brain injury?**  
William Brooks, Janna Harris, Henry Yeh, In-Young Choi, Phil Lee, Russell Swerdlow  
University of Kansas Medical Center, Hoglund Brain Imaging Center, Kansas City, Kansas, USA
12. (130) **Can magnetic resonance spectroscopy simultaneously probe links between edema and energy disruption following traumatic brain injury?**  
William Brooks, Janna Harris, Henry Yeh, Phil Lee, In-Young Choi, Russell Swerdlow  
University of Kansas Medical Center, Hoglund Brain Imaging Center and Departments of Neurology, Biostatistics, and Molecular and Integrative Physiology, Kansas City, USA
13. (213) **Lateral Ventricle Volume Asymmetry Predicts Midline Shift and 6-month Outcome in Severe Traumatic Brain Injury**  
Arnold Tóth<sup>1</sup>, Ilona Schmalfluss<sup>2</sup>, Shelley C Heaton<sup>3</sup>, Andrea Gabrielli<sup>4</sup>, H Julia Hannay<sup>5</sup>, Linda Papa<sup>6</sup>, Gretchen M Brophy<sup>7</sup>, Kevin KW Wang<sup>8</sup>, András Büki<sup>1</sup>, Attila Schwarcz<sup>1</sup>, Ronald L Hayes<sup>9</sup>, Claudia S Robertson<sup>10</sup>, Steven A Robicsek<sup>11</sup>  
<sup>1</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary  
<sup>2</sup>Department of Radiology, North Florida/ South Georgia Veterans Administration & University of Florida, Gainesville, FL, USA  
<sup>3</sup>Department of Clinical & Health Psychology, University of Florida, Gainesville, FL, USA  
<sup>4</sup>Department of Anesthesiology & Critical Care, University of Florida, Gainesville, FL, USA  
<sup>5</sup>Department of Psychology, University of Houston, Houston, TX, USA  
<sup>6</sup>Orlando Regional Medical Center, Orlando, FL, USA  
<sup>7</sup>Department of Pharmacotherapy & Outcomes Science and Neurosurgery, Virginia Commonwealth University, Richmond, VA, USA  
<sup>8</sup>Center for Neuroproteomics & Biomarkers Research Departments of Psychiatry & Neuroscience McKnight Brain Institute, University of Florida, Gainesville, FL, USA

- <sup>9</sup>Banyan Biomarkers, Inc., Alachua, FL, USA  
<sup>10</sup>Department of Neurosurgery, Baylor College of Medicine, Houston, TX, USA  
<sup>11</sup>Departments of Anesthesiology & Neurosciences, University of Florida, Gainesville, FL, USA
14. (187) **Estimation of the prognostic value of brain stem segmentation by probabilistic tractography in severe traumatic brain injury and its verification by anatomical dissection**  
**Dávid Kis<sup>1</sup>, Adrienn Máté<sup>1</sup>, Zoltán Mencser<sup>1</sup>, Andrea Czigner<sup>2</sup>, Pál Barzó<sup>1</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Szeged, Szeged, Hungary  
<sup>2</sup>Institute of Anatomy, University of Szeged, Szeged, Hungary
15. (166) **Intraparenchymal electrode recordings of cortical spreading depolarisation and continuous seizure activity - neurovascular disruption and seizure oxygen thresholds**  
**Toby Jeffcote<sup>1</sup>, S Jewell<sup>1</sup>, C Pahl<sup>1</sup>, C Tolias<sup>1</sup>, D Walsh<sup>1</sup>, A Strong<sup>1</sup>, S Mulcahy<sup>2</sup>, M Boutelle<sup>2</sup>**  
<sup>1</sup>Kings College London  
<sup>2</sup>Imperial College London
16. (73) **Effects of hydrostatic cerebrospinal fluid pressure in different body positions on cerebrospinal fluid movement**  
**Klarica M<sup>1</sup>, Vukić M<sup>2</sup>, Radoš M<sup>1</sup>, Jurjević I<sup>1</sup>, Erceg G<sup>1</sup>, Petošić A<sup>3</sup>, Orešković D<sup>4</sup>**  
<sup>1</sup>University of Zagreb, School of Medicine, Department of Pharmacology and Croatian Institute for Brain Research, Zagreb, Croatia  
<sup>2</sup>Department of Neurosurgery, School of Medicine University of Zagreb, Zagreb, Croatia  
<sup>3</sup>University of Zagreb, Faculty of Electrical Engineering and Computing, Dept. of Electroacoustics, Zagreb, Croatia  
<sup>4</sup>Ruder Bošković Institute, Department of Molecular Biology, Zagreb, Croatia
17. (131) **Matrix Metalloproteinase 9 Levels are Increased in Peri-Contusional Brain: A Paired Microdialysis Study**  
**Mathew R Guilfoyle<sup>1</sup>, Adel Helmy<sup>1</sup>, Keri LH Carpenter<sup>1,2</sup>, David K Menon<sup>2,3</sup>, John D Pickard<sup>1,2</sup>, Peter J Hutchinson<sup>1,2</sup>**  
<sup>1</sup>Division of Neurosurgery, Department of Clinical Neurosciences, University of Cambridge, Cambridge, UK  
<sup>2</sup>Wolfson Brain Imaging Centre, Department of Clinical Neurosciences, University of Cambridge, Cambridge, UK  
<sup>3</sup>Division of Anaesthesia, Department of Medicine, University of Cambridge, Cambridge, UK
18. (237) **National study of chronic subdural haematoma in the United Kingdom**  
**Angelos G Kolias<sup>1</sup>, Ian C Coulter<sup>2</sup>, Alexis J Joannides<sup>1</sup>, Barbara Gregson<sup>3</sup>, Paul M Brennan<sup>4</sup>, Peter J Hutchinson<sup>1</sup> on behalf of the British Neurosurgical Trainee Research Collaborative (BNTRC)**  
<sup>1</sup>Division of Neurosurgery, Department of Clinical Neurosciences, Addenbrooke's Hospital & University of Cambridge, Cambridge Biomedical Campus, Cambridge, UK  
<sup>2</sup>Division of Neurosurgery, James Cook University Hospital, Middlesbrough, UK  
<sup>3</sup>Neurosurgical Trials Unit, University of Newcastle, Newcastle, UK  
<sup>4</sup>Division of Neurosurgery, Western General Hospital & University of Edinburgh, Edinburgh, UK
19. (93) **Injured Spinal Cord Pressure Evaluation (ISCoPE) study - expansion duroplasty reduces spinal cord pressure in acute spinal cord injury**  
**Phang IS, Werndle MC, Varsos G, Smielewski P, Czosnyka M, Zoumprouli A, Papadopoulos MC**  
 Academic Neurosurgery Unit, St George's University of London, London Department of Neurosurgery, Cambridge University, Addenbrookes Hospital, Cambridge Department of Neuroanaesthesia, St George's NHS Trust, London
20. (147) **A time-course of histological and behavioral pathology associated with intracranial pressure elevation following moderate diffuse traumatic brain injury**  
**Audrey Lafrenaye, John T Povlishock**  
 Department of Anatomy and Neurobiology, Virginia Commonwealth University Medical Center, Richmond, VA, USA
21. (70) **Hypothermia in TBI for control of intracranial hypertension: Standalone therapeutic option or adjunct?**  
**Deepak Gupta<sup>1</sup>, Ashish Bindra<sup>1</sup>, Pankaj Kumar Singh<sup>1</sup>, Peter Andrews<sup>2</sup>, SS Kale<sup>1</sup>, BS Sharma<sup>1</sup>**  
<sup>1</sup>Department of Neurosurgery and Neuroanesthesia, JPN Apex Trauma Centre, AIIMS, Delhi  
<sup>2</sup>Department of Anesthesia, University of Edinburgh, UK

## POSTERS NOT PARTICIPATING IN THE POSTER COMPETITION:

22. (181) **Pre- and Postoperative Cerebral Perfusion Assessments in Chronic Subdural Hematoma**  
**Antonino Germano, L Merlo, A Campenn<sup>1</sup>, G Trimarchi<sup>2</sup>, Baldari S<sup>1</sup>**  
<sup>1</sup>Department of Radiology - Nuclear Medicine, Neurosurgical Clinic, University of Messina, Italy  
<sup>2</sup>Department of Economics, Neurosurgical Clinic, University of Messina, Italy
23. (162) **Remote-ischemic preconditioning as a prophylactic treatment for mild traumatic brain injury**  
**Eugene Park<sup>1</sup>, Misbah Nadeem Lalani<sup>2</sup>, Andrew J Baker<sup>1,2,3</sup>**  
<sup>1</sup>Keenan Research Centre in the Li Ka Shing Knowledge Institute at St. Michael's Hospital, Toronto, Canada  
<sup>2</sup>Departments of Anesthesia & Surgery, University of Toronto, Toronto, Canada  
<sup>3</sup>Department of Critical Care St. Michael's Hospital, Toronto, Canada
24. (212) **The effect of mild traumatic brain injury (mTBI) on the structural plasticity of the axon initial segment (AIS)**  
**Michal Vascak, Anders Hånell, John E Greer, Kimberle M Jacobs, John T Povlishock**  
 Virginia Commonwealth University, School of Medicine
25. **Molecular mapping of the brain of PACAP deficient and wild-type mice with imaging mass spectrometry**  
**Rivnyák Á<sup>1</sup>, Maasz G<sup>2,3,4</sup>, Schmidt J<sup>2,3,4</sup>, Pirger Zs<sup>1,5</sup>, Mihalik A<sup>1</sup>, Kiss P<sup>1</sup>, Gaszner B<sup>1</sup>, Hashimoto H<sup>6</sup>, Tamás A<sup>1</sup>, Mark L<sup>2,3,4</sup>, Reglödi D<sup>1</sup>**  
<sup>1</sup>Department of Anatomy, PTE-MTA „Lendület” PACAP Research Team, Pécs, Hungary  
<sup>2</sup>Department of Analytical Biochemistry Institute of Biochemistry and Medical Chemistry  
<sup>3</sup>Imaging Center for Life and Material Sciences  
<sup>4</sup>Janos Szentagothai Research Center, University of Pécs, Pécs, Hungary  
<sup>5</sup>Chemical Ecology and Neurobiology, Department of Experimental Zoology, Balaton Limnological Institute, Centre for Ecological Research, Hungarian Academy of Sciences, Hungary  
<sup>6</sup>Graduate School of Pharmacological Sciences, Osaka University, Osaka, Japan
26. (59) **Traumatic brain injury by controlled cortical impact in mice - time courses of neuroinflammation, corpus callosum demyelination, sensorimotor deficits, edema and lesion**  
**Cho AH, Taib T, Leconte C, Deou E, Palmier B, Plotkine M, Marchand-Leroux C, Besson VC**  
 Paris Descartes University, Sorbonne Paris Cité Faculté des Sciences Pharmaceutiques et Biologiques - Pharmacology of Cerebral Circulation, Paris, France

# PROGRAM (21<sup>TH</sup> MARCH, FRIDAY)

12:00-14:00 Lunch Break

**FREE POSTER VIEWING, VISIT THE EXHIBITORS**

## ROUNDTABLE DISCUSSIONS AND LUNCH MEETING

**10:45-11:45 Codman Neuro Seminar  
Surgical Approaches To TBI:  
Bone Decompression And More**  
(Plenary room 3)  
Moderator: **András Büki**

**CODMAN NEURO**



**10:45-10:50 Introduction**  
Prof. **András Büki**

**10:50-11:10 Who may benefit from Decompressive Craniectomy? Lessons to learn from recent and ongoing trials**  
Prof. **Peter J Hutchinson**, Addenbrooke's Hospital & University of Cambridge, Cambridge, United Kingdom

**11:10-11:30 Surgical approaches to TBI before and after decompression**  
Prof. **Franco Servadei**, University Hospital of Parma, Parma, Italy

**11:30-11:45 Q&A Session & Closing Remarks**  
Prof. **András Büki**, University of Pécs, Pécs, Hungary

**12:00-13:30 Lunch meeting for the INTS Board**  
(Room 10)

**13:30-15:10 Round Table Discussion  
on Biomarkers in Neurotrauma**  
(Plenary room 3)  
Sponsored by Banyan Biomarkers.  
Moderator: **David K Menon**



**13:30-13:55 Standardization of data collection - clinical experience: the Common Data Elements - approach.**

**David O Okonkwo**, Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA, USA

**13:55-14:20 Biomarkers of the acute phase in TBI of various severity**

**Viktoria Bogner**, Ludwig-Maximilians University, Munich, Germany

**14:20-14:45 Biomarkers of the chronic phase of TBI/markers of neurodegeneration**

**Ramon Diaz-Arrastia**, Uniformed Services University of the Health Sciences, Rockville, MD, USA

**14:45-15:10 Novel candidate biomarkers and novel avenues of assay development**

**Douglas H Smith**, University of Pennsylvania, Philadelphia, PA, USA

**15:15-16:30 CENTER-TBI:  
Investigator initiated research  
questions and other global  
initiatives**

(Plenary room 3)

Moderator: **Andrew IR Maas**



**15:15-15:30 CENTER-TBI study**

**David K Menon**, Department of Anaesthesia, Addenbrooke's Hospital, University of Cambridge, Cambridge, UK

**15:30-15:45 TRACK-TBI and CENTER-TBI: accelerating research by collaboration**

**Ramon Diaz-Arrastia**<sup>1</sup>, **David O Okonkwo**<sup>2</sup>

<sup>1</sup>Center for Neuroscience and Regenerative Medicine, Uniformed Services University of Health Sciences, Rockville, MD, USA

<sup>2</sup>Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA, USA

**15:45-15:55 CENTER-TBI in China**

**Guo-yi Gao**, Department of Neurosurgery, Renji Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, People's Republic of China

**15:55-16:05 CENTER-TBI in India**

**Deepak Gupta**, Department of Neurosurgery and Neuroanesthesia, JPN Apex Trauma Centre, AIIMS, Delhi

**16:05-16:30 Round table discussions**

# PROGRAM (22<sup>TH</sup> MARCH, SATURDAY)

Numbers in brackets are the numbers of the abstract in the Journal of Neurotrauma.

## SUNRISE SEMINARS

7:45-8:55	<b>SS3/7</b> <b>Hypothermia for Spinal Cord Injury</b> (Plenary room 1)  Chair: David O Okonkwo - Edward C Dixon	7:45-8:55	<b>SS3/8</b> <b>Therapeutic Windows for Neuroprotection in Animals and Humans</b> (Plenary room 2)  Chair: Mayumi Prins - Steven A Robicsek	7:45-8:55	<b>SS3/9</b> <b>Contemporary challenges in the care for severe TBI</b> (Plenary room 3)  Chair: Randall M Chesnut - György T Szeifert
7:45-8:05	<b>7.1</b> The use of therapeutic hypothermia targeting severe spinal cord injury <b>W Dalton Dietrich</b> , The Miami Project to Cure Paralysis, University of Miami, Miami, FL, USA	7:45-8:05	<b>8.1 (142)</b> Identifying the Therapeutic Window; the Issue of Timescales in Clinical versus Experimental Traumatic Brain Injury <b>Denes V Agoston</b> , Uniformed Services University of the Health Sciences, Bethesda, MD, USA	7:45-8:05	<b>9.1</b> Antiplatelet therapy in TBI <b>Oliver W Sakowitz</b> , Department of Neurosurgery, University of Heidelberg, Heidelberg, Germany
8:05-8:25	<b>7.2</b> Hypothermia for Spinal Cord Injury <b>Michael G Fehlings</b> , Institute, University Health Network; Krembil Neuroscience Centre, Spinal Program, Toronto Western Hospital, University Health Network; Department of Surgery, Division of Neurosurgery and Spinal Program, University of Toronto, Canada	8:05-8:25	<b>8.2 (79)</b> The Neuroprotective Therapeutic Windows for Inhibiting Post-TBI Secondary Injury are Similar in Animals and Humans <b>Edward D Hall</b> , Spinal Cord & Brain Injury Research Center, University of Kentucky, Chandler Medical Center, Lexington, KY, USA	8:05-8:25	<b>9.2 (159)</b> Neurotrauma- the role of the residents? The changing face of TBI care <b>Doortje Engel</b> , Department of Neurosurgery, Cantonal Hospital of St. Gallen, St. Gallen, Switzerland
8:25-8:45	<b>7.3 (5)</b> Future directions of hypothermia therapy for traumatic brain injury from clinical studies in Japan <b>Eichi Suehiro</b> , Department of Neurosurgery, Yamaguchi University School of Medicine, Ube, Japan	8:25-8:45	<b>8.3 (20)</b> Lessons in Critical Care Research from a Global Phase 3 Trial of Progesterone in Patients with Severe Traumatic Brain Injury (sTBI) <b>Neta R Nelson</b> , VP Project Management & Operations Besins Healthcare/ BHR Pharma, LLC affiliate, Herndon, VA, USA	8:25-8:45	<b>9.3</b> Hemostatic disorders after Traumatic Brain Injury <b>Marc Maegele</b> , Department of Trauma and Orthopedic Surgery, University of Witten/Herdecke, Cologne-Merheim Medical Center, Cologne, Germany
8:45-8:55	Discussion	8:45-8:55	Discussion	8:45-8:55	Discussion

8:55-9:15 Coffee Break

**FREE POSTER VIEWING, VISIT THE EXHIBITORS**

## MORNING PLENARY

9:15-10:45	<b>Imaging in the assessment of TBI</b> (Plenary room 1-2) Chair: Andrew IR Maas - Tamás Dóczi
9:15-9:45	<b>PL7</b> Novel imaging techniques for characterising TBI severity at admission <b>David O Okonkwo</b> , Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA, USA
9:45-10:15	<b>PL8</b> Imaging approaches to mapping pathophysiology <b>David K Menon</b> , Division of Anaesthesia, University of Cambridge, Cambridge, UK
10:15-10:45	<b>PL9</b> Neuroanatomical substrates of TBI outcomes <b>Walter Schneider</b> , Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA, USA

## POSTER SESSION

(Plenary room 1 and Room 4, 8, Prefunction area)

### 10:45-12:45 **Poster Session: Guided poster viewing and poster demonstrations - first round**

Note: Moderators chair and conduct the poster tour at each screen.

Moderators assigned to the screens are:

- Screen 1: Jonathan Lifshitz - Marc J Simard
- Screen 2: Ewout Steyerberg - János Sándor
- Screen 3: Alexandra Brazinova - Endre Czeiter
- Screen 4: Marek Czosnyka - Miro Vukic
- Screen 5: Emmanuel A Stamatakis - Oliver W Sakowitz
- Screen 6: Mayumi Prins - Guy Rosenthal
- Screen 7: Jamie Cooper - Randall M Chesnut
- Screen 8: Denes V Agoston - Cristina Morganti-Kossmann
- Screen 9: Robert Vink - Ákos Koller
- Screen 10: Nicole von Steinbüchel - György T Szeifert

**P1 BBB and Vascular Dysfunction** (Screen 1 - P1.1 to P1.6)

**P2 Assessing and Predicting Outcome** (Screen 2 - P2.1 to P2.13, Screen 3 - P2.16 to P2.22)

**P3 Host factors: Comorbidities, Genomics and Epigenetics** (Screen 5 - P3.1 to P3.6)

**P4 Mild Traumatic Brain Injury** (Screen 6 - P4.1 to P4.14)

**P5 Imaging in the assessment of TBI** (Screen 5 - P5.1 to P5.9)

**P6 Neuromonitoring in TBI** (Screen 3 - P6.16 to P6.19, Screen 4 - P6.1 to P6.15)

**P7 Preclinical Neuroprotection and Discovery** (Screen 8 - P7.1 to P7.14, Screen 9 - P7.15 to P7.28)

**P8 Decompressive Craniectomy** (Screen 7 - P8.1 to P8.12)

**P9 Axonal Pathology in TBI** (Screen 1 - P9.1 to P9.7)

**P10 Contemporary challenges and International Initiative in Neurotrauma Research** (Screen 10 - P10.1 to P10.13)

12:00-13:45 Lunch Break

### **FREE POSTER VIEWING, VISIT THE EXHIBITORS**

12:15-13:15 **STITCH(trauma) Meeting**  
(Room 9)



## PRO AND CON SESSION AND PARALLEL PLENARY SESSION

**13:45-15:55 PP5**  
**Preclinical Neuroprotection**  
 (Plenary room 2)  
**Chair:** Ronald L Hayes -  
 Cristina Morganti-Kossmann

**13:45-14:05 PP5.1 (45) TBI-Preclinical Neuroprotection**  
**Alan I Faden**, Department of Anesthesiology & Center for Shock, Trauma and Anesthesiology Research (STAR), National Study Center for Trauma and EMS, University of Maryland School of Medicine, Baltimore, MD, USA

**14:05-14:25 PP5.2 (176) Exercise Dependent Plasticity in the Injured Spinal Cord**  
**John D Houle**, Department of Neurobiology and Anatomy, Spinal Cord Research Center, Drexel University College of Medicine, Philadelphia, PA, USA

**14:25-14:45 PP5.3 (221) Neuroprotection: Preclinical/Translational Discovery**  
**Robert Vink**, Discipline of Anatomy and Pathology, Adelaide Centre for Neuroscience Research, School of Medical Sciences, University of Adelaide, Australia

**14:45-14:55 Discussion**

**14:55-15:05 PP5.4 (86) Pivotal role of vasopressin v1a receptors for brain edema formation, secondary brain damage and regulation of cerebral aquaporins following traumatic brain injury in mice**  
**Katrin Rauen<sup>1</sup>, Raimund Trabold<sup>1</sup>, Viorela Pop<sup>2</sup>, Jerome Badaut<sup>2</sup>, Nikolaus Plesnila<sup>1,3</sup>**  
<sup>1</sup>Institute for Surgical Research & Department of Neurosurgery, University of Munich Medical Center, Munich, Germany  
<sup>2</sup>Department of Pediatrics, Loma Linda University School of Medicine, Loma Linda, CA, USA  
<sup>3</sup>Institute for Stroke and Dementia Research (ISD), University of Munich Medical Center, Munich, Germany

**13:45-15:35 PP6**  
**Rehabilitation in Neurotrauma**  
 (Plenary room 3)  
**Chair:** W Dalton Dietrich -  
 Bo-Michael Bellander

**13:45-14:05 PP6.1 (76) Multi-target, dual-electrode deep brain stimulation of the thalamus and subthalamic area for treatment of Holmes' tremor after brain injury**  
**Kazutaka Kobayashi**, Division of Neurosurgery, Department of Neurological Surgery, Nihon University School of Medicine, Tokyo, Japan; Johns Hopkins University School of Medicine, Baltimore, MD, USA

**14:05-14:25 PP6.2 Tau, P-tau alternations and linkage to tauopathy after TBI**  
**Kevin KW Wang**, Center for Neuroproteomics & Biomarkers Research, Departments of Psychiatry and Neuroscience, University of Florida, Gainesville, FL, USA

**14:25-14:35 Discussion**

**14:35-14:45 PP6.3 (32) Manipulating initiation time and duration of environmental enrichment exposure after traumatic brain injury to more accurately mimic clinical rehabilitation**  
**Anthony E Kline, Vincent V Mattioli, Jacob B Leary**  
 Physical Medicine & Rehabilitation, Safar Center for Resuscitation Research, Center for Neuroscience, Center for the Neural Basis of Cognition, Psychology, Critical Care Medicine, University of Pittsburgh, Pittsburgh, PA, USA

**14:45-14:55 PP6.4 (180) Long term outcome of severe TBI patients admitted to the largest neurotrauma center in Budapest**  
**Gábor Nardai, Erzsébet Baracskai**  
 Péterfy Hospital and Trauma Center, Budapest, Hungary

**14:55-15:05 PP6.5 (31) Environmental enrichment restores attentional set-shifting and behavioral flexibility after controlled cortical impact injury in male rats**  
**Corina O Bondi, Jeffrey P Cheng, Heather M Tennant, Naima Lajud, Christina M Monaco, Jacob Leary, Anthony E Kline**  
 Physical Medicine & Rehabilitation, Safar Center for Resuscitation Research, Center for Neuroscience, Center for the Neural Basis of Cognition, Psychology, Critical Care Medicine, University of Pittsburgh, Pittsburgh, PA, USA

**13:45-15:50 PC3**  
**Decompressive craniectomy**  
 (Plenary room 1)  
**Moderator:** Peter J Hutchinson

**13:45-13:50 Moderators intro**

**13:50-14:00 PC3.1 (36) Decompressive craniectomy for severe traumatic brain injury: Ethical considerations**  
**Stephen Honeybul, Grant Gillet, Kwok Ho**  
 Sir Charles Gairdner Royal Perth Hospital, Nedlands, Australia

**14:00-14:10 PC3.2 (110) Morphological changes on cortical surface and their correlation of with neurological outcome in patients with bone defects after decompressive craniectomy**

**Arthur Maynard Pereira Oliveira, Robson Luís Oliveira de Amorim, Wellington Silva Paiva, Almir Ferreira de Andrade, Fernando Mendes Paschoal Junior, Edson Bor Seng Shu, Fernanda Coelho, Gabriel Scarabotolo Gattas, Renato Anghinah, Manoel Jacobsen Teixeira**  
 University of San Paulo, Department of Neurology, Discipline of Neurosurgery, Sao Paulo, Brazil

**14:10-14:20 PC3.3 (127) RESCUE-ASDH study - A randomised trial of primary decompressive craniectomy versus craniotomy for acute subdural haematomas**

**Angelos G Kolias<sup>1</sup>, Antonio Belli<sup>2</sup>, Geoffrey T Manley<sup>3</sup>, Clare N Gallagher<sup>4</sup>, Andrew T King<sup>5</sup>, Ivan Timofeev<sup>1</sup>, A David Mendelow<sup>6</sup>, Gillian S McHugh<sup>7</sup>, John D Pickard<sup>1</sup>, Franco Servadei<sup>8</sup>, Peter J Kirkpatrick<sup>1</sup>, David K Menon<sup>9</sup>, Peter J Hutchinson<sup>1</sup> on behalf of the RESCUE-ASDH Collaborative Group**

<sup>1</sup>Division of Neurosurgery, Department of Clinical Neurosciences, Addenbrooke's Hospital & University of Cambridge, Cambridge Biomedical Campus, Cambridge, UK

<sup>2</sup>NIHR Centre for Surgical Reconstruction and Microbiology, Queen Elizabeth Hospital & University of Birmingham, Birmingham, UK

<sup>3</sup>Department of Neurological Surgery, University of California, San Francisco, California

<sup>4</sup>Division of Neurosurgery, Department of Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada

<sup>5</sup>Division of Neurosurgery, Salford Royal Hospital & University of Manchester, Manchester, UK

<sup>6</sup>Division of Neurosurgery, Royal Victoria Infirmary & Newcastle University, Newcastle, UK

<sup>7</sup>Centre for Population Health Sciences, University of Edinburgh, Edinburgh, UK

<sup>8</sup>Neurosurgery-Neurotraumatology Unit and Department of Emergency Medicine, University Hospital of Parma, Parma, Italy

<sup>9</sup>Division of Anaesthesia, Addenbrooke's Hospital & University of Cambridge, Cambridge Biomedical Campus, Cambridge, United Kingdom

**15:05-15:15 PP5.5 (98) Riluzole provides neuroprotection and attenuates ischemia reperfusion injury following surgical decompression in experimental cervical spondylotic myelopathy**

Spyridon Karadimas<sup>1,2</sup>, A Laliberte<sup>1,2</sup>, YS Chung<sup>2</sup>, WD Foltz<sup>3,4</sup>, MG Fehlings<sup>1,2,5</sup>

<sup>1</sup>Institute of Medical Sciences, University of Toronto, Ontario, Canada

<sup>2</sup>Division of Genetics & Development, Toronto Western Research Institute, and Spinal Program, Krembil Neuroscience Centre, University Health Network, Toronto, Ontario, Canada

<sup>3</sup>STTARR Innovation Centre, Department of Radiation Oncology, Princess Margaret Hospital, Toronto, Ontario, Canada

<sup>4</sup>Department of Radiation Oncology, University of Toronto, Toronto, Ontario, Canada

<sup>5</sup>Department of Surgery, Division of Neurosurgery, University of Toronto, Toronto, Ontario, Canada

**15:05-15:15 PP6.6 (194) Prognosis of severe traumatic brain injury in Hungary? Analysis of the first ten years of the „Pécs Severe Head Injury Database”**

Noémi Kovács<sup>1</sup>, Endre Czeiter<sup>1,2,3</sup>, Krisztina Amrein<sup>1,3</sup>, Erzsébet Ezer<sup>1</sup>, József Szabó<sup>4</sup>, Béla Demeter<sup>5</sup>, János Sándor<sup>6</sup>, András Büki<sup>1,2,3</sup>

<sup>1</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary

<sup>2</sup>MTA-PTE Clinical Neuroscience MR Research Group, Pécs, Hungary

<sup>3</sup>University of Pécs, János Szentágotthai Research Centre, Pécs, Hungary

<sup>4</sup>Vas County Hospital, Szombathely, Hungary

<sup>5</sup>BAZ County Hospital, Miskolc, Hungary

<sup>6</sup>Department of Biostatistics and Epidemiology, University of Debrecen, Debrecen, Hungary

**14:20-14:30 PC3.4 (148) 25 years experience of DC: the question has been reduced to only when and how instead of doing it or not**

A Csókay, L Lipóth, A Jósvai

Military Hosp. Department of Neurosurgery, Budapest, Hungary

## PRO-CON Debate

**14:30-15:00**

Ji-yao Jiang, Department of Neurosurgery, Renji Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, People's Republic of China

**15:00-15:30**

Jamie Cooper, Intensive Care Research Centre, The Alfred Hospital, Melbourne, Australia

**15:30-15:50 Discussion**

**15:15-15:25 PP5.6 (116) Bone marrow mesenchymal stromal cells drive protective M2 microglia polarization after brain trauma**

Elisa R Zanier, Francesca Pischiutta, Loredana Riganti, Federica Marchesi, Elena Turola, Stefano Fumagalli, Carlo Perego, Emanuela Parotto, Paola Vinci, Pietro Veglianesi, Giovanna D'Amico, Claudia Verderio, Maria-Grazia De Simoni  
IRCCS-Istituto di Ricerche Farmacologiche Mario Negri, Department of Neuroscience; Milan, Italy

**15:15-15:25 PP6.7 Validation of a new coma scale: Emergency Coma Scale**

Katsuji Shima<sup>1,2</sup>, Tomio Ohta<sup>2</sup>, Hiroshi Okudera<sup>2</sup>, Masaaki Iwase<sup>2</sup>, Yasuhiko Ajimi<sup>2</sup>

<sup>1</sup>Department of Neurosurgery, National Defense Medical College, Tokorozawa, Saitama, Japan

<sup>2</sup>Japan Society of Neurosurgical Emergency

**15:25-15:35 PP5.7 (18) Blocking p75NTR signal reduces white matter damage and aids recovery after controlled cortical impact brain injury**

Michael Beattie, Sang Mi Lee, Amity Lin, Jeffrey Sacramento, Ernesto Salegio, Leda Mannent, Marie-Noelle Castel, Benoit Canolle, Jacqueline C Bresnahan

<sup>1</sup>Department of Neurological Surgery, Brain and Spinal Injury Center, University of California San Francisco, CA, USA

<sup>2</sup>Sanofi R&D, 1 avenue Pierre Brossolette, Chilly-Mazarin, France

**15:25-15:55 Discussion**

**15:35-15:45 PP5.8 (85) Acute antagonism of the complement anaphylatoxin receptor C5aR improves the outcome from experimental spinal cord injury**

Marc J Ruitenber<sup>1,2</sup>, Faith H Brennan<sup>1</sup>, Richard Gordon<sup>1</sup>, Linda V Blomster<sup>1</sup>, Hong Wa Lao<sup>1</sup>, Gary J Cowin<sup>3</sup>, Stephen M Taylor<sup>1</sup>, Trent M Woodruff<sup>1</sup>

<sup>1</sup>The School of Biomedical Sciences, The University of Queensland, Brisbane, Australia

<sup>2</sup>Queensland Brain Institute, The University of Queensland, Brisbane, Australia

<sup>3</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia

**15:45-15:55 Discussion**

# PROGRAM (22<sup>TH</sup> MARCH, SATURDAY)

15:55-16:10 Coffee Break

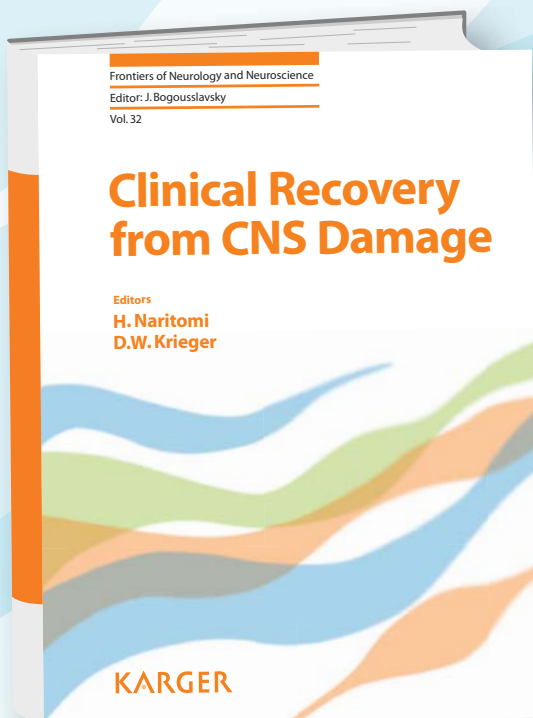
**FREE POSTER VIEWING, VISIT THE EXHIBITORS**

## AFTERNOON PARALLEL PLENARY SESSION

<p><b>16:10-17:20 PP7</b> <b>Non-Invasive and Multimodal Monitoring (Plenary room 1)</b> Chair: Franco Servadei - Jamie Cooper</p>	<p><b>16:10-17:20 PP8</b> <b>Microdialysis and Metabolomics (Plenary room 2)</b> Chair: Jed A Hartings - Ramon Diaz-Arrastia</p>	<p><b>16:10-17:20 PP9</b> <b>Inflammation and Oxidative Damage in CNS Injury (Plenary room 3)</b> Chair: Alan I Faden - Denes V Agoston</p>
<p><b>16:10-16:30 PP7.1 (27) Non-invasive ICP Monitoring</b> Marek Czosnyka, Academic Neurosurgical Unit, University of Cambridge Clinical School, Cambridge, UK</p>	<p><b>16:10-16:30 PP8.1 Identification of blood-based metabolic markers of traumatic brain injury</b> Matej Oresic, VTT Technical Research Centre of Finland, Espoo, Finland</p>	<p><b>16:10-16:30 PP9.1 (173) Inflammasomes in the Central Nervous System</b> Robert W Keane, Department of Physiology and Biophysics, Miller School of Medicine; University of Miami, FL, USA</p>
<p><b>16:30-16:50 PP7.2 Microdialysis/Licox/Autoregulation</b> Steven A Robicsek, College of Medicine, University of Florida, Gainesville, FL, USA</p>	<p><b>16:30-16:50 PP8.2 Current status of the clinical application of microdialysis</b> Peter J Hutchinson, Department of Clinical Neurosciences, Addenbrooke's Hospital &amp; University of Cambridge, UK</p>	<p><b>16:30-16:50 PP9.2 (155) Immune Markers of Inflammation in TBI</b> Cristina Morganti-Kossmann, Dept. of Epidemiology and Preventive Medicine, Monash University, Victoria, Australia</p>
<p><b>16:50-16:55 Discussion</b></p>	<p><b>16:50-16:55 Discussion</b></p>	<p><b>16:50-16:55 Discussion</b></p>
<p><b>16:55-17:05 PP7.3 (42) Assessment of the CerOx Cerebral Oxygenation Monitor in Severe Traumatic Brain Injury Patients</b> Guy Rosenthal, Alex Furmanov, Eyal Itshayek, Yigal Shoshan, Vineeta Singh Hadassah-Hebrew University Medical Center University of California, San Francisco, USA</p>	<p><b>16:55-17:05 PP8.3 (63) Energy Metabolism in Human Traumatic Brain Injury: 13C-Labelled Cerebral Microdialysis and High-Resolution Nuclear Magnetic Resonance Studies</b> Ibrahim Jalloh, Carpenter KLH, Gallagher CN, Grice P, Howe DJ, Mason A, Timofeev I, Helmy A, Murphy MP, Kirkpatrick PJ, Menon DK, Sutherland GR, Carpenter TA, Pickard JD, Hutchinson PJ Division of Neurosurgery, Department of Clinical Neurosciences, University of Cambridge, UK</p>	<p><b>16:55-17:05 PP9.3 (41) Protecting glia from oxidative stress during secondary degeneration following neurotrauma</b> Melinda Fitzgerald, Ryan L O'Hare Doig, Sophie C Payne, Carole A Bartlett, Donna L Savigni Experimental and Regenerative Neurosciences, School of Animal Biology, The University of Western Australia, Stirling Hwy, Crawley WA, Australia</p>
<p><b>17:05-17:15 PP7.4 (100) The clinical pitfalls and possibilities using S100B monitoring in neuro intensive care of patients suffering from traumatic brain injury</b> Eric Thelin, Bo-Michael Bellander Karolinska Institutet, Department of Clinical Neuroscience, Section for Neurosurgery, Sweden</p>	<p><b>17:05-17:15 PP8.4 (72) New microdialysis method for protein biomarker sampling in the neurointensive care setting</b> Lars Hillered, Andreas Dahlin, Karlis Purins, Magnus Wetterhall, Jonas Bergquist, Klas Hjort, Per Enblad, Anders Lewén Div of Neurosurgery, Dept of Neuroscience and Div of Microsystems Technology, Dept of Engineering Sciences, Div of Analytical Chemistry, Dept of Chemistry, BMC, Uppsala University, Uppsala, Sweden</p>	<p><b>17:05-17:15 PP9.4 (56) Recombinant Human Interleukin-1 Antagonist Modifies the Neuro-inflammatory Response to Severe Traumatic Brain Injury</b> Adel Helmy, Mathew R Guilfoyle, Keri LH Carpenter, John D Pickard, David K Menon, Peter J Hutchinson University of Cambridge, Cambridge, UK</p>
<p><b>17:15-17:20 Discussion</b></p>	<p><b>17:15-17:20 Discussion</b></p>	<p><b>17:15-17:20 Discussion</b></p>

**17:30-18:30 Plenary Meeting of the International Neurotrauma Society (Plenary room 1-2)**

**19:30-23:00 Closing gala dinner – award ceremony (Vigadó Concert Hall)**  
András Büki - Ji-yao Jiang



*A compilation of innovative findings  
and new directions in neurological recovery*

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# POSTERS



The abstracts of the congress will be available in the Journal of Neurotrauma (see QR code)

START	SCREEN1	SCREEN2	SCREEN3	SCREEN4	SCREEN5	SCREEN6	SCREEN7	SCREEN8	SCREEN9	SCREEN10
	<b>P1 BBB and Vascular Dysfunction P9 Axonal Pathology in TBI</b>	<b>P2 Assessing and Predicting Outcome</b>	<b>P2 Assessing and Predicting Outcome P6 Neuro-monitoring in TBI</b>	<b>P6 Neuro-monitoring in TBI</b>	<b>P3 Host factors: Comorbidities, Genomics and Epigenetics P5 Imaging in the assessment of TBI</b>	<b>P4 Mild Traumatic Brain Injury</b>	<b>P8 Decompressive Craniectomy</b>	<b>P7 Preclinical Neuro-protection and Discovery</b>	<b>P7 Preclinical Neuro-protection and Discovery</b>	<b>P10 Contemporary challenges and International Initiative in Neurotrauma Research</b>
10:45	P1.1 Jonas Blixt	P2.1 Yutaka Igarashi	P2.14 GA Gorodnik	P6.1 Stefania Mondello	P3.1 Viktória Tamás	P4.1 Alice Theadom	P8.1 Stephen Honeybul	P7.1 Sanae Hosomi	P7.15 Vadym Biloshytsky	P10.1 Neta R Nelson
10:52	P1.2 Nino Muradashvili	P2.2 Dmitriy Ivakhnenko	P2.15 Wilhemina H Makhambeni	P6.2 Stine Borgen Lund	P3.2 Alice Theadom	P4.2 Rune Hatlestad Karlsten	P8.2 Jerome J Maller	P7.2 Federica Marchesi	P7.16 Victoria McCutcheon	P10.2 Lucia M Li
10:59	P1.3 Jérôme Badaut	P2.3 C Housden	P2.16 Tasuke Tanaka	P6.3 TV Cherniy	P3.3 Gretchen M Brophy	P4.3 Erzsébet Ezer	P8.3 Ibrahim Omerhodžić	P7.3 Klaus Zweckberger	P7.17 Tu Yue	P10.3 Thomas Sauvigny
11:06	P1.4 Zoltán Vámos	P2.4 Thomas van Essen	P2.17 Norbert Lekka	P6.4 Hyung Sik Hwang	P3.4 Sun Hong-tao	P4.4 Leodante da Costa	P8.4 György T Szeifert	P7.4 Maksym Pogorielov	P7.18 Krisztina Amrein	P10.4 Lakmini De Silva
11:13	P1.5 Antonino Germano	P2.5 Martin Bolcha	P2.18 Stephen Honeybul	P6.5 Richárd Soltész	P3.5 Kazuhiko Kibayashi	P4.5 Walter Schneider	P8.5 András Csóky	P7.5 Yuli Cao	P7.19 Daiana de Blasio	P10.5 Zanetti Eda Guertzenstein
11:20	P1.6 Stefan Plantman	P2.6 Robson Luis Amorim	P2.19 Ferenc Rábai	P6.6 VI Cherniy	P3.6 Lubomir Holkovic	P4.6 Toril Skandsen	P8.6 Angelos G Koliass	P7.6 Aida Khodadad	P7.20 Edward C Dixon	P10.6 F Reith
11:27		P2.7 Holly Hinson	P2.20 Arnold Tóth	P6.7 Melissa Wernde	P5.1 Simon Hill	P4.7 ME de Koning	P8.7 Arthur Maynard P Oliveira	P7.7 C Leconte	P7.21 Mattias Günther	P10.7 Ashok Munivenkatappa
11:34	P9.1 Anders Hänell	P2.8 Oksana Skobska	P2.21 Arnold Tóth	P6.8 Joerg Bauer	P5.2 Iuri S Neville	P4.8 Lizan Kawa	P8.8 Hyung Sik Hwang	P7.8 Lee A Shapiro	P7.22 Masaki Todani	P10.8 Béla Demeter
11:41	P9.2 Hans Kristian Moe	P2.9 Yuichi Fujiyama	P2.22 Sarah Hellewell	P6.9 Miguel Marin	P5.3 Liis Sabre	P4.9 Cathrine Elisabeth Einarsen	P8.9 Angelos G Koliass	P7.9 AH Cho	P7.23 Justus Baecker	P10.9 Tamás Tóth
11:48	P9.3 Audrey Lafrenaye	P2.10 Dominik Baschera		P6.10 Richard J Shannon	P5.4 Arthur Maynard P Oliveira	P4.10 Mladen Karan	P8.10 Isaac Phang	P7.10 Péter Cseplő	P7.24 M Klarica	P10.10 Anna Nielsen
11:55	P9.4 Audrey Lafrenaye	P2.11 Andriy Huk	P6.16 Marek Czosnyka	P6.11 Guy Rosenthal	P5.5 Süleyman Sener	P4.11 Eugene Park	P8.11 Vagkopoulos Konstantinos	P7.11 M Vukic	P7.25 Mathew R Guilfoyle	P10.11 Stefan Dimou
12:02	P9.5 Michal Vaszak	P2.12 Hosseinali Khalili	P6.17 Marek Czosnyka	P6.12 Guy Rosenthal	P5.6 William Brooks	P4.12 Kelly McAteer	P8.12 Rahul Raj	P7.12 I Ivic	P7.26 Emmanuelle Simon O'Brien	P10.12 Deepak Gupta
12:09	P9.6 Judit Somlai	P2.13 Sibylle Leichtl	P6.18 Toby Jeffcote	P6.13 Robson Luis Amorim	P5.7 Ádám Rivnyák	P4.13 Kiyoshi Takagi		P7.13 Marek Majdan	P7.27 Bridgette D Semple	P10.13 Veronika Gonsorova
12:16	P9.7 Arnold Tóth		P6.19 D James Cooper	P6.14 Almir F de Andrade	P5.8 Dávid Kis	P4.14 Haruo Nakayama		P7.14 Milos Ikonomic	P7.28 Francesca Pischitta	
12:23			P6.15 Fredrik Clausen		P5.9 William Brooks					
START	SCREEN1	SCREEN2	SCREEN3	SCREEN4	SCREEN5	SCREEN6	SCREEN7	SCREEN8	SCREEN9	SCREEN10

Numbers in brackets are the numbers of the abstract in the Journal of Neurotrauma.

## P1 BBB and Vascular Dysfunction

- P1.1 (90) Brain edema response following experimental focal traumatic brain injury**  
Jonas Blixt, Svensson M, Gunnarson E, Wanecek M  
Karolinska Institute, Faculty of Medical Sciences, Department of Physiology and Anatomy, Stockholm, Sweden
- P1.2 (46) Amelioration of traumatic brain injury-induced increased cerebrovascular permeability by endothelial progenitor cells in mice**  
Nino Muradashvili, Reeta Tyagi, Timothy E O'Toole, Suresh C Tyagi, David Lominadze  
University of Louisville, Louisville, KY, USA
- P1.3 (121) Long-term changes of perivascular matrix after juvenile traumatic brain injury: possible relation with amyloid-beta accumulation**  
Jérôme Badaut<sup>1,2,4</sup>, Amandine Jullienne<sup>1</sup>, Jill Roberts<sup>3</sup>, Viorela Pop<sup>1</sup>, M Paul Murphy<sup>3</sup>, Elizabeth Head<sup>3</sup>, Gregory J Bix<sup>3</sup>  
<sup>1</sup>Department of Pediatrics, Loma Linda University, Loma Linda, CA, USA  
<sup>2</sup>Department of Physiology, Loma Linda University, Loma Linda, CA, USA  
<sup>3</sup>University of Kentucky, Sanders-Brown Center on Aging, Lexington, KY, USA  
<sup>4</sup>Bordeaux University, CNRS UMR, Bordeaux, France
- P1.4 (154) The Ca<sup>2+</sup>-binding protein S100B elicits a concentration-dependent relaxation on isolated cerebral arteries**  
Vámos Z<sup>1,3</sup>, Cséplő P<sup>1,2</sup>, Ivic I<sup>1</sup>, Belák M<sup>1</sup>, Molnár T<sup>3</sup>, Koller Á<sup>1,4</sup>  
<sup>1</sup>Department of Pathophysiology and Gerontology, Medical School, University of Pécs and Szentagotai Research Centre, Pécs, Hungary  
<sup>2</sup>Dept. of Central Anesthesiology and Intensive Care Unit, Petz Aladar County Training Hospital, Győr, Hungary  
<sup>3</sup>University of Pécs, Medical School, Department of Anesthesiology and Intensive Therapy, Pécs, Hungary  
<sup>4</sup>Department of Physiology, New York Medical College, Valhalla, NY, USA
- P1.5 (181) Pre- and Postoperative Cerebral Perfusion Assessments in Chronic Subdural Hematoma**  
Antonino Germano, L Merlo, A Campenn<sup>1</sup>, G Trimarchi<sup>2</sup>, Baldari S<sup>1</sup>  
<sup>1</sup>Department of Radiology - Nuclear Medicine, Neurosurgical Clinic, University of Messina, Italy  
<sup>2</sup>Department of Economics, Neurosurgical Clinic, University
- P1.6 (82) A novel mouse model of penetrating TBI**  
Stefan Plantman, Marten Risling, Johan Davidsson  
Department of Neuroscience Karolinska Institutet Stockholm

## P2 Assessing and Predicting Outcome

- P2.1 (12) Cerebral extracellular chemistry and outcome of patients with acute subdural hematoma**  
Yutaka Igarashi, Shoji Yokobori, Yu Fujiki, Masahiro Yamaguchi, Akihiro Hashizume, Hidetaka Onda, Takashi Araki, Satoo Ogawa, Akira Fuse, Hiroyuki Yokota  
Department of Emergency and Critical Care Medicine, Nippon Medical School, Japan
- P2.2 (16) Mortality in elderly patients with multiple trauma**  
Dmitriy Ivakhnenko, Vladimir Pertsov  
Zaporozhye State Medical, University Zaporozhye, Ukraine
- P2.3 (192) Neurocognitive testing in the emergency department using an iPad: feasibility & implementation**  
C Housden, J Outtrim, F Forsyth, A Rivera, E Carroll, E Dyson, C Maimaris, A Boyle, D Menon, V Newcombe  
University of Cambridge
- P2.4 (225) Variability in surgical decision making for acute subdural hematoma: results of an on-line questionnaire**  
TA van Essen<sup>1,2</sup>, GC de Ruiter<sup>1,2</sup>, KH Kho<sup>2,3</sup>, WC Peul<sup>1,2</sup>  
<sup>1</sup>Department of Neurosurgery, Leiden University Medical Center, Leiden, The Netherlands  
<sup>2</sup>Department of Neurosurgery, Medical Center Haaglanden, The Hague, The Netherlands  
<sup>3</sup>Department of Neurosurgery, University Hospitals Leuven, Belgium
- P2.5 (30) Elevated intracranial pressure and impaired brain metabolism correlate with fatal outcome after severe brain injury**  
Martin Bolcha<sup>1</sup>, Hejčl Aleš<sup>1</sup>, Procházka Jan<sup>2</sup>, Hušková Eva<sup>2</sup>, Sameš Martin<sup>1</sup>  
<sup>1</sup>Neurosurgical department, J. E. Purkinje University, Masaryk Hospital, Ústí nad Labem, Czech Republic  
<sup>2</sup>Neurointensive care unit, Anesthesiology Department, Masaryk Hospital, Ústí nad Labem, Czech Republic
- P2.6 (190) CT Perfusion in traumatic acute subdural hematoma: a new tool to predict outcome?**  
Robson Luis Amorim, Almir Ferreira de Andrade, Gabriel Gattás, Arthur Maynard, Carlo Emanuel Petito, Manoel Jacobsen, Teixeira Edson, Bor-Seng-Shu  
Hospital das Clínicas, University of Sao Paulo, School of Medicine, Division of Neurosurgery, Sao Paulo, Brazil
- P2.7 (28) Quantifying Paroxysmal Sympathetic Hyperactivity in Traumatic Brain injury**  
Holly Hinson, Brittney Brown, Ian Baguley, Martin Schreiber, and the International PSH Consensus Group  
Oregon Health & Science University, Portland, Oregon, USA
- P2.8 (134) Mild Traumatic Brain Injury: Vestibular Consequences**  
Skobska O, Kadzhaya N, Andreev  
A.P. Romodanov Institute of Neurosurgery, Chernihiv regional hospital, Chernihiv, Ukraine
- P2.9 (17) Coagulopathy as a predictor of exacerbation in mild-to-moderate traumatic brain injury patients**  
Yuichi Fujiyama, Eiichi Suehiro, Hiroyasu Koizumi, Hiroshi Yoneda, Michiyasu Suzuki  
University of Yamaguchi, Faculty of Medical Sciences, Department of Neurosurgery, Yamaguchi, Japan
- P2.10 (58) Impact of Winter Sports Helmets in Skiers and Snowboarders on Head Trauma Incidence and Severity**  
Dominik Baschera, Rebecca Hasler, Taugwalder David, Aristomenis Exadaktylos, Andreas Raabe  
Inselspital, Bern University Hospital
- P2.11 (191) Skull fracture: indicator dangerous to life or predictor of intracranial injury?**  
Andriy Huk, Nikolay Kadzhaya, Andriy Dyadchko  
Institute of Neurosurgery named after acad. A.P.Romodanov NAMS of Ukraine, Neurotrauma Department, Kyiv, Ukraine
- P2.12 (39) Epidemiologic analysis of patients with severe traumatic brain injury in Shiraz, Iran; 2011-2013**  
Hosseinali Khalili, Nima Derakhshan  
Shiraz Neuroscience Research Center, Neurosurgery Department, Shiraz University of Medical Sciences, Shiraz, Iran

- P2.13 (40) Following neurotrauma, acute phase S100B does not predict functional outcome but a long-term S100B release suggests a participation in neuroregeneration**  
**Sibylle Leichtl<sup>1</sup>, Christoph Lang<sup>2</sup>, Hans Parsch<sup>3</sup>, Michael Buchfelder<sup>1</sup>, Andrea Kleindienst<sup>1</sup>**  
<sup>1</sup>Dept. of Neurosurgery, University Erlangen-Nürnberg, Germany  
<sup>2</sup>Dept. of Neurology, University Erlangen-Nürnberg, Germany  
<sup>3</sup>Inst. of Laboratory Medicine, University Erlangen-Nürnberg, Germany
- P2.14 (71) Brain edema and swelling pathogenesis and optimal pharmacotherapy substantiation in case of severe craniocerebral trauma**  
**Gorodnik GA, Chukov A**  
 Neurosurgery Department of Donetsk National Medical University
- P2.15 (211) Antibiotics: A Potential Determinant of Penetrating Spinal Cord Injury Outcomes**  
**Wilheminah Hendrika Makhambeni, Rasik Gopal**  
 Leipschitz Neurosurgery Unit, Soweto University of the Witwatersrand, Faculty of Health Sciences, Department of Neurosciences, Neurosurgery Department, Johannesburg
- P2.16 (118) The features of traumatic brain injury with acute deterioration after recovery of consciousness**  
**Tasuke Tanaka, Akinori Wakai, Mitsuo Ohnishi, Daikai Sadamitsu**  
 Osaka National Hospital
- P2.17 (201) Complex surgical treatment of skull base injuries**  
**Norbert Lekka, Sándor Zsolczai, György T Szeifert**  
 Department of Neurotrauma Péterfy Trauma Center Budapest, Hungary
- P2.18 (1) Validation of the CRASH prediction model in predicting 18 months mortality and unfavorable outcome in severe traumatic brain injury requiring decompressive craniectomy**  
**Stephen Honeybul, Kwok Ho<sup>2</sup>, Christopher RP Lind<sup>1</sup>, Grant R Gillett<sup>3</sup>**  
<sup>1</sup>Department of Neurosurgery, Sir Charles Gairdner Hospital and Royal Perth Hospital, Western Australia  
<sup>2</sup>Department of Intensive Care Medicine and School of Population Health, University of Western Australia, School of Surgery, University of Western Australia  
<sup>3</sup>Dunedin Hospital and Otago Bioethics Centre, University of Otago, Dunedin, New Zealand
- P2.19 (216) Contralateral and third ventricle compression are early CT signs heralding secondary infarcts in non-penetrating severe traumatic brain injury**  
**Ferenc Rábai<sup>1</sup>, Elizabeth B Mahanna<sup>2</sup>, Andrea Gabrielli<sup>2</sup>, Ronald L Hayes<sup>3</sup>, Claudia S Robertson<sup>4</sup>, Steven A Robicsek<sup>5</sup>, Ilona Schmalzfuss<sup>6</sup>**  
<sup>1</sup>Department of Anesthesiology, University of Florida, Gainesville, FL  
<sup>2</sup>Department of Anesthesiology & Critical Care, University of Florida, Gainesville, FL  
<sup>3</sup>Banyan Biomarkers, Inc., Alachua, FL  
<sup>4</sup>Department of Neurosurgery, Baylor College of Medicine, Houston, TX  
<sup>5</sup>Departments of Anesthesiology & Neuroscience, University of Florida, Gainesville, FL  
<sup>6</sup>Department of Radiology, North Florida/ South Georgia Veterans Administration & University of Florida, Gainesville, FL
- P2.20 (215) Conventional vs Quantitative Approach in Assessing Post-Traumatic Ventriculomegaly and its Relation to 6-month Outcomes in Severe Traumatic Brain Injury**  
**Arnold Tóth<sup>1</sup>, Ilona Schmalzfuss<sup>2</sup>, Shelley C Heaton<sup>3</sup>, Andrea Gabrielli<sup>4</sup>, H Julia Hannay<sup>5</sup>, Linda Papa<sup>6</sup>, Gretchen M Brophy<sup>7</sup>, Kevin KW Wang<sup>8</sup>, András Büki<sup>1</sup>, Attila Schwarcz<sup>1</sup>, Ronald L Hayes<sup>9</sup>, Claudia S Robertson<sup>10</sup>, Steven A Robicsek<sup>11</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary  
<sup>2</sup>Department of Radiology, North Florida/South Georgia Veterans Administration & University of Florida, Gainesville, FL  
<sup>3</sup>Department of Clinical & Health Psychology, University of Florida, Gainesville, FL  
<sup>4</sup>Department of Anesthesiology & Critical Care, University of Florida, Gainesville, FL  
<sup>5</sup>Department of Psychology, University of Houston, Houston, TX  
<sup>6</sup>Orlando Regional Medical Center, Orlando, FL  
<sup>7</sup>Department of Pharmacotherapy & Outcomes Science and Neurosurgery, Virginia Commonwealth University, Richmond, VA  
<sup>8</sup>Center for Neuroproteomics & Biomarkers Research Departments of Psychiatry & Neuroscience McKnight Brain Institute, University of Florida, Gainesville, FL  
<sup>9</sup>Banyan Biomarkers, Inc., Alachua, FL  
<sup>10</sup>Department of Neurosurgery, Baylor College of Medicine, Houston, TX  
<sup>11</sup>Departments of Anesthesiology & Neuroscience, University of Florida, Gainesville, FL
- P2.21 (217) Lateral Ventricle Volume Asymmetry is Related to Spectrin Breakdown Product (SBDP145) Levels in Severe Traumatic Brain Injury**  
**Arnold Tóth<sup>1</sup>, Ilona Schmalzfuss<sup>2</sup>, Shelley C Heaton<sup>3</sup>, Andrea Gabrielli<sup>4</sup>, H Julia Hannay<sup>5</sup>, Linda Papa<sup>6</sup>, Gretchen M Brophy<sup>7</sup>, Kevin KW Wang<sup>8</sup>, András Büki<sup>1</sup>, Attila Schwarcz<sup>1</sup>, Ronald L Hayes<sup>9</sup>, Claudia S Robertson<sup>10</sup>, Steven A Robicsek<sup>11</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary  
<sup>2</sup>Department of Radiology, North Florida/ South Georgia Veterans Administration & University of Florida, Gainesville, FL  
<sup>3</sup>Department of Clinical & Health Psychology, University of Florida, Gainesville, FL  
<sup>4</sup>Department of Anesthesiology & Critical Care, University of Florida, Gainesville, FL  
<sup>5</sup>Department of Psychology, University of Houston, Houston, TX  
<sup>6</sup>Orlando Regional Medical Center, Orlando, FL  
<sup>7</sup>Department of Pharmacotherapy & Outcomes Science and Neurosurgery, Virginia Commonwealth University, Richmond, VA  
<sup>8</sup>Center for Neuroproteomics & Biomarkers Research Departments of Psychiatry & Neuroscience McKnight Brain Institute, University of Florida, Gainesville, FL  
<sup>9</sup>Banyan Biomarkers, Inc., Alachua, FL  
<sup>10</sup>Department of Neurosurgery, Baylor College of Medicine, Houston, TX  
<sup>11</sup>Departments of Anesthesiology & Neuroscience, University of Florida, Gainesville, FL
- P2.22 (68) Measurement of biomarkers of brain damage in TBI patients recruited in the EPO-TBI randomised clinical trial**  
**Hellewell SC<sup>1,2</sup>, Conquest AL<sup>1,2</sup>, Bye N<sup>1,2</sup>, Morganti-Kossmann MC<sup>3,4,5</sup>**  
<sup>1</sup>National Trauma Research Institute, Alfred Hospital, Melbourne, Victoria, Australia  
<sup>2</sup>Department of Surgery, Monash University, Melbourne, Victoria, Australia  
<sup>3</sup>Department of Epidemiology and Preventive Medicine, Monash University, Melbourne, Victoria, Australia  
<sup>4</sup>Australian New Zealand Intensive Care Research Centre, Melbourne, Victoria, Australia  
<sup>5</sup>Barrow Neurological Institute, Department of Child Health

## P3 Host factors: Comorbidities, Genomics and Epigenetics

- P3.1 (195) Severe traumatic brain injury and the young male syndrome: psychological and evolutionary reasons behind etiology?**  
**Viktória Tamás<sup>1</sup>, Endre Czeiter<sup>1,3,4</sup>, Petra Gyuris<sup>2</sup>, Noémi Kovács<sup>1</sup>, Tamás Dóczy<sup>1,3</sup>, András Búki<sup>1,3,4</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary  
<sup>2</sup>Department of General and Evolutionary Psychology, University of Pécs, Pécs, Hungary  
<sup>3</sup>MTA-PTE Clinical Neuroscience MR Research Group, Pécs, Hungary  
<sup>4</sup>University of Pécs, János Szentágotthai Research Centre, Pécs, Hungary
- P3.2 (137) Recurrent traumatic brain injury (TBI) in a New Zealand population-based incidence sample**  
**Alice Theadom<sup>1</sup>, Valery L Feigin<sup>1</sup>, Suzanne Barker-Collo<sup>2</sup>, Nicola Starkey<sup>3</sup>, Kelly Jones<sup>1</sup>, on behalf of the BIONIC Research Group**  
<sup>1</sup>National Institute for Stroke and Applied Neuroscience, Auckland University of Technology, Auckland, NZ  
<sup>2</sup>Department of Psychology, University of Auckland, Auckland, NZ  
<sup>3</sup>Department of Psychology, University of Waikato, Hamilton, NZ
- P3.3 (47) Defining platelet function in polytrauma patients with traumatic brain injury upon admission to the emergency department**  
**Gretchen M Brophy<sup>1</sup>, Bassem M Mohammed<sup>1</sup>, Nathan J White<sup>2</sup>, Erika J Martin<sup>1</sup>, Jason Newton<sup>1</sup>, Daniel Contaifer<sup>1</sup>, Jingmei Song<sup>1</sup>, Penny S Reynolds<sup>1</sup>, Kevin R Ward<sup>3</sup>, Donald F Brophy<sup>1</sup>**  
<sup>1</sup>Virginia Commonwealth University, Richmond, Virginia, USA  
<sup>2</sup>Puget Sound Blood Center, Seattle, Washington, USA  
<sup>3</sup>University of Michigan, Ann Arbor, Michigan, USA
- P3.4 (220) Establishment of traumatic brain injury-induced stress ulcer model in rats with an electric cortical contusion impactor**  
**Sun Hong-tao, Hu Qun-liang, Zhang Sai, Tu Yue**  
 Institute of Traumatic Brain Injury and Neuroscience of Chinese Armed Police Forces (CAPF); Neurology and Neurosurgery Hospital, Affiliated Hospital of Logistics College of CAPF, Tianjin, China
- P3.5 (38) Dopamine transporter expression in the brain following traumatic brain injury and restraint stress in a mouse model**  
**Kazuhiko Kibayashi, Ryo Shimada**  
 Department of Legal Medicine, School of Medicine, Tokyo Women's Medical University
- P3.6 (165) Traumatic Brain Injury mortality in Austria in 1980-2012**  
**Lubomir Holkovic<sup>1</sup>, Veronika Gonsorova<sup>1</sup>, Alexandra Brazinova<sup>1,2</sup>, Marek Psota<sup>1</sup>, Walter Mauritz<sup>2,3</sup>, Marek Majdan<sup>1,2</sup>**  
<sup>1</sup>Department of Public Health, Faculty of Health Care and Social Work, Trnava University, Slovak Republic  
<sup>2</sup>International Neurotrauma Research Organisation, Vienna, Austria  
<sup>3</sup>Trauma Center „Lorenz Boehler“, Vienna, Austria

## P4 Mild Traumatic Brain Injury

- P4.1 (138) Incidence of traumatic brain injury across the spectrum: A population-based study in New Zealand (The BIONIC Study)**  
**Alice Theadom<sup>1</sup>, Valery L Feigin<sup>1</sup>, Suzanne Barker-Collo<sup>2</sup>, Nicola Starkey<sup>3</sup>, Kathryn McPherson<sup>4</sup>, Michael Kahan<sup>5</sup>, Anthony Dowell<sup>6</sup>, Paul Brown<sup>7</sup>, Varsha Parag<sup>8</sup>, Robert Kydd<sup>9</sup>, Kelly Jones<sup>1</sup>, Amy Jones<sup>1</sup>, Shanthi Ameratunga<sup>10</sup>, on behalf of the BIONIC Research Group**  
<sup>1</sup>National Institute for Stroke and Applied Neurosciences, Faculty of Health and Environmental Studies, AUT University, Auckland, New Zealand  
<sup>2</sup>Department of Psychology, The University of Auckland, Auckland, New Zealand  
<sup>3</sup>School of Psychology, Faculty of Arts & Social Sciences, The University of Waikato, Hamilton, New Zealand  
<sup>4</sup>Health and Rehabilitation Research Institute, Faculty of Health and Environmental Studies, AUT University, Auckland, New Zealand  
<sup>5</sup>Rehabilitation Unit & Concussion Clinic, Waikato Occupational Services Ltd, Hamilton, New Zealand  
<sup>6</sup>University of Otago, Newtown, Wellington, New Zealand  
<sup>7</sup>School of Social Sciences, Humanities and Arts, University of California, Merced, California, USA  
<sup>8</sup>National Institute for Health Innovation, The University of Auckland, Auckland, New Zealand  
<sup>9</sup>Department of Psychological Medicine, The University of Auckland, Auckland, New Zealand  
<sup>10</sup>School of Population Health, Faculty of Medical & Health Sciences, University of Auckland, Auckland, New Zealand
- P4.2 (125) A longitudinal cohort study of patients with mild and moderate TBI: A pilot study**  
**Rune Hatlestad Karlsen<sup>1</sup>, Cathrine Einarsen<sup>1,2</sup>, Hans Kristian Moe<sup>1</sup>, Virginia Newcombe<sup>3,4</sup>, David Menon<sup>3,4</sup>, Asta Kristine Hoberg<sup>1</sup>, Live Eikenes<sup>1</sup>, Anne Vik<sup>1,5</sup>, Jian Xu<sup>6</sup>, David McDonagh<sup>1,7</sup>, Toril Skandsen<sup>1,2</sup>**  
<sup>1</sup>Department of Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway  
<sup>2</sup>Department of Physical Medicine and Rehabilitation, St. Olavs University Hospital, Trondheim, Norway  
<sup>3</sup>Division of Anaesthesia, Department of Medicine, University of Cambridge, Cambridge, UK  
<sup>4</sup>Wolfson Brain Imaging Centre, Department of Clinical Neurosciences, University of Cambridge, UK  
<sup>5</sup>Department of Neurosurgery, St. Olavs University Hospital, Trondheim, Norway  
<sup>6</sup>Department of Medical Imaging, St. Olavs University Hospital, Trondheim, Norway  
<sup>7</sup>Trondheim Municipality Outpatient Clinic
- P4.3 (170) Platelet Aggregation Inhibition of intravenously administration of NSAIDs after herniated disc surgery**  
**Erzsébet Ezer<sup>1</sup>, Laura Csabai<sup>2</sup>, Péter Cséplő<sup>3,4</sup>, Péter Kanizsai<sup>5</sup>, Zoltán Vámos<sup>1,3,4</sup>**  
<sup>1</sup>Department of Anaesthesiology and Intensive Therapy, University of Pécs, School of Medicine, Pécs, Hungary  
<sup>2</sup>University of Pécs, School of Medicine, Pécs, Hungary  
<sup>3</sup>Department of Pathophysiology and Gerontology, University of Pécs, School of Medicine, Pécs, Hungary  
<sup>4</sup>Hungarian National Ambulance Service  
<sup>5</sup>Dept. of Anaesthesia and Intensive Care, Division of Emergency Medicine, Semmelweis University, Budapest, Hungary
- P4.4 (133) Incidence and risk factors for suicidal ideation after mild traumatic brain injury**  
**Leodante da Costa, Allison Bethune, Scott McCullagh, Elizabeth Waknine, Xiong Wei, Anthony Feinstein**  
 Department of Surgery, Division of Neurosurgery, Sunnybrook Hospital, University of Toronto, Ontario, Canada
- P4.5 (230) An iPad Case Report Viewer for High-Definition Fiber Tracking for TBI Patients and Their Clinicians**  
**Walter Schneider, David O Okonkwo, Jon Chmura, Nora Presson, Steven Benso, Ava M Puccio**  
 Department of Neurological Surgery, University of Pittsburgh, Pittsburgh, PA, USA



- P4.6 (123) Do patients with traumatic brain injury and GCS score 13 have different MRI findings or outcome than patients with GCS 9-12?**  
**Toril Skandsen<sup>1,2</sup>, Kent Geran Moen<sup>1,3</sup>, Stine Borgen Lund<sup>3</sup>, Cathrine Elisabeth Einarsen<sup>1,2</sup>, Rune Hatlestad Karlsen<sup>1</sup>, Anne Vik<sup>1,3</sup>**  
<sup>1</sup>Department of Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway  
<sup>2</sup>Department of Physical Medicine and Rehabilitation, St. Olavs Hospital, Trondheim University Hospital, Norway  
<sup>3</sup>Department of Neurosurgery, St. Olavs Hospital, Trondheim University Hospital, Norway
- P4.7 (94) Coping, Complaints and Work Resumption Three Months after Mild-to-Moderate Traumatic Brain Injury. Preliminary results of the Uppfront-study**  
**ME de Koning, ME Scheenen, HJ van der Horn, G Roks, T Yilmaz, JM Spikman, J van der Naalt**  
 University Medical Center Groningen
- P4.8 (64) PTSD and mild traumatic brain injury: changes in the serotonergic, noradrenergic and galanin systems**  
**Lizan Kawa<sup>1</sup>, T Hökfelt<sup>1</sup>, D Agoston<sup>1,2</sup>, U Arborelius<sup>1</sup>, M Risling<sup>1</sup>**  
<sup>1</sup>Karolinska Institutet, Neuroscience, Stockholm, Sweden  
<sup>2</sup>Uniformed Services University of the Health Sciences, Anatomy, Physiology and Genetics, Bethesda, Maryland, USA
- P4.9 (129) Should patients with GCS score 13 be classified as moderate traumatic brain injury?**  
**Cathrine Elisabeth Einarsen<sup>1,2</sup>, Rune Hatlestad Karlsen<sup>1</sup>, Stine Borgen Lund<sup>3</sup>, Kent Goran Moen<sup>1,3</sup>, Anne Vik<sup>1,3</sup>, Toril Skandsen<sup>1,2</sup>**  
<sup>1</sup>Department of Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway  
<sup>2</sup>Department of Physical Medicine and Rehabilitation, St. Olavs Hospital, Trondheim University Hospital, Norway  
<sup>3</sup>Department of Neurosurgery, St. Olavs Hospital, Trondheim University Hospital, Norway
- P4.10 (105) Different implications of mild traumatic brain injury - our experience**  
**Mladen Karan<sup>1</sup>, Kosta Petrović<sup>2</sup>, Vojislava Bugarski<sup>3</sup>, Bojan Jelača<sup>1</sup>, Vladimir Papić<sup>1</sup>, Đula Đilvesi<sup>1</sup>, Željka Nikolašević<sup>4</sup>, Petar Vuleković<sup>1</sup>**  
<sup>1</sup>Clinic of Neurosurgery, Clinical Centre of Vojvodina, Novi Sad  
<sup>2</sup>Radiology Centre, Clinical Centre of Vojvodina, Novi Sad  
<sup>3</sup>Neurology Clinic, Clinical Centre of Vojvodina, Novi Sad  
<sup>4</sup>Faculty of Philosophy, University of Novi Sad, Department of Psychology
- P4.11 (162) Remote-ischemic preconditioning as a prophylactic treatment for mild traumatic brain injury**  
**Eugene Park<sup>1</sup>, Misbah Nadeem Lalani<sup>2</sup>, Andrew J Baker<sup>1,2,3</sup>**  
<sup>1</sup>Keenan Research Centre in the Li Ka Shing Knowledge Institute at St. Michael's Hospital  
<sup>2</sup>Departments of Anesthesia & Surgery, University of Toronto  
<sup>3</sup>Department of Critical Care St. Michael's Hospital
- P4.12 (67) Characterisation of a Novel Model of Chronic Traumatic Encephalopathy**  
**Kelly McAteer, Frances Corrigan, Emma Thornton, Corinna van den Heuvel, Robert Vink**  
 Discipline of Anatomy and Pathology, School of Medical Sciences, University of Adelaide
- P4.13 (238) Treatment of mild traumatic brain injury by epidural saline and oxygen injection; Proposal of a new treatment and a new concept of pathogenesis**  
**Kiyoshi Takagi<sup>1</sup>, Kazuyoshi Kato<sup>2</sup>, Yoko Kato<sup>3</sup>**  
<sup>1</sup>Department of Neurosurgery, Chiba-Kashiwa Tanaka Hospital  
<sup>2</sup>Department of Surgery, Abiko Seijinkai Hospital  
<sup>3</sup>Department of Neurosurgery, Fujita Health University
- P4.14 (163) A Study of concussion inhibitory effect of recommendations on sports head injuries**  
**Haruo Nakayama, Tatsuou Kawamata, Masahiro Ogino, Masato Noji, Tadashi Nariai, Osamu Fukuda, Tsuyoshi Maeda, Satoshi Tani, Satoshi Iwabuchi, Shinji Nagahiro**  
 Toho University Ohashi Medical Center, The Japan Society of Neurotraumatology Sports Head Injury Committee

## P5 Imaging in the assessment of TBI

- P5.1 (103) CT densitometry to predict contusion enlargement in traumatic brain injury (TBI)**  
**Simon Hill, Jennifer Fugate, Mathew Guilfoyle, Virginia Newcombe, Jonathan Coles, David Menon**  
 University of Cambridge, Department of Medicine, Division of Anaesthesia, Cambridge, United Kingdom
- P5.2 (200) Early surgery for frontal depressed skull fracture is not associated with better outcome**  
**Iuri S Neville, Robson Luis Oliveira de Amorim, Wellingson Silva Paiva, Felipe Hada Sanders, Vinicius Trindade Gomes da Silva, Djalma Felipe S Menendez, Almir Ferreira de Andrade**  
 Division of Neurosurgery, University of Sao Paulo Medical School, Brasil
- P5.3 (150) Cortical reorganisation in the chronic phase of spinal cord injury**  
**Liis Sabre, Tiiu Tomberg, Janika Kaerv, Joosep Kepler, Kalle Kepler, Ülla Linnamägi, Toomas Asser**  
 Department of Neurology and Neurosurgery, University of Tartu, Tartu, Estonia
- P5.4 (109) What can we really expect of cerebral blood flow after cranioplasty?**  
**Arthur Maynard Pereira Oliveira, Robson Luís Oliveira de Amorim, Wellingson Silva Paiva, Almir Ferreira de Andrade, Fernando Mendes Paschoal Junior, Edson Bor Seng Shu, Fernanda Coelho, Gabriel Scarabotolo Gattas, Renato Anghinah, Manoel Jacobsen Teixeira**  
 University of Sao Paulo, Department of Neurology, Discipline of Neurosurgery, Sao Paulo, Brazil
- P5.5 (126) Whole brain tractography - a prognostic tool in acute phase of TBI and SAH? Preliminary results**  
**Süleyman Sener, Wim Van Hecke, Bart Feyen, Tomas Menovsky, Paul Parizel, Andrew IR Maas**  
 Antwerp University Hospital and University of Antwerp, Department of Neurosurgery and Radiology, Antwerp, Belgium
- P5.6 (130) Can magnetic resonance spectroscopy simultaneously probe links between edema and energy disruption following traumatic brain injury?**  
**William Brooks, Janna Harris, Henry Yeh, Phil Lee, In-Young Choi, Russell Swerdlow**  
 University of Kansas Medical Center, Hoglund Brain Imaging Center and Departments of Neurology, Biostatistics, and Molecular and Integrative Physiology, Kansas City, USA

- P5.7 Molecular mapping of the brain of PACAP deficient and wild-type mice with imaging mass spectrometry**  
**Rivnyák Á<sup>1</sup>, Maasz G<sup>2,3,4</sup>, Schmidt J<sup>2,3,4</sup>, Pirger Zs<sup>1,5</sup>, Mihalik A<sup>1</sup>, Kiss P<sup>1</sup>, Gaszner B<sup>1</sup>, Hashimoto H<sup>6</sup>, Tamás A<sup>1</sup>, Mark L<sup>2,3,4</sup>, Reglódi D<sup>1</sup>**  
<sup>1</sup>Department of Anatomy, PTE-MTA „Lendület” PACAP Research Team  
<sup>2</sup>Department of Analytical Biochemistry Institute of Biochemistry and Medical Chemistry  
<sup>3</sup>Imaging Center for Life and Material Sciences  
<sup>4</sup>János Szentágothai Research Center, University of Pécs  
<sup>5</sup>Chemical Ecology and Neurobiology, Department of Experimental Zoology, Balaton Limnological Institute, Centre for Ecological Research, Hungarian Academy of Sciences  
<sup>6</sup>Graduate School of Pharmacological Sciences, Osaka University, Osaka, Japan
- P5.8 (187) Estimation of the prognostic value of brain stem segmentation by probabilistic tractography in severe traumatic brain injury and its verification by anatomical dissection**  
**Dávid Kis<sup>1</sup>, Adrienn Máté<sup>1</sup>, Zoltán Mencser<sup>1</sup>, Andrea Czigner<sup>2</sup>, Pál Barzó<sup>1</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Szeged, Szeged, Hungary  
<sup>2</sup>Institute of Anatomy, University of Szeged, Szeged, Hungary
- P5.9 (107) Is N-acetylaspartate a measure of mitochondrial dysfunction after traumatic brain injury?**  
**William Brooks, Janna Harris, Henry Yeh, In-Young Choi, Phil Lee, Russell Swerdlow**  
 University of Kansas Medical Center, Hoglund Brain Imaging Center, Kansas City, Kansas, USA

## P6 Neuromonitoring in TBI

- P6.1 (113) Employing Blood Biomarkers in TBI Clinical Trials: Findings from the INTREPID2566 Trial**  
**Stefania Mondello<sup>1</sup>, Kara Schmid<sup>2</sup>, Frank C Tortella<sup>2</sup>, Larry Glass<sup>3</sup>**  
<sup>1</sup>Department of Neuroscience, University of Messina, Messina, Italy  
<sup>2</sup>Department of Applied Neurobiology, Division of Psychiatry and Neuroscience, Walter Reed Army Institute of Research, Silver Spring, MD, USA  
<sup>3</sup>Neuren Pharmaceuticals Limited, Bethesda, Maryland, USA
- P6.2 (89) Moderate traumatic brain injury: acute phase course and deviations in physiological variables in the intensive care unit and at the ward**  
**Stine Borgen Lund<sup>1</sup>, Kari H Gjeilo<sup>2,5</sup>, Kent G Moen<sup>1,6</sup>, Kari Schirmer-Mikalsen<sup>3,5</sup>, Toril Skandsen<sup>4,6</sup>, Anne Vik<sup>1,6</sup>**  
<sup>1</sup>Dept. of Neurosurgery  
<sup>2</sup>Dept. of Cardiothoracic Surgery  
<sup>3</sup>Department of Anaesthesia and Acute Medicine  
<sup>4</sup>Dept. of Physical Medicine and Rehabilitation, St. Olavs Hospital, Trondheim University Hospital  
<sup>5</sup>Dept. of Circulation and Medical Imaging  
<sup>6</sup>Dept of Neuroscience, Norwegian
- P6.3 (77) Indicators of quantitative EEG can be used to predict consciousness recovery in acute cerebral insufficiency of various origins**  
**TV Cherniy, KG Gorodnik, MA Andronova, GA Gorodnik, IA Andronova, AA Chukov**  
 Vascular Neurosurgery Department, Donetsk Regional Territorial Medical Association
- P6.4 (208) Paroxysmal Autonomic Instability in Traumatic Brain Injuries at Neurosurgical Intensive Care Unit**  
**Hyung Sik Hwang, Ho jun Yi, Sang Gun Lee, Seung Hun Sheen, Seung-Myung Moon, Il Young Shin**  
 Department of Neurosurgery, Dongtan Sacred Heart Hospital, College of Medicine, Hallym University, Hwaseong, Korea
- P6.5 (179) Efficacy and safety of lumbar cerebrospinal fluid drainage as a second line therapy of increased ICP in severe TBI patients**  
**Richárd Soltész, Gábor Nardai**  
 Péterfy Hospital and Trauma Center, Budapest, Hungary
- P6.6 (29) Perioperative intensive therapy and monitoring in spontaneous subarachnoid and parenchymal hemorrhage patients**  
**Cherniy VI, Gorodnik GA, Smirnova NN, Gerasimenko AS**  
 Intensive Therapy and Catastrophe Medicine Department, Postgraduate Education Division, Donetsk National Medical University
- P6.7 (55) Measurement and Optimisation of Spinal Cord Perfusion Pressure in Acute Spinal Cord Injury**  
**Melissa Werndle, Saadoun S, Phang I, Czosnyka M, Varsos G, Czosnyka Z, Smielewski P, Jamous A, Bell BA, Zoumprouli A, Papadopoulos MC**  
 Academic Neurosurgery Unit, St George's University of London, London, United Kingdom
- P6.8 (197) Effectiveness of guideline adaption without launching audit on prognosis of head injury - Hungarian experiences**  
**Joerg Bauer<sup>1</sup>, Endre Czeiter<sup>2,3,4</sup>, Pál Barzó<sup>1</sup>, András Büki<sup>2,3,4</sup>, János Sándor<sup>5</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Szeged, Szeged, Hungary  
<sup>2</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary  
<sup>3</sup>MTA-PTE Clinical Neuroscience MR Research Group, Pécs, Hungary  
<sup>4</sup>University of Pécs, János Szentágothai Research Centre, Pécs, Hungary  
<sup>5</sup>Department of Biostatistics and Epidemiology, University of Debrecen, Debrecen, Hungary
- P6.9 (65) The attenuated renal S100B elimination following neurotrauma suggests a physiological conservation system for neurotrophic proteins**  
**Francisco Miguel Marin Laut, Dirk Seggelke, Frank Doodoo-Schittko, Hans Parsch, Michael Buchfelder, Andrea Kleindienst**  
 Dept. of Neurosurgery, Klinikum Amberg, University Erlangen-Nürnberg, Germany
- P6.10 (96) Extracellular N-acetylaspartate in human traumatic brain injury**  
**Richard J Shannon, Eleanor L Carter, Ibrahim Jalloh, David K Menon, Keri LH Carpenter, Peter J Hutchinson**  
 Division of Neurosurgery, Department of Clinical Neurosciences, University of Cambridge, UK Wolfson Brain Imaging Centre, Department of Clinical Neurosciences, University of Cambridge, UK Division of Anaesthesia, Department of Medicine, University of Cambridge, UK
- P6.11 (185) Dynamic viscosity as a measure of the state of cranial compliance in a swine model of brain edema**  
**Guy Rosenthal, Fernando Ramirez de Noreiga, Samuel Moscovici, Eyal Itshayek, Ramez Abu Shkara, Idit Tamir, Geoffrey T Manley**  
 Hadassah-Hebrew University Medical Center
- P6.12 (122) A swine model of intracellular cerebral edema**  
**Guy Rosenthal, Fernando Ramirez de Noreiga, Samuel Moscovici, Eyal Itshayek, Ramez Abu Shkara, Yakov Felig, Geoffrey T Manley**  
 Hadassah-Hebrew University Medical Center

- P6.13 (189) Correlation between intracranial pressure and measurement of optic nerve sheath in a swine model of intracranial hypertension**  
 Robson Luis Amorim Brasil Ping Jemg, Almir Ferreira de Andrade, Wellingson Silva Paiva, Alessandro R Belon, Marcelo Lima de Oliveira, Maira Azevedo, Edson Bor-Seng-Shu, Eberval Gadelha Figueiredo, Jose Pinhata Otoch, Manoel Jacobsen Teixeira  
 Division of Neurosurgery and Laboratory of Surgical Technique University of Sao Paulo Medical School
- P6.14 (88) Intracranial hypertension model in pigs: assessment with transcranial Doppler and intracranial pressure monitoring**  
 Almir Ferreira de Andrade, Matheus S, Gustavo C Patriota, Alessandro Belon, Wellingson S Paiva, Brasil P Jeng, Edson Bor-Seng-Shu, Marcelo Oliveira, Clarissa Nascimento, Robson Amorim, Eberval G Figueiredo, Jose P Otoch, Manoel J Teixeira  
 Division of Neurosurgery and Laboratory of surgical Technique, University of Sao Paulo Medical School, Sao Paulo, Brazil
- P6.15 (62) Novel microdialysis method to study the acute cytokine response to diffuse traumatic brain injury in the rat**  
 Fredrik Clausen, Andreas Dahlin, Jiangtao Chu, Bodil Käller, Erik Düring, Niklas Marklund, Lars Hillered  
 Section of Neurosurgery Department of Neuroscience Uppsala University Uppsala, Sweden
- P6.16 (205) 'Solid red line' - an observational study on death from refractory intracranial hypertension**  
 Marek Czosnyka<sup>1</sup>, M Aries<sup>2</sup>, C Weersink<sup>2</sup>, S Wolf<sup>3</sup>, K Budohoski<sup>2</sup>, C Dias<sup>4</sup>, P Lewis<sup>5</sup>, S Kordasti<sup>6</sup>, P Smielewski<sup>1</sup>  
<sup>1</sup>Neurosurgical Unit, University of Cambridge, UK  
<sup>2</sup>Intensive Care, University Hospital Groningen, The Netherlands  
<sup>3</sup>Neurosurgery, 'Charite' Hospital, Berlin, Germany  
<sup>4</sup>Intensive Care, Sao Jao, University of Porto, Portugal  
<sup>5</sup>Neurosurgery, Alfred Hospital, Melbourne, Australia  
<sup>6</sup>Intensive Care, University Hospital Tromso, Norway
- P6.17 (206) Patient-Specific Thresholds of Intracranial Pressure in Patients with Traumatic Brain Injury**  
 Marek Czosnyka<sup>1</sup>, Christos Lazaridis<sup>1</sup>, Stacia M DeSantis<sup>2</sup>, Peter Smielewski<sup>2</sup>, David K Menon<sup>3</sup>, Peter J Hutchinson<sup>1</sup>, John D Pickard<sup>1</sup>  
<sup>1</sup>Academic Neurosurgical Unit, University of Cambridge Clinical School, Cambridge, UK  
<sup>2</sup>School of Public Health at Houston, Division of Biostatistics, University of Texas, Houston, TX, USA  
<sup>3</sup>Department of Anaesthesia, Addenbrooke's Hospital, University of Cambridge, Cambridge, UK
- P6.18 (166) Intraparenchymal electrode recordings of cortical spreading depolarisation and continuous seizure activity - neurovascular disruption and seizure oxygen thresholds**  
 Toby Jeffcote<sup>1</sup>, S Jewell<sup>1</sup>, C Pahl<sup>1</sup>, C Tolias<sup>1</sup>, D Walsh<sup>1</sup>, A Strong<sup>1</sup>, S Mulcahy<sup>2</sup>, M Boutelle<sup>2</sup>  
<sup>1</sup>Kings College London  
<sup>2</sup>Imperial College London
- P6.19 (53) Albumin Resuscitation for Traumatic Brain Injury: Is Intracranial Hypertension the Cause of Increased Mortality?**  
 D James Cooper, Joyn Myburgh, Stephane Heritier, Simon Finfer, Rinaldo Bellomo, Laurent Billot, Lynnette Murray, Shirley Vallance  
 The SAFE-TBI investigators and the Australian and New Zealand Intensive Care Clinical Trials Group  
 Department of Intensive Care, Alfred Hospital Australian and New Zealand Intensive Care Research Centre, Monash University, Melbourne, Australia

## P7 Preclinical Neuroprotection and Discovery

- P7.1 (50) Infiltrating Myeloid-derived suppressor cells (MDSCs) secrete Matrix metalloproteinases-9 after traumatic brain injury in mice**  
 Sanae Hosomi<sup>1,2</sup>, Yuriko Kimura<sup>2</sup>, Toshihide Yamashita<sup>2</sup>, Hiroshi Ogura<sup>1</sup>, Takeshi Shimazu<sup>1</sup>  
<sup>1</sup>Department of Traumatology and Acute Critical Medicine, Osaka University Graduate School of Medicine  
<sup>2</sup>Department of Molecular Neuroscience, Osaka University Graduate School of Medicine
- P7.2 (117) Differential acute and chronic response of CX3CR1 deficient mice to experimental brain trauma**  
 Federica Marchesi, Fabrizio Ortolano, Carlo Perego, Francesca Pischiutta, Tommaso Zoerle, Maedeh Arabian, Emanuela Parotto, Elisa R Zanier and Maria-Grazia De Simoni  
 IRCCS-Istituto di Ricerche Farmacologiche Mario Negri, Department of Neuroscience, Milan, Italy
- P7.3 (151) Combined treatment of self-assembling peptides and neural precursor cells after experimental cervical spinal cord injury**  
 Klaus Zweckberger<sup>1,2,3</sup>, Jian Wang<sup>2</sup>, Yiang Liu<sup>2</sup>, Michael G Fehlings<sup>2,3</sup>  
<sup>1</sup>Dept. of Neurosurgery, University Heidelberg, Germany  
<sup>2</sup>Dept. of Genetics and Development, University of Toronto, Canada  
<sup>3</sup>Dept. of Neurosurgery, University of Toronto, Canada
- P7.4 (84) Chitosan-based biomaterials for closure of dural defects**  
 Maksym Pogorielov, Kravtsova A, Kalinkevich O, Deyneka V, Kalinkevich A, Pyatikop V, Kutovoy I  
 Sumy State University, Medical Institute, Sumy, Ukraine Applied Physic Institute, Sumy, Ukraine Kharkov National Medical University, Neurosurgical Department, Kharkov, Ukraine Kharkov Regional Clinical Hospital, Neurosurgical Department, Kharkov, Ukraine
- P7.5 (91) A model for in vitro high-energy trauma**  
 Yuli Cao, Mattias K Skold, Elisabeth Malm, Anders Sonden, Marten Risling  
 Department of Neuroscience, Karolinska Institute
- P7.6 (51) Activity-regulated cytoskeletal (ARC) gene expression as a molecular biomarker of circuit integrity after diffuse traumatic brain injury**  
 Aida Khodadad<sup>1,2,4</sup>, Daniel R Griffiths<sup>1,2</sup>, Megan Evilsizor<sup>1,2</sup>, P David Adelson<sup>1,2,5,6</sup>, Jonathan Lifshitz<sup>1,2,3,5</sup>, Theresa Currier Thomas<sup>1,2,3</sup>  
<sup>1</sup>Barrow Neurological Institute at Phoenix Children's Hospital- Phoenix, AZ  
<sup>2</sup>Department of Child Health, University of Arizona College of Medicine - Phoenix, AZ  
<sup>3</sup>Phoenix VA Healthcare System - Phoenix, AZ  
<sup>4</sup>Department of Neuroscience, University of Strasbourg, France  
<sup>5</sup>Neuroscience Program, Arizona State University, Tempe, AZ  
<sup>6</sup>School of Biological and Health Systems Engineering, Arizona State University, Tempe, AZ
- P7.7 (60) Late neurobehavioral disorders after traumatic brain injury by controlled cortical impact in mice**  
 Leconte C, Benedetto C, Cho AH, Mongeau R, Plotkine M, Marchand-Leroux C and Besson VC  
 Paris Descartes University, Sorbonne Paris Cité Faculté des Sciences Pharmaceutiques et Biologiques - Pharmacology of Cerebral Circulation

- P7.8 (112) Hippocampal neuron loss, white matter damage and behavioral alterations following a fluid percussion injury in mice**  
**Lee A Shapiro, Andre Obenaus, Sanjib Mukherjee, Jacob Hurst, Jessica Kain, Richard Tobin, Karen Newell-Rogers**  
 Texas A&M Health Science Center
- P7.9 (139) Traumatic brain injury by controlled cortical impact in mice - part 1 - Time courses of edema, lesion, neuroinflammation, corpus callosum demyelination and sensorimotor deficits**  
**Cho AH, Taib T, Leconte C, Deou E, Palmier B, Plotkine M, Marchand-Leroux C and Besson VC**  
 Paris Descartes University, Faculty of Pharmacy, Paris, France
- P7.10 (153) Role of intracellular calcium-ion in the development of hemolyzed-blood induced cerebrovascular constriction**  
**Cséplő P<sup>1,2</sup>, Vámos Z<sup>1</sup>, Kalinics P<sup>1</sup>, Török O<sup>1</sup>, Csató V<sup>3</sup>, Bártai IZ<sup>1</sup>, Tóth A<sup>3</sup>, Koller Á<sup>1,4</sup>**  
<sup>1</sup>Department of Pathophysiology and Gerontology, Medical School, University of Pécs and Szentagothai Research Centre, Pécs, Hungary  
<sup>2</sup>Department of Central Anesthesiology and Intensive Care Unit, Petz Aladar County Training Hospital, Győr, Hungary  
<sup>3</sup>Institute of Cardiology, Division of Clinical Physiology, Medical and Health Science Centre, University of Debrecen, Hungary  
<sup>4</sup>Department of Physiology, New York Medical College, Valhalla, NY, USA
- P7.11 (74) Effects of osmotic and hydrostatic pressure changes on cerebrospinal fluid volume regulation**  
**Vukic M<sup>1</sup>, Maraković J<sup>2</sup>, Chudy D<sup>2</sup>, Jurjević I<sup>3</sup>, Orešković D<sup>4</sup>, Klarica M<sup>3</sup>**  
<sup>1</sup>Department of Neurosurgery, Clinical Hospital Center Zagreb  
<sup>2</sup>Department of Neurosurgery, Clinical Hospital Dubrava, Zagreb  
<sup>3</sup>Department of Pharmacology, School of Medicine University of Zagreb and Croatian Institute for Brain Research, Zagreb  
<sup>4</sup>Department of Molecular Biology, Ruder Bošković Institute, Zagreb, Croatia
- P7.12 (152) Pituitary adenylate cyclase-activating peptide (PACAP) induces age-dependent changes in vasomotor responses on isolated rat arteries**  
**Ivic I<sup>1</sup>, Vámos Z<sup>1</sup>, Cséplő P<sup>1,2</sup>, Szöllösi R<sup>1</sup>, Reglődi D<sup>3</sup>, Tamás A<sup>3</sup>, Koller A<sup>1,4</sup>**  
<sup>1</sup>Department of Pathophysiology and Gerontology, Medical School, University of Pécs and Szentagothai Research Centre, Pécs, Hungary  
<sup>2</sup>Department of Central Anesthesiology and Intensive Care Unit, Petz Aladar County Training Hospital, Győr, Hungary  
<sup>3</sup>University of Pécs, Medical School, Department of Anatomy, Pécs, Hungary  
<sup>4</sup>Department of Physiology, New York Medical College, Valhalla, NY, USA
- P7.13 (119) Patterns of severity and outcome of traumatic brain injuries by location of trauma in Austria**  
**Marek Majdan<sup>1,2</sup>, Walter Mauritz<sup>2</sup>, Martin Rusnak<sup>1,2</sup>, Alexandra Brazinova<sup>1,2</sup>, Johannes Leitgeb<sup>3</sup>**  
<sup>1</sup>Department of Public Health, Faculty of Health Sciences and Social Work, Trnava University, Trnava, Slovakia  
<sup>2</sup>International Neurotrauma Research Organisation (INRO), Vienna, Austria  
<sup>3</sup>Dept. Of Traumatology, Medical University of Vienna, Vienna, Austria
- P7.14 (199) Beneficial effects of memantine therapy after controlled cortical impact injury in adult rats**  
**Milos Ikonovic, Eric E Abrahamson, Lesley M Foley, T Kevin Hitchens, Edward C Dixon**  
 Departments of Neurology, Psychiatry, and Neurosurgery, University of Pittsburgh, Pittsburgh PA, USA  
 Geriatric Research Education and Clinical Center, VA Pittsburgh HS, Pittsburgh PA, USA  
 Carnegie Mellon University, Pittsburgh PA, USA
- P7.15 (33) Apolipoprotein E properties as the base of developments in therapeutics for traumatic brain injury**  
**Vadym Biloshytsky, Serhiy Mikhalsky, Nina Gridina, Lyudmyla Tsyba, Tetyana Kvitnitskaya-Ryzhova, Eugene Pedachenko**  
 Institute of Neurosurgery, Neurotrauma Department, Kyiv, Ukraine D.F. Chebotarev State Institute of Gerontology, Morphology and Cytology Department, Kyiv, Ukraine Institute of Molecular Biology and Genetics, Functional Genomics Department, Kyiv, Ukraine
- P7.16 (161) Development and validation of two zebrafish models of TBI**  
**Victoria McCutcheon<sup>1</sup>, Eugene Park<sup>2</sup>, Elaine Liu<sup>2</sup>, Pooya SobheBidari<sup>3</sup>, Jahan Tavakkoli<sup>3</sup>, Andrew J Baker<sup>1,2,4</sup>**  
<sup>1</sup>Institute of Medical Sciences, University of Toronto  
<sup>2</sup>Keenan Research Centre in the Li Ka Shing Knowledge Institute at St. Michael's Hospital  
<sup>3</sup>Department of Physics, Ryerson University  
<sup>4</sup>Departments of Anesthesia & Surgery, University of Toronto
- P7.17 (219) Effect of mild hypothermia treatment on rat RIPK-1 expression following traumatic brain injury**  
**Tu Yue, Sun Hong-tao, Cheng Shi-xiang, Hu Qun-liang, Zhang Sai**  
 Institute of Traumatic Brain Injury and Neuroscience of Chinese People's Armed Police Forces; Neurological and Neurosurgery Hospital of the Affiliated Hospital of Logistics University of Chinese People's Armed Police Forces, Tianjin, China
- P7.18 (193) Effect of two different types of enriched environment preconditioning on functional outcome of rats after experimental head injury**  
**Krisztina Amrein<sup>1,5</sup>, Ildikó Szelechman<sup>1,2</sup>, Ákos Bodrogi<sup>1,2</sup>, Annamária Juhász<sup>1</sup>, Noémi Kovács<sup>1</sup>, Endre Czeiter<sup>1,3,4,5</sup>, Gábor Horváth<sup>2,3</sup>, Andrea Tamás<sup>2,3</sup>, Dóra Reglődi<sup>2,3</sup>, András Büki<sup>1,4,5</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary  
<sup>2</sup>Department of Anatomy, University of Pécs, Pécs, Hungary  
<sup>3</sup>PTE-MTA „Lendület” PACAP Research Team, Pécs, Hungary  
<sup>4</sup>MTA-PTE Clinical Neuroscience MR Research Group, Pécs, Hungary  
<sup>5</sup>University of Pécs, János Szentágothai Research Centre, Pécs, Hungary
- P7.19 (106) Effect of mannose binding lectin pharmacological inhibition in controlled cortical impact brain injured mice**  
**Daiana de Blasio<sup>1,2</sup>, Franca Orsini<sup>1</sup>, Stefano Fumagalli<sup>1,3</sup>, Luca Longhi<sup>3</sup>, Alessandro Palmioli<sup>4</sup>, Anna Bernardi<sup>4</sup>, Marco Gobbi<sup>1</sup>, Nino Stocchetti<sup>3</sup>, Maria-Grazia de Simoni<sup>1</sup>**  
<sup>1</sup>IRCCS - Istituto di Ricerche Farmacologiche “Mario Negri”, Milano  
<sup>2</sup>Department of Biomedical Sciences University of Chieti, Pescara  
<sup>3</sup>Department of Pathophysiology and Transplantation University of Milano, Fondazione IRCCS Ca' Granda – Ospedale Maggiore Policlinico, Milano  
<sup>4</sup>Department of Chemistry, University of Milano.
- P7.20 (102) Effects of Experimental Traumatic Brain Injury on Hippocampal Synaptic SNARE Complexes**  
**Edward C Dixon**  
 Department of Neurological Surgery University of Pittsburgh Health Research Scientist VA Pittsburgh Healthcare System

- P7.21 (57) Cox-2 regulation differs between sexes in the secondary inflammatory response following experimental penetrating focal brain injury in rats**  
**Mattias Günther, Stefan Plantman, Johan Davidsson, Maria Angéria, Tiit Mathiesen, Marten Risling**  
 Department of Neuroscience and Clinical Neuroscience; Experimental Traumatology Unit and Section of Neurosurgery, Karolinska Institutet, Stockholm, and Chalmers University of Technology, Gothenburg, Sweden
- P7.22 (15) Oxidative stress protection by apocynin and allopurinol in forebrain ischemia/reperfusion rats**  
**Masaki Todani, Motoki Fujita, Yasutaka Koga, Takashi Nakahara, Tadashi Kaneko, Kotaro Kaneda, Yoshikatsu Kawamura, Yasutaka Oda, Ryosuke Tsuruta**  
 Advanced Medical Emergency and Critical Care Center, Yamaguchi University Hospital
- P7.23 (160) The neuroregenerative potential of S100B induces synaptogenesis following experimental brain injury**  
**Justus Baecker, Tina Sehm, Michael Buchfelder, Andrea Kleindienst**  
 University Erlangen-Nürnberg, Faculty of Medical Sciences, Department of Neurosurgery, Erlangen, Germany
- P7.24 (73) Effects of hydrostatic cerebrospinal fluid pressure in different body positions on cerebrospinal fluid movement**  
**Klarica M<sup>1</sup>, Vukić M<sup>2</sup>, Radoš M<sup>1</sup>, Jurjević I<sup>1</sup>, Erceg G<sup>1</sup>, Petošić A<sup>3</sup>, Orešković D<sup>4</sup>**  
<sup>1</sup>University of Zagreb, School of Medicine, Department of Pharmacology and Croatian Institute for Brain Research, Zagreb, Croatia  
<sup>2</sup>Department of Neurosurgery, School of Medicine University of Zagreb, Zagreb  
<sup>3</sup>University of Zagreb, Faculty of Electrical Engineering and Computing, Department of Electroacoustics, Zagreb, Croatia  
<sup>4</sup>Ruder Bošković Institute, Department of Molecular Biology, Zagreb, Croatia
- P7.25 (131) Matrix Metalloproteinase 9 Levels are Increased in Peri-Contusional Brain: A Paired Microdialysis Study**  
**Mathew R Guilfoyle<sup>1</sup>, Adel Helmy<sup>1</sup>, Keri LH Carpenter<sup>1,2</sup>, David K Menon<sup>2,3</sup>, John D Pickard<sup>1,2</sup>, Peter J Hutchinson<sup>1,2</sup>**  
<sup>1</sup>Division of Neurosurgery, Department of Clinical Neurosciences, University of Cambridge, Cambridge, UK  
<sup>2</sup>Wolfson Brain Imaging Centre, Department of Clinical Neurosciences, University of Cambridge, Cambridge, UK  
<sup>3</sup>Division of Anaesthesia, Department of Medicine, University of Cambridge, Cambridge, UK
- P7.26 (87) Treatment with etifoxine improves functional recovery following traumatic brain injury in rats**  
**Emmanuelle Simon O'Brien, Marc Verleye**  
 Biocodex
- P7.27 (13) Seizure susceptibility after traumatic injury to the pediatric mouse brain**  
**Bridgette D Semple<sup>1</sup>, Kayleen Gimlin<sup>1</sup>, Terence OBrien<sup>2</sup>, Linda Noble-Haeusslein<sup>1</sup>**  
<sup>1</sup>Department of Neurological Surgery, and Department of Physical Therapy and Rehabilitation, University of California San Francisco, San Francisco, CA, USA  
<sup>2</sup>Department of Medicine (Royal Melbourne Hospital), Melbourne Brain Centre, University of Melbourne, Parkville, VIC, Australia
- P7.28 (115) Amniotic fluid derived mesenchymal stromal cells protect organotypic brain slices after oxygen-glucose deprivation injury**  
**Francesca Pischiutta, Emanuela Parotto, Pietro Romele, Ornella Parolini, Maria-Grazia De Simoni, Elisa R Zanier**  
 IRCCS-Istituto di Ricerche Farmacologiche Mario Negri, Department of Neuroscience, Milan, Italy

## P8 Decompressive Craniectomy

- P8.1 (35) Survival with severe disability: The issue of retrospective consent**  
**Stephen Honeybul, Kate Kruger Courtney Janzen Kwok Ho**  
 Sir Charles Gairder and Royal Perth Hospitals
- P8.2 (54) Quantitative measurement of brain injury using MRI after decompression craniectomy: a pilot study**  
**Jerome J Maller<sup>1,4</sup>, Olivier Huet<sup>2,3</sup>, Shirley Vallance<sup>3</sup>, Marco Fedi<sup>3</sup>, Jeffrey Rosenfeld<sup>2</sup>, Dinesh Varma<sup>2</sup>, Peter Hwang<sup>2</sup>, Jamie Cooper<sup>2,3</sup>**  
<sup>1</sup>Monash Alfred Psychiatry Research Centre, Monash University, Melbourne, Australia  
<sup>2</sup>Intensive Care Unit, Alfred Hospital, Melbourne, Australia  
<sup>3</sup>Australian and New Zealand Intensive Care Research Centre, Monash University, Melbourne, Australia  
<sup>4</sup>Department of Neurosurgery, Alfred Hospital, Melbourne, Australia  
<sup>5</sup>Department of Radiology, Alfred Hospital, Melbourne, Australia
- P8.3 (124) Decompressive craniectomy vs hinge craniotomy in patients with severe traumatic brain injury - A prospective study**  
**Ibrahim Omerhodžić<sup>1</sup>, Adi Ahmetpahić<sup>1</sup>, Salko Zahirović<sup>1</sup>, Kresimir Rotim<sup>2</sup>, Kenan Arnautović<sup>3</sup>**  
<sup>1</sup>Department of Neurosurgery, Clinical Center University of Sarajevo, Sarajevo, Bosnia and Herzegovina  
<sup>2</sup>Department of Neurosurgery, Sisters of Charity University Hospital, Zagreb, Croatia  
<sup>3</sup>Semmes-Murphey Clinic and Department of Neurosurgery, University of Tennessee, Memphis, TN, USA
- P8.4 (171) Cranioplasty with Individually Prepared Cranial Implants Using the CAD/CAM Technique**  
**György T Szeifert, György Pulay, Dusan Vitanovics, János Vajda**  
 Dept. of Neurotraumatology, Péterfy Traumatological Center & National Institute of Neurosciences, Semmelweis University of Budapest, Hungary
- P8.5 (203) Conicotomy of the Brain - Is the DC /decompressive craniectomy/ an elective or emergency refugee?**  
**András Csókay<sup>1,2</sup>, Krisztina Stari-Schmidt<sup>2</sup>**  
<sup>1</sup>Dept. of Neurosurgery, Military Hospital - State Health Centre, Budapest, Hungary  
<sup>2</sup>Dept. of Neurosurgery, B.A.Z. County and University Teaching Hospital, Miskolc, Hungary
- P8.6 (236) CT venography is a useful imaging modality following traumatic brain injury**  
**Angelos G Kolias<sup>1</sup>, Marek Czosnyka<sup>1</sup>, Georgios V Varsos<sup>1</sup>, Peter Smielewski<sup>1</sup>, J. Nicholas Higgins<sup>2</sup>, David K Menon<sup>3</sup>, John D Pickard<sup>1</sup>, Peter J Hutchinson<sup>1</sup>**  
<sup>1</sup>Division of Neurosurgery, Department of Clinical Neurosciences, Addenbrooke's Hospital & University of Cambridge, Cambridge Biomedical Campus, Cambridge, UK  
<sup>2</sup>Division of Radiology, Addenbrooke's Hospital, Cambridge Biomedical Campus, Cambridge, UK  
<sup>3</sup>Division of Anaesthesia, Addenbrooke's Hospital & University of Cambridge, Cambridge Biomedical Campus, Cambridge, UK
- P8.7 (108) Correlation between changes in grey and white matter radiodensity with prognosis after cranioplasty**  
**Arthur Maynard Pereira Oliveira, Robson Luís Oliveira de Amorim, Wellingson Silva Paiva, Almir Ferreira de Andrade, Fernando Mendes Paschoal Junior, Edson Bor Seng Shu, Fernanda Coelho, Gabriel Scarabotolo Gattas, Renato Anghinah, Manoel Jacobsen Teixeira**  
 University of Sao Paulo, Department of Neurology, Discipline of Neurosurgery. Sao Paulo, Brazil

- P8.8 (209) Subdural Hygroma after Decompressive Craniectomy in Traumatic Brain Injury**  
**Hyung Sik Hwang, Ho jun Yi, Sang Gun Lee, Seung Hun Sheen, Seung-Myung Moon, Il Young Shin**  
 Department of Neurosurgery, Dongtan Sacred Heart Hospital, College of Medicine, Hallym University, Hwaseong, Korea
- P8.9 (237) National study of chronic subdural haematoma in the United Kingdom**  
**Angelos G Koliass<sup>1</sup>, Ian C Coulter<sup>2</sup>, Alexis J Joannides<sup>1</sup>, Barbara Gregson<sup>3</sup>, Paul M Brennan<sup>4</sup>, Peter J Hutchinson<sup>1</sup> on behalf of the British Neurosurgical Trainee Research Collaborative (BNTRC)**  
<sup>1</sup>Division of Neurosurgery, Department of Clinical Neurosciences, Addenbrooke's Hospital & University of Cambridge, Cambridge Biomedical Campus, Cambridge, UK  
<sup>2</sup>Division of Neurosurgery, James Cook University Hospital, Middlesbrough, UK  
<sup>3</sup>Neurosurgical Trials Unit, University of Newcastle, Newcastle, UK  
<sup>4</sup>Division of Neurosurgery, Western General Hospital & University of Edinburgh, Edinburgh, UK
- P8.10 (93) Injured Spinal Cord Pressure Evaluation (ISCoPE) study - expansion duroplasty reduces spinal cord pressure in acute spinal cord injury**  
**Phang IS, Werndle MC, Varsos G, Smielewski P, Czosnyka M, Zoumprouli A, Papadopoulos MC**  
 Academic Neurosurgery Unit, St George's University of London, London Department of Neurosurgery, Cambridge University, Addenbrooke's Hospital, Cambridge Department of Neuroanaesthesia, St George's NHS Trust, London
- P8.11 The preliminary results-sings and our experience in Decompressive craniectomy following the severe traumatic brain injury**  
**Vagkopoulos Konstantinos, Fotakopoulos George, Gatos Charalabos, Tasiou A, Siasios Ioannis, Tsianaka Eleni, Georgiadis Iordanis, Fountas Kostas**  
 Department of Neurosurgery, University Hospital of Larissa, School of Medicine, University of Thessaly, Larisa, Greece
- P8.12 (81) Alcohol and long-term mortality following severe traumatic brain injury**  
**Rahul Raj, Markus Skrifvars, Riku Kivisaari, Juha Hernesniemi, Jaakko Lappalainen, Jari Siironen**  
 Departments of Neurosurgery and Intensive Care Medicine, Helsinki University Hospital

## P9 Axonal Pathology in TBI

- P9.1 (145) Effect of Cyclophilin D knock-out on different subdomains of traumatically injured**  
**Anders Hånell, John E Greer, Melissa J McGinn, John T Povlishock**  
 Department of Anatomy and Neurobiology, Virginia Commonwealth University School of Medicine, Richmond, Virginia, USA
- P9.2 (92) Traumatic axonal injury and the importance for reduction of Glasgow Coma Scale score: An MRI study**  
**Hans Kristian Moe<sup>1</sup>, KG Moen<sup>1,2</sup>, SB Lund<sup>2</sup>, T Skandsen<sup>1,3</sup>, TI Hansen<sup>1</sup>, A Vik<sup>1,2</sup>**  
<sup>1</sup>Department of Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway  
<sup>2</sup>Department of Neurosurgery, St. Olavs University Hospital, Trondheim, Norway  
<sup>3</sup>Department of Physical Medicine and Rehabilitation, St. Olavs Hospital, Trondheim, Norway
- P9.3 (146) Axonal injury and microglial activation following mild diffuse traumatic brain injury in the pig: A component of the Operation Brain Trauma Therapy consortium**  
**Audrey Lafrenaye, John T Povlishock**  
 Department of Anatomy and Neurobiology, Virginia Commonwealth University Medical Center, Richmond, VA, USA
- P9.4 (147) A time-course of histological and behavioral pathology associated with intracranial pressure elevation following moderate diffuse traumatic brain injury**  
**Audrey Lafrenaye, John T Povlishock**  
 Department of Anatomy and Neurobiology, Virginia Commonwealth University Medical Center, Richmond, VA, USA
- P9.5 (212) The effect of mild traumatic brain injury (mTBI) on the structural plasticity of the axon initial segment (AIS)**  
**Michal Vascak, Anders Hånell, John E Greer, Kimberle M Jacobs, John T Povlishock**  
 Virginia Commonwealth University School of Medicine
- P9.6 (232) Therapy of Traumatic Optic Neuropathy (TON): When? How? Mono and/or combined therapy? Traditional and/or surgical treatment for traumatic optic neuropathy?**  
**Judit Somlai<sup>1</sup>, György T Szeifert<sup>2</sup>, Tamás Kassai<sup>3</sup>**  
<sup>1</sup>Head, Unit of Neuro-Ophthalmology, Department of Neurology & Stroke, Military Hospital, Budapest, Hungary  
<sup>2</sup>Head, Department of Neuro-Traumatology, Péterfy Traumatology Centre, Budapest, Hungary  
<sup>3</sup>Head, Department of Child-Traumatology, Péterfy Traumatology Centre, Budapest, Hungary
- P9.7 (213) Lateral Ventricle Volume Asymmetry Predicts Midline Shift and 6-month Outcome in Severe Traumatic Brain Injury**  
**Arnold Tóth<sup>1</sup>, Ilona Schmalfuss<sup>2</sup>, Shelley C Heaton<sup>3</sup>, Andrea Gabrielli<sup>4</sup>, H Julia Hannay<sup>5</sup>, Linda Papa<sup>6</sup>, Gretchen M Brophy<sup>7</sup>, Kevin KW Wang<sup>8</sup>, András Büki<sup>1</sup>, Attila Schwarcz<sup>1</sup>, Ronald L Hayes<sup>9</sup>, Claudia S Robertson<sup>10</sup>, Steven A Robicsek<sup>11</sup>**  
<sup>1</sup>Department of Neurosurgery, University of Pécs, Pécs, Hungary  
<sup>2</sup>Department of Radiology, North Florida/ South Georgia Veterans Administration & University of Florida, Gainesville, FL  
<sup>3</sup>Department of Clinical & Health Psychology, University of Florida, Gainesville, FL, USA  
<sup>4</sup>Department of Anesthesiology & Critical Care, University of Florida, Gainesville, FL, USA  
<sup>5</sup>Department of Psychology, University of Houston, Houston, TX, USA  
<sup>6</sup>Orlando Regional Medical Center, Orlando, FL, USA  
<sup>7</sup>Department of Pharmacotherapy & Outcomes Science and Neurosurgery, Virginia Commonwealth University, Richmond, VA, USA  
<sup>8</sup>Center for Neuroproteomics & Biomarkers Research Departments of Psychiatry & Neuroscience McKnight Brain Institute, University of Florida, Gainesville, FL, USA  
<sup>9</sup>Banyan Biomarkers, Inc., Alachua, FL, USA  
<sup>10</sup>Department of Neurosurgery, Baylor College of Medicine, Houston, TX, USA  
<sup>11</sup>Departments of Anesthesiology & Neuroscience, University of Florida, Gainesville, FL, USA

## P10 Contemporary challenges and International Initiative in Neurotrauma Research

- P10.1 (21) Patient Characteristics in SyNAPSe, a Global Phase 3 Trial of Progesterone in Patients with Severe Traumatic Brain Injury (sTBI)**  
**Neta R Nelson**  
 VP Project Management & Operations Besins Healthcare / BHR Pharma, LLC Affiliate
- P10.2 (52) Analysis of data from the U.S. Clinical Trials database reveals poor clinical trial effort for traumatic brain injury, compared with stroke**  
**Lucia M Li<sup>1</sup>, David K Menon<sup>2</sup>, Tobias Janowitz<sup>2</sup>**  
<sup>1</sup>Imperial College London  
<sup>2</sup>University of Cambridge
- P10.3 (169) Cranioplasty, a trivial procedure? Intent and details of the German Cranial Reconstruction Registry (GCRR) proposal**  
**Thomas Sauvigny<sup>1</sup>, Henrik Giese<sup>2</sup>, Jan Regelsberger<sup>1</sup>, Oliver W Sakowitz for the GCRR consortium<sup>2</sup>**  
<sup>1</sup>University Hospital Hamburg-Eppendorf, Department of Neurological Surgery, Hamburg, Germany  
<sup>2</sup>University Hospital Heidelberg, Department of Neurosurgery, Heidelberg, Germany
- P10.4 (111) Head injury in Cyclists**  
**Lakmini De Silva, Clare Sweasey Hons, Hilary Madder, J Taylor, C Sweasey, H Roy, T Lawrence, Kerr, H Madder**  
 Neurosciences Intensive Care Unit Level 1, West Wing, John Radcliffe Hospital, Oxford
- P10.5 (143) Minimal brain injury: Long-term neuropsychiatric consequences**  
**Eda Zanetti Guertzenstein**  
 Divisio de Clínica Neurocirúrgica / Instituto de Neurologia / Hospital das Clínicas da Faculdade de Medicina da Universidade de Sao Paulo - Sao Paulo - Brasil
- P10.6 (233) Lack of standardization in applying painful stimuli for assessing the GCS**  
**F Reith<sup>1</sup>, PM Brennan<sup>2</sup>, A Maas<sup>1</sup>, G Teasdale<sup>3</sup>**  
<sup>1</sup>Department of Neurosurgery, Antwerp University Hospital and University of Antwerp, Edegem, Belgium  
<sup>2</sup>Department of Neurosurgery, Western General Hospital, Edinburgh, UK  
<sup>3</sup>Emeritus Professor of Neurosurgery, University of Glasgow, Glasgow, UK
- P10.7 (19) EEG Neurofeedback therapy: Can it attenuate brain changes in TBI?**  
**Ashok Munivenkatappa, Jamuna Rajeswaran, Bhagavatula Indira Devi, Niranjana Bennet, Neeraj Upadhyay**  
 National Institute of Mental Health and Neurosciences, (NIMHANS) Bangalore, India
- P10.8 (177) Ventral C1-C2 transarticular fixation for combined C1-C2 fractures**  
**Béla Demeter, Zsolt Sallai, Ádám Székely**  
 Dept. of Neurosurgery, B.A.Z. County and University Teaching Hospital, Miskolc, Hungary
- P10.9 (178) Treatment of traumatic spinal compression fractures with vertebroplasty and facet thermal ablation at the Department of Neurosurgery of Szeged**  
**Tamás Tóth, Kerim Watfa, Péter Elek, Kálmán Palágyi, Pál Barzó**  
 Department of Neurosurgery and Department of Anesthesiology, University of Szeged, Szeged, Hungary
- P10.10 (61) New strategies for childhood rehabilitation following traumatic brain injury**  
**Anna Nielsen, Eli Gunnarson**  
 Karolinska Institutet, Department of Women's and Children's Health
- P10.11 (8) Case study of brachial plexus transfer in return of upper limb function following multitrauma and brachial plexus avulsion**  
**Stefan Dimou, Michael T Biggs, Jim Lagopoulos**  
 Westmead Clinical School - Sydney Medical School, The University of Sydney, Australia Brain and Mind Research Institution, The University of Sydney, Australia North Shore Private Hospital, St Leonards, NSW, Australia
- P10.12 (70) Hypothermia in TBI for control of intracranial hypertension: Standalone therapeutic option or adjunct?**  
**Deepak Gupta<sup>1</sup>, Ashish Bindra<sup>1</sup>, Pankaj Kumar Singh<sup>1</sup>, Peter Andrews<sup>2</sup>, SS Kale<sup>1</sup>, BS Sharma<sup>1</sup>**  
<sup>1</sup>Department of Neurosurgery and Neuroanesthesia, JPN Apex Trauma Centre, AIIMS, Delhi  
<sup>2</sup>Department of Anesthesia, University of Edinburgh, UK
- P10.13 (164) Traumatic Brain Injury mortality in the Slovak Republic in 2009-2012**  
**Veronika Gonsorova<sup>1</sup>, Alexandra Brazinova<sup>1,2</sup>, Lubomir Holkovic<sup>1</sup>, Marek Psota<sup>1</sup>, Walter Mauritz<sup>2,3</sup>, Marek Majdan<sup>1,2</sup>**  
<sup>1</sup>Department of Public Health, Faculty of Health Care and Social Work, Trnava University, Slovak Republic  
<sup>2</sup>International Neurotrauma Research Organisation, Vienna, Austria  
<sup>3</sup>Trauma Center „Lorenz Boehler“, Vienna, Austria

# NOTES

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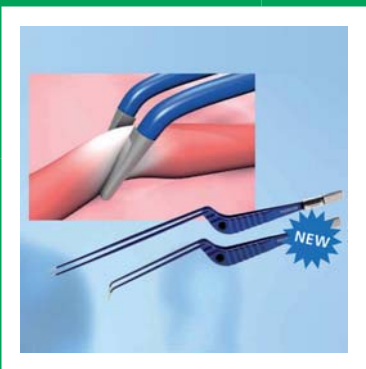
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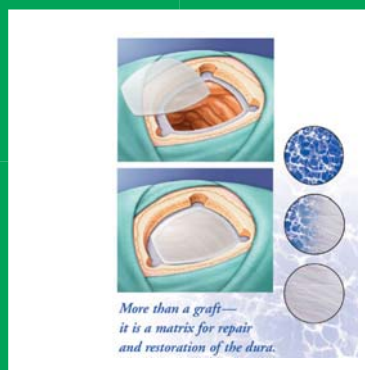
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## ERBE

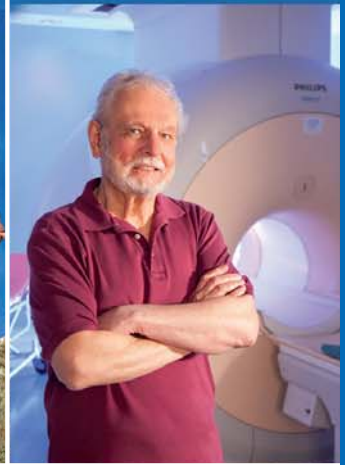
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