



EANS2022
Belgrade

October 16 – 20

TRENDS. INSIGHTS. INNOVATIONS.
Neurosurgery beyond technology.



eanscongress.org

CONGRESS
PROGRAMME



BRAIN
& SPINE



THE EUROPEAN ASSOCIATION
OF NEUROSURGICAL SOCIETIES



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Belgrade



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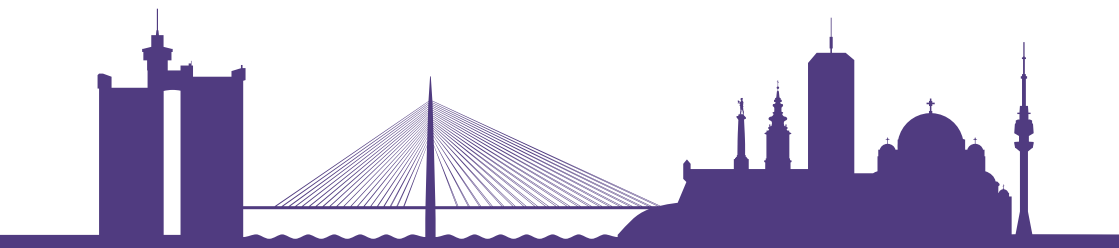
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Welcome!

Dear colleagues, dear friends,

Welcome to EANS2022 – European Congress of Neurosurgery – and welcome to Belgrade!

The Congress theme – **Trends, Insights, Innovations: Neurosurgery beyond Technology** – addresses the complex relation between technological advances and human ingenuity in the field of neurosurgery. The age of rapid technological progress, artificial intelligence, machine learning and virtual reality in the 21st century has brought many benefits to neurosurgery, but also many challenges.

After two turbulent pandemic years, the Congress represents the regathering of European and world experts in neurosurgery. It provides an excellent opportunity for sharing experiences and exchanging ideas through the top-level scientific program, aimed at providing a comprehensive insight into these benefits and challenges and striking the right balance between technology and human (neurosurgeons') touch.

The opportunity to hold this event of utmost scientific and social importance in Belgrade is a special honour for the neurosurgical community in Serbia and a much-appreciated acknowledgment of the enhanced regional and international cooperation in the previous period.

The Congress host city, Belgrade, has been the venue of several noteworthy international neurosurgical events over the past years – that said, we are particularly delighted to host the EANS2022 Congress, which encapsulates the reintegration of the region into the mainstream of European neurosurgery.

Offering a unique blend between West and East, North and South, past and future, Belgrade greets you with an open heart and an open mind.

We welcome you all to Belgrade!

Welcome. Explore. Enjoy.



Andreas Demetriades
President of the EANS



Lukas Rasulić
Congress President



Organising Committee



EANS2022
Belgrade

President of the EANS2022

Lukas Rasulić

EANS President

Andreas Demetriades

EANS Board Scientific Chair

Claudius Thomé

Scientific Committee

Functional Section
Neuro-Oncology (Tumour)
Neurotrauma & Critical Care
Pediatric Neurosurgery
Peripheral Nerve Surgery
Radiosurgery
Skull Base Neurosurgery
Spinal Neurosurgery
Vascular Neurosurgery
Cerebrospinal/Hydrocephalus

EANS Section Chairs

Olaf Schijns
Matthias Simon
Bart Depreitere
Sergey Gorelyshev
Christian Heinen
Piero Picozzi
Michaël Bruneau
Florian Ringel
Andreas Raabe
Mansoor Froughi

Local Chairs

Goran Pavlicevic
Petar Vulekovic
Djula Djilvesi
Vojin Kovacevic
Lukas Rasulić
Vojislav Bogosavljevic
Miodrag Rakic
Danilo Radulovic
Goran Tasic
Nebojsa Stojanovic

The EANS Board

President

Andreas Demetriades

President-Elect

Torstein Meling

Past President

Karl Schaller

Secretary

Johannes van Loon

Treasurer

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Audit and Governance
Miroslav Vukic

Board Member:
CME and Guidelines
Nikolay Konovalov

Board Member: Individual
Membership Committee Chair
Marike Broekman

Board Member:
Scientific Liaison
Claudius Thomé

Board Member: Training
Committee Chair
Vakis Papanastassiou

Board Member:
Historian
Marcel Ivanov

Board Member: Editor of
the official EANS Journal,
"Brain&Spine"
Wilco Peul

Board Member: Chair of the
Examination Committee
Peter Whitfield

Board Member: President of
the EANS Foundation
André Grotenhuis

Board Member:
Chair Elect of the EANS
Training Committee
Martin Lehecka

Board Member:
President of the UEMS
Section of Neurosurgery
Wilco Peul

Board Member:
Research Fund
Asgeir Jakola

eanscongress.org

About the EANS



THE EUROPEAN ASSOCIATION
OF NEUROSURGICAL SOCIETIES

The European Association of Neurosurgical Societies (EANS) is both an independent federation of European national neurosurgical societies and a fast-developing association of individual neurosurgeons from around the world.

We are a professional community whose aim is to enhance the quality of neurosurgical patient care through training, education and research. A key way in which we fulfil this objective is by facilitating the exchange of scientific information at the highest level through the organisation of meetings, symposia and educational courses – with the **annual Congress** as our flagship event.

EANS Academy with its brand-new interface provides our members with interesting content on the EANS website. A detailed **map of Neurosurgical Centers in Europe** is also available online, while a dedicated **Surveys Section** gathers some of the most interesting and important neurosurgical surveys together.

The **Brain & Spine (BAS)** is our peer-reviewed open-access official journal owned and operated by EANS in partnership with EUROSPINE and published by Elsevier. We are proud to celebrate the one-year anniversary of our Official Journal. What began as an exciting project has now evolved into a truly revolutionary endeavor, aiming to make a huge impact in the neurosurgical and spine community.



To find out more about the EANS, our activities and membership please go to www.eans.org or visit us during the congress at the EANS Booth in the Registration Area.

You can also find us on LinkedIn as **EANS**, Facebook as www.facebook.com/EANSonline, on Twitter as **@eansonline50**, and on Instagram and YouTube as **@eansonline**.

EANS Travel Grants



The European Association of Neurosurgical Societies (EANS) offered travel grants of € 1000.00 to 7 pre-selected attendees.

The grants were awarded on a competitive basis according to the following criteria:

Age

- ✔ Candidates are neurosurgeons 40 years of age or under at the time of EANS2022 (whether qualified or in training): born on October 16, 1982 or later.

Country

- ✔ Country in which the candidate lives and works is in the World Bank Low Income or Lower Middle Income category as of November 2021.

Abstract

- ✔ Candidates have submitted an abstract for the EANS2022 congress, and the abstract has been accepted.



A low-angle photograph of a muscular, classical-style statue of a man, likely representing a figure of justice or law. He is shown from the chest up, looking upwards and to the right. In his left hand, he holds a large eagle with its wings spread. The background is a solid, deep blue color.

Congress Information

Contacts & Venue Information

EANS Office Team

Executive Director
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Relations Manager**
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Congress Organiser



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+43 (0)1 402 77 55-0 | eans@aimgroup.eu

Congress Venue



Crowne Plaza Belgrade
Vladimira Popovica 10,
Belgrade, 11070, Serbia

How to reach the Crowne Plaza Belgrade?

There are several bus and tram stations in the close surrounding to the Crowne Plaza to get around in the city. Check out all routes at www.eway.rs. Belgrade has a well-developed public transportation network formed by buses, trolleybuses, trams and trains. Tickets for public transportation can be bought from the driver in the vehicle, at kiosks or at GSP point-of-sale.

Transportation in Belgrade



By bus: Belgrade offers high frequency, easy-to-use and accessible bus service across the city centre and surrounding areas. You can find more information on fares and tickets at www.gsp.rs. There is an airport bus (A1) driving regularly between the city centre and the airport. The travel time takes approx. 30 minutes to the city centre.



By car: The Crowne Plaza has its own car park with 75 spaces. The daily fee for self-parking is 19 EUR. From Belgrade Airport it takes approx. 20 minutes to the Crowne Plaza by car.



By tram: The closest tram stations around the Crowne Plaza are Sava Center, with the lines T7 and T9π, with which you can easily reach the city centre.



By taxi: The taxis from the airport to the city centre have fixed prices, depending on the final destination. The city is divided into 6 zones and the fare from the airport to the Crowne Plaza is around EUR 15 EUR (1700 RSD). Licensed taxis can be found directly outside the airport at the arrival.

Congress App



Maximize your connectivity and speed up your planning during the congress with the EANS2022 app! Download it now from the App Store: **EANS2022 Congress App**

Key features:

- ✓ Browse through the full scientific programme with the latest updates and create your personalised schedule.
- ✓ Search the abstracts of all ePosters and Oral Presentations and read them directly in the app.
- ✓ Stay informed by receiving push notifications or checking the news feed.
- ✓ Find your way to our industry partners and throughout the venue by using the interactive floorplans.
- ✓ And much more...



Good to Know | A-Z

Abstracts

All abstracts are available in the congress app and on the EANS Academy under <http://academy.eans.org>.

Badge

On your first day at the congress, you will receive your name badge including the congress material at the Self-Service Check-In Station. You are kindly requested to wear the name badge at all times in the congress venue as well as for the networking events. In case your badge is lost, a new badge will be issued at a price of EUR 100.00.

Catering

Coffee and lunch will be served in dedicated areas in the Exhibition Area at the times indicated in the Scientific Programme.



Cloakroom

There is a cloakroom available free of charge at the Crowne Plaza.

Opening Times:

Sunday, October 16	07:00 – 22:30
Monday, October 17	07:30 – 18:45
Tuesday, October 18	07:30 – 18:45
Wednesday, October 19	08:00 – 18:45
Thursday, October 20	08:00 – 13:30

Certificate of Attendance

Your certificate of attendance stating the congress date and place will be sent out per e-mail after the congress.

Information about the UEMS-EACCME® certificate can be found on page 12.

EANS Booth

All EANS-related inquiries as well as applications for membership will be handled at the EANS Booth on the Mezzanine Level. Members of the EANS Office Team will be happy to assist you during the Registration Opening Times.

EANS Individual Members' Lounge

Reserved exclusively for EANS Individual Members and EANS2022 Faculty, the Members' Lounge is located in the Mezzanine Floor in the Crowne Plaza, right next to the session rooms. Inside you will find space for working, informal meetings and relaxing. Refreshments and light snacks are provided throughout the whole day.

! Please pick up your Members' ribbon at the EANS Booth on the Mezzanine Level, which gives you access to the Members' Lounge.

Emergency Telephone Number

In case of emergencies, or for first-aid service during the conference, please contact the next EANS2022 Staff or the registration desk.

Police **192**

Firefighters **193**

Ambulance / Emergency **194**

ePoster Area

The ePoster Area is located in the Exhibition Area and is accessible during the official opening times of the Exhibition (see below).

Exhibition

The Exhibition is located on the ground floor next to the Crowne Plaza.

Opening Times:

Sunday, October 16	19:30 – 22:00
Monday, October 17	09:45 – 17:00
Tuesday, October 18	09:45 – 17:00
Wednesday, October 19	09:30 – 17:00

Future Events Table

Promotional literature advertising other events of interest to the neurosurgical community will be displayed at the future events table on the Mezzanine Level in the Crowne Plaza.

Guest Attendance Policy

Non-registered persons are not allowed to enter any of the congress areas (sessions, catering areas, exhibition, networking events, etc.). Badges to access the areas can be purchased at the registration counters.

Insurance & Liability

Neither EANS nor AIM group can accept liability for personal accidents or loss of or damage to private property of participants, either during or indirectly arising from the EANS Congress. It is recommended that all participants are covered by personal travel insurance for their trip.

Language

The official congress language is English. There will be no simultaneous translation.

Lead Retrieval

Some companies may use a lead retrieval system at their booth or throughout their symposium. If so, they may ask to scan the barcode on your name badge. When scanning your badge, they will receive the following information from you (similar to exchanging business cards): first name, last name, academic title, complete postal and e-mail address. You may, at any time, refuse this scan if you do not wish your contact details to be passed on to the respective company.

Lost and Found

Enquiries regarding items lost or found can be made at the registration counters at the Crowne Plaza.

Photography & Recording Policy

Due to data protection law, photography, video or audio recording is not permitted throughout the whole congress areas unless authorized in writing by the EANS Board.

Recharging Area

A charging station with several working spaces will be available in the exhibition area to all congress participants. The charging station is supported by Integra.

Safety and Security Policy

Please do not leave any bags or suitcases unattended at any time, whether inside or outside the congress areas.

Smoking Policy

Attendees are requested to refrain from smoking inside the congress venue and exhibition area. Smoking is only allowed in designated areas.

Speaker Ready Room

The Speaker Ready Room is located in Mezzanine Floor in the Crowne Plaza. All speakers are requested to upload their presentations in the Speaker Ready Room at least 3 hours before their scheduled session starts.

Opening Times:

Sunday, October 16	07:00 – 20:00
Monday, October 17	07:30 – 18:30
Tuesday, October 18	07:30 – 18:30
Wednesday, October 19	08:00 – 18:30
Thursday, October 20	08:00 – 13:00

Taxi

Beogradski Taxi: +381 63 9801
Alfa Taxi: +381 19807
Euro Gold Taxi: +381 11 9806

WiFi / Internet

Free WiFi is available in all official congress areas. Please be aware that the capacity is limited to accessing the congress app, checking emails and browsing through the web.



Network: EANS2022
Password: #belgrade

Registration

The registration desks are located in the entrance area (Crowne Plaza Foyer) and are open during the following hours:

Sunday, October 16	07:00 – 21:30
Monday, October 17	07:30 – 18:30
Tuesday, October 18	07:30 – 18:30
Wednesday, October 19	08:00 – 18:30
Thursday, October 20	08:00 – 13:00

Onsite Registration Fees

EANS Member	€ 750
EANS Non-Member	€ 990
Neurosurgery Resident/ Nurse/ Student EANS Member ¹	€ 400
Neurosurgery Resident/ Nurse/ Student EANS Non-Member ¹	€ 600
Undergraduate Student ²	sold out
Delegates from Low/ Lower Middle Income Countries ³	sold out
Faculty (upon personal invitation only) ⁴	€ 550

¹ Residents/Nurses: Passport + current letter from the hospital/work place with stamp and signature are required.
Students: Passport + current student card are required.

² Limited to 50 tickets.

³ Limited to 20 tickets.

⁴ For faculty only (faculty speakers and chair persons). Not for oral abstract presenters.

Registration Fee includes

- ✓ Access to scientific sessions. For Masterclasses please see below.
- ✓ Access to the Exhibition & ePoster Area
- ✓ Congress bag with congress material
- ✓ Access to the Welcome Reception (October 16, 2022)
- ✓ Refreshment breaks (Coffee breaks & lunch)

Masterclasses

Exclusive access for EANS Members (at the time of registration). Pre-registration for Masterclasses is necessary (max. 2 Masterclasses per delegate). Tickets are limited to 35 EANS Members per Masterclass and are available on a first-come, first-served basis.

UEMS/EACCME Accreditation



The 22nd Congress of the European Association of Neurosurgical Societies is accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide this CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS), www.uems.net

The congress is designated for a maximum of 23 European CME credits (ECMEC[®]s) by the European Accreditation Council for Continuing Medical Education (EACCME).



CME credits are assigned to participants per day. To collect your CME points, you need to scan the barcode on your name badge once a day. The scanning stations, signposted with "CME Scanning" are located right in front of the session rooms (Mezzanine Floor) and in the exhibition area.

Through an agreement between the European Union of Medical Specialists (UEMS) and the American Medical Association (AMA), physicians may have their European CME Credits (ECMEC[®]s) converted to AMA PRA Category 1 Credit[™] by applying to the AMA. The Royal College of Physicians and Surgeons of Canada will recognize live events accredited for EACCME[®]s as MOC Section 1 – Accredited Group Learning credit.

Receive your UEMS-EACCME[®] Certificate

After completing an electronic questionnaire, your UEMS-EACCME[®] Certificate will be sent to you per email after the congress. The form will include questions relevant for the UEMS Accreditation.

It can be completed until Friday, October 28, 2022 via a link which will be sent out after the congress. The amount of EACCME[®]s given on the certificate will be issued automatically on the basis of your presence.

Industry Support Disclosure

This event is supported, in part, by funding from industry. All support is managed in strict accordance with UEMS-EACCME[®] accreditation criteria and standards for commercial support.

Appropriate acknowledgement of all supporting organizations is made in the section Recognition, Acknowledgements & Industry Support of this book, on the congress website and on the signage during the event.

National Accreditation by the Serbian Health Council

The EANS2022 Congress has been accredited by the Health Council of the Republic of Serbia as an International Congress with 49 points.

Networking Events

We invite you to participate in the Networking Events of EANS2022 – valuable opportunities to build and strengthen professional relationships!

Opening Ceremony

Sunday, October 16, 2022 19:30 – 20:30

→ Pacific & Atlantic

Further information on the speakers of the Opening Ceremony can be found on page 37.

Welcome Reception

Sunday, October 16, 2022 20:30 – 22:00

→ Exhibition Area

Ticket: included in the congress registration

Dress code: smart casual

What to expect: small snacks & drinks (no full meal)



FREE OF CHARGE
for all
registered
delegates



Networking Event

Monday, October 17, 2022

starting at 19:30
with an aperitif

→ Kopernikus 610
Ušće, Belgrade

Dinner starting
at 20:15

What to expect: music, appetizer, finger food & drinks in an extraordinary location in Belgrade, at the Sava River, which offers a phenomenal view on the Kalemegdan fortress.

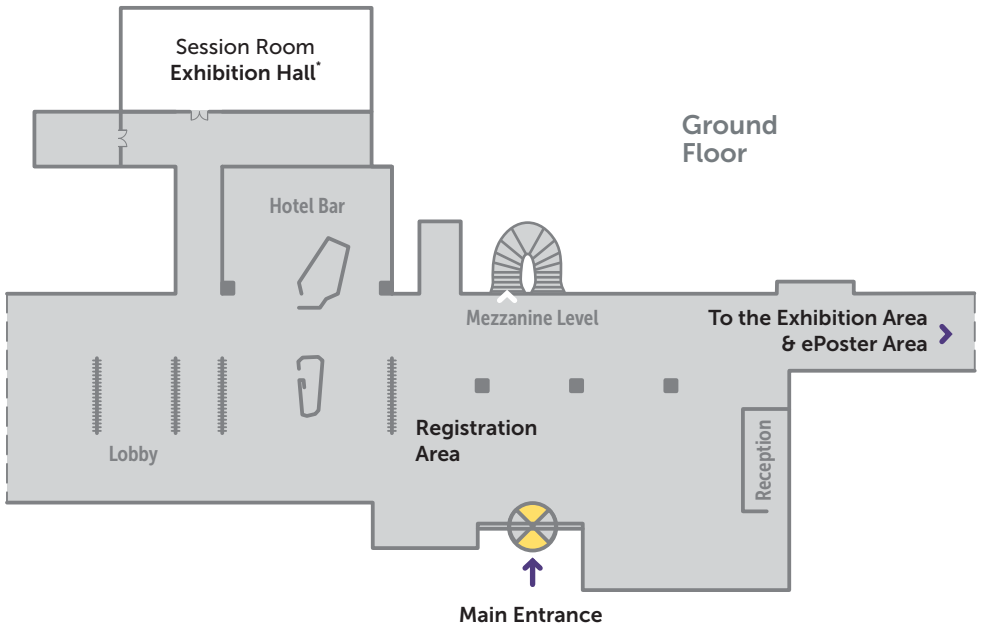
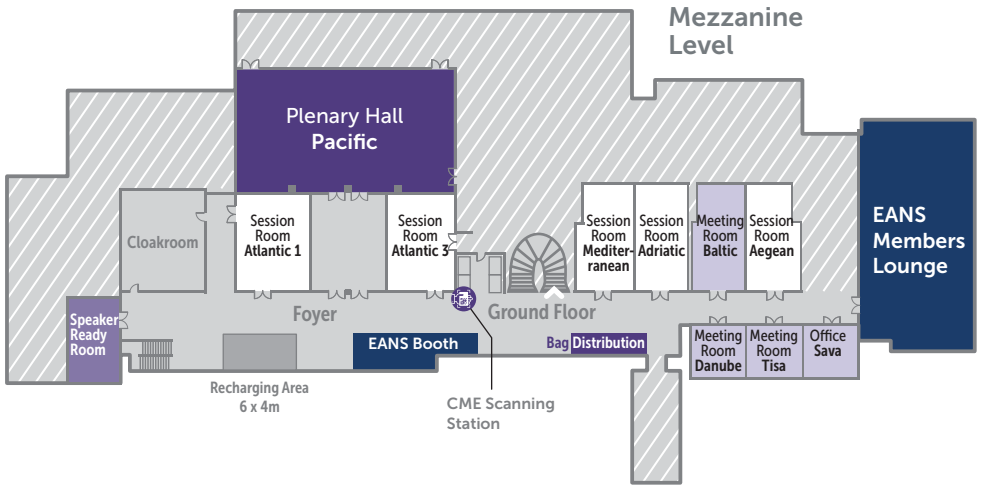
Ticket: € 100.00

Dress code: smart casual

Make sure to bring your congress badge to the dinner. Your entrance ticket is included in the QR code on your badge.

LIMITED TICKETS
available at
the registration
service desks

Venue Plan



* This is a Session Room called "Exhibition Hall". The actual Exhibition Area is located in the marquee next to the venue.

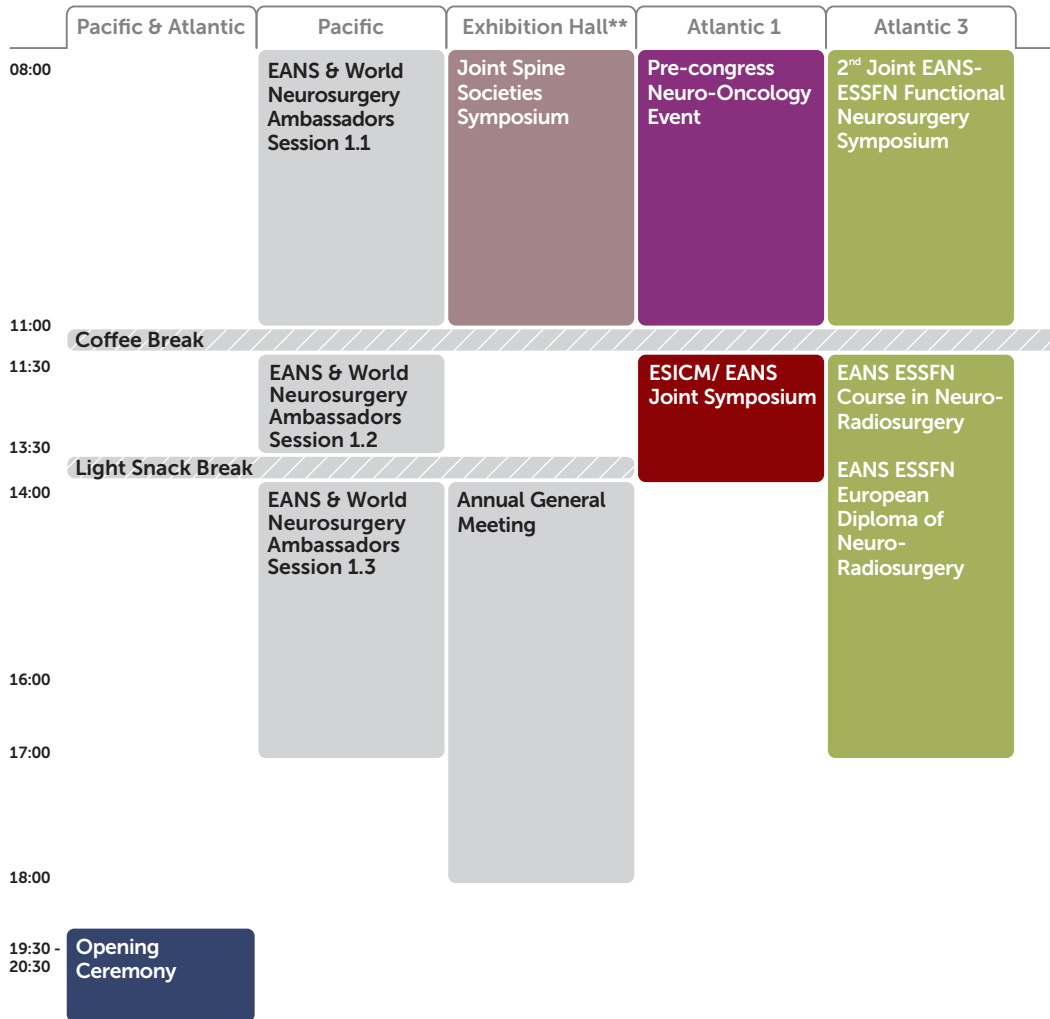


Scientific Programme

As of September 23, 2022

Programme at a Glance

● Sunday, October 16 ●



** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

EANS2022 Thematic Reference

Vascular Neurosurgery

Spinal Neurosurgery

General

Pediatric Neurosurgery



Mediterranean	Adriatic	Hyatt Regency Belgrade	Aegean	
08:30 - 13:30 Virtual Reality in Neurosurgery	IANA Pre-Congress Course – EANS/ SNSS_Session 1.1	EANS Peripheral Nerve Surgery Pre-congress Course	EANS/ SeENS Session	08:00 08:30
	IANA Pre-Congress Course – EANS/ SNSS_Session 1.2			11:00 11:30
ESPN/EANS Joint Symposium	IANA Pre-Congress Course – EANS/ SNSS_Session 2			13:30 14:00
				16:00 17:00
				18:10

Neuro-Oncology

Functional Neurosurgery

Neurotrauma & Critical Care

Multidisciplinary

Networking Event

Other

Programme at a Glance

● Monday, October 17 ●

	Pacific	Exhibition Hall**	Atlantic 1	Atlantic 3	Mediterranean
08:30 - 10:00	Impact of peripheral nerve injury on trauma management strategies	CPA	PNS-Tumors and Entrapments	Epilepsy Surgery	Spinal arteriovenous malformations
10:00 - 10:40	Coffee Break & Oral ePoster Presentations in the Exhibition Area				
10:40 - 11:20	Lifetime AA and European Lecture				
11:20 - 13:00	Global Neurosurgery				
13:00 - 14:30	Lunch Break, Industry Symposia & Oral ePoster Presentations		13:15 - 14:15 Industry Sponsored Symposium p.163	13:15 - 14:15 Industry Sponsored Symposium p.163	
14:30 - 16:10	Trauma Trends and Insights			Masterclass*: Ethics in publication	
16:10 - 16:50	Coffee Break & Oral ePoster Presentations				
16:50 - 18:20	Brain metastases	Complication avoidance in aneurysm surgery	Degenerative Diseases	Chronic and acute subdural hematoma	DBS Surgery

* Masterclasses are for EANS Members only. Upon pre-registration.

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

EANS2022 Thematic Reference

Vascular Neurosurgery

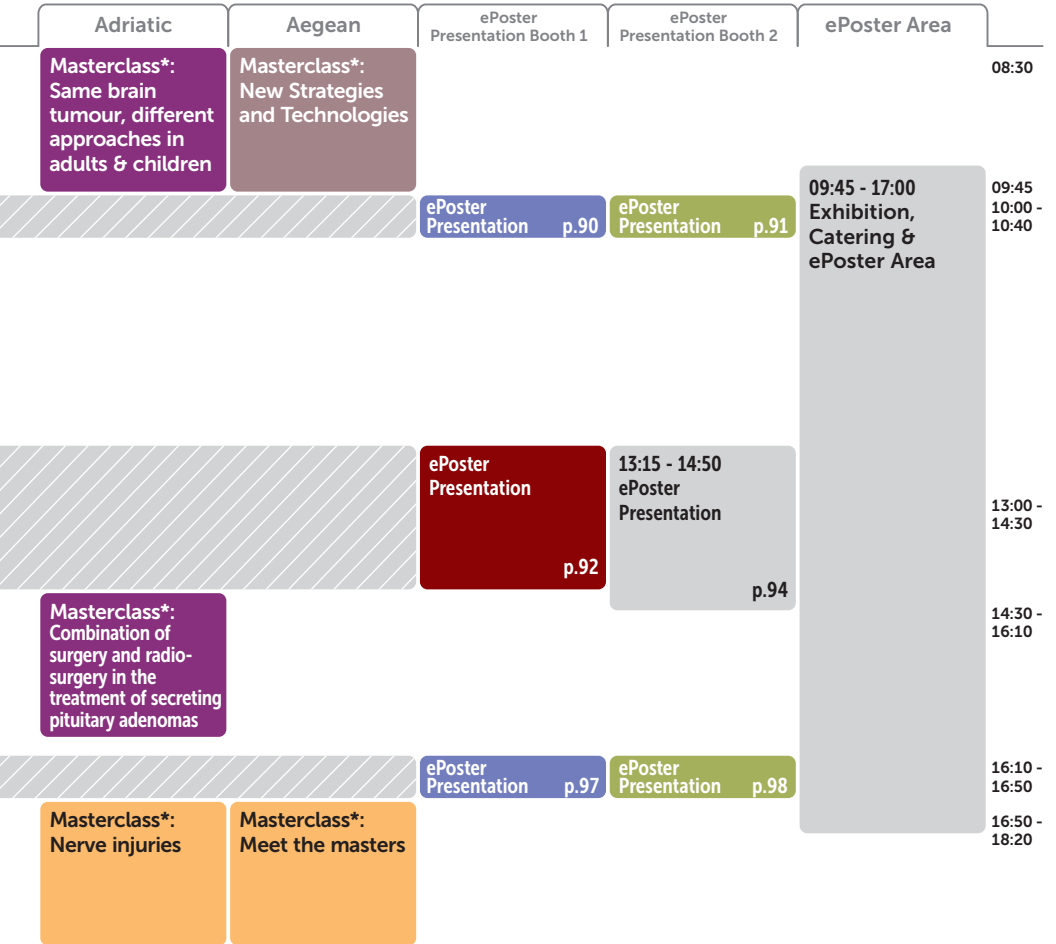
Spinal Neurosurgery

General

Pediatric Neurosurgery



EANS2022 Belgrade



Neuro-Oncology

Functional Neurosurgery

Neurotrauma & Critical Care

Multidisciplinary

Networking Event

Other

Programme at a Glance

● Tuesday, October 18 ●

	Pacific	Exhibition Hall**	Atlantic 1	Atlantic 3	Mediterranean
08:30 - 10:00	Spinal Trauma & intradural tumors	Meningiomas & Rare Tumours	Vascular diseases	Young Neurosurgeons Training Challenges	Spine Radiosurgery
10:00 - 10:40	Coffee Break & Oral ePoster Presentations in the Exhibition Area				
10:40 - 11:20	Education and Training				
11:20 - 12:35	Update in skull base neurosurgery				
12:35 - 13:05	Award Ceremony				
13:00 - 14:30	Lunch Break, Industry Symposia & Oral ePoster Presentations		13:15 - 14:15 Industry Sponsored Symposium p.163	13:15 - 14:15 Industry Sponsored Workshop p.164	
14:30 - 16:10	Plenary vascular				Masterclass*: Neuroimaging for Epilepsy surgery
16:10 - 16:50	Coffee Break & Oral ePoster Presentations				
16:50 - 18:20	How to become a competent vascular neurosurgeon?	Pituitary	PNS – Basic and Innovative	Global Neurosurgery	CSF Disorders

* Masterclasses are for EANS Members only. Upon pre-registration.

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

EANS2022 Thematic Reference

Vascular Neurosurgery

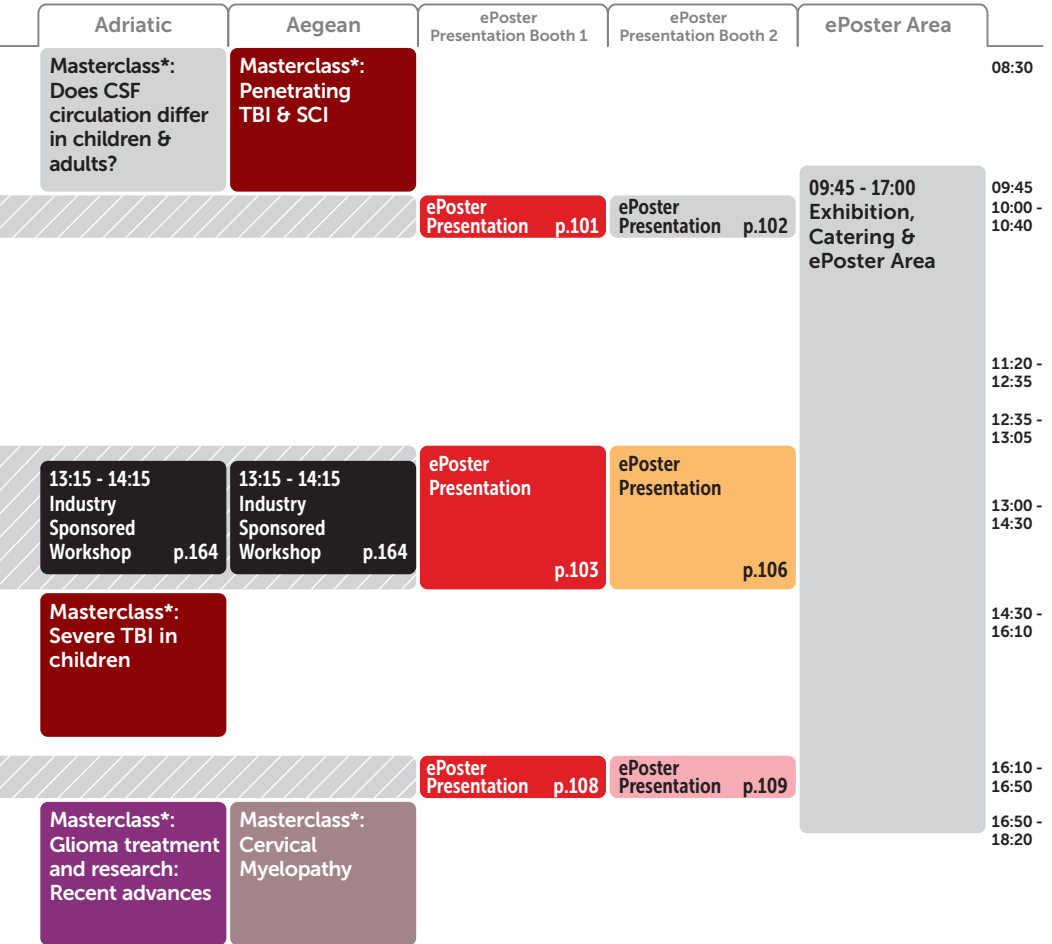
Spinal Neurosurgery

General

Pediatric Neurosurgery



EANS2022 Belgrade



Neuro-Oncology

Functional Neurosurgery

Neurotrauma & Critical Care

Multidisciplinary

Networking Event

Other

Programme at a Glance

● Wednesday, October 19 ●

	Pacific	Exhibition Hall**	Atlantic 1	Atlantic 3	Mediterranean
08:30 - 10:00	Spinal Oncology	Revascularization	(Big) Data in TBI/SCI	Tumor related epilepsy	Research Parallel
10:00 - 10:40	Coffee Break & Oral ePoster Presentations in the Exhibition Area				
10:40 - 12:20	Spine Plenary Session				
12:20 - 13:50	Lunch Break & Oral ePoster Presentations				
13:50 - 14:30	Brain & Spine ¹				
14:30 - 16:10	Adjunct technologies for tumour surgery				
16:10 - 16:50	Coffee Break & Oral ePoster Presentations				
16:50 - 18:20	Clinical Neuro-Oncology	Spinal Infections	Posterior fossa	Treatment options for Essential Tremor	Masterclass*: Trends, Insights and Innovations in Neuro-Oncology

¹ The Official Journal of EANS & Spine.

* Masterclasses are for EANS Members only. Upon pre-registration.

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

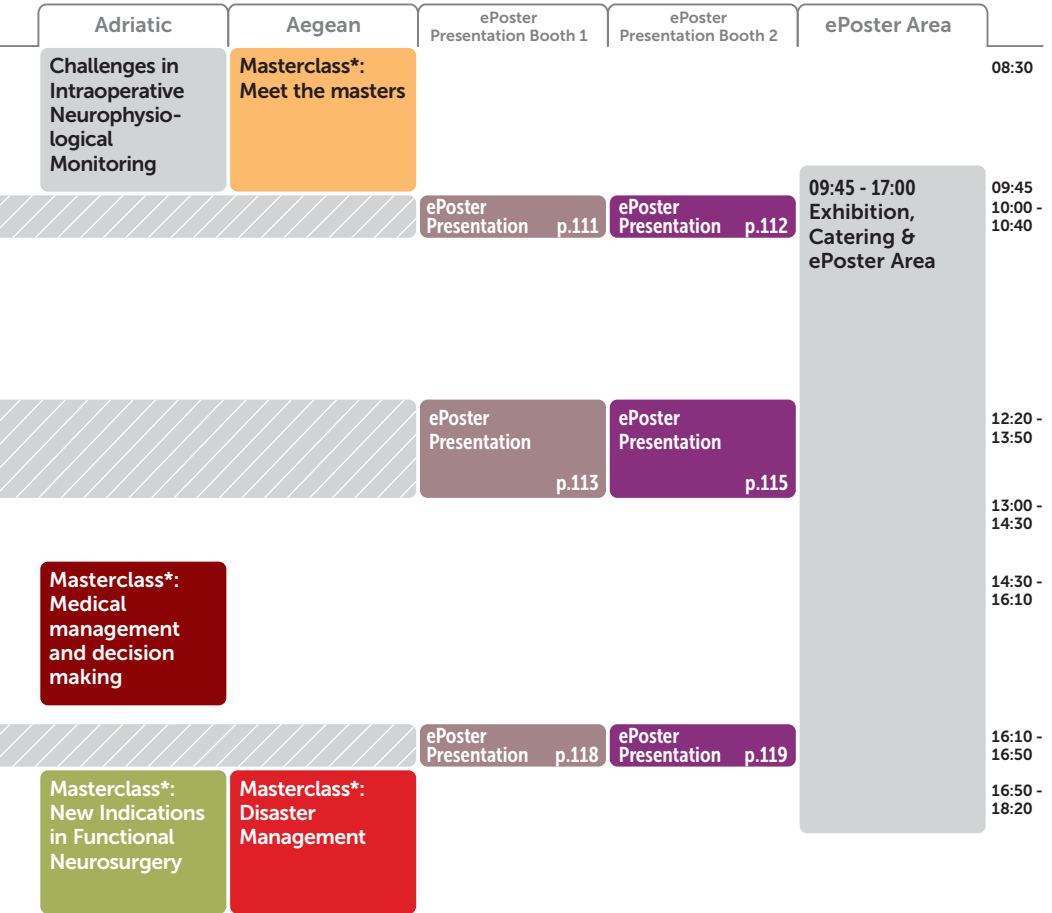
EANS2022 Thematic Reference

Vascular Neurosurgery

Spinal Neurosurgery

General

Pediatric Neurosurgery



Neuro-Oncology
Multidisciplinary

Functional Neurosurgery
Networking Event

Neurotrauma & Critical Care
Other

Programme at a Glance

● Thursday, October 20 ●

	Pacific	Exhibition Hall**	Atlantic 1	Atlantic 3	Mediterranean	Adriatic
08:30 - 10:00	Translational Neuro-Oncology	Basic Science in CNS injury	Diversity in Neurosurgery – Lessons from the past & future initiatives	Cervical Spine	Masterclass: Tumour surgery in difficult locations	Masterclass: Intradural Pathologies
10:00 - 10:40	Coffee Break					
10:40 - 12:20	Plenary PNS Session					
12:20 - 12:50	Closing Ceremony					
— End of Congress —						

23rd European Congress of Neurosurgery
Belgrade, Serbia | October 16 – 20



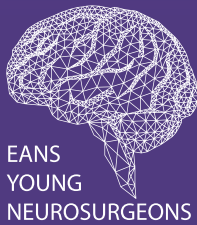
Acknowledgement to the Abstract Reviewers

Great thanks to the EANS2022 Abstract Reviewers

Francesco Acerbi
Francois Alesch
Sepideh Amin-Hanjani
Ahmed Ammar
Apio Antunes
Naci Balak
Giuseppe Barbagallo
Vladimir Benes
Moncef Berhouma
Ciaran Bolger
Triantafyllos Bouras
Marika Broekman
Michaël Bruneau
Andras Buki
Luigi Maria Cavallo
Cristo Chaskis
Hans Clusmann
Henry Colle
Manuel Cunha e Sa
Marcus Czabanka
Evandro de Oliveira
Mania De Praeter
Andreas Demetriades
Federico Di Rocco
Francesco DiMeco
Annie Dubuisson
Mario Ganau

Daniel Hänggi
Daniel Holsgrove
Stephen Honeybul
Peter Hutchinson
Corrado Iaccarino
Marcel Ivanov
Mohsen Javadpour
Emmanuel Jouanneau
Marianne Juhler
Bruno Kaschten
Cumhur KILINCER
Guus Koerts
Angelos Kolias
Giuseppe Lanzino
Bodo Lippitz
Niklas Marklund
Luca Massimi
Paul May
Stephen McNally
Jürgen Meixensberger
Torstein R. Meling
Bernhard Meyer
Wouter Moojen
Ramesh Nair
Peter Nakaji
Alessandro Olivi
Radoslaw Rola

Yu-Mi Ryang
Damianos Sakas
Oliver W. Sakowitz
Francesco Sala
Massimo Scerrati
Karl Schaller
Olaf Schijns
Felix Scholtes
Philippe Schucht
Volker Seifert
Panagiotis Selviaridis
Christian Senft
Ehab Shiban
Francesco Signorelli
Andrey Sitnikov
Giannantonio Spena
Ulrich Sure
Yasin Temel
Claudius Thomé
Joerg Tonn
Michel Triffaux
Parmenion Tsitsopoulos
Andreas Unterberg
Peter Vajkoczy
Thomas van Essen



EANS Young Neurosurgeons Network

THE LAUNCH!

*Monday, October 17 @17.00 CET
EANS Members Lounge*

JOIN US!



THE EUROPEAN ASSOCIATION
OF NEUROSURGICAL SOCIETIES

EANS Members' Reception

Are you an Individual Member?

WELCOME!

*Tuesday, October 18 @17.00 CET
EANS Members Lounge*

AN EVENT DEDICATED TO YOU!

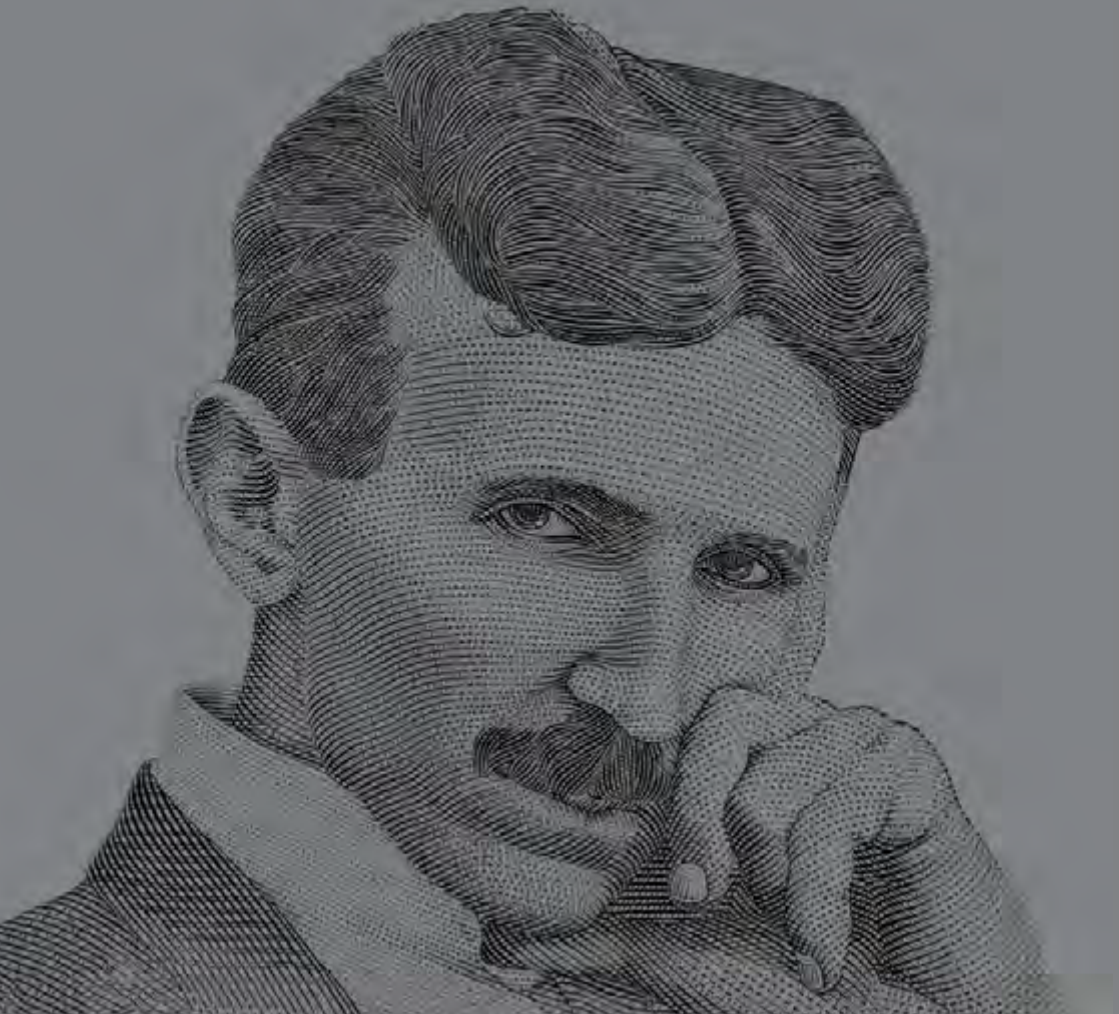
EANS Individual members and EANS 2022 Speakers...

There is a Member's Lounge
with newspapers, computers and complimentary
refreshments for your exclusive use!

Your space is located in
the EANS Members Lounge on Mezzanine Level.



Scientific Programme



● Saturday, October 15 ●

08:30 – 19:00

1st EANS Students' Pre-congress Course

Hyatt Regency Belgrade

● Sunday, October 16 ●

08:00 – 18:10

EANS Peripheral Nerve Surgery Pre-congress Course

Hyatt Regency Belgrade

09:30 – 17:00

e-Posters Area, Exhibition Area

08:00 – 11:00

EANS & World Neurosurgery Ambassadors Session 1.1

Pacific

Chairs: Jesus Lafuente (Spain), William Couldwell (United States)

Welcome Address

Lukas Rasulić (Serbia), Andreas Demetriades (United Kingdom)

Application of the T1w/T2w mapping technique for evaluating the consistency of intracranial meningiomas

Elena Filimonova (Russian Federation)

Fractional anisotropy of trigeminal nerve in patients after microvascular decompression

Mikhail Amelin (Russian Federation)

08:30 – 08:45	118	Complex Skull Base Surgery in Resource-Limited Settings Antonio Bernardo (United States)
08:45 – 09:00	119	Brain Stem Cavernomas – My Philosophy Talat Kiris (Turkey)
09:00 – 09:15	1	Use of Neuroendoscopy in the Management of Para-ventricular Tumors in Children Wan Tew Seow (Singapore)
09:15 – 09:30	2	Management of Craniopharyngioma... A Changing Paradigm Andrew Kaye (Israel)

09:30 – 09:45	3	European contribution to the Evolution of Neurosurgery in Africa Abdeslam El Khamlichi (Morocco)
09:45 – 10:00	5	Direct AVM surgery: where it has been and where it is going Hiroki Kurita (Japan)
10:00 – 10:15	123	Developing Resident Surgical Training Models in Neurosurgery Iddo Paldor (Israel)
10:15 – 10:30	7	Tubology in Spine Surgery: Current concept Jose Soriano (Mexico)
10:30 – 10:45	8	Very long term hearing outcome after radiosurgery for acoustics in an historical cohorte of 4777 patients Jean Regis (France)
10:45 – 11:00	124	Challenges in Neurosurgical training in LMIC and MIC countries Mangaleswaran Balamurugan (India)

08:00 – 11:00
Exhibition Hall**

Joint Spine Societies Symposium

Chairs: Bernhard Meyer (Germany),
Maria Luisa Gandia Gonzalez (Spain),
Dominique Rothenfluh (Switzerland),
Enrico Tessitore (Switzerland)

Session 1: NAVIGATION AND ROBOTICS IN SPINAL SURGERY

08:00 – 08:20	11	Advantages of spinal navigation in comparison to present robotic techniques Marcel Ivanov (United Kingdom)
08:20 – 08:40	12	Advanced spinial navigation techniques Sandro Krieg (Germany), Bernhard Meyer (Germany)
08:40 – 09:00	13	Future potential of spinal robotics Florian Ringel (Germany)

Session 2: MANAGEMENT OF ADULT SPINAL DEFORMITIES

09:00 – 09:15	15	Indications, complications and outcomes Joerg Franke (Germany)
09:15 – 09:30	16	Planning and prediction of mechanical complications Ahmet Alanay (Turkey)
09:30 – 09:45	17	Proximal junctional kyphosis – prevention and management Dominique Rothenfluh (Switzerland)

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

09:45 – 10:00 18 **Beyond the sagittal profile – how and when to manage coronal curves in the adult**
Ibrahim Obeid (France)

10:00 – 11:00 **Discussion**

08:00 – 11:00 **Pre-congress Neuro-Oncology Event**
Atlantic 1

Chairs: Rachel Grossman (Israel), Jiri Bartek (Sweden),
Brigitta Gertrud Baumert (Switzerland), Matthias Simon (Germany)

08:00 – 08:15 19 **Recurrent gliomas: the challenges**
Matthias Simon (Germany)

08:15 – 08:35 20 **Tumour section panel & case presenters Interactive session:
Learning from complications Case presentations (N=4) & 1st voting**

08:35 – 08:55 22 **Cognitive outcomes after operations for glioma recurrence**
Sam Ng (France)

08:55 – 09:10 23 **The surgical approach to recurrent high-grade gliomas**
Rachel Grossman (Israel)

09:10 – 09:25 25 **LITT for recurrent high-grade gliomas**
Jiri Bartek (Sweden)

09:25 – 09:40 24 **Break**

09:40 – 10:00 26 **Liquid biopsies for the diagnosis and management of recurrent gliomas**
Franz Ricklefs (Germany)

10:00 – 10:20 21 **7 Tesla metabolic neuroimaging of recurrent gliomas**
Gilbert Hangel (Austria)

10:20 – 10:40 27 **(Radio)-Oncological options for treatment of recurrent glioma**
Brigitta Gertrud Baumert (Switzerland)

10:40 – 11:00 28 **Tumour section panel A wrap-up: revisiting today's case presentations
2nd voting & case discussions**

08:00 – 11:00 **2nd Joint EANS-ESSFN Functional Neurosurgery Symposium**
Atlantic 3

Chairs: Dirk van Roost (Belgium), Olaf Schijns (The Netherlands)

08:00 – 08:30 96 **ECoG: pro's & con's, intra- & extraoperative, prognostic value in
lesional / non-lesional epilepsy, e.g. in multiple tuberous
sclerosis lesions**
Antonio Goncalves Ferreira (Portugal)

08:30 – 09:00	97	sEEG: network concept, “virtual brain”, possible benefits / superiority over ECoG Viktor Jirsa (France), Jean Regis (France)
09:00 – 09:30	98	ECoG high-frequency oscillations as resection guide in epilepsy surgery; outcome prediction Johannes Sarnthein (Switzerland)
09:30 – 10:00	99	Decoding higher-order cognition from intracranial EEG Christian Herff (The Netherlands)
10:00 – 10:30	100	Insights into basal ganglia physiology extracted from STN-DBS Dirk van Roost (Belgium)
10:30 – 11:00		Discussion

08:00 – 11:00
Adriatic

IANA Pre Congress Course – EANS/SNSS_Session 1.1

Course Directors: Imad N. Kanaan (United States),
Vladimir Benes (Czech Republic)

Chairs: Giovanni Broggi (Italy), Ramesh Nair (India)

08:00 – 08:30	38	Introduction Andreas Demetriades (United Kingdom), Vladimir Benes (Czech Republic), Imad N. Kanaan (United States)
08:30 – 09:00	39	Microsurgical treatment of fourth ventricle tumors Francesco Tomasello (Italy)
09:00 – 09:30	40	Ventricular Tumors Ekkehard Kasper (United States)
09:30 – 10:00	41	Anatomy for Endoscopic Trans sphenoidal surgery of pituitary tumors Ramesh Nair (India)
10:00 – 10:30	42	Avoiding and dealing with complication in TSS for pituitary tumors Mario Ammirati (United States)
10:30 – 11:00	43	Neuroanatomy for anterior skull base surgery Roy Daniel (Switzerland)

08:00 – 13:30
Aegean

EANS/SeENS Session

Chairs: Kresimir Rotim (Croatia), Stefan Ioan Florian (Romania)

08:00 – 08:15	44	Opening remarks Lukas Rasulić (Serbia), Kresimir Rotim (Croatia)
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08:15 – 08:30	45	Surgical strategy for the treatment of the tumors of the craniocervical junction Kresimir Rotim (Croatia)
08:30 – 08:45	46	Vascular incidents in brain tumor surgery Nikolaos Foroglou (Greece)
08:45 – 09:00	47	Challenges in AVM Surgery Stefan Ioan Florian (Romania)
09:00 – 09:15	48	Mesial temporal lobe epilepsy surgery: seizure outcome after 10 years follow up Tomislav Sajko (Croatia)
09:15 – 09:30	49	The employment of brain mapping techniques in modern neurosurgery Kostas Fountas (Greece)
09:30 – 09:45	50	Restoration of cranial volumetry by 3D printed alloplastic cranioplasty Bruno Splavski (Croatia)
09:45 – 10:00	51	Role of minimal invasive techniques and new classification system in the surgical treatment of pathologies situated in the spinal canal Peter Banczerowski (Hungary)
10:00 – 10:15	52	Influence of molecular immunoprofiling compared with the extent of surgical resection in overall survival of patients harboring high grade gliomas Aleksandar Caparoski (North Macedonia)
10:15 – 10:30	53	Intraoperative ultrasonography guidance for optimal degree of lumbar decompressive surgery Yavor Enchev (Bulgaria)
10:30 – 11:00	54	Pathogenesis of brain AVMs Cerebrovascular session Anastasia Tasiou (Greece)
11:00 – 11:30	55	Coffee break
11:30 – 11:45	56	Combined Microsurgical, Endoscopic and Stealth Neuronavigation for Treatment of Pituitary Tumors Kenan Arnautovic (United States)
11:45 – 12:00	57	Instrumentation-associated vertebral fractures and pedicle screw loosening – treatment options with less or more screws Yavor Enchev (Bulgaria)
12:00 – 12:15	58	The level of the arthroplasty in hybrid surgery (hs) for the treatment of cervical degenerative diseases and its effect on cervical range of motion Matjaž Voršič (Slovenia)
12:15 – 12:30	59	The role of the neurosurgeon in the management of Cushing's disease Kostas Barkas (Greece)

12:30 – 12:45	60	Cerebellopontine angle masses – Surprise room Ibrahim Omerhodzic (Bosnia and Herzegovina)
12:45 – 13:00	61	Functional recovery after radial nerve palsy surgical repair Slavko Djuraskovic (Montenegro)
13:00 – 13:15	64	Minimally invasive skullbase surgery: what is possible an what are the limitations? Gunther Feigl (Germany)
13:15 – 13:30		Discussion

08:30 – 13:30
Mediterranean

Virtual Reality in Neurosurgery

Chairs: Amir Samii (Germany), Nikolay Velinov (Bulgaria)

08:30 – 08:45	65	Welcome and Introduction Amir Samii (Germany), Nikolay Velinov (Bulgaria)
08:45 – 09:15	66	The Role of Imaging & Visualization in Neurosurgery Amir Samii (Germany)
09:15 – 10:15	67	Neuroanatomy Training by Augmented/Virtual Reality: Lecture, live demonstration and hands-on Ihsan Solaroglu (Turkey), Oguz Baran (Turkey), Goktug Akyoldas (Turkey)
10:15 – 10:30	68	Postprocessing of Imaging Data for Surgical Planning Live Demonstration Mario Giordano (Germany)
10:30 – 11:00	69	Break
11:00 – 11:22	70	VR Planning for a Skull Base Tumour Case Mario Giordano (Germany), Massimo Gallieni (Germany)
11:22 – 11:45	71	VR Planning for Brain Tumour Case Massimo Gallieni (Germany), Mario Giordano (Germany)
11:45 – 12:00	72	Introduction to the VR system
12:00 – 12:40	73	Hands-on VR for Skull Base Lesion
12:40 – 13:20	74	Hands-on VR for intrinsic Brain Lesion
13:20 – 13:30	75	Conclusion Amir Samii (Germany), Nikolay Velinov (Bulgaria)
11:00 – 11:30		Coffee Break

11:30 – 13:30
Pacific

EANS & World Neurosurgery Ambassadors Session 1.2

Chairs: Andreas Demetriades (United Kingdom), Lukas Rasulić (Serbia)

- | | | |
|---------------|-----|--|
| 11:30 – 11:50 | 76 | Brain surgery today
Madjid Samii (Germany) |
| 11:50 – 12:10 | 78 | Microsurgical management of large sphenoid-cavernous meningiomas
Francesco Tomasello (Italy) |
| 12:10 – 12:30 | 79 | Enough Lateral – Enough Telovelar Approach
Vladimir Benes (Czech Republic) |
| 12:30 – 12:50 | 9 | EANS
Karl Schaller (Switzerland) |
| 12:50 – 13:10 | 121 | Endoscopic assisted supraorbital keyhole approach: How I do it
Panagiotis Selviaridis (Greece) |
| 13:10 – 13:30 | | Contemporary Management of Giant Aneurysms
Nicholas Bambakidis (United States) |

11:30 – 14:00
Atlantic 1

ESICM/EANS Joint Symposium

Chairs: Bart Depreitere (Belgium), Raimund Helbok (Austria)

- | | | |
|---------------|----|---|
| 11:30 – 11:50 | 81 | ICP monitoring: EVD or intra-parenchymal?
Bart Depreitere (Belgium) |
| 11:50 – 12:10 | 82 | Surgical practice variation in traumatic acute subdural hematoma
Thomas van Essen (Netherlands) |
| 12:10 – 12:30 | 84 | Sedation strategies
Geert Meyfroidt (Belgium) |
| 12:50 – 13:20 | 85 | Break |
| 12:30 – 12:50 | 86 | Strategies for mechanical ventilation
Robert Stevens (United States) |
| 12:50 – 13:10 | 87 | How does autoregulation fit in?
Sam Klein (Belgium) |
| 13:10 – 13:30 | 88 | Decompressive craniectomy in real life
Elham Rostami (Sweden) |
| 13:30 – 13:50 | 89 | Nutrition: does it matter?
Raimund Helbok (Austria) |
| 13:50 – 14:00 | | Discussion |

11:30 – 13:30
Adriatic

IANA Pre Congress Course – EANS/SNSS_Session 1.2

Course Directors: Vladimir Benes (Czech Republic),
Imad N. Kanaan (United States)

Chairs: Giovanni Broggi (Italy), Ramesh Nair (India)

11:30 – 11:50	90	Eyebrow Approach Giovanni Broggi (Italy)
11:50 – 12:10	91	Pterional Approach for tuberculum sella meningiomas Tito Perilla (Colombia)
12:10 – 12:30	92	Anterior cranial base Approaches & cavernous sinus surgery, still reliable? Jose' Alberto Landeiro (Brazil)
12:30 – 12:50	93	Parasagittal Meningiomas, Surgical Approach Keki Turel (India)
12:50 – 13:10	94	Nerve surgery; Intraoperative morphology vs. intraoperative electrophysiology findings Lukas Rasulić (Serbia)
13:10 – 13:30	95	Panel Discussion
13:30 – 14:00		Light Snack Break

11:30 – 15:00
Atlantic 3

EANS ESSFN Course in Neuro-Radiosurgery EANS ESSFN European Diploma of Neuro-Radiosurgery

Chairs: Piero Picozzi (Italy), Jean Regis (France)

11:30 – 12:00	29	Introduction Piero Picozzi (Italy), Jean Regis (France)
12:00 – 12:30	30	Natural History Josa M. Frischer (Austria)
12:30 – 13:00	31	Cavernous sinus meningiomas Michele Longhi (Italy)
13:00 – 13:30	32	Petroclival Meningiomas Antonio Santacrose (Germany)
13:30 – 14:00	33	Periopic Meningiomas Piero Picozzi (Italy)
14:00 – 14:30	6	Combined Approaches in Meningiomas Pierre Hugues Roche (France)

14:30 – 15:00 37 **Conclusions**
Piero Picozzi (Italy), Jean Regis (France)

14:00 – 17:00 Pacific **EANS & World Neurosurgery Ambassadors Session 1.3**

Chairs: Panagiotis Selviaridis (Greece), Andrew Kaye (Israel)

14:00 – 14:15 101 **Skull Base Chordoma: Choosing the right approach**
Basant Misra (India)

14:15 – 14:30 102 **Title to be announced**
Giovanni Broggi (Italy)

14:30 – 14:45 105 **Endoscopic Treatment of Complex Hydrocephalus in Children**
Nasser El Ghandour (Egypt)

14:45 – 15:00 106 **Complications in Neurosurgery: Ethics, Morals and Legalities**
Keki Turel (India)

15:00 – 15:15 107 **CNS hemangioblastomas and VHL – current concepts**
Martin Smrcka (Czech Republic)

15:15 – 15:30 109 **The role of cerebral bypass surgery in uncommon and complicated scenarios**
Amir Dehdashti (United States)

15:30 – 15:45 113 **Management of foramen magnum meningiomas**
Najia El Abbadi (Morocco)

15:45 – 16:00 114 **Endoscopic approaches in lumbar degenerative diseases**
Enrique Osorio (Colombia)

16:00 – 16:15 108 **Hearing Preservation Techniques in Surgery of Vestibular Schwannomas**
William Couldwell (United States)

16:15 – 16:30 117 **Meningioma Genomics as a Predictor of Recurrence: ARID1A Mutation Associated with Recurrence and Shorter Progression-free Survival in Atypical Meningiomas**
Raj Shrivastava (United States)

16:30 – 16:45 116 **Timing of carotid endarterectomy after i.v.thrombolysis and mechanical thromberctomy**
Martin Sames (Czech Republic)

16:45 – 17:00 122 **Fifty Shades of Odontoidectomy**
Sukru Caglar (Turkey)

14:00 – 18:00
Exhibition Hall**

Annual General Meeting

14:00 – 17:00
Mediterranean

ESPN/EANS Joint Symposium

Chairs: Gianpiero Tamburrini (Italy),
Sergey Gorelyshev (Russian Federation)

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|---------------|-----|--|
| 14:00 – 14:15 | 129 | Hydrocephalus in children with craniosynostoses: the individualized management of a complex CSF disorder
Federico Di Rocco (France) |
| 14:15 – 14:30 | 130 | Multiloculated hydrocephalus: has endoscopic management always a role?
Sergey Gorelyshev (Russian Federation) |
| 14:30 – 14:45 | 131 | Hydrocephalus associated with Chiari I malformation: ETV and its failures
Francesco Sala (Italy) |
| 14:45 – 15:00 | 132 | Ruptured Sylvian arachnoid cysts: is there a consensus on when and how to treat them?
Marek Mandera (Poland) |
| 15:00 – 15:15 | 133 | Posterior fossa arachnoid cysts: a complex entity with different indications to surgical treatment
Martina Messing Juenger (Germany) |
| 15:15 – 15:30 | 134 | Intra and para ventricular arachnoid cysts: success and failure of the endoscopic management
Gianpiero Tamburrini (Italy) |
| 15:30 – 17:00 | | Discussion |

14:00 – 16:00
Adriatic

IANA Pre Congress Course- EANS/SNSS_Session 2

Course Directors: Imad N. Kanaan (United States),
Vladimir Benes (Czech Republic)

Chairs: Luciano Mastronardi (Italy),
Pablo Gonzalez Lopez (Spain)

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|---------------|-----|--|
| 14:00 – 14:15 | 135 | Retro-sigmoid Approach for CPA tumors and the role of Endoscopy
Imad N. Kanaan (United States) |
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** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

14:15 – 14:30	136	Facial Nerve outcomes in acoustic neuroma surgery Jacques Morcos (United States)
14:30 – 14:45	137	TBA Sebastien Froelich (France)
14:45 – 15:00	138	Microsurgical Anatomy for Supracerebellar Approach and variants Abuzer Gungor (Turkey)
15:00 – 15:15	139	Enough Lateral-Enough Telovelar Approach Vladimir Benes (Czech Republic)
15:15 – 15:30	140	Cranio-cervical junction Tumors Luciano Mastronardi (Italy)
15:30 – 15:45	141	Multimodality management on glioma surgery Pablo Gonzalez Lopez (Spain)
15:45 – 16:00	142	Panel Discussion – Closure
19:30 – 20:30 Pacific & Atlantic		Opening Ceremony

● Monday, October 17 ●

09:45 – 17:00

e-Posters Area, Exhibition Area

08:30 – 10:00
Pacific

Impact of peripheral nerve injury on trauma management strategies

Chairs: Ana Maria Castano Leon (Spain),
Carlos Rodriguez Aceves (Mexico)

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|---------------|-----|--|
| 08:30 – 08:40 | 143 | Nerve transfers for spinal cord injury
Justin Brown (United States) |
| 08:40 – 08:50 | 144 | Electric burn injuries on peripheral nerves: revision and case report
Carlos Rodriguez Aceves (Mexico) |
| 08:50 – 09:00 | 145 | Challenges in concomitant Tbi and plexus injury
Willem Pondaag (The Netherlands) |
| 09:00 – 09:10 | 146 | Timing and Strategy in acute peripheral nerve injury
Christian Heinen (Germany) |
| 09:10 – 09:17 | 147 | Reviving matrix for reconstruction of traumatic injuries to the peripheral nerves and spinal cord
<u>S. Rochkind</u> , M. Almog, Z. Nevo (t) |
| 09:17 – 09:24 | 148 | Early supraclavicular nerve grafting is superior to late Oberlin transfer in non-flail adult brachial plexus traction lesions
<u>J.L. Groen</u> , W. Pondaag, M.JA Malessy |
| 09:24 – 10:00 | | Discussion |

08:30 – 10:00
Exhibition Hall**

CPA

Chairs: Roy Daniel (Switzerland), Pierre Hugues Roche (France)

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|---------------|-----|--|
| 08:30 – 08:40 | 149 | How preoperative vestibular function can impact the functional outcome of vestibular schwannoma surgery
Tony Van Havenbergh (Antwerp, Belgium) |
| 08:40 – 08:50 | 150 | Potential clinical implications of tumour microenviroment in vestibular schwannoma
Andrew King (United Kingdom) |

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

08:50 – 09:00	151	Very long term outcome for vestibular schwannomas radiosurgery: about a cohort of 4777 patients Jean Regis (France)
09:00 – 09:10	152	Experience on the management of petroclival meningiomas Sebastien Froelich (France)
09:10 – 09:17	153	Auditory brainstem implantation grading scale: an original validated grading scale for clinical practice N. Fatima, G. Lekovic
09:17 – 09:24	154	Endoscopic approaches to orbital lesions C. Zoia , F. Lombardi, R. Pugliese, F. Pagella, G. Spena
09:24 – 09:31	155	Endoscope assisted bimanual technique for resection of intraventricular tumours J. Roach , A. Yarlagadda, P. Plaha
09:31 – 09:38	156	A frailty-adjusted surgical risk, post-operative, long-term functional outcome and quality of life prediction score for intracranial meningiomas L. Tariciotti , S. Carapella, G. Fiore, L.G. Remore, L. Schisano, S. Borsa, M. Pluderi, M. Canevelli, G. Marfia, M. Caroli, G. Bertani, M. Locatelli
09:38 – 09:45	158	Neoadjuvant B-RAF and MEK inhibitor targeted therapy for adult papillary craniopharyngiomas: a new treatment paradigm F. Calvanese , T. Jacquesson, R. Manet, A. Vasiljevic, H. Lasolle, F. Ducray, G. Raverot, E. Jouanneau
09:45 – 10:00		Discussion

08:30 – 10:00
Atlantic 1

PNS-Tumors and Entrapments

Chairs: Stefano Ferraresi (Italy), Thomas Kretschmer (Austria)

08:30 – 08:40	159	Benign peripheral nerve sheath tumors Hesham El Sobkey (Egypt)
08:40 – 08:50	160	Surgical approaches for the resection of the peripheral nerve sheath tumors at the sciatic notch; anterior vs posterior Line Jacques (United States)
08:50 – 09:00	161	Scalene and pectoralis muscle blocks in TOS: does it help? Annie Dubuisson (Belgium)
09:00 – 09:07	162	Surgical treatment of extraorganic tumors of the neck with compression of the neurovascular bundle A. Akhmadov , V. Lukshin, D. Usachev, A. Shulgina
09:07 – 09:14	163	Peroneal nerve entrapment: outcomes of neurolysis and correlation with intraoperative electrophysiological data D. Dang , A. Nwankwo, G. Bochorishvili, S. Lewis, J. Hamilton

09:14 – 09:21	164	Quality of Life and patient satisfaction in patients surgically treated for Cubital Tunnel Syndrome <u>M.E. Córdoba-Mosqueda</u> , L. Rasulić, S. Mandić-Rajčević, A. Mičić, C.A. Rodríguez-Aceves, S. Radojević, A. Savić, J. Grujić, I. Jovanović
09:21 – 09:28	165	Selective neurotomy for focal spasm treatment <u>M. Lepić</u> , J. Grujić, A. Savić, A. Mičić, S. Radojević, S. Matic, F. Vitošević, L. Rasulić
09:28 – 09:35	166	Sacral nerves reconstruction after surgical resection of a large sacral chordoma restores the urinary and sexual functionality and the anal continence <u>P. Familiari</u> , L.V. Berra, M. Palmieri, V. Di Norcia, L. D'Angelo, D. Armocida, M. Mongardini, M. Vigliotta, E. Maccari, A. Santoro
09:35 – 09:42	167	Individual burden of disease, impact on work status, and health related quality of life in surgically treated patients for meralgia paresthetica <u>S. Baruchi</u> , B. Schönberg, J. Reinsch, A. Zdunczyk, P. Vajkoczy, W. Klene, N.F. Dengler
09:42 – 10:00		Discussion
08:30 – 10:00 Atlantic 3		Epilepsy Surgery
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		Chairs: Dirk van Roost (Belgium), Alexandre Rainha Campos (Portugal)
08:30 – 08:40	168	Complications of Anterior Temporal Lobectomy and Amygdalo-Hippocampectomy: Avoidance Strategy Development. Kostas Fountas (Greece)
08:40 – 08:50	169	Robot-assisted endoscopic surgery for hypothalamic hamartomas Lorand Eross (Hungary)
08:50 – 09:00	170	Resection and disconnection in times of ablation – still justified to treat epilepsy? Marec von Lehe (Germany)
09:00 – 09:10	171	Non-invasive Treatment of essential tremor by MrgFUS: a single center 5-year experience Domenico Gerardo Iacopino (Italy)
09:10 – 09:17	172	Selective Dorsal Rhizotomy in non-ambulant children with cerebral palsy – results of a multi-centre, prospective study <u>C.S Gillespie</u> , B.J Hall, D. Hennigan, R. Kumar, K. Martin, M. Vloeberghs, K. Aquilina, B. Pettorini
09:17 – 09:24	173	VNS – second chance for a patient after failed epilepsy surgery <u>I. Trifonov</u> , V. Krylov, A. Guekht, A. Nekhoroshikh, A. Magomed Sultanov, R. Navruzov, O. Kordonskaya, I. Kaïmovskii

09:24 – 09:31 175 **The effect of colored pain drawing on outcome in patients undergoing Gamma Knife radiosurgery for trigeminal neuralgia**
S. Peker, Y. Samanci

09:31 – 09:38 176 **Structural changes in brains of patients with disorders of consciousness treated with deep brain stimulation**
M. Raguz, F. Almahariq, N. Predrijevac, D. Dlaka, D. Oreskovic, A. Rotim, D. Romic, P. Marcinkovic, A. Kastelancic, V. Deletis, I. Kostovic, D. Chudy

09:38 – 10:00 **Discussion**

08:30 – 10:00 **Masterclass*: Spinal arteriovenous malformations**
 Mediterranean

Chairs: Andreas Raabe (Switzerland), Wouter Moojen (The Netherlands)

08:30 – 08:45 177 **How to treat spinal AVMs?**
 Veit Rohde (Germany)

08:45 – 09:00 178 **Spinal AVMs: surgical considerations**
 Marco Cenzato (Italy)

09:00 – 09:15 179 **Endovascular approach to spinal avms: technique, tips and tricks**
 Simone Peschillo (Italy)

09:15 – 09:30 180 **Surgery for spinal AVM: strategy and nuances**
 Michael Lawton (United States)

09:30 – 10:00 **Discussion**

08:30 – 10:00 **Masterclass*: Same brain tumour, different approaches in adults and children**
 Adriatic

Chairs: Francesco Sala (Italy), Aristeidis Prassas (Greece)

08:30 – 08:45 181 **Why are Pediatric brain tumors different from the adult counterpart?**
 Jehuda Soleman (Switzerland)

08:45 – 09:00 182 **Strategy on the treatment of visual pathway gliomas**
 Sergey Gorelyshev (Russian Federation)

09:00 – 09:15 183 **Surgical updates in glioma evolution**
 Tamara Ius (Italy)

09:15 – 09:30 184 **Craniopharyngioma in children – limits of surgical treatment**
 Marek Mandra (Poland)

09:30 – 10:00 **Discussion**

* Masterclasses are for EANS Members only. Upon pre-registration.

08:30 – 10:00
Aegean

Masterclass*: New Strategies and Technologies

Chair: Maria Luisa Gandia Gonzalez (Spain)

- 08:30 – 08:45 185 **Concept and benefits of ERAS**
Bertrand Debono (France)
- 08:45 – 09:00 186 **Robotics in spine surgery**
Nikolay Gabrovsky (Bulgaria)
- 09:00 – 09:15 187 **Artificial intelligence in spine surgery – promising or overrated**
Victor Staartjes (Switzerland)
- 09:15 – 09:30 188 **Digital Phenotyping: Can Smartphones, Real World Data and Machine Learning Translate into Quality of Life in Spine Patients?**
Timothy Smith (The Netherlands)

09:30 – 10:00 **Discussion**

10:00 – 10:40 **Coffee Break**

10:00 – 10:40 **ePoster Presentations**
Presentation booth 1 For detailed information see the ePoster section (page 90)

10:00 – 10:40 **ePoster Presentations**
Presentation booth 2 For detailed information see the ePoster section (page 91)

10:40 – 11:20
Pacific

Lifetime AA and European Lecture

Chairs: Andreas Demetriades (United Kingdom),
Lukas Rasulić (Serbia)

- 10:40 – 10:45 189 **Lifetime Achievement Award**
Miroslav Samardzic (Serbia)
- 10:45 – 11:00 190 **Peripheral Nervous System Surgery – Neurosurgery Beyond Technology**
Lukas Rasulić (Serbia)
- 11:00 – 11:02 **Introduction to European Lecture**
Andreas Demetriades (United Kingdom)

* Masterclasses are for EANS Members only. Upon pre-registration.

11:02 – 11:20 191 **European lecture: Translational research in neurotrauma: the Biomarker Avenue (and some dead ends...)**
Andras Buki (Sweden)

11:20 – 13:00
Pacific

Global Neurosurgery

Chairs: Gail Rosseau (United States),
Andreas Demetriades (United Kingdom),
Lukas Rasulić (Serbia), Johannes van Loon (Belgium)

11:20 – 11:25 **Introduction**
Andreas Demetriades (United Kingdom)

11:25 – 11:35 **Medal of Honour**
Andre Grotenhuis (Netherlands)

11:35 – 11:40 **Award for Exceptional Service to European Neurosurgery**
Mustafa Necmettin Pamir (Turkey)

11:40 – 11:45 **Award for Exceptional Service to European Neurosurgery**
Vinko Dolenc (Slovenia)

11:45 – 11:50 **Award for Exceptional Service to European Neurosurgery**
Panagiotis Selviaridis (Greece)

11:50 – 12:52 **Panel discussion / round table/ couch discussion**

EANS GHC
Jesus Lafuente (Spain)

CAANS
Mahmood Qureshi (Kenya)

WFNS
Franco Servadei (Italy)

EANS GHC
Magnus Tisell (Sweden)

12:52 – 13:00 192 **Best Abstract in Global Neurosurgery: A collaborative approach to improve neurotrauma care and data collection – the Global Epidemiology and Outcomes after Traumatic Brain Injury (GEO-TBI) registry**
T.K. Korhonen, S. Gnanakumar, D. Clark, A. Kolias, T. Bashford,
K. Budohoski, R. Trivedi, D. Menon, P. Hutchinson, A. Joannides

13:00 – 14:30 **Lunch Break**

13:00 – 14:30
Presentation booth 1 **ePoster Presentations**
For detailed information see the ePoster section (page 92)

13:00 – 14:50
Presentation booth 2 **ePoster Presentations**
For detailed information see the ePoster section (page 94)

13:15 – 14:15
Atlantic 1 **Industry Sponsored Symposium**

13:15 – 14:15
Atlantic 3 **Industry Sponsored Symposium**

14:30 – 16:10
Pacific **Trauma Trends and Insights**

Chairs: Djula Djilvesi (Serbia), Bart Depreitere (Belgium)

- | | | |
|---------------|-----|--|
| 14:30 – 14:45 | 200 | Guideline adherence and impact on TBI outcome
Wilco Peul (The Netherlands) |
| 14:45 – 15:00 | 201 | The changing epidemiology of CNS injuries
Andreas Unterberg (Germany) |
| 15:00 – 15:15 | 202 | Update on the RESCUEicp and RESCUE-ASDH decompressive craniectomy randomised trials
Angelos Kolias (United Kingdom) |
| 15:15 – 15:30 | 203 | Mild TBI – Return to Sports and Work
Teemu Luoto (Finland) |
| 15:30 – 15:38 | 204 | Best Abstract in Trauma and Critical Care: Traumatic Brain Injury in the elderly population: changes in injury patterns, management and outcome over a 2 decade period
<u>R.A. Gavrila Laic</u> , J. Vander Sloten, B. Depreitere |
| 15:38 – 15:46 | 205 | SBest Abstract in Trauma and Critical Care: Simultaneous supra- and infratentorial ICP monitoring in patients with posterior fossa lesions: Nonsense or necessity? Preliminary results of the DUAL-ICP trial
<u>O. Petr</u> , T. Petutschnigg, W.M. Ho, A. Krigers, A. Treichl, P. Geiger, C. Preuss-Hernández, C. Thomé |
| 15:46 – 16:10 | | Discussion |

14:30 – 16:00
Mediterranean

Masterclass*: Ethics in publication

Chair: Wail Mohammed (Ireland)

14:30 – 14:50 206

Treacherous Incentivisation
Tiit Mathiesen (Denmark)

14:50 – 15:10 207

Ethics of Innovation publication
Marike Broekman (The Netherlands)

15:10 – 15:30 208

Code of Publication Ethics
Naci Balak (Turkey)

15:30 – 16:00

Discussion

14:30 – 16:00
Adriatic

Masterclass*: Combination of surgery and radiosurgery in the treatment of secreting pituitary adenomas

Chairs: Sergej Marasanov (Croatia),
Josa M. Frischer (Austria)

14:30 – 14:45 209

Endoscopic Surgery: Endocrinological results
GiovanniBatista Lasio (Italy)

14:45 – 15:00 210

Radiosurgery after surgery in secreting adenomas
Roman Liskak (Czech Republic)

15:00 – 15:15 211

Complications of radiosurgical treatments for pituitary adenomas
Selcuk Peker (Turkey)

15:15 – 16:00

Discussion

16:10 – 16:50

Coffee Break

16:10 – 16:50
Presentation booth 1

ePoster Presentations
For detailed information see the ePoster section (page 97)

16:10 – 16:50
Presentation booth 2

ePoster Presentations
For detailed information see the ePoster section (page 98)

* Masterclasses are for EANS Members only. Upon pre-registration.

16:50 – 18:20
Pacific

Brain metastases

Chairs: Hakan Emmez (Turkey), Christian Freyschlag (Austria)

16:50 – 17:00	212	Modern management strategies for brain metastases Naureen Keric (Germany)
17:00 – 17:10	213	Developing a novel, population-specific prognosis prediction system in the case of surgically treated metastases patients Peter Banczerowski (Hungary)
17:10 – 17:20	214	Using genomics for drug discovery in brain metastases – from patient samples to preclinical trials Cláudia Faria (Portugal)
17:20 – 17:27	215	Sodium fluorescein and YELLOW 560 nm filter for resection of newly diagnosed glioblastoma: impact on resection quality and outcome <u>J. Hoehne</u> , K.-M. Schebesch, C. Doenitz, K. Rosengarth, N.O. Schmidt, M. Proescholdt
17:27 – 17:34	216	How to dose-stage large or high risk brain metastases – an alternative two-fraction radiosurgical treatment approach <u>J.M. Frischer</u> , A. Cho, H. Untersteiner, D. Hirschmann, C. Dorfer, K. Rössler, B. Gatterbauer, W. Marik, S. Ilyalov
17:34 – 17:41	217	Defining the role of surgery in patients with multiple brain metastases <u>T.F. Ersoy</u> , D. Brainman, R. Coras, A. Grote, M. Simon
17:41 – 17:48	218	Radiogenomics and radiomics of Skull Base Chordoma: machine learning-based classification of genetic signatures and clinical outcomes by multiparametric MRI <u>G.A. Zenonos</u> , Z.C. Gersey, S. Zenkin, M. Ak, P. Mamindla, V. Peddagangireddy, H. Abdullah, N. Muthiah, C.H. Snyderman, E.W. Wang, P.A. Gardner, R. Colen
17:48 – 17:55	219	Recurrent local cerebral metastases. The role of surgery in 23 patients <u>S. Telera</u> , R. Gazerri, L. Raus, V. Veronica, F. Rasile, M. Lecce, F. Crispo, A. Costantino, F. Giordano, C. Delfinis, A. Pace
17:55 – 18:02	220	An intra-operative brain tumour recognition tool: when smoke, fluorescence, biomarkers and immune cells come together <u>E. Cuypers</u> , L. Van Hese, B. Balluff, S. De Vleeschouwer, T. Theys, R.M. Heeren
18:02 – 18:09	221	IN VIVO confocal endomicroscopy in neuro-oncological surgery: preliminary results from a monocentric prospective blinded trial using CONVIVO at Neurological Institute Carlo Besta <u>F. Acerbi</u> , F. Restelli, E. Mazzapicchi, G. Bonomo, J. Falco, E. Vetrano, M. Broggi, M. Schiariti, B. Pollo, I. Tramacere, F. Di Meco, P. Ferroli
18:09 – 18:16	222	Evaluation of the diagnostic value of confocal laser

endomicroscopy images in brain tumors

M. Gutt-Will, T. Maragkou, K. Seidel, A. Mathis, E. Hewer, I. Iff, S. Finkenstaedt, P. Schucht, A. Raabe

18:16 – 18:20

Discussion

16:50 – 18:20

Exhibition Hall**

Complication avoidance in aneurysm surgery

Chairs: Peter Vajkoczy (Germany), Patricia Polonia (Portugal)

16:50 – 17:00

223

Adjuncts for successful aneurysm surgery

Daniel Walsh (United Kingdom)

17:00 – 17:10

224

Hybrid OR: toy or game changer

Andreas Gruber (Austria)

17:10 – 17:20

225

Complications in brain aneurysm surgery

Goran Tasic (Serbia)

17:20 – 17:27

226

Propranolol as a potentially novel treatment of arteriovenous malformations: from bench to bedside

S. Kashefiolasi, M. Leisegang, R. Patel, P. Kan, C. Foerch, R. Du Mesnil, V. Seifert, R. Brandes, V. Prinz, J. Konczalla, J.-K. Burkhardt, M. Czabanka

17:27 – 17:34

227

Microsurgical clipping vs. Woven EndoBridge (WEB) device for the management of ruptured wide-neck bifurcation aneurysms

B. Kranawetter, D. Mielke, V. Rohde, V. Malinova, S. Hernández-Durán

17:34 – 17:41

229

Prospective assessment of the clinical course and outcome in non-aneurysmal subarachnoid haemorrhage

W. Dronkers, R. Post, B. Coert, R. van den Berg, M. Germans, W.P. Vandertop, D. Verbaan

17:41 – 17:48

230

Natural history of intracavernous aneurysms – cohort of 250 patients with 276 aneurysms

E. Leivo, B. Rezai Jahromi, J. Numminen, R. Kivisaari, H. Kaukovalta, M. Niemelä

17:48 – 17:55

231

De novo intracranial aneurysm formation in young (<40 years) aneurysm patients

S. Naderi, B. Rezai Jahromi, O. Rustemi, J. Silva, R. Kivisaari, H. Kaukovalta, M. Niemelä

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

17:55 – 18:02 232 **Successful weaning vs. permanent cerebrospinal fluid diversion after aneurysmal subarachnoid hemorrhage – post-hoc analysis of a Swiss multicenter study**
A. El-Garci, J. Velz, P. Bijlenga, R. Maduri, A. Chiappini, T. Robert, J. Goldberg, N. Maldaner, O. Bozinov, E. Keller, M. Germans, L. Regli, I. Hostettler, M. Stienen

18:02 – 18:20 **Discussion**

16:50 – 18:20 **Degenerative Diseases**
 Atlantic 1

Chairs: Nikolay Gabrovsky (Bulgaria),
 Carmen Vleggeert-Lankamp (The Netherlands)

16:50 – 17:00 233 **Lumbar endoscopy debate: pro**
 Enrico Tessitore (Switzerland)

17:00 – 17:10 234 **Lumbar endoscopy debate: con**
 Florian Ringel (Germany)

17:10 – 17:20 235 **Pre-treatment patients' expectations and factors affecting outcome of degenerative lumbar disease**
 Djula Djilvesi (Serbia)

17:20 – 17:27 236 **Impact of sarcopenia and bone density on implant failure and adjacent level degeneration in lumbar instrumentation**
H. Krenzlin, E. Kurz, C. Schulze, F. Ringel, N. Keric

17:27 – 17:34 237 **Novel modification of midline lumbar interbody fusion (mMIDLIF): A series of 28 patients**
B. Trnovec, P. Hudák, J. Šipoš, K. Varga, V. Kissová, R. Chrenko, S. Trnovec, M. Liška, K. Kolečák

17:34 – 17:41 238 **Bladder function recovery after surgical decompression of cauda equina in patients with lumbar disc herniation**
V. Bogosavljević, D. Radulović, I. Cvrkota, R. Šćekić, R. Čulafić, M. Đurović, V. Aleksić

17:41 – 17:48 239 **The value of psychosocial factors in predicting postoperative somatoform disorder and surgical outcome in patients operated for Degenerative Disc Disease (DDD) - a preliminary study**
R. Jabbar, A. Pawelczyk, R. Jekimov, T. Pawelczyk, M. Radek

17:48 – 17:55 240 **The occurrence of sacroiliac joint (SIJ) syndrome following lumbar decompression, lumbar fusion and possibilities of its treatment**
J. Sipos, B. Trnovec, P. Hudak, M. Liska

17:55 – 18:02 241 **Clinical utility of Radiofrequency Echographic Multi Spectrometry (REMS) scans in surgical planning for spinal fusions**
 S. Koga

18:02 – 18:09 242 **Efficacy and indications of Anterior Lumbar Interbody Fusion (ALIF): A single-center experience on more than 100 cases**
R. Draghi, I. Borghesi, I. Barni, G. Staffa, A. G. Ghisellini,
 R. Bassani, A. Delitala, F. Lolli

18:09 – 18:20 **Discussion**

16:50 – 18:20 **Chronic and acute subdural hematoma**
 Atlantic 3

Chairs: Petar Vulekovic (Serbia), Alexander Younsi (Germany)

16:50 – 17:00 243 **Technique and role for MMA embolization**
 Jo Peluso (Belgium)

17:00 – 17:10 244 **Antithrombotic therapy and CSDH**
 Parmenion Tsitsopoulos (Greece)

17:10 – 17:20 245 **Irrigation fluid temperature: the SIC study**
 Andreas Bartley (Sweden)

17:20 – 17:27 246 **Impact of oral anticoagulation and adenosine diphosphate inhibitor therapies on short-term outcome of traumatic brain injury**
J.P. Posti, J.O. Ruuskanen, J.O. Sipilä, T.M. Luoto, P. Rautava, V. Kytö

17:27 – 17:34 247 **GET-UP randomized prospective trial: a one-year interim analysis of the third quartile**
S. Sousa, V. Sá Pinto, F. Vaz da Silva, T. Costa, A. Picão Fernandes,
 R. Batata, R. Rangel, A. Calheiros

17:34 – 17:41 248 **Differences in presentation, radiological features, and outcome in traumatic versus spontaneous acute subdural hematomas – a single-institution population-based study**
A. Corell, D. Khaki, J. Ljungqvist, A. Kirknes, J. Bartek

17:41 – 17:48 249 **Middle meningeal artery embolization for chronic subdural hematoma: a systematic review and meta-analysis**
H. Ghaith, M. Diaa, S. Desouki, A. Negida

17:48 – 17:55 250 **The role of active or passive drainage after evacuation of chronic Subdural Hematoma: an analysis of two randomized controlled trials (cSDH-Drain-trial and TOSCAN trial)**
F. Ebel, L. Greuter, K. Lutz, L. Häni, J. Fandino, R. Guzman, L. Mariani,
 J. Beck, A. Raabe, W.J. Z'Graggen, P. Schucht, J. Soleman

17:55 – 18:02 251 **Cerebral perfusion changes in acute Subdural Hematoma**
G. Santos Piedade, J. Winkler, C. Rubbert, D. Hänggi, M.A. Kamp, P.J. Slotty

18:02 – 18:09	252	<p>Surgery versus conservative treatment for traumatic acute subdural hematoma: a prospective, multicentre, comparative effectiveness study <u>T.A. Van Es</u>sen, H.F. Lingsma, D. Pisciă, R.D. Singh, V. Volovici, H.F. den Boogert, A. Younsi, L.D. Peppel, M.H. Heijjenbrok-Kal, G.M. Ribbers, R. Walchenbach, D.K. Menon, P. Hutchinson, B. Depreitere, E.W. Steyerberg, A.I.R. Maas, W.C. Peul, the CENTER-TBI Investigators and Participants</p>
18:09 – 18:20		Discussion
16:50 – 18:20		DBS surgery
<hr/>		
		Chairs: Linda Ackermans (The Netherlands), Niels van der Gaag (The Netherlands)
16:50 – 17:00	253	<p>Mechanism of action in DBS of basal nuclei Cihan Isler (Turkey)</p>
17:00 – 17:10	254	<p>Prediction of deep brain stimulation outcomes with machine learning from multimodal pre-operative biomarkers Claire Haegelen (France)</p>
17:10 – 17:20	255	<p>Deep Brain Stimulation in Disorders of Consciousness Darko Chudy (Croatia)</p>
17:20 – 17:30	256	<p>Neurosurgical ablative procedures for pain palliation at the end of Life Ido Strauss (Israel)</p>
17:30 – 17:37	257	<p>Gait and balance after bilateral DBS or radiosurgery in essential tremor <u>J. Regis</u>, M. Valentin, T. Witjas, A. Cretol, R. Carron, J.P. Azulay, A. Eusebio</p>
17:37 – 17:44	258	<p>Deep brain stimulation in disorders of consciousness: a single institutional experience <u>D. Chudy</u>, V. Deletis, F. Almahariq, D. Dlaka, D. Romić, N. Predrijevac, D. Oreskovic, A. Kastelancic, P. Marcinkovic, M. Raguz</p>
17:44 – 17:51	259	<p>Voice analysis for patients with essential tremor and tremor dominant Parkinson's disease before and after deep brain stimulation in posterior subthalamic area <u>D. Giakoumettis</u>, H.L. Low</p>
17:51 – 17:58	260	<p>Immersive three-dimensional modeling augmented reality and virtual reality for enhanced visualization of the white matter pathways <u>S.O. Aydin</u>, M.O. Yilmaz, G. Akyoldas, O. Baran</p>
17:58 – 18:05	261	<p>High-resolution 7 Tesla magnetic resonance metabolic imaging in epilepsy patients <u>F. Winter</u>, G. Hangel, P. Lazen, M. Tomschik, J. Wais, L. Hingerl, B. Strasser, G. Kasprian, D. Prayer, J. Furtner, S. Aull-Watschinger, S. Bonelli, E. Patariaia, C. Dorfer, W. Bogner, S. Trattinig, K. Roessler</p>
18:05 – 18:20		Discussion

16:50 – 18:20
Adriatic

Masterclass*: Nerve injuries

Chairs: Robert Spinner (United States), Mariano Socolovsky (Argentina)

- | | | |
|---------------|-----|--|
| 16:50 – 17:05 | 262 | The Presence and Persistence of Unrealistic Expectations in Patients Undergoing Nerve Surgery
Robert Spinner (United States) |
| 17:05 – 17:20 | 263 | Traumatic nerve lesions
Mariano Socolovsky (Argentina) |
| 17:20 – 17:30 | 264 | Better outcome after acute surgery in adult brachial plexus injury
Justus Groen (The Netherlands) |
| 17:30 – 17:45 | 265 | Early experience with 7T MRI and peripheral nerve tumors
Robert Spinner (United States) |
| 17:45 – 18:00 | 266 | Injury patterns and management of neonatal brachial plexus injuries. Our experience in the UAE
Debora Garozzo (United Arab Emirates) |
| 18:00 – 18:20 | | Discussion |

16:50 – 18:20
Aegean

Masterclass*: Meet the masters

Chairs: Dimitris Paraskevopoulos (United Kingdom),
Massimiliano Visocchi (Italy)

- | | | |
|---------------|-----|--|
| 16:50 – 17:05 | 267 | Vestibular schwannomas
Marcos Tatagiba (Germany) |
| 17:05 – 17:20 | 268 | Large posterior fossa meningioma surgery
Ekkehard Kasper (United States) |
| 17:20 – 17:35 | 269 | Falco tentorial meningioma surgery
Ekkehard Kasper (United States) |
| 17:35 – 17:50 | 270 | Management of posterior fossa veins and sinuses
Moncef Berhouma (France) |
| 17:50 – 18:20 | | Discussion |

* Masterclasses are for EANS Members only. Upon pre-registration.

● Tuesday, October 18 ●

09:45 – 17:00

e-Posters Area, Exhibition Area

08:30 – 10:00

Pacific

Spinal Trauma & intradural tumors

Chairs: Bart Depreitere (Belgium), Emma Svendsdotter (Sweden)

- 08:30 – 08:40 271 **Controversies in cervical spine trauma management in the elderly**
Luis Marques (Portugal)
- 08:40 – 08:50 272 **Odontoid fractures in the elderly: Innovate trial results**
Carmen Vleggeert-Lankamp (The Netherlands)
- 08:50 – 09:00 273 **Timing of decompression in SCI: SCI-POEM results**
Giuseppe Barbagallo (Italy)
- 09:00 – 09:07 274 **Concomitant upper cervical spine trauma in Traumatic Brain Injury: lessons from an institutional case series**
N. Marchesini, A. K. Demetriades, W. Peul, N. Tommasi, P. Zanatta, G. Pinna, F. Sala
- 09:07 – 09:14 275 **Onsite pressure monitoring in spinal cord compression of traumatic and degenerative origin**
Goran Pavlicevic (Serbia)
- 09:14 – 09:21 276 **Spinal meningiomas: influence of cord compression and radiological features on preoperative functional status and outcome**
A. Moiraghi, V. Baro, V. Carlucci, L. Paun, M. Anglani, A. Saladino, F. Chioffi, D. D'Avella, A. Landi, A. Bartoli, F. Dimeco, K. Schaller, L. Denaro, E. Tessitore
- 09:21 – 09:28 277 **Is facetectomy required for the resection of dumbbell tumors in the lumbar spine?**
M. Schwake, M. Mütther, E. Maragno, M. Gallus, B. Al Barim, W. Stummer
- 09:28 – 09:35 278 **Factors influencing neurological recovery after surgical treatment of spinal meningiomas in the elderly: a meta analysis of multiple centers experience**
N. Tahhan, A. Moiraghi, A. Delaidelli, A. Saladino, V. Baro, L. Paun, F. DiMeco, L. Denaro, T. Meling, E. Tessitore, C. Barrey
- 09:35 – 09:42 279 **Mental status plays an important role in outcome of spinal stenosis surgery**
J.M. van Grafhorst, C.L. Vleggeert-Lankamp
- 09:42 – 10:00 **Discussion**

08:30 – 10:00
Exhibition Hall**

Meningiomas & Rare Tumours

Chairs: Matthias Simon (Germany), Tina Karabatsou (United Kingdom)

08:30 – 08:40	280	Grading meningioma resections Jeppe Lohfert Haslund Vinding (Denmark)
08:40 – 08:50	281	Management of pineal tumours Tina Karabatsou (United Kingdom)
08:50 – 09:00	282	Dysembryoblastic neuroepithelial tumors: surgical and seizure outcomes Tomislav Sajko (Croatia)
09:00 – 09:07	283	Diagnostic discrepancy between MRI-based non-GBM like tumors and molecular GBM-confirmation based on the 2021-WHO-classification of CNS tumors <u>F. Bytyqi</u> , M. Lotfinia, A. Koch, F. Sergejew, E. Spuentrup, J. Walter, M. Walter-Diessars
09:07 – 09:14	284	nTMS-derived DTI-based motor fiber tracking in radiotherapy treatment planning of high-grade gliomas for avoidance of motor structures <u>E. Rosenkranz</u> , M. Schwendner, M. Mißlbeck, N. Sollmann, S. Ille, D. Bernhardt, B. Meyer, S.E. Combs, C.D Diehl, S.M Krieg
09:14 – 09:21	285	Diagnostic performance of machine learning based MR techniques vs conventional MR images in brain tumors – A Systematic Review and meta-analysis <u>S. Chatterjee</u> , R. Alkhalidi, P. Yadav, L.D. Bethineedi, N.D.A. Bankole
09:21 – 09:28	286	Metastatic markers as potential targets for the treatment of glioblastoma M. Vogel, B. Söhl, <u>P. Baumgarten</u> , C. Senft, F. Schwarz, D. Freitag
09:28 – 09:35	287	Intraoperative real-time near-infrared image-guided surgery to identify intracranial meningiomas by Indocyanine green – DWIG technique <u>J. Muto</u> , Y. Mine, Y. Nishiyama, K. Murayama, S. Yamada, D. Kojima, M. Hayakawa, K. Adachi, M. Hasegawa, J. Lee, Y. Hirose
09:35 – 10:00		Discussion

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

08:30 – 10:00
Atlantic 1

Vascular Diseases

Chairs: Martin Sames (Czech Republic),
Dimitry Usachev (Russian Federation)

- | | | |
|---------------|-----|--|
| 08:30 – 08:40 | 288 | Surgical Management of giant aneurysm of the vertebro-basilar junction
Antonio Bernardo (United States) |
| 08:40 – 08:50 | 289 | Causes of death in aneurysmal SAH – any change within the last 2 decades?
Dorothee Mielke (Germany) |
| 08:50 – 09:00 | 290 | Brainstem Cavernomas – challenges and strategies to improve outcomes
Domingos Coiteiro (Portugal) |
| 09:00 – 09:10 | 291 | Brainstem Cavernomas: which treatment should be applied when?
Ulrich Sure (Essen, Germany) |
| 09:10 – 09:17 | 292 | Impact of neurosurgical treatment on 30-days mortality after spontaneous intracerebral haemorrhage
<u>R.M. Krzyżewski</u> , K.M. Kliś, B.M. Kwinta, K. Stachura, T. Popiela, J. Gąsowski, A. Stowik |
| 09:17 – 09:24 | 293 | Female hormone therapy and risk of intracranial haemorrhage from cerebral cavernous malformations: a multicentre observational cohort study
<u>A. Santos</u> , S.M. Zuurbier, K. Flemming, G. Lanzino, R. Jabbarli, U. Sure, P. Dammann |
| 09:24 – 09:31 | 294 | Effects of medication intake on the risk of haemorrhage in patients with sporadic cerebral cavernous malformations
<u>B. Chen</u> , A.N. Santos Saint Romain, A. Lenkeit, L. Rauschenbach, R. Jabbarli, K.H. Wrede, U. Sure, P. Dammann |
| 09:31 – 09:38 | 295 | Medication intake and hemorrhage risk in patients with Familial Cerebral Cavernous Malformations
<u>C. Rieß</u> , A. Santos, L. Rauschenbach, D. Saban, B. Chen, A. Lenkeit, H. Gull, C. Deuschl, B. Schmidt, R. Jabbarli, K. Wrede, Y. Zhu, B. Frank, U. Sure, P. Dammann |
| 09:38 – 09:45 | 296 | How can we optimize the long-term outcome in children with intracranial cavernous malformations? A single-center experience of 61 cases
<u>D. Hirschmann</u> , A. Cho, K. Roessler, O. Ciobanu, A. Peyrl, M. Feucht, J.M. Frischer, T. Czech, C. Dorfer |
| 09:45 – 09:52 | 297 | Factors associated with subsequent subarachnoid hemorrhages in patients with multiple intracranial aneurysms
<u>L. Rigante</u> , H.D Boogaarts, R.H. Bartels, P. Vart, R. Aquarius, JA. Grotenhuis, W. Moudrous, A.M. De Korte, J. De Vries |
| 09:52 – 10:00 | | Discussion |

08:30 – 10:00
Atlantic 3

Young Neurosurgeons Training Challenges

Chairs: Cesare Zoia (Italy), Evangelos Drosos (United Kingdom)

- 08:30 – 08:40 298 **Neurosurgery and medical students: does the medical school curriculum allow appropriate exposure to our specialty and how can we enhance the recruitment of future neurosurgeons?**
Andreas Demetriades (United Kingdom)
- 08:40 – 08:50 299 **Culture of medicine as a barrier to training**
Katrin Rabie (Sweden)
- 08:50 – 09:00 300 **Transformation of neurosurgical training: from "see one, do one, teach one" to AR/VR and simulators**
Felix Stengel (Germany), Giovanni Raffa (Italy)
- 09:00 – 09:07 301 **Medical students' perceptions of neurosurgery**
A. Esen Aydin, N. Gazioglu, A. Tasiou, M. Murphy, M. Broekman, S. Mihaylova, H.B Magnadottir, X. Lambrianou, I.K Janssen, M. Karampouga, S.H. Duran, P. Vayssiere, E. Pajaj, S. Al-Ahmad, N. Salokorpi, A. Rodríguez-Hernández, D.L. Ivan, E. Tsiانaka, G. Rosseau
- 09:07 – 09:14 302 **Attitudes towards neuroanatomy amongst neurosurgeons: An international, two-stage cross-sectional survey**
S. B. Joshi, M. Khan, A. S. Pandit
- 09:14 – 09:21 303 **The prevalence of Imposter syndrome among young neurosurgeons and residents in neurosurgery: a multicentric study**
I. Zaed, D. Bongetta, G.M. Della Pepa, C. Zoia, T. Somma, M. Zoli, G. Raffa, G. Menna, SINch Young Neurosurgeons Study Group
- 09:21 – 09:28 304 **Improving the neurosurgery inpatient weekend handover at the National Hospital for Neurology & Neurosurgery**
S.M.B. Momin, A. Zubair, P. Sayal
- 09:28 – 09:35 305 **The medicolegal burden in neurosurgery: an analysis of closed malpractice claims in the Netherlands between 2007 and 2017**
W. Dronkers, D. Buis, Q. Amelink, V. Staartjes, G.-J. Bouma, C. Dirven, W. Peul, WP. Vandertop, M. Broekman, J. Spoor
- 09:35 – 09:42 306 **Medical student training using augmented reality and cadaver-free brain models by UpSurgeOn: an educational effectiveness study**
I.E. Efe, E. Cinkaya, M. Brüsselner
- 09:42 – 09:49 307 **Global Training Project 2021: report of an international non-profit initiative to bring cadaver-free training to LMICs**
L.-G. Roumy, F. Nicolosi, G. Spena, A. Koliass, I. Esene, C.G. Glussani, F. Servadei
- 09:49 – 10:00 **Discussion**

08:30 – 10:00
Mediterranean

Spine Radiosurgery

Chairs: Kita Sallabanda (Germany), Artur Xhumari (Albania)

- 08:30 – 08:40 308 **Combination of surgery and SRS**
Kita Sallabanda (Spain)
- 08:40 – 08:50 309 **Radiosurgery alone: indications**
Antonio Santacroce (Germany)
- 08:50 – 09:00 310 **Radiosurgery for benign lesions**
Andrey V Golanov (Russian Federation)
- 09:00 – 10:00 **Discussion**

08:30 – 10:00
Adriatic

Masterclass*: Does CSF circulation differ in children and adults?

Chairs: Karl Roessler (Austria), Mansoor Foroughi (United Kingdom)

- 08:30 – 08:45 311 **Update on CSF Pressure and Circulation**
Miroslav Vukic (Croatia)
- 08:45 – 09:00 312 **Normal Pressure Hydrocephalus: what we do not know**
Giorgio Palandri (Italy)
- 09:00 – 09:15 313 **NPH treatment does not end with surgery**
Uwe Kehler (Germany)
- 09:15 – 09:30 314 **Modern theories of CSF circulation**
Sergey Gorelyshev (Russian Federation)
- 09:30 – 10:00 **Discussion**

08:30 – 10:00
Aegean

Masterclass*: Penetrating TBI & SCI

Chairs: Parmenion Tsitsopoulos (Greece), Aurelia Peraud (Germany)

- 08:30 – 08:45 315 **Gunshot head trauma. Pathophysiology and management**
Kostas Fountas (Greece)
- 08:45 – 09:00 316 **Penetrating trauma in Sweden in the last decade**
Elham Rostami (Sweden)
- 09:00 – 09:15 317 **Management of stabbing spinal injuries**
Brad Harrington (South Africa)

* Masterclasses are for EANS Members only. Upon pre-registration.

09:15 – 09:30	318	Gunshot spinal cord injury Parmenion Tsitsopoulos (Greece)
09:30 – 10:00		Discussion
10:00 - 10:40		Coffee Break
10:00 – 10:40		ePoster Presentations
Presentation booth 1		For detailed information see the ePoster section (page 101)
10:00 – 10:40		ePoster Presentations
Presentation booth 2		For detailed information see the ePoster section (page 102)
10:40 – 11:20		Education and Training
Pacific		
		Chairs: Andreas Demetriades (United Kingdom), Karl Schaller (Switzerland)
		Panel discussion / round table/ couch discussion
10:40 – 10:46	320	CAANS Graham Fieggen (South Africa)
10:46 – 10:52	321	AANS as an Enterprise Supporting Research and Education Ann Stroink (United States)
10:52 – 10:58	322	EANS Vakis Papanastassiou (Nicosia, Cyprus)
10:58 – 11:20		Discussion
11:20 – 12:35		Update in skull base neurosurgery
Pacific		
		Chairs: Michael Bruneau (Belgium), Miodrag Rakic (Serbia)
11:20 – 11:35	325	Porus trigeminus meningiomas: comprehensive management Pierre Hugues Roche (France)
11:35 – 11:47	326	Surgical treatment of crano-orbital and craniofacial meningiomas Nikolay Lasunin (Russian Federation)

11:47 – 11:59	327	Management of cavernous sinus meningiomas: Consensus statement on behalf of the EANS skull base section Torstein Meling (Switzerland)
11:59 – 12:11	328	Retractorless Brain Surgery for Skull Base Meningiomas Moshe Attia (Israel)
12:11 – 12:19	329	BBest Abstract in Skull Base Neurosurgery: Bigger isn't better! Macroadenomas in Cushing's disease, a single center experience and outcomes <u>A. Cavalli</u> , S. Mirza, J. Newell-Price, S. Sinha
12:19 – 12:27	330	Best Abstract in Skull Base Neurosurgery: Endocrinological aspects of pituitary adenoma surgery in Europe <u>D. Netuka</u> , A. Grotenhuis, N. Foroglou, F. Zenga, S. Froehlich, F. Ringel, N. Sampron, N. Thomas, M. Komarc, M. Kosak, M. Majovsky
12:27 – 12:35		Discussion
12:35 – 13:05 Pacific		Awards Ceremony
		Chairs: Andreas Demetriades (United Kingdom), Asgeir Jakola (Sweden), Johannes van Loon (Belgium), Aki Laakso (Finland)
		A Prize: Best Laboratory Paper
12:35 – 12:38	332	T-Cell Dysfunction in the Glioblastoma Microenvironment is Mediated by Myeloid Cells Releasing Interleukin-10 Nicolas N. Neidert (Germany)
		A Prize: Best Clinical Paper
12:38 – 12:41	334	Ultra-early tranexamic acid after subarachnoid haemorrhage (ULTRA): a randomised controlled trial Rene Post (The Netherlands)
		B Prize: Best Candidate's Performance
12:41 – 12:41	336	B Prize Mohit Arora (United Kingdom)
		2022 EANS Research Fund
12:41 – 12:44	338	First-in-human experience using novel ultraflexible low-impedance electrode arrays: an IDEAL Stage 1 study Hugo Layard Horsfall (United Kingdom)
12:44 – 12:47	339	Fate of the glymphatic system and its implications for cognitive dysfunction in mild traumatic brain injury (GLYCO-TBI) Nagesh Shanbhag (Sweden)

- 12:47 – 12:50 340 **Understanding hydrocephalus in subarachnoid haemorrhage – during a plenary session**
Lucia Darie (United Kingdom)
- 12:50 – 12:53 341 **Assessing functional outcome after epilepsy surgery – A connectomics approach**
Matthias Tomschik (Austria), Fabian Winter (Austria)
- 12:53 – 12:56 342 **Utilization of a new miniature confocal microscope (CONVIVO system) to identify tumor tissue during CNS tumors resection – A preliminary prospective observational in-vivo study**
Francesco Restelli (Italy)
- 12:56 – 12:59 343 **Three-Dimensional Photorealistic Atlas of Neurological Surgery**
Toma Spiriev (Bulgaria)
- 12:59 – 13:02 344 **Biomechanical validation of CT-measured bone mineral density in the lumbar spine**
Anto Abramovic (Austria)
- 13:02 – 13:05 345 **The role of the vasoprotectant losartan in prevention of delayed cerebral vasospasm and neuronal injury after experimentally-induced subarachnoid hemorrhage in rabbits**
Stefan Wanderer (Switzerland)

13:05 – 14:30 **Lunch Break**

13:00 – 14:30 **ePoster Presentations**
Presentation booth 1 For detailed information see the ePoster section (page 103)

13:00 – 14:30 **ePoster Presentations**
Presentation booth 2 For detailed information see the ePoster section (page 106)

13:15 – 14:15 **Industry Sponsored Symposium**
Atlantic 1

13:15 – 14:15 **Industry Sponsored Workshop**
Mediterranean

13:15 – 14:15 **Industry Sponsored Workshop**
Adriatic

13:15 – 14:15
Aegean

Industry Sponsored Workshop

14:30 – 16:10
Pacific

Vascular

Chairs: Andreas Raabe (Switzerland), Andreas Gruber (Austria)

- | | | |
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| 14:30 – 14:45 | 346 | Outcome after early lumbar CSF-drainage in aneurysmal subarachnoid hemorrhage: final results of a randomized controlled trial
Stefan Wolf (Germany) |
| 14:45 – 15:00 | 347 | Can aneurysm surgery be learned without additional morbidity and mortality?
Miikka Korja (Finland) |
| 15:00 – 15:15 | 348 | Blister aneurysms: a continuing surgical challenge
Michael Lawton (United States) |
| 15:15 – 15:30 | 349 | Treatment or follow up for unruptured aneurysms?
Jeroen Boogaarts (Netherlands) |
| 15:30 – 15:38 | 350 | Results from the Nicapant Phase2b RCT reveal a significant reduction in cerebral vasospasm following aneurysmal subarachnoid hemorrhage
Peter Vajkoczy (Germany) |
| 15:38 – 15:46 | 351 | Factors affecting outcomes of open and endovascular procedures for unruptured intracranial aneurysms are different: implications from UCAS Japan data
<u>A. Morita</u> , S. Tominari, UCAS Japan Investigators |
| 15:46 – 15:54 | 352 | Best Abstract in Vascular Neurosurgery: Results from a prospective nationwide study on Subarachnoid Hemorrhage in Sweden: complications related to endovascular treatment
<u>B. Baldvinsdóttir</u> , E. Kronvall, E. Ronne Engström, P. Enblad, P. Lindvall, H. Aineskog, S. Fridriksson, P. Klurfan, M. Svensson, P. Alpkvist, J. Hillman, J. Eneling, O.G. Nilsson |
| 15:54 – 16:10 | | Discussion |

14:30 – 16:00
Mediterranean

Masterclass*: Neuroimaging for Epilepsy surgery

Chairs: Daniel Delev (Germany), Sophie Colnat Coulbois (France)

- | | | |
|---------------|-----|--|
| 14:30 – 14:45 | 353 | How to detect epileptogenic lesions on MRI? It is not only a question of the applied MRI protocol!
Joerg Wellmer (Germany) |
|---------------|-----|--|

* Masterclasses are for EANS Members only. Upon pre-registration.

- 14:45 – 15:00 354 **Ultra-high field MRI in the workup for epilepsysurgery**
Olaf Schijns (The Netherlands)
- 15:00 – 15:15 355 **Multimodal imaging guided resections without invasive monitoring**
Tom Theys (Belgium)
- 15:15 – 15:30 356 **State of the art clinical MRI for epilepsy surgery**
Eric Achten (Belgium)
- 15:30 – 16:00 **Discussion**

14:30 – 16:00
Adriatic

Masterclass*: Severe TBI in children

Chairs: Aurelia Peraud (Germany), Martina Messing Juenger (Germany)

- 14:30 – 14:45 357 **Decompressive craniectomy in children**
Janna Semenova (Russian Federation)
- 14:45 – 15:00 358 **Decompressive craniectomy in infants**
Martina Messing Juenger (Germany)
- 15:00 – 15:15 359 **Guidelines and surgical aspects on TBI in children**
Aurelia Peraud (Germany)
- 15:15 – 15:30 360 **ICP monitoring in children: ICP burden in the KIDS-Brain-IT study**
Bart Depreitere (Belgium)
- 15:30 – 16:00 **Discussion**
- 16:10 – 16:50 **Coffee Break**

16:10 – 16:50

ePoster Presentations

Presentation booth 1

For detailed information see the ePoster section (page 108)

16:10 – 16:50

ePoster Presentations

Presentation booth 2

For detailed information see the ePoster section (page 109)

* Masterclasses are for EANS Members only. Upon pre-registration.

16:50 – 18:20
Pacific

How to become a competent vascular neurosurgeon?

Chairs: Miikka Korja (Finland), Goran Tasic (Serbia)

- | | | |
|---------------|-----|--|
| 16:50 – 17:00 | 361 | <p>Future training of the vascular and endovascular neurosurgeons
 Delia Cannizzaro (Italy)</p> |
| 17:00 – 17:10 | 362 | <p>Psychomotor Skill Training and Hybrid Reality in Vascular Neurosurgery
 Federico Nicolosi (Italy)</p> |
| 17:10 – 17:20 | 363 | <p>"See one, simulate many, do one, teach one": advances in simulation, learning and teaching of aneurysm surgery
 David Bervini (Switzerland)</p> |
| 17:20 – 17:30 | 364 | <p>Entrusted professional activities for vascular neurosurgery
 Jeroen Boogaarts (Netherlands)</p> |
| 17:30 – 17:37 | 365 | <p>Virtual Reality in Aneurysm surgery planning and treatment
 Raphael Guzman (Switzerland)</p> |
| 17:37 – 17:44 | 366 | <p>Clinical outcomes following microsurgical treatment of middle cerebral artery aneurysms: reaffirming the role of a "clip first" policy in the endovascular era
 <u>M. D'Andrea</u>, R. Colasanti, G. Bizzocchi, V. Antonelli, M. Iacoangeli, L. Tosatto</p> |
| 17:44 – 17:51 | 367 | <p>Complications in endovascular neurosurgery
 <u>N. Velinov</u>, M. Petrov, N. Aliosky, P. Ilkov, I. Martinov, N. Gabrovsky</p> |
| 17:51 – 17:58 | 368 | <p>Risk of intracranial aneurysm recurrence after microsurgical clipping based on three-dimensional digital subtraction angiography
 <u>S. Marbacher</u>, B. Grüter, S. Wanderer, L. Anderegg, P. Trost, P. Gruber, M. Diepers, L. Remonda, H.-J. Steiger</p> |
| 17:58 – 18:05 | 369 | <p>Antifibrinolytic therapy for aneurysmal subarachnoid haemorrhage
 <u>W. Dronkers</u>, M. Germans, M. Baharoglu, R. Post, D. Verbaan, G. Rinkel, Y. Roos</p> |
| 18:05 – 18:12 | 370 | <p>The minipterional versus Sylvian keyhole craniotomy for microsurgical clipping of middle cerebral artery bifurcation aneurysms: an anatomical and virtual reality comparative study
 <u>A. Saemann</u>, J. Rychen, M. Röthlisberger, J. Gehweiler, B. Westermann, J. Soleman, G. Hutter, L. Mariani, R. Guzman</p> |
| 18:12 – 18:20 | | <p>Discussion</p> |

16:50 – 18:20
Exhibition Hall**

Pituitary

Chairs: Idoya Zazpe (Spain), Luigi Cavallo (Italy)

16:50 – 17:00	371	Managing Recurrences in Pituitary Adenomas. The surgeon's aspect Theophilos Palaiologos (Greece)
17:00 – 17:10	372	Pituitary apoplexy – current concepts of management Daniel Rotariu (Romania)
17:10 – 17:20	373	Skull base defect reconstruction: challenging contexts Pedro Alberto Silva (Portugal)
17:20 – 17:30	374	Challenges with giant pituitary adenomas Artur Xhumari (Albania)
17:30 – 17:37	375	Automated volumetric assessment of pituitary adenoma <u>R. Da Mutten</u> , O. Zanier, O. Ciobanu-Caraus, S. Voglis, M. Hugelshofer, A. Pangalu, L. Regli, C. Serra, V.E. Staartjes
17:37 – 17:44	376	Association of pre- and postoperative αKlotho levels with long-term remission after pituitary surgery for acromegaly <u>A.M. Zeitberger</u> , M.C. Neidert, H. Leske, O. Tschopp, L. Sze, C. Zwimpfer, P. Wiesli, D. Bellut, R.-L. Bernays, E.J. Rushing, C. Schmid
17:44 – 17:51	377	Radiomic analysis of T2-weighted MRI scans for prediction of pituitary adenoma consistency and gross total resection: preliminary results <u>M. Černý</u> , D. Netuka
17:51 – 17:58	378	Safety, feasibility, and success of endoscopic endonasal transsphenoidal reoperation for residual or recurrent Cushing's disease <u>M. Berker</u> , S. Hanalioglu, M.E. Gurses, B. Baylarov, A. Shikhaliyeva, I. Isikay
17:58 – 18:05	379	Dumbbell-Shaped Pituitary Adenomas: prognostic factors for prediction of tumor non-descent of the Supradiaphragmal Component from a multicenter series <u>A. Micko</u> , G. Zada, S. Wolfsberger
18:05 – 18:12	380	Post-surgical hypopituitarism in Cushing disease, surgical outcomes in a life threatening condition <u>L. Schisano</u> , G. Fiore, L. Tariciotti, G. Bertani, M. Locatelli
18:12 – 18:19	381	The evaluation of psychological distress in patients with sellar processes <u>J. Conrad</u> , D. Kalasauskas, A. Ernst, S. Mireri, W. Omran, C. Wüster, F. Ringel
18:19 – 18:20		Discussion

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

16:50 – 18:20
Atlantic 1

PNS – Basic and Innovative

Chairs: Shimon Rochkind (Israel)
Debora Garozzo (United Arab Emirates)

- | | | |
|---------------|-----|--|
| 16:50 – 17:00 | 382 | <p>Biohybrid neural interfaces: merging neuroprosthetics and stem cell technology
Damiano Barone (United Kingdom)</p> |
| 17:00 – 17:10 | 383 | <p>Surgical treatment of obstetrical brachial plexus palsy
Pavel Haninec (Czech Republic)</p> |
| 17:10 – 17:20 | 384 | <p>Evidence based medicine in peripheral nerve surgery – quo vadis?
Nora Dengler (Germany)</p> |
| 17:20 – 17:27 | 385 | <p>Alteration of lipid asset in peripheral nerve sheath tumors: targeted and untargeted lipidomic analyses
<u>I.G. Vetrano</u>, L. Gatti, N. Innocenti, M. Dei Cas, R. Ghidoni, V. Nazzi</p> |
| 17:27 – 17:34 | 386 | <p>Spinal cord stimulation for the treatment of chronic pain in refractory neurogenic thoracic outlet syndrome
<u>H. Jiang</u>, V. Tsymbaliuk, I. Tretyak, L. Pichkur, Y. Tsymbaliuk</p> |
| 17:34 – 17:41 | 387 | <p>Extended upper brachial plexus palsy
<u>A. Savic</u>, J. Grujic, L. Rasulić</p> |
| 17:41 – 17:48 | 388 | <p>Risk factors as predictor variables for Quality of Life and patient satisfaction posterior to the surgical treatment of Cubital Tunnel Syndrome
<u>M.E. Córdoba-Mosqueda</u>, L. Rasulić, S. Mandić-Rajčević, A. Mičić, C.A. Rodríguez-Aceves, S. Radojević, A. Savić, J. Grujić, I. Jovanović</p> |
| 17:48 – 17:55 | 389 | <p>Quality of life and satisfaction in patients surgically treated with cubital tunnel syndrome
<u>J. Grujic</u>, S. Radojević, A. Mičić, A. Savić, M. Lepić, S. Matić, F. Vitošević, L. Rasulić</p> |
| 17:55 – 18:02 | 390 | <p>Clinical aspects of ballistic peripheral nerve injury: shrapnel versus gunshot
S. Rochkind</p> |
| 18:02 – 18:09 | 391 | <p>Experimental animal models for peripheral nerve reconstruction
S. Rochkind</p> |
| 18:09 – 18:20 | | <p>Discussion</p> |

16:50 – 18:20
Atlantic 3

Global Neurosurgery

Chairs: Nicolò Marchesini (Italy), Jake Timothy (United Kingdom), Kee Park (United States)

- 16:50 – 16:57 392 **Challenges of long-term follow-up following Traumatic Brain Injury in low- and middle-income countries**
B.G. Smith, C.J. Whiffin, I.N. Esene, C. Karekezi, T. Bashford, M.M. Khan, D.J. Fontoura Solla, B. Indira Devi, W.S. Paiva, F. Servadei, P.J. Hutchinson, A.G. Kolas, A. Figaji, A.M. Rubiano
- 16:57 – 17:04 393 **Footprint of reports from low- and low- to middle-income countries in the neurosurgical data: the evolution in the last 5 years**
I. Zaed, D. Cannizzaro, A. Safa, F. Servadei
- 17:04 – 17:11 394 **Global Neurosurgery among the EANS community: where are we at?**
N. Marchesini, M. Ivanov, J. Lafuente, F. Sala, L. Rasulić, A. K. Demetriades
- 17:11 – 17:18 395 **Exploring the adherence to guidelines for adult spinal trauma in low and middle-income healthcare economies: a survey on barriers and possible solutions**
N. Marchesini, A. Rubiano, O. L. Alves, F. Sala, A. K. Demetriades
- 17:18 – 17:25 396 **Management and outcomes of sellar, suprasellar, and parasellar masses in low- and middle- income countries: a scoping review**
A. Egiz, D. Ulrich Dalle, O. Ezekiel Dada, C.A. Ikwuegbuenyi, S. Zhi Yang Ooi, C.S. Gillespie, O.A. Tunde, B.M. OuYong, M. Korch, Ö. Kesici, R. de Koning, B. Dongmo Takoutsing, M. Khan, J. Erhabor, J. Kotecha, A.F.S. Bocco, N.D.A. Bankole, S. Bandyopadhyay
- 17:25 – 17:32 397 **How to start and maintain a global neurosurgical research network; the story of the Global Neurosurg Research Collaborative**
A. Negida, H. Ghaith, A. Raslan
- 17:32 – 17:39 398 **Spinal surgery trials in high-, middle- and low-income countries over the past two decades**
M.A. Khan, R.A. Khan, M. Sofi, B.M Davies
- 17:39 – 17:46 399 **YouTube as a Source of Information for neurosurgical care in Africa**
C.A. Ikwuegbuenyi, A.D. Nyalundja, T. Adrien, D. Safari, A. Umutoni, K.M. Musa, T. Fadalla, M. Emhamed, P. Ngoma, O. Ogunfolaji, M. Bamimore, T. Olobatoko, D. Sichimba, J. Najjuma, A. Hassan, L.A. Sebolope, N. Abu-Bonsrah, U.S. Kanmounye
- 17:46 – 18:20 **Discussion**

16:50 – 18:20
Mediterranean

CSF Disorders

Chairs: Mansoor Foroughi (United Kingdom),
Giorgio Palandri (Italy)

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|---------------|-----|--|
| 16:50 – 17:00 | 400 | <p>Skull Base Repair During Endonasal Skull Base Neurosurgery: Results From a Multi-Centre Observational Study
Danyal Khan (United Kingdom)</p> |
| 17:00 – 17:10 | 401 | <p>Neuroendoscopy: Obstructive hydrocephalus isn't just aqueductal stenosis
Uwe Kehler (Germany)</p> |
| 17:10 – 17:20 | 402 | <p>Endoscopy in Neurosurgery: ventricular and paraventricular pathology
Bassel Zebian (United Kingdom)</p> |
| 17:20 – 17:27 | 403 | <p>[68Ga]Ga-DOTA PET for validation of spinal cerebrospinal fluid leakage in spontaneous intracranial hypotension
<u>P. Evangelou</u>, M. Omrane, J. Thurow, M. Mix, C. Fung, N. Lützen, G. Blazhenets, H. Urbach, J. Beck, P. Meyer</p> |
| 17:27 – 17:34 | 404 | <p>Cerebrospinal fluid shunt surgery under ongoing system infectious conditions. Are there more complications?
<u>P. Krauss</u>, L. Koch, A. Wagner, A.K. Aftahy, B. Meyer, C. Negwer</p> |
| 17:34 – 17:41 | 405 | <p>Diagnostic value of cerebrospinal fluid production rate in normal pressure hydrocephalus
<u>K. Tariq</u>, A. Toma, I. Thorne, L. Watkins</p> |
| 17:41 – 17:48 | 406 | <p>Treating hydrocephalus by shunting to the venous intracranial sinus – first in human SinuShunt Project no.849502 supported by the European Union's Horizon 2020 Programme
<u>S. Munthe</u>, F. Rom Poulsen, C. Bonde Pedersen, S.E. Børgesen</p> |
| 17:48 – 17:55 | 407 | <p>Ventriculoperitoneal shunt placement for hydrocephalus following acute subarachnoid hemorrhage: functional outcomes and revision rates
<u>E. Goulin Lippi Fernandes</u>, A. Grote, M. Simon</p> |
| 17:55 – 18:02 | 408 | <p>Interpretation of M.scio waveform in the diagnosis of shunt malfunction
<u>E.M Moncur</u>, S. Thompson, L. D'Antona, L.W Thorne, L.D Watkins, A.K Toma</p> |
| 18:02 – 18:09 | 409 | <p>The impact of telesensors on neurosurgical service demand: a cohort cost-effectiveness analysis from institutional and patient perspectives
<u>P.D.W. Banks</u>, A.S. Pandit, M. Alradhawi, Y. Aldabbagh, F.M.Y. Lee, E.M. Moncur, S. Thompson, L.W. Thorne, L.D. Watkins, A.K. Toma</p> |
| 18:09 – 18:20 | | <p>Discussion</p> |

16:50 – 18:20
Adriatic

Masterclass*: Glioma treatment and research: Recent advances

Chairs: Einar Vik Mo (Norway), Nikolaos Foroglou (Greece)

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|---------------|-----|--|
| 16:50 – 17:05 | 410 | The new WHO 2021 classification of CNS tumours
Adelheid Woehrer (Austria) |
| 17:05 – 17:20 | 411 | Interdisciplinary neuro-oncology: recent developments and perspectives
Giuseppe Lombardi (Italy) |
| 17:20 – 17:35 | 412 | Stereotactic laser ablation for irresectable glioblastomas
Mark Ter Laan (Netherlands) |
| 17:35 – 17:50 | 413 | Spatial biology of malignant brain tumors
Dieter Henrik Heiland (Germany) |
| 17:50 – 18:20 | | Discussion |

16:50 – 18:20
Aegean

Masterclass*: Cervical Myelopathy

Chairs: Wilco Peul (The Netherlands), Giuseppe Barbagallo (Italy)

- | | | |
|---------------|-----|---|
| 16:50 – 17:05 | 414 | Surgical indications and outcome predictors of cervical myelopathy
Aria Nouri (Switzerland) |
| 17:05 – 17:20 | 415 | Surgical techniques and differential indications
Enrico Tessitore (Switzerland) |
| 17:20 – 17:35 | 416 | Treatment challenge: Myelopathy with degenerative deformities
Andrzej Maciejczak (Poland) |
| 17:35 – 17:50 | 417 | DCM: pathophysiology & avenues for regeneration
Mark Kotter (United Kingdom) |
| 17:50 – 18:20 | | Discussion |

* Masterclasses are for EANS Members only. Upon pre-registration.

● Wednesday, October 19 ●

09:45 – 17:00

e-Posters Area, Exhibition Area

08:30 – 10:00
Pacific

Spinal Oncology

Chair: Miroslav Vukic (Croatia)

- 08:30 – 08:40 418 **Modern treatment concepts of spinal metastases**
Bart Depreitere (Belgium)
- 08:40 – 08:50 419 **Surgical strategies for intramedullary spinal cord tumors: experience of more than 1000 cases**
Nikolay Konovalov (Russian Federation)
- 08:50 – 09:00 420 **Indications for surgical management of spinal multiple myeloma**
Julia Onken (Germany)
- 09:00 – 09:07 421 **One-stage posterior total en bloc sacrectomy: A new step-by-step cadaveric demonstration**
O. Baran, A. Kayhan, S. Evran, U. Verimli, F. Harman, S.D. Yildiz, U.S. Sehirli, E. Kaptanoglu
- 09:07 – 09:14 422 **The neurology-stability-epidural compression assessment: a new score to establish the need for surgery in spinal metastases**
F. Cofano, G. Di Perna, F. Zenga, A. Ducati, B. Baldassarre, M. Ajello, N. Marengo, M. Bozzaro, S. Petrone, F. Tartara, M. Lanotte, D. Garbossa, D. Armocida
- 09:14 – 09:21 423 **Current concepts in the management of spinal multiple myeloma: A single centre experience**
M.K. Nyanzu, M. Abdalla, E. Fragkakis, B. Ajayi, J. Keefe, T. Bishop, J. Bernard, F. Willis, Y. Reya, E. Pereira, M. Papadopoulos, D. Lui
- 09:21 – 09:28 424 **Management of vertebral column lesions in Multiple Myeloma patients - a two-center experience of 450 cases**
V. Hubertus, M. Stangenberg, L. Viezens, C. von Bassenheim, S. Schulz, T. Keller, D. Kaul, P. Habbel, J. Kröhnke, I.-W. Blau, U. Keller, M. Dreimann, P. Vajkoczy, J.S. Onken
- 09:28 – 09:35 425 **Stabilization surgery for instable neoplastic lesions of the cervicothoracic junction is associated with a high complication profile**
A. Kramer, L. Köhne, F. Ringel

09:35 – 09:42	426	<p>Management of spinal bone metastases with radiofrequency ablation, vertebral reinforcement and transpedicular fixation: a retrospective single-center case series <u>R. Maugeri</u>, L. Basile, G.R. Giammalva, R.M. Gerardi, C. Guli, D. M.A. Pino, D.G. Iacopino</p>
09:42 – 09:49	427	<p>Impact of sarcopenia, obesity and bone mineral density on implant failure after spondylodesis in patients with osteoporotic vertebral fractures <u>N. Keric</u>, H. Krenzlin, L. Schmidt, C. Schulze, F. Ringel</p>
09:49 – 10:00		Discussion
08:30 – 10:00		Revascularization
Exhibition Hall**		
<hr/>		
		Chair: Daniel Haenggi (Germany), Marco Cenzato (Italy)
08:30 – 08:40	428	<p>Reconstructive surgery of the magistral arteries of the brain in neurosurgical practice Dimitry Usachev (Russian Federation)</p>
08:40 – 08:50	429	<p>Complications and management in Moya Moya surgery Laurent Thines (France)</p>
08:50 – 09:00	430	<p>Issues of revascularization surgery in cerebral ischemia treatment Vasily Lukshin (Russian Federation)</p>
09:00 – 09:07	431	<p>Cerebral oximetry – a simple and reliable indicator of brain hypoxia in patients during carotid endarterectomy <u>A. Hejčl</u>, K. Jiráňková, K. Hrach, M. Sameš, J. Kastnerová</p>
09:07 – 09:14	433	<p>Recurrent stroke in symptomatic steno-occlusive disease: identifying patients at high-risk using impaired BOLD cerebrovascular reactivity <u>M. Sebök</u>, C.H.B. van Niftrik, M.R. Germans, M. Katan, Z. Kulcsar, A. Luft, L. Regli, J. Fierstra</p>
09:14 – 09:21	434	<p>Ischemic complications of surgical revascularization in Moyamoya disease <u>V. Lukshin</u>, A. Shulgina, D. Usachev, A. Korshunov, A. Lubnin</p>
09:21 – 09:28	435	<p>Predictors of decompressive hemicraniectomy after mechanical thrombectomy in ischemic stroke <u>X. Hautmann</u>, C. von der Brelie, D. Mielke, V. Rohde, S. Hernández-Duran</p>
09:28 – 09:35	436	<p>Postoperative cerebral ischemia after temporary occlusion in anterior communicating artery aneurysms <u>O. Petr</u>, C. Preuss-Hernandez, P. Geiger, A. Krigers, C. Thomé</p>

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

09:35 – 09:42 437 **Interrater and intrarater agreement superior for 3D-DSA over 2D-DSA classification for detecting remnants after intracranial aneurysm clipping, a GRRAS Reliability and Agreement Study**
S. Wanderer, M. Halter, B. Grüter, J. Anon, M. Diepers, P. Gruber, L. Andereggen, L. Remonda, S. Marbacher

09:42 – 09:49 438 **Prognostic value of erythrosis in cerebrospinal fluid for formation of cerebral vasospasm and delayed cerebral ischemia**
V. Kaliuzhka, V. Piatykov, A. Tkachenko, M. Markevych, A. Onishchenko

09:49 – 10:00 **Discussion**

08:30 – 10:00 **(Big) Data in TBI/SCI**
 Atlantic 1

Chairs: Andras Buki (Sweden), Alfonso Lagares (Spain)

08:30 – 08:40 439 **Machine learning algorithm for outcome prediction in patients with TBI**
 Rahul Raj (Finland)

08:40 – 08:50 440 **Factors influencing outcome after mild TBI**
 Petar Vulekovic (Serbia)

08:50 – 09:00 441 **The neurotrauma epidemic among the elderly – consequences for neurosurgery**
 Eirik Helseth (Norway)

09:00 – 09:07 442 **Demographic and clinical aspects of traumatic brain injury (TBI) in octo- and nonagenarians: a Collaborative European NeuroTrauma Effectiveness Research in TBI (CENTER-TBI) analysis**
M. Ivren, A. Unterberg, A. Younsi

09:07 – 09:14 443 **Case-mix, management and mortality of patients receiving emergency neurosurgery for traumatic brain injury in the Global Neurotrauma Outcomes Study (GNOS): a prospective, observational cohort study**
D. Clark, A. Joannides, A.O. Adeleye, A.H. Bajamal, T. Bashford, H. Biluts, K. Budohoski, A. Ercole, R. Fernández-Méndez, A. Figaji, D.K. Gupta, R. Härtl, C. Iaccarino, T. Khan, T. Laeke, A. Rubiano, H. Shabani, K. Sichizya, M. Tewari, A. Tirsit, M. Thu, M. Tripathi, R. Trivedi, I.D. Bhagavatula, F. Servadei, D. Menon, A. Koliass, P. Hutchinson

09:14 – 09:21 444 **Early surgery versus conservative treatment in patients with traumatic intracerebral hematoma: a CENTER-TBI study**
I.A.M. van Erp, T.A. van Essen, H. Lingsma, D. Pisica, R.D. Singh, J.T.J.M. van Dijck, V. Volovici, A. Koliass, L.D. Peppel, M. Heijnenbrok-Kal, G.M. Ribbers, D. Menon, P. Hutchinson, B. Depreitere, E.W. Steyerberg, A.I.R. Maas, G.C.W. de Ruiter, W.C. Peul

09:21 – 09:28 445 **Care paths and clinical management of 939 mild TBI patients presenting to a neurosurgical emergency department**
T. Schink, S. Bahtijari, A. Unterberg, A. Younsi

09:28 – 09:35	446	Validity of post-marketing analysis in the evaluation of post-implantation analysis of cranioplasty: a multicentric European analysis <u>I. Zaed</u> , F. Servadei
09:35 – 09:42	447	Timing and value of early MRI in severe traumatic brain injury <u>D. Pinggera</u> , C. Preuss-Hernandez, R. Beer, C. Thomé, O. Petr
09:42 – 09:49	448	The effects of reduced clinical activity on mortality in moderate and severe traumatic brain injury – an observational cohort study <u>J. Stray Andreassen</u> , C. Weber, K. Søreide, K. Thorsen, D. Werner
09:49 – 10:00		Discussion

08:30 – 10:00
Atlantic 3

Tumor related epilepsy

Chairs: Marek Mandera (Poland), Martina Messing Juenger (Germany)

08:30 – 08:40	449	Tumor related epilepsy in children Moni Benifla (Israel)
08:40 – 08:50	450	Laser induced thermal therapy (LITT) for refractory epilepsy in tuberous sclerosis children Karl Roessler (Austria)
08:50 – 09:00	451	HDEEG stereo-EEG and EcoG as combined tools in the identification of the epileptogenic area in pediatric epileptogenic low grade tumors Gianpiero Tamburrini (Italy)
09:00 – 09:07	452	Infant hydrocephalus: what valve should be used first? Analysis of the BASICS trial, institutional cohort study and literature review <u>C.S Gillespie</u> , B.J Hall, G.J Sunderland, E.J Conroy, D. Hennigan, M.D Jenkinson, B. Pettorini, C. Mallucci
09:07 – 09:14	453	Development and external validation of a predictor algorithm of the need for permanent CSF shunting based on machine learning for neonatal posthemorrhagic hydrocephalus <u>M. Sáez-Alegre</u> , A.J. Palán, V. Casitas Hernando, J. Sáez-Alegre, P. García-Feijoo, R. García-Leal, F. Carceller Benito, J. Saceda Gutiérrez
09:14 – 09:21	454	Is "Polymorphous low-grade neuroepithelial tumor of the young (PLNTY)" the correct name to indicate a tumor entity that can arise at any age? <u>F. Certo</u> , R. Altieri, G. Cammarata, G.M. Barbagallo
09:21 – 09:28	455	A new method for quantification of frontal retrusion and complex skull shape in metopic craniosynostosis: a pilot study of a new outcome measure for endoscopic-strip-craniectomy H. Haidar, M. Sakar, O. Sonmez, O. Erdogan, B. Sacak, Y. Bayri, A. Dagainar

09:28 – 09:35	456	Preoperative transcranial magnetic stimulation in paediatric brain tumour surgery <u>C. Bleil</u> , L. Greuter, S. Patel, B. Zebian, J. Lavrador
09:35 – 10:00		Discussion
08:30 – 10:00 Mediterranean		Research Parallel
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		Chairs: Aki Laakso (Finland), Angelos Kolias (United Kingdom)
08:30 – 08:40	457	Delivering large-scale neurosurgical studies – the impact of trainees Angelos Kolias (United Kingdom)
08:40 – 08:50	458	From bench to bedside: experimental and translational research in cerebrovascular neurosurgery Serge Marbacher (Switzerland)
08:50 – 09:00	459	Big money – A beginner's guide to international research funding Thomas Picht (Germany)
09:00 – 09:07	460	Telemedical follow-up in patients after decompressive spine surgery – A retrospective, single center analysis <u>C. Orban</u> , A. Koller, S. Lener, A. Abramovic, A. Krigers, C. Thomé, S. Hartmann
09:07 – 09:14	461	Anarchy in economic evaluations in spine surgery: a systematic qualitative assessment <u>V. Schuermans</u> , R. Droeghaag, S. Hermans, A. Smeets, I. Caelers, M. Hiligsmann, S. Evers, W. Van Hemert, H. Van Santbrink
09:14 – 09:21	462	The Artificial Intelligence Motion study (AIM): Artificial Intelligence-assisted image recognition of cervical spine motion <u>V. Schuermans</u> , S. El-Ateif, S. Poorgholi, P. Algra, H. Van Santbrink, T. Boselie
09:21 – 09:28	463	An AI-enabled predictive analytics dashboard for acute neurosurgical referrals <u>A.S Pandit</u> , A.K Toma, A.H. Jalal, P. Nachev
09:28 – 09:35	464	Evaluation of biomechanical properties of various alloplastic implant materials for the replacement of bony defects of the skull <u>S. Busch</u> , N. Sharma, D. Cordier, F.M. Thieringer
09:35 – 09:42	465	Spontaneous brain abscess formation: challenge of a changing pathogen spectrum over the last 21 years <u>L.M. Kraus</u> , A. El Rahal, O. Schnell, J. Buttler, D. Wagner, J. Beck, D. Cipriani
09:42 – 09:49	466	Non-invasive low pulsed electrical fields for inducing transient BBB disruption depicted by TRAMs <u>Y. Mardor</u> , S. Sharabi, D. Last, S. Liraz-Zaltsman, D. Daniels, I. Cooper

- 09:49 – 09:56 467 **Treatment planning for patients undergoing neurovascular surgeries using patient specific 3D printed models and mixed reality: Methodological approach**
J. Haegler, S. Marbacher, J. Anon, G. Boillat, A. Tortora, B. Grueter, H.-J. Steiger, L. Remonda, G.A. Schubert, L. Andereggen
- 09:56 – 10:03 468 **The impact of routine 3-dimensional models for preoperative clip selection in aneurysm surgeries: preliminary results**
S. Marbacher, L. Andereggen, J. Haegler, G. Boillat, B. Grueter, A. Tortora, J. Anon, L. Remonda, H.-J. Steiger

08:30 – 10:00
 Adriatic

Challenges in Intraoperative Neurophysiological Monitoring

Chairs: Francesco Sala (Italy), Djula Djilvesi (Serbia)

- 08:30 – 08:40 469 **Developing Neuromonitoring in European LMIC**
 Olga Herasymenko (Ukraine)
- 08:40 – 08:50 470 **Cortico-cortical evoked potentials: A new tool for monitoring cerebral connectivity during asleep brain tumor surgery**
 Davide Giampiccolo (United Kingdom)
- 08:50 – 09:00 471 **Challenges in the interpretation of facial MEPs during CPA tumor surgery**
 Andrea Szelenyi (Germany)
- 09:00 – 09:07 472 **Machine learning approaches for the automated classification of intraoperative motor evoked potentials. A pilot study**
A. Boaro, A. Azzari, S. Nunes, M. Bicego, F. Sala
- 09:07 – 09:14 473 **Stimulation-based language mapping in patients with severe expressive aphasia and healthy controls: piloting a new comprehension-related task**
L. Kram, A.-K. Ohlerth, S. Ille, S.N. Jacob, B. Meyer, S.M. Krieg
- 09:14 – 09:21 474 **New DTI protocol improves visualization of brain-tumor interface**
S. Koga, M. Marinescu
- 09:21 – 09:28 475 **Speech and Arcuate Fasciculus (AF) mapping in patients with gliomas of the dominant temporal lobe: analysis of a series of 27 cases**
S. Goryaynov, V. Jukov, S. Buklina, R. Aphandiev, Y. Vologdina, S. Marayshev, D. Pitshelauri
- 09:28 – 10:00 **Discussion**

08:30 – 10:00
Aegean

Masterclass*: Meet the masters

Chairs: Jan Frederick Cornelius (Germany), Michael Bruneau (Belgium)

08:30 – 08:45 476

Anterior skull base malignancies
Torstein Meling (Switzerland)

08:45 – 09:00 477

Endonasal route for unconventional pituitary adenomas
Luigi Cavallo (Italy)

09:00 – 09:15 478

Modern management of craniopharyngioma
Emmanuel Jouanneau (France)

09:15 – 09:30 479

Craniopharyngiomas
Diego Mazzatenta (Italy)

09:30 – 10:00

Discussion

10:00 – 10:40

Coffee Break

10:00 – 10:40
Presentation booth 1

ePoster Presentations
For detailed information see the ePoster section (page 111)

10:00 – 10:40
Presentation booth 2

ePoster Presentations
For detailed information see the ePoster section (page 112)

10:40 – 12:20
Pacific

Spine Plenary Session

Chairs: Florian Ringel (Germany), Jesus Lafuente (Spain)

10:40 – 10:55 480

Treatment of degenerative lumbar spondylolisthesis – Results from the NORSTEN trial
Tore Solberg (Norway)

10:55 – 11:10 481

Timing of disc surgery determines motor recovery in lumbar disc herniation patients
Claudius Thome (Austria)

11:10 – 11:25 482

Management of SCI – Rationale behind the DISCUS trial
Samira Saadoun (United Kingdom)

* Masterclasses are for EANS Members only. Upon pre-registration.

11:25 – 11:40	483	Novel Insights into Cervical Myelopathy – the Corticospinal Reserve Capacity Anna Zdunczyk (Germany)
11:40 – 11:48	484	Best Abstract in Spinal Neurosurgery: (Cost)Effectiveness of full-endoscopic transforaminal discectomy compared to microdiscectomy for sciatica: one-year results of a randomized controlled trial S. Harhangi (The Netherlands)
11:48 – 11:56	485	Best Abstract in Spinal Neurosurgery: FUSE-ML: development and external validation of a clinical prediction model for mid-term outcomes after lumbar spinal fusion for degenerative disease M. Vieli, V.E. Staartjes, V. Stumpo, L. Ricciardi, N. Maldaner, H.A.J. Eversdijk, O. Ciobanu-Caraus, A. Raco, M. Miscusi, A. Perna, L. Proietti, G. Lofrese, M. Dughiero, F. Cultrera, N. Nicassio, S.B. An, Y. Ha, A. Amelot, I. Alcobendas, J.M. Viñuela-Prieto, M.L. Gandía-González, P.-P. Girod, S. Lener, N. Kögl, A. Abramovic, N.A. Safa, C.J. Laux, M. Farshad, D. O’Riordan, M. Loibl, A.F. Mannion, A. Scerrati, G. Molliqaj, E. Tessitore, M.L. Schröder, W.P. Vandertop, M.N. Stienen, L. Regli, C. Serra
11:56 – 12:04	622	Effect of spinal cord burst stimulation vs placebo stimulation on disability in patients with chronic radicular pain after lumbar spine surgery: A randomized clinical trial S. Hara, H. Andresen, O. Solheim, S.M. Carlsen, T. Sundstrøm, G. Lønne, V.V. Lønne, K. Taraldsen, E.A. Tronvik, L.R. Øie, A.M. Gulati, L.M. Sagberg, A.S. Jakola, T. K. Solberg, Ø.P. Nygaard, Ø.O. Salvesen, S. Gulati
12:04 – 12:20		Discussion
12:20 - 13:50		Lunch Break
12:20 – 13:50		ePoster Presentations
Presentation booth 1		For detailed information see the ePoster section (page 113)
12:20 – 13:50		ePoster Presentations
Presentation booth 2		For detailed information see the ePoster section (page 115)
13:50 – 14:30		Brain & Spine, The Official Journal of EANS & Spine Pacific
13:50 – 14:00	486	One year of B & S: Looking Back (and) into the Future Wilco Peul (The Netherlands)
14:00 – 14:07	487	The EANS point of view by the EANS president Andreas Demetriades (United Kingdom)

14:07 – 14:12	489	Best B&S EANS Reviewer Award Michael Bruneau (Belgium)
14:12 – 14:27		EBC and the Brain Policies in Europe Wolfgang Oertel (Germany)
14:27 – 14:30		Discussion
14:30 – 16:10 Pacific		Adjunct technologies for tumour surgery
<hr/>		
		Chairs: Rachel Grossman (Tel-Aviv, Israel), Steven De Vleeschouwer (Belgium)
14:30 – 14:45	490	Milan: Motor mapping in glioma surgery. Recent advances
14:45 – 15:00	491	Intraoperative MRI for endoscopic tumor surgery Emrah Celtikci (Turkey)
15:00 – 15:15	492	Novel techniques for real-time intra-operative visualization of gliomas: working on integrated solutions Steven De Vleeschouwer (Belgium)
15:15 – 15:30	493	nTMS – from diagnostics to function-guided neuro-oncology Bernhard Meyer (Germany)
15:30 – 15:38	494	Best Abstract in Neuro-Oncology: Is FLAIRctomy directly correlated with prolonged survival in glioblastoma? A multicentric study <u>F. Certo, R. Altieri, G.M. Barbagallo</u>
15:38 – 15:46	495	Best Abstract in Neuro-oncology: Anatomical phenotyping and staging of brain tumors <u>K. Akeret, F. Vasella, V.E. Staartjes, J. Velz, T. Müller, M.C. Neidert, M. Weller, L. Regli, C. Serra, N. Krayenbühl</u>
15:46 – 16:10		Discussion
16:10 – 16:50		Coffee Break
16:10 – 16:50 Presentation booth 1		ePoster Presentations For detailed information see the ePoster section (page 118)
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16:10 – 16:50 Presentation booth 2		ePoster Presentations For detailed information see the ePoster section (page 119)
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14:30 – 16:00
Adriatic

Masterclass*: Medical management and decision making

Chairs: Peter Toth (Hungary)
Ifti Hossein (United Kingdom)

- 14:30 – 14:45 496 **ICU treatment strategies clustering**
Thomas van Essen (The Netherlands)
- 14:45 – 15:00 497 **CBF measurement in everyday practice**
Elham Rostami (Sweden)
- 15:00 – 15:15 498 **Concomitant severe TBI and polytrauma**
Andras Buki (Sweden)
- 15:15 – 15:30 499 **The role of biomarkers in the management of TBI**
George Alexiou (Greece)
- 15:30 – 16:00 **Discussion**
- 16:10 – 16:50 **Coffee Break**

16:50 – 18:20
Pacific

Clinical Neuro-Oncology

Chairs: Margret Jensdottir (Sweden), Stefan Ioan Florian (Romania)

- 16:50 – 17:00 500 **Quantitative UHF MRI techniques for early detection of progression in low grade glial tumors – preliminary results**
Radosław Rola (Poland)
- 17:00 – 17:10 501 **Glioblastoma five year survival – fact or fiction? A Swedish survey**
Peter Milos (Linköping, Sweden)
- 17:10 – 17:20 502 **The meaning of surgical experience in high grade gliomas**
Stefan Ioan Florian (Romania)
- 17:20 – 17:27 503 **Anatomical distribution of Cancer Stem Cells between Enhancing Nodule and FLAIR hyperintensity in supratentorial Glioblastoma: time to recalibrate the surgical target?**
R. Altieri, F. Certo, G. Cammarata, M. Garozzo, M. Maione, S. Di Gregorio, G.M. Barbagallo
- 17:27 – 17:34 504 **CMV infection in glioblastoma leads to shortened overall survival and TMZ resistance in vitro and in vivo**
N. Keric, H. Krenzlin, P. Einheuser, F. Corr, F. Ringel

* Masterclasses are for EANS Members only. Upon pre-registration.

- 17:34 – 17:41 505 **Delayed temporary neurological deterioration after surgical treatment of gliomas in eloquent location under awake conditions**
T. Dziedzic, M. Woźniak, A. Bala, A. Olejnik, K. Koczyk, A. Podgórska, J. Piwowarska, A. Marchel
- 17:41 – 17:49 506 **Mixed Reality Assisted Navigation Guided Microsurgical Removal of Cranial Tumors**
 Sukru Caglar (Turkey)
- 17:49 – 17:56 507 **Accuracy assessment of double fluorescence-guided resection of high-grade gliomas: a prospective series**
L. Speranzon, R. W. Marani, L. de Gennaro, M. Maggio, M. Lastilla, M.T. Bozzi, F. Signorelli
- 17:56 – 18:03 508 **Connectome analysis based on intraoperative awake mapping reveals new insights on language network organization**
S. Ille, H. Zhang, N. Stassen, M. Schwendner, A. Schroeder, B. Meyer, S. Krieg
- 18:03 – 18:10 509 **Impact on outcome of patients underwent surgery for glioblastoma with and without use of intraoperative sodium fluorescein**
C. Rizzi, D. Nasi, C. Iaccarino, A. Valluzzi, A. Valentini, G. Pavesi
- 18:10 – 18:20 Discussion

16:50 – 18:20
 Exhibition Hall**

Spinal Infections

Chairs: Marcus Czabanka (Germany), Yu-Mi Ryang (Germany)

- 16:50 – 17:00 510 **European variation in treatment of spinal infections**
 Ehab Shibani (Augsburg, Germany)
- 17:00 – 17:10 511 **A matched cohort analysis of surgery versus conservative treatment in vertebral osteomyelitis**
 Andreas Demetriades (United Kingdom)
- 17:10 – 17:20 512 **Posterior versus anterior-posterior instrumentation for spondylodiscitis in the thoracolumbar spine**
 Marcus Czabanka (Germany)
- 17:20 – 17:27 513 **Surgical techniques for treatment of pyogenic thoracolumbar spondylodiscitis: a systematic review**
C. Zhang, N. Zaidman, A. Russo, V. Russo
- 17:27 – 17:34 514 **Complications of degenerative lumbar spondylolisthesis and stenosis surgery in patients over 80s: comparative study with over 60s and 70s. Experience with 678 cases**
G. Iess, E. Aimar, F. Mezza, P. Gaetani, A.L. A. Todesca, F. Tartara, G. Broggi

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

- 17:34 – 17:41 515 **Factors associated with an increased risk of developing postoperative symptomatic lumbar spondylolisthesis after decompression surgery: an explorative two-centre international cohort study**
I. Caelers, A. Mannion, D. Haschtmann, K. Rijkers, W. Van Hemert, R. De Bie, H. Van Santbrink
- 17:41 – 17:48 516 **The role of spinopelvic parameters in clinical and functional outcomes in patients with spinal stenosis after lumbar interbody fusion surgery – a prospective study**
R. Marques, A.C. Silva, J. Nogueira, M. Afonso, N. Duarte
- 17:48 – 17:55 517 **Motion analysis in patients with sacroiliac joint dysfunction: a cross-sectional case-control study**
S. Hermans, E. Paulussen, R. Notermans, B. Krijntjes, M. Schotanus, J. Most, H. van Santbrink, W. van Hemert, I. Curfs
- 17:55 – 18:02 518 **Lumbar discectomy with annulus fibrosus closure: a retrospective series of 53 consecutive patients**
A. Kurzbuch, C. Tuleasca, J.-Y. Fournier
- 18:02 – 18:20 **Discussion**
- 16:50 – 18:20 **Posterior fossa**
 Atlantic 1
-
- Chairs: Sebastien Froelich (France), Mentor Petrela (Albania)
- 16:50 – 17:00 519 **Surgical nuances in posterior fossa surgery**
 Israel Melamed (Israel)
- 17:00 – 17:10 520 **Foramen magnum meningiomas**
 Mentor Petrela (Albania)
- 17:10 – 17:20 521 **Challenges in the resection of Brainstem tumors**
 Michael Bruneau (Belgium)
- 17:20 – 17:27 522 **Skull Base Chordoma: long-term observation and evaluation of prognostic factors after surgical resection**
A. Roy, A. Warade, A.K Jha, B.K Misra
- 17:27 – 17:34 523 **Microsurgical anatomy and surgical exposure of the cerebellar peduncles**
O. Baran, S. Baydin, M. Mirkhasilova, N. Bayramli, B. Bilgin, E. Middlebrooks, F. Ozlen, N. Tanriover
- 17:34 – 17:41 524 **Dural sinus thrombosis after resection of vestibular schwannoma using suboccipital retrosigmoid approach – thrombosis classification and management proposal**
K. Krystkiewicz, D. Wrona, M. Tosik, M. Birski, Ł. Szyłberg, A. Morawska, J. Furtak, C. Wałęsa, K. Stopa, M. Harat

17:41 – 17:48	525	Tumour recurrences after microsurgery of vestibular schwannomas <u>M. Scheer</u> , S. Simmermacher, J. Prell, C. Scheller, C. Mawrin, C. Strauss, S. Rapp
17:48 – 17:55	526	Artificial neural network analysis of evoked auditory brainstem responses for prediction of active auditory brainstem implant (ABI) electrodes in patients with neurofibromatosis type II <u>G. Lekovic</u> , N. Fatima, J. Rock, J. Galvin, K. Peng
17:55 – 18:02	527	Volumetric growth trends of residual vestibular schwannomas: A systematic review and meta-analysis <u>A. Egiz</u> , H. Nautiyal, A.F. Alalade, N. Gurusinghe, G. Roberts
18:02 – 18:09	528	Pituitary apoplexy – current concepts of management <u>D. Rotariu</u> , C. Cristea, C Preda, R Buga, L. Leustean, L. Eva, I. Pantiru, C.M. Ungureanu
18:09 – 18:20		Discussion
16:50 – 18:20 Atlantic 3		Treatment options for Essential Tremor
<hr/>		
		Chairs: Jean Regis (France), Hakan Emmez (Turkey)
16:50 – 17:00	529	The role of DBS
17:00 – 17:10	530	The role Radiosurgery Constantin Tuleasca (Switzerland)
17:10 – 17:20	531	The roleMRgFUS Michele Longhi (Italy)
17:20 – 17:27	532	Biologically effective dose correlates with linear tumor volume changes after upfront single-fraction stereotactic radiosurgery for vestibular schwannomas <u>C. Tuleasca</u> , M. Faouzi, P. Maeder, R. Maire, J. Knisely, M. Levivier
17:27 – 17:34	533	Adaptive staged-dose Gamma Knife Radiosurgery for the treatment of large brain metastases. Report of 40 consecutive cases and review of literature <u>F.M. Crisà</u> , F. Leocata, V.M. Arienti, M. Picano, L. Berta, M.G. Brambilla, H.S. Mainardi, A.F. Monti, M. Cenzato, M. Palazzi, A. La Camera
17:34 – 17:41	534	Artificial intelligence for automatic longitudinal MRI evaluation of brain metastases following Stereotactic Radiosurgery Yigal Shoshan (Israel)
17:41 – 17:48	535	Increased Gray Matter Density in the right mesencephalic tegmentum is associated with better Engel classes I and II after radiosurgery for hypothalamic hamartomas <u>C. Tuleasca</u> , H. Hamdi, G. Daquin, N. Villeneuve, A. Lepine, F. Bartolomei, J. Régis
17:48 – 18:20		Discussion

16:50 – 18:20
Mediterranean

Masterclass*: Trends, insights and innovations in neuro-oncology

Chairs: Michael Schwake (Germany),
Maria Luisa Gandia Gonzalez (Spain)

- | | | |
|---------------|-----|---|
| 16:50 – 17:05 | 536 | Image-guidance in neurooncological surgery
Thomas Picht (Germany) |
| 17:05 – 17:20 | 537 | Advanced preoperative brain mapping for glioma surgery
Giovanni Raffa (Italy) |
| 17:20 – 17:35 | 538 | Intraoperative ultrasonography in brain tumors surgery for dummies
Milan Lepić (Serbia) |
| 17:35 – 17:50 | 539 | Concepts of visualisation in neurooncological surgery: from microscope to robotics
Christian Freyschlag (Austria) |
| 17:50 – 18:20 | | Discussion |

16:50 – 18:20
Adriatic

Masterclass*: New Indications in functional neurosurgery

Chairs: Veerle Visser Vandewalle (Germany),
Mikael von und zu Fraunberg (Finland)

- | | | |
|---------------|-----|--|
| 16:50 – 17:05 | 540 | DBS for tinnitus
Jana Devos (Germany) |
| 17:05 – 17:20 | 541 | DBS for advanced tremor
Marie Krueger (Switzerland) |
| 17:20 – 17:35 | 542 | Neurosurgical treatment for spasmodic dysphonia
Christopher Honey (Canada) |
| 17:35 – 17:50 | 543 | Microvascular Decompression of the Trigeminal Nerve for SUNHA
Ludvic Zrinzo (United Kingdom) |
| 17:50 – 18:20 | | Discussion |

* Masterclasses are for EANS Members only. Upon pre-registration.

16:50 – 18:20
Aegean

Masterclass*: Disaster management

Chairs: Daniel Walsh (United Kingdom), Daniel Haenggi (Germany)

16:50 – 17:05	544	Management of intraoperative rupture during aneurysm surgery Andreas Raabe (Switzerland)
17:05 – 17:20	545	Intraoperative AVM bleeding Amir Dehdashti (United States)
17:20 – 17:35	546	Complex Cerebral Aneurysms: from the definition of the complexity criteria to the identification of the best surgical management Alessio Albanese (Italy)
17:35 – 17:50	547	Disaster management in high low & low flow bypass surgery Luca Regli (Switzerland)
17:50 – 18:20		Discussion

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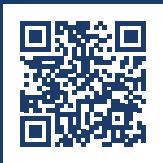
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● Thursday, October 20 ●

08:30 – 10:00
Pacific

Translational Neuro-Oncology

Chairs: Kresimir Rotim (Croatia), Javier Fandino (Switzerland)

- | | | |
|---------------|-----|--|
| 08:30 – 08:40 | 548 | Intraoperative flow cytometry in brain tumor surgery
Spyridon Voulgaris (Greece) |
| 08:40 – 08:50 | 549 | Profiling Glioblastoma Cases with an Expression of DCX, OLIG2 and NES
Rola Radoslaw (Poland) |
| 08:50 – 09:00 | 550 | Microglia and macrophages: central players in the future of glioblastoma treatment
Gregor Hutter (Switzerland) |
| 09:00 – 09:07 | 551 | Characterization of autofluorescence and quantitative protoporphyrin IX biomarkers for optical spectroscopy-guided glioma surgery
<u>E. Suero-Molina</u> , D. Black, S. Kaneko, A. Walke, S. König, W. Stummer |
| 09:07 – 09:14 | 552 | Individualized CSF proteomics for real-time glioma espionage
<u>C. Riviere-Cazaux</u> , T. Burns |
| 09:14 – 09:21 | 553 | Proteomic analysis of glioma biopsies shows consistency with glioma grading
<u>S. Leu</u> , M. Amer, J.-L. Boulay, M.-F. Ritz, F.S. Halbeisen, A. Schmidt, K. Buczak, G. Hutter |
| 09:21 – 09:28 | 554 | Lower-grade glioma in elderly patients: treatment and outcomes in a molecularly characterized contemporary cohort
<u>C. Jungk</u> , M. Gluszak, H.P. Dao Trong, A. von Deimling, C. Herold-Mende, A. Unterberg |
| 09:28 – 09:35 | 555 | Impact of GAP-43 and actin expression on the outcome and overall survival in diffuse and anaplastic gliomas
<u>A. Krigers</u> , M. Demetz, P. Moser, J. Kerschbaumer, K. Brawanski, C. Thomé, C.F. Freyschlag |
| 09:35 – 09:42 | 556 | Clinical and molecular features of primary central nervous system neuroblastoma and ganglioneuroblastoma in adult patients
<u>A.S. Nechaeva</u> , M.V. Matsko, A.Y. Ulitin |
| 09:42 – 10:00 | | Discussion |

08:30 – 10:00
Exhibition Hall**

Basic Science in CNS injury

Chairs: Elham Rostami (Sweden), Laura Lipka (Italy)

- 08:30 – 08:40 557 **Spreading depolarizations and the neurovascular unit in TBI**
Jens Dreier (Germany)
- 08:40 – 08:50 558 **White matter changes in repetitive head injury**
Niklas Marklund (Sweden)
- 08:50 – 09:00 559 **Cellular reprogramming in the context of CNS injuries**
Alexander Younsi (Germany)
- 09:00 – 09:07 560 **Post-acute blood biomarkers and disease progression in Traumatic Brain Injury**
J.P. Posti, V.F. Newcombe, N.J. Ashton, B. Glocker, A. Mankletow, D.A. Chatfield, S. Winzeck, E. Needham, M.M. Correia, G.B. Williams, J. Simrén, R.S. Takala, A.J. Katila, H.-R. Maanpää, J. Tallus, J. Frantzen, K. Blennow, O. Tenovuo, H. Zetterberg, D.K. Menon
- 09:07 – 09:14 561 **Serum assessment of traumatic axonal injury: the correlation of GFAP, t-Tau, UCHL-1 and NfL levels with Diffusion Tensor Imaging metrics and its prognosis utility.**
A.M Castaño-Leon, C. Sanchez Carabias, A. Hilario, A. Ramos, B. Navarro Main, I. Paredes, P. M Munarriz, I. Panero Perez, C. Eiriz Fernandez, D. Garcia Perez, L.M Moreno Gomez, O. Esteban Sinovas, G. Garcia Posadas, P.A Gomez, A. Lagares
- 09:14 – 09:21 562 **Adjustable and MRI conditional implantation of brain tissue oxygenation probe in neurosurgery: technical note**
T.A. Sargut, P. Vajkoczy, S. Wolf
- 09:21 – 09:28 563 **Posttraumatic disruption of the Blood-Spinal-Cord-Barrier is aggravated by the endothelial cell-specific knock-out of Ephrin-B2 after experimental Spinal Cord Injury**
V. Hubertus, K. Kersting, L. Roolfs, L. Waldmann, L. Meyer, M. Nieminen-Kelhä, I. Kremenetskaia, A. Ghorri, A. Rex, M.G. Fehlings, P. Vajkoczy
- 09:28 – 09:35 564 **An implanted spinal window chamber allows for chronic longitudinal in vivo microscopy following experimental Spinal Cord Injury in the mouse**
V. Hubertus, L. Roolfs, N. Taheri, L. Meyer, L. Waldmann, K. Kersting, M. Nieminen-Kelhä, K.C. Fischer, C. Uhl, J.-E. Ode, A. Rex, M.G. Fehlings, P. Vajkoczy
- 09:35 – 10:00 **Discussion**

** This is just the name of the Session Room. The actual Exhibition Area is located in the tent next to the venue.

08:30 – 10:00
Atlantic 1

Diversity in Neurosurgery – Lessons from the past and future initiatives

Chairs: Silvia Hernandez Duran (Germany),
Mairike Broekman (The Netherlands)

- 08:30 – 08:50 565 **The history of European women in Neurosurgery**
Mary Murphy (United Kingdom)
- 08:50 – 09:00 566 **Alice Rosenstein/Rost (1898-1991) – the first woman in neurosurgery**
Daniel Dubinski (Germany)
- 09:00 – 09:10 567 **Lessons on diversity from the past: Jewish neurosurgeons in Nazi Germany – part II**
Daniel Dubinski (Germany)
- 09:10 – 09:30 568 **Diversity in Neurosurgery fosters the advancement of our specialty**
Gail Rosseau (United States)
- 09:30 – 09:37 569 **Vulnerability of African neurosurgery to predatory journals: an e-survey of aspiring neurosurgeons, residents and consultants**
K.D. Kabulo, U.S. Kanmounye, S. Mutomb, K. Yengayenga, L. Jokonya, J. Ntalaja, I. Esene, A. Musara, K. Kalangu
- 09:37 – 09:44 570 **Evaluating the role of practical skills assessments in the UK neurosurgical national selection process**
T. Grundy, T. Fallows, P. Whitfield, I. Kamaly-Asl
- 09:44 – 10:00 **Discussion**

08:30 – 10:00
Atlantic 3

Cervical spine

- 08:30 – 08:37 571 **Shoulder depression should be avoided during anterior cervical surgery to reduce postoperative C5 nerve root palsy – a prospective multicentric cohort study with 1,244 patients**
S. Ille, S. Krieg, F. Floeth, P. Vajkoczy, C. Thomé, S. Siller, A. Joedicke, M. Stoffel, S.O. Eicker, M. Richter, B. Meyer, C5P Registry Study Group
- 08:37 – 08:44 573 **Clinical and radiological outcomes of multilevel cervical arthroplasty**
R. Reinas, D. Kitumba, L. Pereira, V. Pinto, O. L. Alves
- 08:44 – 08:51 574 **Anterior approach versus posterior approach for patients with cervical spondylotic myelopathy: a meta-analysis of 2318 patients**
H. Ghaith, M. Diaa, A. Negida
- 08:51 – 08:58 575 **Long-term functional outcome of surgical treatment for Degenerative Cervical Myelopathy**
M.D. Dijkman, M.W.T. Van Bilsen, M.G. Fehlings, R.H.M.A. Bartels

08:58 – 09:05	576	Clinical evaluation versus Magnetic Resonance Imaging findings in patients with radicular arm pain – a pragmatic study <u>H. Nittby Redebrandt</u> , C. Brandt, S. Hawran, T. Bendix
09:05 – 09:12	577	Influence of subsidence after stand-alone anterior cervical discectomy and fusion in patients with degenerative cervical disease: a long-term follow-up study <u>M.-S. Han</u> , J.-K. Lee, B.J. Moon, J.-H. Hong
09:12 – 09:19	578	The position of the cervical prosthesis in Hybrid Surgery for the two-level cervical degenerative disease and its effect on cervical range of motion <u>M. Voršič</u> , R. Končnik, V. Rokavec
09:19 – 09:26	579	Craniovertebral realignment for basilar invagination via posterior midline approach: a novel surgical method to treat basilar invagination <u>İ. Doğan</u> , K. Erdoğan, A. Eray, B. Abbasoğlu, O. Tekneci, S. Haşımoğlu, S. Solmaz, Y.Ş. Çağlar
09:26 – 09:33	580	Assessment of the quality of reporting in randomised controlled trials for spinal disease using the CONSORT checklist <u>J.J. Park</u> , J. Tiefenbach, A.K. Demetriades
09:33 – 09:40	581	Surgical treatment of Chiari I Malformation: a one fits all approach? <u>F. Khalaveh</u> , I. Steiner, A. Reinprecht, T. Czech, G. Kasprian, K. Rössler, C. Dorfer
09:40 – 10:00		Discussion

08:30 – 10:00
Mediterranean

Masterclass*: Tumour surgery in difficult locations

Chairs: Emel Avci (Turkey), Francesco Signorelli (Italy)

08:30 – 08:45	582	Microneurosurgical management of midbrain gliomas Ugur Ture (Turkey)
08:45 – 09:00	583	Personalized surgical treatment for gliomas Arnaud Vincent (The Netherlands)
09:00 – 09:15	584	Surgery for tumours in the insulo-temporomesial region: Seizure outcomes Matthias Simon (Germany)
09:15 – 09:30	585	Cervical tumours Michael Bruneau (Belgium)
09:30 – 10:00		Discussion

* Masterclasses are for EANS Members only. Upon pre-registration.

08:30 – 10:00
Adriatic

Masterclass*: Intradural Pathologies

Chairs: Marcel Ivanov (United Kingdom), Nicolas Sampron (Spain)

- 08:30 – 08:45 586 **Intramedullary tumors**
Bernhard Meyer (Germany)
- 08:45 – 09:00 587 **Extramedullary tumors**
Marcel Ivanov (United Kingdom)
- 09:00 – 09:15 588 **Spinal cord herniation**
Marcel Ivanov (United Kingdom)
- 09:15 – 09:30 589 **Spinal spurs and vein-CSF fistulas as causes of intracranial hypotension**
Juergen Beck (Germany)
- 09:30 – 10:00 **Discussion**
- 10:00 - 10:40 **Coffee Break**

10:40 – 12:20
Pacific

PNS Session

Chairs: Lukas Rasulić (Serbia), Christian Heinen (Germany)

- 10:40 – 10:55 590 **WWW (what went wrong) in brachial plexus surgery**
Stefano Ferraresi (Italy)
- 10:55 – 11:10 591 **Let's play the game of brain plasticity**
Mariano Socolovsky (Argentina)
- 11:10 – 11:25 592 **Reviving Matrix for Nerve Reconstruction in Rabbit Model of Chronic Peripheral Nerve Injury with Massive Loss Defect**
Shimon Rochkind (Israel)
- 11:25 – 11:40 593 **Nerve transfer – from history to current trends**
Thomas Kretschmer (Austria)
- 11:40 – 11:55 594 **Education in Peripheral Nerve Surgery**
Fernando Guedes (Brazil)
- 11:55 – 12:03 595 **Best Abstract in Peripheral Nerve Neurosurgery: Why neurosurgeons should do peripheral nerve surgery**
J. Grujic, A. Savić, M. Lepić, A. Mičić, S. Radojević, S. Matić, F. Vitošević, L. Rasulić
- 12:03 – 12:20 **Discussion**
- 12:20 – 12:50 **Closing Ceremony** End of Congress

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ePoster Presentations

● Monday, October 17 ●

10:00 – 10:40 **General**

Presentation Booth 1

ePoster Presentation

Chair: Cesare Zoia (Italy)

10:00 – 10:03 EP01001

The life of Professor Norman McOmish Dott – Scottish pioneer in modern neurosurgery

A. Rahman Osman, A. Chaudhary, J. Tan, M. Bone, J. Wellington

10:03 – 10:06 EP01002

Delivering a virtual national neurosurgical teaching course in order to improve postgraduate education for prospective neurosurgical trainees

A. Edwards-Bailey, C.H. Koh, E. Sudin, S. Williams, H. Marcus, M. Kirkman, P. Sayal

10:06 – 10:09 EP01003

Are UK medical schools using recommended national curricula for the teaching of clinical neuroscience?

O. Kouli, S. Bandyopadhyay, S.Z.Y. Ooi, K. Whitehouse, A.K. Demetriades

10:09 – 10:12 EP01004

Training and Education in Neurosurgery: Challenges and Strategies for the Next Ten Years

D. Bongetta, C. Zoia

10:12 – 10:15 EP01005

Fellowships as the next step after residency and how to organize them in Europe

J. Monteiro Silva

10:15 – 10:18 EP01006

A young neurosurgeon in a European developing country – first two years of personal experience

A. Ahmetspahic, H. Sefo, E. Burazerovic, F. Alagic

10:18 – 10:21 EP01007

Biography of professor Nedeljko Ercegovac, founder of the neurosurgery department at the Zemun Hospital

V. Aleksić, M. Mihajlović, M. Stanić, M. Bulatović, M. Samardžić, I. Popović, V. Miladinović, A. Petrović, M. Marinković, N. Zakić

10:21 – 10:24 EP01009

Defining the structural traits and problems of neurosurgical departments in Europe

S. Mihaylova, S.H. Duran, D.L. Ivan, P. Vayssiere, S. Al-Ahmad, E. Tsoneva, X. Lambrianou, A. Tasiou, I. K Janssen, M. Karampouga, A. Esen Aydin, M. Broekman, N. Gazioglu, H. Magnadottir, E. Pajaj, A. Rodríguez-Hernández, E. Tsianaka, N. Salokorpi, G. Rosseau, M. Murphy

10:24 – 10:27 EP01010

Complications in the early career of a neurosurgeon: how to manage them?

J. Monteiro Silva, A. Calheiros

- 10:27 – 10:30 EP01012 **Neuro_Qual: a qualitative resource for neurosurgery**
C.J Whiffin, B.G Smith, S. Selveindran, J. Seeley, S. Tumpa, O. Mantle, L. Onbaşı, Y. Docrat, S. Davoody, U. Nath, A. Mansour, A.S. Sheta, H. Mee, K. Khu, M.T. Barki, T. Bashford, N. Thango, I.N Esene, A. Kolias, P.J Hutchinson
- 10:30 – 10:33 EP01013 **Multidisciplinary teaching and high-fidelity simulation facilitate the learning of lateral skull-base approaches.**
A. Al-Mohammad, S. Williams, P. Grover
- 10:33 – 10:40 **Discussion**
- 10:00 – 10:40 **Functional**
Presentation Booth 2 **ePoster Presentation**
Chairs: Claire Haegelen (France)
- 10:00 – 10:03 EP01014 **Radiotherapy in the management for intracranial meningioma: A systematic review and network meta-analysis**
J.-C. Leong, E. Torio, I.M. Sih
- 10:03 – 10:06 EP01015 **Clinical outcome after stereotactic radiosurgery of trigeminal schwannomas – a single-center experience**
J. May, R. Liščák
- 10:06 – 10:09 EP01016 **Upfront hypofractionated frameless Gamma Knife radiosurgery for large posterior fossa metastases**
S. Peker, Y. Samanci, G.D. Ardor, M. Budak, F. Karaköse
- 10:09 – 10:12 EP01017 **The potential role of biologically effective dose in symptomatic improvement after single Gamma Knife radiosurgery for posterior fossa meningiomas: a series of 46 consecutive cases**
M. May, M. Levivier, C. Tuleasca
- 10:12 – 10:15 EP01018 **Gamma Knife radiosurgery for differentiated thyroid cancer brain metastases**
S. Peker, Y. Samanci, F. Karaköse, M. Budak,
- 10:15 – 10:18 EP01019 **The role of SWI sequence during preoperative subthalamic nucleus targeting for deep brain stimulation in Parkinson's disease: a retrospective randomized monocentric case-control study**
D. Gagliano, L.G. Remore, L. Tariciotti, G. Fiore, E. Pirola, A.M. Ampollini, L. Borellini, F. Cogiamanian, L. Schisano, S. Borsa, G.A. Bertani, S. Barbieri, M. Locatelli
- 10:18 – 10:21 EP01021 **Neuromodulation for Gait symptoms in PD: Results from a Network Meta-Analysis**
V. Hvingelby, A. Glud, J.C. Sørensen, Y. Tai, A.S. Andersen, E. Johnsen, E. Moro, N. Pavese

- 10:21 – 10:24 EP01022 **An updated overview of DBS interventions in patients with dementia and future directions: a systematic review**
L. Taricciotti, G. Remoli, L.G. Remore, P. Palmisciano, M. Piatti, M. Canevelli, E. Lacorte, C. Ferrarese, N. Vanacore, I. Appollonio, M. Locatelli
- 10:24 – 10:27 EP01023 **Diffusion tensor imaging evaluation of patients with disorders of consciousness prior to deep brain stimulation: A preliminary study**
M. Raguž, F. Almahariq, D. Oreskovic, A. Kastelancic, P. Marcinkovic, M. Lakic, N. Radovic, I. Fuckan, V. Deletis, D. Chudy
- 10:27 – 10:40 **Discussion**
- 13:00 – 14:30 **Trauma**
Presentation Booth 1
- 13:00 – 13:03 EP01024 **Clinical outcome of hypoglossal-facial nerve anastomosis in severe facial nerve paralysis: early experience from Khyber Pakhtoonkhwa (KPK) Pakistan**
A. Hussain
- 13:03 – 13:06 EP01025 **Lesion of the posterior cord of the brachial plexus**
A. Savic, J. Grujic, L. Rasulic
- 13:06 – 13:09 EP01026 **Effects of radial nerve neurolysis on patient's QOL and satisfaction**
J. Grujic, A. Mičić, S. Radojević, A. Savić, M. Lepić, S. Matić, F. Vitošević, L. Rasulic
- 13:09 – 13:12 EP01027 **Differentiated approach to surgery of peripheral nerve injury in children**
E. Korotchenko
- 13:12 – 13:15 EP01028 **Bipolar subcortical stimulation with tip of ultrasound aspirator and suction device**
H. Colle, D. Colle, B. Noens, K. Vanchaze, P. Muller, A. Aerts, E. Robert
- 13:15 – 13:18 EP01029 **Incidence of Cranial Nerve affection after acute head injury: clinical and surgical outcome**
W. Abouzeid, M. Attaya, M. Abdelaal, B. Labib, A. Kasim
- 13:18 – 13:21 EP01031 **Septic complications in open skull fractures: critical assessment from a high-volume center**
R. Grobler, A.J. Vlok, B. Harrington

- 13:21 – 13:24 EP01032 **Hypertonic saline versus mannitol for patients with traumatic brain injury: a systematic review and meta-analysis**
M. Diaa Gabra, Y. Ahmed Fahmy, M. Essam, A. Azam, A. Abdelrahman, M. H. Nafady, E. E. Alshial, A. Ramadan, A. Negida, H. S. Ghaith
- 13:24 – 13:27 EP01033 **Effect on serum magnesium levels after traumatic brain injury**
T. Fatima
- 13:27 – 13:30 EP01034 **Usefulness of polysorbate-80 and sodium-lauryl-sulfate coated polymeric nanoparticles as transport systems across the blood-brain-barrier for treatment of traumatic brain injury in an experimental animal model**
L. Serrano Sponton, P. Bechinger, D. Eldahaby, D. Jussen, H. Krenzlin, V. Grützner, N. Riede, A. Musyanovich, M. Ottenhausen, F. Ringel, B. Alessandri
- 13:30 – 13:33 EP01036 **Explanted skull flaps after decompressive hemicraniectomy demonstrate increased bone avitality. Is the reimplantation of autologous skulls still justified?**
T. Theocharous, R. Agrawal, I. Stricker, C. Rompf, A. Granada, A. Hoyer, A. Tannapfel, K. Gousias
- 13:33 – 13:36 EP01038 **Management of post-traumatic hydrocephalus following decompressive craniectomy due to severe traumatic brain injury**
B. Splavski, M. Jurilj, D. Stanić, K. Rotim
- 13:36 – 13:39 EP01039 **Italian intersocietary document for management of intracranial hypertension following traumatic brain injury with a neurosurgical and neurointensivist survey**
C. Iaccarino, H. Nafidi, L. Lippa, G. Casoli, R. Ghadirpour, G. Pavesi
- 13:39 – 13:42 EP01040 **What is the best practice in the use of AED's for TBI patients? An update on MAST Trials**
E. Viarolj, H. Mee, C. Turner, A. Kolias, P.J.A. Hutchinson
- 13:42 – 13:45 EP01041 **E-bikes (Electrical bicycles and scooters) related neurosurgical injuries in adults population – a single center experience**
Y. Karepov, C. Richetta
- 13:45 – 13:48 EP01042 **Impact of an early mobilization protocol on medical complications after surgery for chronic subdural hematoma – get up trial preliminary results and quality of life evaluation**
F. Vaz da Silva, S. Sousa, V. Sá Pinto, T. Costa, A. Picão Fernandes, R. Batata, J. Reis, A. Calheiros

- 13:48 – 13:51 EP01044 **Functional recovery in relation to the posttraumatic restitution of the Blood-Spinal-Cord-Barrier after experimental Spinal Cord Injury in the mouse**
L. Roofls, L. Meyer, L. Waldmann, N. Taheri, K. Kersting, M. Nieminen-Kelhä, I. Kremenetskaia, A. Ghori, A. Rex, M.G. Fehlings, P. Vajkoczy, V. Hubertus
- 13:51 – 13:54 EP01047 **Impact of intracranial pressure monitoring on outcome of traumatic brain injury in pediatric patients: a 15-year single center experience and literature review**
K. Ntotsikas, C. Tsitsipanis, M. Miliaraki, D. Baldounis, E. Kokkinakis, G. Briassoulis, M. Venihaki, A. Vakis, S. Iliä
- 13:54 – 14:30 **Discussion**
- 13:00 – 14:50 **Research**
Presentation Booth 2
- 13:00 – 13:03 EP01048 **Frameless stereotactic brain biopsy: a prospective study on robot-assisted brain biopsies performed on 32 patients by using the RONNA G4 system**
D. Dlaka, M. Švaco, D. Chudy, B. Jerbić, B. Šekoranja, F. Šuligoj, J. Vidaković, D. Romić, F. Almahariq, M. Raguž
- 13:03 – 13:06 EP01049 **Risks and benefits of continuation and discontinuation of aspirin in elective craniotomies and transsphenoidal surgeries: a systematic review and meta-analysis**
J. Rychen, T. Fingerlin, L. Greuter, R. Guzman, L. Mariani, J. Soleman
- 13:06 – 13:09 EP01051 **Preliminary results of a two saccular elastase digested aneurysm model in a rabbit – a technical report**
J. Kumin-Rey, G. Boillat, R. Schmied, S. Ulmer, T. Franssen, B.E. Gruter, S. Wanderer, K. Catalano, H.R. Widmer, L. Remonda, L. Anderegg, S. Marbacher
- 13:09 – 13:12 EP01052 **An innovative, reusable, high-fidelity neurosurgical training simulator for cerebrovascular bypass surgery: latrotek@didactic platform validation study and systematic Literature review**
L. Mongardi, M. D'Andrea, A. Musio, L. Tosatto
- 13:12 – 13:15 EP01053 **A patient-specific reference tracker for non-invasive electromagnetic navigation of endoscopic skull base surgery**
A. Micko, S. Wolfsberger
- 13:15 – 13:18 EP01054 **Ten-years single-center experience with three different robotic systems in spinal and brain neurosurgery: lessons learned and future perspectives**
G. Naros, K. Machetanz, F. Grimm, S. Wang, M. Gorbachuk, A. Gharabaghi, M. Tatagiba

- 13:18 – 13:21 EP01056 **Ethanol-induced inflammation and aging in endothelial cells was reduced by Doxycycline treatment**
S. Muhammad, D. Khan, X. Li, H. Zhou, J.F. Cornelius, D. Hänggi
- 13:21 – 13:24 EP01057 **Augmenting the field of the surgeon's eye by high definition 3-dimensional exoscope. Learning curve and single-center experience in neurosurgical practice**
G.R. Giammalva, D.G. Iacopino, A. Provenzano, L. Basile, R.M. Gerardi, C. Guli, D. Messina, M.A. Pino, R. Mauerger
- 13:24 – 13:27 EP01058 **Comparative analysis of xenoperitoneal extracellular matrix (Xenograft) in rabbit dural plastics**
K. Mustafin, I. Mussabekov, A. Doskaliyev, V. Ogay, B. Zhetpisbayev, M. Satov, R. Auezova, S. Akshulakov
- 13:27 – 13:30 EP01060 **Neuro-oncological augmented reality planning (NOA-p)**
F. Van Gestel, T. Frantz, Q. Neuville, S. Klein, M. Bruneau, B. Jansen, T. Scheerlinck, J. Vandemeulebroucke, J. Duerinck
- 13:30 – 13:33 EP01061 **A walking app for gait assessment in normal pressure hydrocephalus and decompensated long-standing overt ventriculomegaly patients**
K. Tariq, M. Amarouche, A. Toma, L. Thorne, L. Watkins
- 13:33 – 13:36 EP01062 **Advances in robotic navigated laser craniotomy for depth electrode implantation: an in-vivo non-recovery animal study**
F. Winter, D. Beer, E. Pataraiia, T. Wilken, C. Dorfer, K. Roesler
- 13:36 – 13:39 EP01063 **Virtual reality robotic assisted treatment for phantom limb pain in individuals with amputation, brachial plexus injury and spinal cord injury**
D. Dimante, P.W Snow, M. Sinisi, R.CV Loureiro
- 13:39 – 13:42 EP01064 **A comparative observational analysis of PMMA versus CaP titanium-enhanced implants for cranioplasty after decompressive craniectomy**
D.M.A. Wesp, H. Krenzlin, M. Ottenhausen, M. Jägersberg, F. Ringel, N. Keric
- 13:42 – 13:45 EP01065 **The one-stop-shop approach: Navigating lumbar 360 degree instrumentation in single positioning**
M. Schwendner, S. Ille, R. Liang, V. Butenschoen, B. Meyer, S. Krieg
- 13:45 – 13:48 EP01066 **A novel microcontroller platform for data collection in neurosurgery**
B.G. Smith, S. Tumpa, A. Asif, O. Burton
- 13:48 – 13:51 EP01067 **Creation of sensory phantom map of hand using VR robotic system: initial case series**
D. Dimante, P.W Snow, M. Sinisi, A. Krumina, I. Logina, R.CV Loureiro

- 13:51 – 13:54 EP01068 **Advances in MRI in service of Gamma Knife radiosurgery: Time to change the paradigm?**
F. Derkaoui Hassani, A. Melhaoui, Y. Dif, Y. Arkha, N. El Abbadi, A. El Khamlichi
- 13:54 – 13:57 EP01069 **Wearable mixed-reality devices and patient-specific 3-dimensionally printed models for patient education: preliminary results**
J. Haegler, G. Boillat, S. Marbacher, H.-J. Steiger, A. Tortora, B. Grueter, J. Anon, L. Remonda, G.A. Schubert, L. Andereggen
- 13:57 – 14:00 EP01070 **Development and validation of a triple-LED surgical loupe device for fluorescence-guided resections with 5-ALA**
E. Suero-Molina, S. Hellwig, A. Walke, A. Jeibmann, H. Stepp, W. Stummer
- 14:00 – 14:03 EP01071 **Intraoperative CT-angiography reconstruction of the vertebral artery utilizing neuronavigation and intraoperative i.v. contrast application for dorsal upper cervical axial and subaxial cervical spine instrumentation**
O. Pavlov, N. Mirchev, K. Kallenberg, J. Obersheimer, R. Behr
- 14:03 – 14:06 EP01072 **Long Non-Coding RNA (Lnc RNA) NEAT1 is differentially expressed in ruptured and unruptured intracranial aneurysms (ICAs)**
S. Muhammad, B. Zheng, D. Khan, X. Li, S. Alpdogan, H. Zhou, K. Li, R. Zhang, J.F. Cornelius, D. Hänggi,
- 14:06 – 14:09 EP01073 **Doxycycline is a potential drug to reduce oxidative stress-induced expression of MMPs in Endothelial cells**
S. Muhammad, X. Li, D. Khan, C. Hagenbeck, D. Hänggi
- 14:09 – 14:12 EP01074 **Cold Ultra-short Pulsed Laser Bone Ablation for Neurosurgical Applications**
P.C. Reinacher, B. Lazar, G. Christina, M. Leo, T. Christian, R. Roelz, A. Lenenbach
- 14:12 – 14:15 EP01075 **The Neuronavigation 7D Surgical System using Flash™ Registration. Monocentric neurosurgical preliminary experience**
G. Pavesi, A. Puzzolante, S. Berlucchi, D. Montebelli, C. Iaccarino
- 14:15 – 14:18 EP01076 **Augmented reality surgical navigation in hybrid OR for minimally invasive transforaminal lumbar interbody fusion**
C. Mollica, R. Guatta, S. Bonasia, A. Chatterjea, S. Presilla, P. Scarone
- 14:18 – 14:21 EP01077 **Cadaveric study of ergonomics and performance using a robotic exoscope with a head-mounted display in spine surgery**
M. Demetz, A. Abramovic, A. Krigers, M. Bauer, S. Lener, D. Pinggera, J. Kerschbaumer, S. Hartmann, H. Fritsch, C. Thomé, C.F. Freyschlag

- 14:21 – 14:24 EP01078 **Robotic-assisted percutaneous vertebroplasty for the treatment of extreme codfish vertebrae**
N. Gabrovsky, P. Ilkov, N. Velinov
- 14:24 – 14:27 EP01079 **Temporal Metabolomic Profiling Revealed Common Metabolites Altered and Associations to Outcome after Different Acute Brain Injuries**
J. Koskimäki, A. Sajanti, R. Girard, J. Frantzén, J. Umemori, F. Koskimäki, S.B. Lyne, A.J. Saarinen, J. Falter, T. Rantamäki, K. Nazir, B. Gajera, J.P. Posti, S. Roine, I. Saarenpää, S. Kolehmainen, R. Takala, Y. Cao, Y. Li, I. Heino, M. Rahi, J. Rinne, A.I. Nieminen, E. Castrén
- 14:27 – 14:30 EP01080 **Novel quantitative hemodynamic parameters in ischemic stroke: agreement for the acute and chronic stroke stage**
M. Sebök, C.H.B. van Niftrik, S. Wegener, A. Luft, Z. Kulcsar, L. Regli, J. Fierstra
- 14:30 – 14:33 EP01081 **Complications research in neurosurgery using artificial intelligence**
G. Daniłow, A. Potapov, M. Shifring, A. Nazarenko, D. Usachev, K. Kotik, U. Strunina, T. Tsukanova, T. Ishankulov
- 14:33 – 14:36 EP01082 **Patient registration based on intraoperative CT scan: a successful strategy to increase neuronavigation accuracy**
R. Altieri, F. Certo, G.M. Barbagallo
- 14:36 – 14:39 EP01083 **Machine learning and traumatic brain injury: a review of the literature**
M. Tzavlas, A. Vakis, C. Tsitsipanis
- 14:39 – 14:50 **Discussion**
- 16:10 – 16:50 **General**
Presentation Booth 1
- 16:10 – 16:13 EP01084 **ePoster Presentation**
Chair: Cristina Aldea (Romania)
- 16:10 – 16:13 EP01084 **Implementation of the “No ICU – Unless” approach in postoperative neurosurgical management in times of Covid-19**
L.-E. Qasem, A. Al-Hilou, K. Zacharowski, M. Funke, U. Strouhal, D. Jussen, J. Konczalla, M.-T. Forster, V. Prinz, K. Lucia, M. Czabanka
- 16:13 – 16:16 EP01085 **Life balance from a neurosurgeon's perspective**
X. Lambrianou, A. Tasiou, C. Tzerefos, I. Janseen, S. Mihaylova, A.E. Aydin, S. Al-Ahmad, M. Broekman, N. Gazioglu, S.H. Duran, D.L. Ivan, M. Karampouga, H.B. Magnadottir, E. Pajaj, A. Rodríguez-Hernández, G. Rosseau, N. Salokorpi, E. Tsiانaka, P. Vayssiere, M. Murphy

- 16:16 – 16:19 EP01086 **Various surgical modalities for cerebral mucormycosis – our institutional experience**, King George Hospital, Andhra Medical College, Visakhapatnam, India
H.S. Kurumella, V.S. Manda V, S.V.P. Kadali
- 16:19 – 16:22 EP01087 **Increasing volumes of malignant brain tumors in times of COVID-19 – a single-center analysis**
L. Karamani, M.A. Kamp, A. Lawson-McLean, N. Dinc, C. Senft
- 16:22 – 16:25 EP01088 **Ukraine and Haiti: lessons for neurosurgery, surgery and healthcare worldwide**
R. Andrews, T. Khan, R. Latifi, E. Wahjoepramono
- 16:25 – 16:28 EP01090 **Adult brain tumors in Sub-Saharan Africa: A scoping review**
A.D. Nyalundja, U.S. Kanmounye, C. Karekezi, A.K. Awad, J.A Balogun
- 16:28 – 16:31 EP01091 **Qualitative analysis of artefacts caused by auditory brain implants on MRI scans**
O. Plavov, R. Behr
- 16:31 – 16:34 EP01093 **Anatomical study of pterion in Serbian population**
M. Stanić, M. Mihajlović, M. Bulatović, M. Samardžić, I. Popović, V. Miladinović, A. Petrović, M. Marinković, N. Zakić, V. Aleksić
- 16:34 – 16:37 EP01094 **Impact of COVID-19 on neurosurgical practice**
N. Moustakis, A. Trikkos, M. Miliaraki, K. Ntotsikas, S. Lazarioti, A. Marinis, G. Sourvanos, A. Vakis, C. Tsitsipanis
- 16:37 – 16:40 EP01095 **Training model for brain tumor removal (Model TOM meningioma)**
Y. Nounaka, H. Tenjin, Y. Okano, A. Morita
- 16:40 – 16:50 **Discussion**
- 16:10 – 16:50 **Functional**
Presentation Booth 2
- 16:10 – 16:13 EP01096 **Memory and executive functioning outcomes of selective amygdalohippocampectomy in patients with hippocampal sclerosis: a preliminary study in a developing country**
S. Saghebdoost, S.S. Moshir Estekhahreh, R. Zare, M. Aghaee Hakak, B.A. Ghanbari Hashemabadi
- 16:13 – 16:16 EP01098 **Neocortical layers 5 and 6 are the drivers of network activity in Micro-Electrode Array recordings of epileptic human brain slice cultures**
J. Ort, J. Wickham, A. Bak, A. Corna, J. Schmierer, T. Wuttke, N. Schwarz, H. Clusmann, Y. Weber, D. Delev, G. Zeck, H. Koch

- 16:16 – 16:19 EP01099 **Is SEEG necessary before an anterior temporal lobectomy in pharmaco-resistant epileptic patients?**
K. Stari-Schmidt, C. Haegelen, H. Catenoix, S. Rheims, M. Guénot
- 16:19 – 16:22 EP01100 **Magnetic resonance-guided laser interstitial thermal therapy (MR-gLiTT) in pediatric epilepsy surgery: experience at Giannina Gaslini Children's Hospital (Genoa, Italy)**
M. Pacetti, A. Consales, E. Cognolato, M.M. Mancardi, D. Tortora, G. Di Perna, S. Francione, G. Piatelli, L. Nobili
- 16:22 – 16:25 EP01101 **Multimodal spatial omics in human focal epilepsy**
I. Vermeulen, T. Dankcer, G. Hoogland, K. Rijkers, O. Schijns, B. Balluff, E. Cuypers, B. Cillero-Pastor
- 16:25 – 16:28 EP01102 **From Euler to the Neocortex – the potential of graph analytical approaches to characterize electrophysiological network properties of human cortical brain slice cultures**
J. Ort, J. Wickham, A. Bak, A. Corna, J. Schmierer, T. Wuttke, N. Schwarz, H. Clusmann, Y. Weber, G. Zeck, H. Koch, D. Delev
- 16:28 – 16:31 EP01103 **Increase the accuracy of invasive epilepsy treatment by using multimodality brain imaging**
A.J Colon, O. Schijns, R. van Hoof, L. Wagner, P. Ossenblok
- 16:31 – 16:34 EP01104 **Effect of low frequency in Dorsal Root Ganglion stimulation for neuropathic pain**
G. Santos Piedade, S. Gillner, P.S. McPhillips, J. Vesper, P.J. Slotty
- 16:34 – 16:37 EP01105 **Neuromodulation for the treatment of neuropathic pain of the head and face**
G. Santos Piedade, L.T. Niedballa, S. Gillner, J. Vesper, P.J. Slotty
- 16:37 – 16:40 EP01106 **Does diabetic polyneuropathy influence patients' outcome after Spinal Cord Stimulation (SCS) for chronic leg pain in Failed Back Surgery Syndrome (FBSS)?**
F.P. Schwarm, J. Nagl, I. Wilhelm, H. Gött, E. Uhl, M. Stein, M.A. Kolodziej
- 16:40 – 16:43 EP01107 **Spinal cord stimulation in pain control and its indications. A comparative study**
L. Bonosi, R.M. Gerardi, F. Graziano, F. Paolini, R.G. Giammalva, D.G. Iacopino, R. Maugeri
- 16:43 – 16:50 **Discussion**



EANS webinars

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● Tuesday, October 18 ●

10:00 – 10:40 **Vascular**
Presentation Booth 1

ePoster Presentation

Chairs: Ondra Petr (Austria), Adisa Kuršumović (Germany)

10:00 – 10:03 EP01108

Multiple cerebral cavernous malformations – clinical course of confirmed, assumed and non-familial disease

A. Santos, L. Rauschenbach, D. Saban, B. Chen, M. Darkwah Oppong, A. Lenkeit, H.H Gull, C. Rieß, C. Deuschl, B. Schmidt, R. Jabbarli, K. Wrede, Y. Zhu, B. Frank, U. Sure, P. Dammann

10:03 – 10:06 EP01109

Bleeding risk of cerebral cavernous malformations in patients on statin and antiplatelet medication

L. Marques, C. Jaeggi, M. Branca, A. Raabe, D. Bervini, J. Goldberg

10:06 – 10:09 EP01110

Modifiable cardiovascular risk factors in patients with cerebral and spinal cavernous malformations: a complete ten-year follow-up study

S. Rauscher, A.N. Santos, L. Rauschenbach, H.H. Gull, A. Olbrich, M. Darkwah Oppong, C. Rieß, B. Chen, A. Lenkeit, B. Schmidt, Y. Li, R. Jabbarli, K.H. Wrede, U. Sure, P. Dammann

10:09 – 10:12 EP01111

Role of i-CT, i-US and neuromonitoring in surgical management of brain cavernous malformations and arterio-venous malformations: a case series

F. Certo, R. Altieri, G. Cammarata, G.M. Barbagallo

10:12 – 10:15 EP01113

Embolization of spinal dural arteriovenous fistulae: clinical outcomes and long-term follow-up – a multicenter study

W. Abouzeid, M. Shadad, M. Farid, M. El Hawary

10:15 – 10:18 EP01114

Augmented reality-guided (AR) drainage of intracerebral hemorrhage: accuracy compared to stereotactic and freehand puncture

P.C. Reinacher, A. Stanicki, R. Roelz, M. Nunez, M. Bissolo, C. Steiert, P. Fistouris, V.A. Coenen, H. Urbach, C. Fung, J. Beck, T. Demerath

10:18 – 10:21 EP01115

Initial single-center experience with Middle Meningeal Artery embolization for treatment of Chronic Subdural Hematoma

A. Kuršumović, Y. Almassri, R. Ritz, M. Almatter

10:21 – 10:24 EP01116

ACTIVE study – use of active fluid exchange to treat intraventricular hemorrhage, preliminary data from a multi center, randomized controlled trial

M. Haldrup, C.Z. Simonsen, S. Dyrskog, A.R. Korshøj

- 10:24 – 10:27 EP01117 **Baseline periaematoma oedema and CRP are not associated with 30-day mortality in intracerebral haemorrhage**
I.C. Hostettler, O.A. Sobowale, T.Y. Wu, C. Heal, D. Wilson, D.G. Shah, D. Strbian, J. Putaala, T. Tatlisumak, A. Vail, G. Sharma, S.M. Davis, D.J. Werring, A. Meretoja, S.M. Allan, A.R. Parry-Jones
- 10:27 – 10:30 EP01118 **Management of spontaneous subarachnoid hemorrhage: results of a national survey in Germany**
C. Wolfert, B. Sommer, E. Shiban
- 10:30 – 10:33 EP01119 **Active removal of cerebral haemorrhage via CSF exchange**
B. Rezaei Jahromi, N. Brandmeier, F. Göhre, P. Tanskanen, J. Numminen, M. Niemelä, J. Siironen
- 10:33 – 10:40 **Discussion**
- 10:00 – 10:40 **CSF**
Presentation Booth 2
- 10:00 – 10:03 EP01121 **Salomón Hakim, MD (1922–2011): a honeymoon with neurosurgery**
D. Jaramillo-Velásquez, F. Hakim, A. Demeteriades
- 10:03 – 10:06 EP01122 **Safety, sequelae and effectiveness of nerve root clipping in patients with SIH**
A. El Rahal, B. Haupt, C. Fung, B. Blass, F. Volz, L.M. Kraus, L. Haeni, J. Beck
- 10:06 – 10:09 EP01123 **Watkins Point and trajectory, description of a new method to guide freehand ventricular catheter insertion**
K. Tariq, M. Amarouche, L. Watkins
- 10:09 – 10:12 EP01124 **Long term prognostic factors in NPH patients after ventriculo-peritoneal shunt**
S. Colonna, A. Bianconi, M. Minardi, G. Di Perna, S. Borgarello, D. Garbossa, F. Cofano
- 10:12 – 10:15 EP01125 **Placement of ventricular catheter in ventriculoperitoneal shunt procedure**
S. Yang
- 10:15 – 10:18 EP01126 **The utility and reversibility of MRI biomarkers in predicting raised intracranial pressure**
A.S. Pandit, M. China, F.C. Yildirim, A.L. Maguire, R. Jain, Y. Aldabbagh, M.K. Stasiak, A.H. Jalal, M. Alradhawi, E.B. Tan, Z. Abdi, C.S. The, P.D.W. Banks, S.B. Joshi, H. Asif, L. D'Antona, A.K. Toma

- 10:18 – 10:21 EP01128 **Role of automated intracranial pressure control devices and optic nerve ultrasound in idiopathic intracranial hypertension**
L. de Gennaro, R. Messina, M. Dibenedetto, G. Cirrottola, M.T. Bozzi, N. Bruno, F. Signorelli
- 10:21 – 10:24 EP01129 **Transverse sinus stenting for Idiopathic Intracranial Hypertension. A presentation of two cases and a review of the literature**
D. Charitos, C. Chrissicopoulos, S. Plakas, A. Andreou
- 10:24 – 10:40 **Discussion**
- 13:05 – 14:30 **Vascular**
Presentation Booth 1 **ePoster Presentation**
Chair: Goran Tasic (Serbia), Miikka Korja (Finland)
- 13:05 – 13:08 EP01131 **Neointima sealing provided by endothelial cells of the parent artery in a rat saccular side wall model – Methodology of in-vivo cell tracer injection**
S. Wanderer, B. Grüter, J. Kumin, G. Boillat, S. Sivanrupan, K. Catalano, M. von Gunten, H.R. Widmer, S. Marbacher, L. Anderegg
- 13:08 – 13:11 EP01132 **The primitive variant of the basal vein of Rosenthal and the potential role in the etiology of non-aneurysmal perimesencephalic SAH**
D. Charitos, C. Chrissicopoulos, S. Plakas, A. Andreou
- 13:11 – 13:14 EP01133 **Systematic review and meta-analysis of outcome-relevant anemia in patients with subarachnoid hemorrhage**
M. Said, M. Guemues, J. Rodemerk, L. Rauschenbach, M. Chihi, T.F. Dinger, M. Darkwah Oppong, B. Schmidt, Y. Ahmadipour, P. Dammann, K. Wrede, U. Sure, R. Jabbarli
- 13:14 – 13:17 EP01134 **Impact of beginning, duration, and severity of anemia on the outcome of aneurysmal subarachnoid hemorrhage**
M. Said, T.F. Dinger, M. Guemues, M. Chihi, M. Darwah Oppong, A.-K. Uerschels, P. Dammann, K. Wrede, U. Sure, R. Jabbarli
- 13:17 – 13:20 EP01136 **Intracranial aneurysm rupture is associated with macrophage polarization**
M. Stratilová, M. Koblížek, A. Štekláčová, V. Beneš, M. Sameš, A. Hejčl, J. Zámečník
- 13:20 – 13:23 EP01137 **Surgical treatment of anterior communicating artery aneurysms: risk factors and predictors for postoperative clinical outcome**
P. Geiger, C. Preuss-Hernandez, A. Krigers, C. Thomé, O. Petr
- 13:23 – 13:26 EP01138 **Large and giant ACA aneurysms: analysis of surgical techniques and ischemic complications in a series of 112 patients**
V. Gadzhiagaev, O. Shekhtman, A. Konovalov, Y. Pilipenko, S. Eliava

- 13:26 – 13:29 EP01139 **Contrast labeled immunoliposomes for detecting rupture prone aneurysms**
B. Rezaei Jahromi, V. Zamotin, C. Code, E. Netti, A. Laakso, R. Tulamo, M. Niemelä
- 13:29 – 13:32 EP01140 **Challenges of microvascular neurosurgery discussed in the treatment of intracranial aneurysms prior treated with various endovascular methods: North Atlanta experience**
A. Grigorian, L. Beasley
- 13:32 – 13:35 EP01141 **Association of arterial tortuosity with haemodynamic parameters – a Computational Fluid Dynamics study**
R.M. Krzyżewski, K.M. Kliś, B.M. Kwinta, K. Stachura, T. Popiela, J. Gąsowski
- 13:35 – 13:38 EP01142 **Clinical characteristics and morphological parameters associated with the risk of rupture of anterior communicating artery aneurysms**
F. Vitošević, S. Milošević Medenica, S. Mandić-Rajčević, M. Vitošević, L. Rasulić
- 13:38 – 13:41 EP01143 **Predicting vasospasm following aneurysmal subarachnoid haemorrhage from total blood volume on CT head: a semi-automated segmentation pipeline**
A.S Pandit, J.S Street, A.K Toma
- 13:41 – 13:44 EP01144 **Blood pressure and outcome after aneurysmal subarachnoid hemorrhage**
M. Darkwah Oppong, C. Rieß, A.N. Santos, K.H. Wrede, T.F. Dinger, Y. Ahmadipour, P. Dammann, L. Rauschenbach, M. Gümüş, U. Sure, R. Jabbarli
- 13:44 – 13:47 EP01145 **The outcome of a subarachnoid hemorrhage of "poor grade" in developing European country – a single center experience**
A. Ahmetpahić, A. Džurlić, I. Omerhodžić, E. Burazerović
- 13:47 – 13:50 EP01146 **Retinotopic mapping guides microsurgical resection of occipital arteriovenous malformation**
S. Karadimas, J.-F. Nankoo, R. Alshahrani, R. Chen, I. Radovanovic
- 13:50 – 13:53 EP01147 **Epidemiology-based evaluation of trends in treatment for ruptured intracranial aneurysms in Italy**
D. Bongetta, C. Zoia, E. Agosti, F. Doglietto, A. Fiorindi, G. Spena, M.M. Fontanella, C.G. Giussani
- 13:53 – 13:56 EP01148 **Shunt dependency after aneurysmal subarachnoid haemorrhage and influence of admission hyperglycaemia**
I.C. Hostettler, N. Lange, N. Schwendinger, T. Hirle, G. Ambler, S. Frangoulis, D. Trost, J. Gempt, K. Kreiser, B. Meyer, C. Winter, M. Wostrack

- 13:56 – 14:59 EP01149 **Diagnostic yield of different imaging modalities to detect intracranial aneurysm remnants after microsurgical clipping: A systematic review**
S. Marbacher, R. Sidler, L. Andereggen, B. Grüter
- 13:59 – 14:02 EP01150 **Stent-assisted coiling in acute phase of subarachnoid hemorrhage**
S. Badalyan, R. Fanarjyan, A. Grigorian, T. Khachatryan, L. Grigoryan
- 14:02 – 14:05 EP01152 **Surgical treatment of ACOM aneurysm via anterior interhemispheric approach**
İ. Doğan, K. Erdoğan, A. Eray, B. Abbasoğlu, S. Haşımoğlu, O. Tekneci, S. Solmaz, Y.Ş. Çağlar
- 14:05 – 14:08 EP01153 **Physical exertion is associated with perimesencephalic non-aneurysmal subarachnoid hemorrhage**
D. Laukka, J. Kivelev, R. Rautio, M. Sinisalo, J. Kuhmonen, J. Rinne, M. Rahi
- 14:08 – 14:11 EP01154 **Impact of COVID-19 pandemic on treatment management and clinical outcome of aneurysmal subarachnoid hemorrhage – A single center experience**
S. Kashefiolas, L.E. Qasem, N. Brawanski, M. Funke, F. Keil, E. Hattingen, C. Foerch, V. Seifert, V. Prinz, M. Czabanka, J. Konczalla
- 14:11 – 14:14 EP01155 **Patients with brain arteriovenous malformation-associated epilepsy exhibit more pronounced hemodynamic alterations**
M. Sebök, M.R. Germans, C.H.B. van Niftrik, Z. Kulcsar, L. Regli, J. Fierstra
- 14:14 – 14:17 EP01156 **Novel biomarkers identified in brain arteriovenous malformation proteomics assay**
H. Savander, S. Jauhiainen, F. Onyeogaziri, M. Niemelä, A. Laakso, E. Dejana, B. Rezai Jahromi, P.U. Magnusson
- 14:17 – 14:20 EP01157 **Segmentation techniques of cerebral arteriovenous malformations for 3D visualisation: a systematic review**
E. Colombo, T. Fick, G. Esposito, M. Germans, L. Regli, T. van Doormaal
- 14:20 – 14:23 EP01158 **Urgent Microneurosurgical Treatment Of Ruptured AVMs Without Embolization**
A. Eray, K. Erdoğan, B. Abbasoğlu, O. Tekneci, S. Haşımoğlu, S. Solmaz, Y.Ş. Çağlar, İ. Doğan
- 14:23 – 14:30 **Discussion**

13:05 – 14:30 **Skull Base**
Presentation Booth 2

ePoster Presentation

Chair: Johanne Kerschbaumer (Austria)

13:05 – 13:08 EP01159

Safety and usefulness of 2 µg-Thulium laser in posterior fossa meningiomas

J.A. Andres Sanz, G. Cacciotti, S. Marrone, A. Campione, C. Altamura, C. Giacobbo-Scavo, F. Bocacci, E. Carpinetta, L. Mastronardi

13:08 – 13:11 EP01160

One size does not fit all - tailored individualized treatment approaches for petroclival and sphenopetroclival meningiomas based on differences in expected outcome

C. Fodj, F. Behling, J. Honegger, M. Tatagiba

13:11 – 13:14 EP01162

Medial sphenoid wing meningiomas with major artery encasement; results of single institution series

E. Özgiray, N. Akıntürk, C. Çınar, İ. Oran

13:14 – 13:17 EP01163

Microsurgical resection of the meningiomas of the skull base: a multicentric study

M. May, V. Benes, D. Netuka

13:17 – 13:20 EP01164

The assessment of gamma probe-assisted removal of intracranial meningioma

D. Kalasauskas, P.-E. Baqué, H. Reber, J. Conrad, E. Schwandt, N. Keric, M. Schreckenberger, F. Ringel

13:20 – 13:23 EP01165

Postoperative cranial nerve deficits in petroclival meningioma surgery

H. Barić, G. Mrak, V. Lupret, J. Nemir, K. Brgić, N. Njirić

13:23 – 13:26 EP01166

Recurrent meningiomas within and around the cavernous sinus after radiosurgery: the pretemporal transcavernous approach

G. Raccuia, P. Ferroli, G. Iess, A. Ciuffi, M.P. Schiariti

13:26 – 13:29 EP01169

Development and external validation of clinical prediction models for pituitary surgery

O. Zanier, M. Zoli, V.E. Staartjes, M. Alalfi, F. Guaraldi, S. Asioli, A. Rustici, E. Pasquini, M. Faustini-Fustini, Z. Erlic, M. Hugelshofer, S. Voglis, L. Regli, D. Mazzatenta, C. Serra

13:29 – 13:32 EP01170

Expanded endoscopic endonasal approach for complex functioning tumours with cavernous sinus, suprasellar and clival invasion: technical nuances for maximising extent of resection and biochemical remission

A. Zammitt, P. Gimenez, W. Ramcharan, M. Harty, V. Parfitt, K. Bradley, W. Bennett, A. Williams, K. Abhinav

13:32 – 13:35 EP01171

Pituitary adenoma surgery survey: neurosurgical centers and pituitary adenomas

D. Netuka, A. Grotenhuis, N. Foroglou, F. Zenga, S. Froehlich, F. Ringel, N. Sampron, N. Thomas, M. Komarc, M. Majovsky

- 13:35 – 13:38 EP01172 **Visualization of tumor remnant in pituitary adenoma surgery with intraoperative intraoperative cone-beam computed tomography**
L. Rauschenbach, M. Darkwah Oppong, R. Jabbarli, P. Dammann, U. Sure, K.H. Wrede
- 13:38 – 13:41 EP01173 **Pre and postoperative remission predictors of surgical treatment of acromegaly**
L. Astafieva, P. Kalinin, A. Shkarubo, M. Kutin, D. Fomichev, O. Sharipov, D. Andreev, I. Chernov, I. Badmaeva, I. Klochkova
- 13:41 – 13:44 EP01174 **Herophilus-Galen line can predict the extent of resection in the occipital interhemispheric transtentorial approach to pineal tumors in children**
A. Marini, G. Cinalli, C. Russo, P. Spennato, G. Mirone, C. Ruggiero, L. Quaglietta, S. De Santi, E. Covelli
- 13:44 – 13:47 EP01175 **A minimally invasive endoscope-assisted mandibular notch infratemporal transclival approach to the foramen magnum and anterior brainstem**
S. Constantinou, A. Malaspina, A.I. Evins, P.E. Stieg, A. Bernardo
- 13:47 – 13:50 EP01177 **Endoscopic multiportal approaches to the lateral sellar compartment: an anatomic study**
A. Hasanbelliu, N. Andaluz, M. Zuccarello
- 13:50 – 13:53 EP01178 **Comparison of sitting position vs. non sitting position the resection of brain metastases in the posterior fossa. Surgical and functional outcome in a contemporary cohort**
P. Krauss, T. Vernik, S. Motov, M.N. Bonk, S. Shmygalev, K. Kramer, J. Lehmsberg, E. Shiban
- 13:53 – 13:56 EP01180 **Diagnostic and treatment algorithm for indeterminate lesions of the pituitary stalk in children and adults – case series**
M. Mütter, E. Suero-Molina
- 13:56 – 13:59 EP01181 **Endoscopic transorbital approach**
C. Zoia, F. Lombardi, R. Pugliese, F. Pagella, G. Spena
- 13:59 – 14:02 EP01183 **Endoscope assisted resection for cystic cerebellar haemangioblastomas**
J. Roach, J. Livermore, P. Plaha
- 14:02 – 14:05 EP01184 **Technical nuances for maximising the sublacerum versus supralacerum expanded endoscopic endonasal transclival approach: maximing extent of resection of chordomas, chondrosarcomas and petroclival lesions**
A. Zammit, P. Gimenez, W. Ramcharan, J. Sinnott, W. Bennett, K. Abhinav

- 14:05 – 14:08 EP01185 **Endoscopic transnasal odontoidectomy in basilar invagination with ventral cord compression due to posterior displacement of the odontoid process**
I. Zazpe, A. Casajus, S. Alvarez De Eulate, I. Pinzon
- 14:08 – 14:11 EP01186 **Sphenoid sinus pneumatization in Middle Eastern patients – Implications for endoscopic skull base approaches**
K. Alok, M. Daccache, E. Hebbo, K. Jabbour, A. Hammoud, K. Aramouni, R. Hourany
- 14:11 – 14:30 **Discussion**
- 16:10 – 16:50 **Vascular**
Presentation Booth 1 **ePoster Presentation**
Chair: Isabel Charlotte Hostettler (Germany)
- 16:10 – 16:13 EP01187 **Time trends in the risk of delayed cerebral ischemia after subarachnoid hemorrhage: a meta-analysis of randomized controlled trials**
L. Rigante, J. Van Lieshout, M.D. Vergouwen, C.H. van Griensven, P. Vart, L. van der Loo, J. de Vries, S. Vinke, N. Etminan, R. Aquarius, A. Gruber, J. Mocco, B.G. Welch, T. Menovsky, C.J. Klijn, R.H. Bartels, M.R. Germans, H.D. Boogaarts
- 16:13 – 16:16 EP01188 **Neovascularization after surgical treatment in patients with Moyamoya disease: efficiency factors of combined revascularization**
A. Shulgina, V. Lukshin, D. Usachev, A. Korshunov, I. Pronin
- 16:16 – 16:19 EP01189 **North Atlanta external carotid-to-internal carotid artery bypass early experience: a retrospective case series**
A. Grigorian, L. Beasley, B. Zussman, R. Gupta
- 16:19 – 16:22 EP01191 **Double-barrel bypass for cerebral ischemia: indications, rationale and experience of 71 cases**
V. Lukshin, D. Usachev, A. Shulgina, A. Akhmadov, M. Kondakov
- 16:22 – 16:25 EP01193 **46 years history of cerebral Bypass surgery in a single institution in Italy**
D. Boeris, M. Cenzato, D. Colistra
- 16:25 – 16:28 EP01194 **Efficacy and safety of multiple tenecteplase doses compared to alteplase for acute ischemic stroke patients, a frequentist network meta-analysis**
A. Negida, H. Ghaiith
- 16:28 – 16:31 EP01195 **Intravenous thrombolysis before mechanical thrombectomy for acute ischemic stroke due to large vessel occlusion; should we cross that bridge? A meta-analysis of 36,123 patients**
H. Ghaiith, A. Negida, M. Daa Gabra, A. Ahmed Nawar

- 16:31 – 16:34 EP01196 **Results of treatment in the long-term period after the formation of extra-intracranial microsurgical anastomosis in patients with symptomatic occlusion of the internal carotid artery**
T. Kudryashova, A. Grin, V. Lukyanchikov, I. Senko
- 16:34 – 16:37 EP01197 **Decompressive craniectomy and cranioplasty for malignant brain infarction: comparing prognostic factors**
C. Iaccarino, L. Picchetto, L. Giacobazzi, F. Iaccarino, S. Vallone, L. Verganti, F. Sacchetti, G. Pavesi
- 16:37 – 16:40 EP01198 **Histological Analysis of Carotid Plaques: Predictors of Stroke Risk**
N. Svoboda, R. Voldrich, V. Mandys, D. Skoloudik, D. Netuka
- 16:40 – 16:43 EP01199 **DWI-MRI hyperintensity associated with post ECIC bypass surgery cerebral hyperperfusion syndrome**
A. Nemirovskiy, T. Nemirovskaya, A. Kokshin, M. Rezbaev
- 16:43 – 16:50 **Discussion**
- 16:10 – 16:50 **Pediatric**
Presentation Booth 2
- 16:10 – 16:13 EP01200 **Comparison of long-term functionality and revision rate of two different shunt valves in pediatric and adult patients**
P. Baumgarten, L.-C. Busse, N. Dinc, J. Konczalla, C. Senft, M. Czabanka, T.M. Freiman
- 16:13 – 16:16 EP01201 **CSF leak after cranial surgery in the pediatric population: preliminary results of a retrospective multicenter study**
E.M. Slot, T.P. van Doormaal, M.R. Germans, E.W. Hoving
- 16:16 – 16:19 EP01202 **Sagittal neosuture following scaphocephaly correction surgery**
S.M. Florea, G. Pech Gourg, D. Scavarda
- 16:19 – 16:22 EP01203 **Facial dysmorphisms and severe hypocalvaria: a challenging and often late diagnosis for cleidocranial dysplasia**
K. Latour, C.M. Zattra, F. Belotti, C. Cereda, M.M. Fontanella
- 16:22 – 16:25 EP01204 **The role of intraoperative ultrasound in surgery of occult spinal dysraphisms**
I. Vetrano, L. Valentini
- 16:25 – 16:28 EP01205 **Maternal status of trace elements and risk of neural tube defects in offspring: a meta-analysis of 6121 pregnancies**
A. Aljebali, M. Abdelhady, M. Attia, T. El-boraay, A. Eltobgy, M. kabeel, D. Essam
- 16:28 – 16:31 EP01206 **Augmented 5-aminolevulinic acid derived photodynamic therapy**
M. Schwake, K. Ott, E. Bunk, S. Schipmann, A. Gorji, W. Stummer

- 16:31 – 16:34 EP01207 **Presurgical functional planning for pediatric thalamopeduncular tumors**
G.M. Furlanis, V. Baro, A. D'Amico, L. Sartori, A. Landi, L. Denaro, D. d'Avella
- 16:34 – 16:37 EP01209 **Transnasal endoscopic approach for osteoid osteoma of the odontoid process in a child. Technical note and systematic review of the literature**
G.R. Giammalva, M. Ferrari, L. Dell'Aglio, B. Guarrera, V. Baro, G. Schiavo, L. Calvanese, F. Causin, P. Nicolai, D. d'Avella, L. Denaro
- 16:37 – 16:40 EP01211 **Intramedullary spinal cord tumors in children: the relevance of motor evoked potentials and D-wave monitoring**
L. Antkowiak, M. Putz, R. Sordyl, S. Pokora, M. Mandra
- 16:40 – 16:43 EP01212 **The management of subdural haematomas in newborns: A case series**
P. Spazzapan, T. Velnar
- 16:43 – 16:50 **Discussion**

● Wednesday, October 19 ●

10:00 – 10:40 **Spine**
Presentation Booth 1

ePoster Presentation

Chair: Maria Luisa Gandia Gonzalez (Spain),
Nikolay Gabrovsky (Bulgaria)

10:00 – 10:03 EP01214

Presentation, management and outcomes of typical and atypical Hangman fractures – a case series

M.S. Akhtar, R. Urrehman

10:03 – 10:06 EP01215

Spinopelvic injuries and fixation: a case series

I. Gkalonakis, A.-K. Leventis, G. Georgountzos,
I. Charalampous-Georgoulakos, T. Palaiologos,
P. Papanikolaou, K. Barkas

10:06 – 10:09 EP01216

Assessment of surgical time and clinician radiation exposure of navigated robotic assisted minimally invasive transpedicular screw fixation versus conventional percutaneous technique

N. Gabrovsky, P. Ilkov, N. Velinov

10:09 – 10:12 EP01217

Clinical application of neuronavigation for lateral instrumentation of the thoracolumbar spine

M. Schwendner, R. Liang, V. Butenschön, S.M. Krieg,
S. Ille, B. Meyer

10:12 – 10:15 EP01218

Worsening neurology following epidural blood patch for intracranial hypotension: causative or coincidental?

M. Draz, A. Egiz, C. Mathieson

10:15 – 10:18 EP01219

Adequate fusion as correction of craniocervical and atlantoaxial instability in patients with traumatic lesions, using O-Arm System versus C-arm procedure – a single centre review

N. Mirchev, O. Pavlov

10:18 – 10:21 EP01220

Percutaneous O-arm guided navigated screw implantation for C2 fractures: the technique adaptation according to Magerl and Judet

B. Trnovec, J. Šipoš, M. Božik, P. Hudák, M. Sedliak, K. Varga,
S. Trnovec, M. Liška, K. Koleják

10:21 – 10:24 EP01221

Spondylodiscitis in super-aging society

T. Aoyama

10:24 – 10:27 EP01222

Is degenerative disc disease a consequence of bacterial infection?

T. Velnar, G. Bunc, R. Bosnjak, L. Gradisnik

- 10:27 – 10:30 EP01223 **Management of postoperative discitis with debridement and local antibiotic infusion: functional outcomes from a low-middle-income country**
A. Ozair, V. Suresh, B. Raju, H. Jindal, S. H.S
- 10:30 – 10:33 EP01224 **Treating craniovertebral pathology in Bogota, Colombia; challenges to perform high quality neurosurgery in a developing country. (parhology to pathology)**
G. Uriza, V. Borrero
- 10:33 – 10:36 EP01225 **Occipito-cervical and cervical arthrodesis in childhood. Experience at Giannina Gaslini Children's Hospital**
M. Pacetti, A. Andaloro, L.A. Nasto, F. Secci, M. Pavanello, A. Consales, A. Cama, G. Piatelli
- 10:36 – 10:39 EP01226 **Ventral and dorsal fusion as correction of craniocervical and atlantoaxial instability using O-Arm system versus C-arm procedure – a single centre review of 200 patients**
N. Mirchev, O. Pavlov
- 10:39 – 10:40 **Discussion**
- 10:00 – 10:40 **Neuro-Oncology ePoster Presentation**
Presentation Booth 2
Chairs: Sebastian Ille (Germany), Aleksandrs Krigers (Austria)
- 10:00 – 10:03 EP01227 **The accuracy of brain tumor mapping with 3D visualisation techniques compared to MRI**
T. Fick, M. Köllen, J.W. Meulstee, J.A.M. van Doormaal, E.W. Hoving, T.P.C. van Doormaal
- 10:03 – 10:06 EP01228 **Benefit of verb over standard noun naming task to reveal cortical language areas in preoperative language mapping under navigated Transcranial Magnetic Stimulation**
A.-K. Ohlerth, R. Bastiaanse, L. Kram, B. Neu, B. Meyer, S.M. Krieg
- 10:06 – 10:09 EP01229 **Intraoperative corticobulbar motor evoked potential in cerebellopontine angle surgery: a clinically meaningful tool to predict early and late facial nerve recovery**
V. Stifano, G.M. Della Pepa, Q.G. D'Alessandris, G. Menna, B. Burattini, M. Di Domenico, A. Izzo, M. D'Ercole, L. Lauretti, A. Olivi, N. Montano
- 10:09 – 10:12 EP01230 **Revisiting the connectivity of the parietal lobe: a cadaveric dissection atlas for the white matter fibers of the sensory integration system**
E. Drosos, S. Komaitis, A.V Kalyvas, T. Troupis, G. Stranjalis, C. Koutsarnakis
- 10:12 – 10:15 EP01231 **Impact of intraoperative MRI on cranial surgical site infections**
A.-K. Joerger, S. Ille, X. Laho, B. Meyer, S. Krieg

- 10:15 – 10:18 EP01232 **Metabolic delineation of IDH1 wild type Glioblastoma anatomy: how to plan surgical strategy**
R. Altieri, F. Certo, M. Garozzo, G. Cammarata, G.M. Barbagallo
- 10:18 – 10:21 EP01233 **Increased excitability of peritumoral cortex to transcranial magnetic stimulation in "IDH1"-mutant gliomas**
G. Naros, M. Gorbachuk, K. Machetanz, M.T. Leao, M. Liebsch, S. Wang, A. Gharabaghi, J. Honegger, M. Tatagiba
- 10:21 – 10:24 EP01234 **Automated brain tumour identification using magnetic resonance imaging: a systematic review and meta-analysis**
D. Badran, O. Kouli, A. Hassane, T. Kouli, K. Hossain-Ibrahim, J.D. Steele
- 10:24 – 10:27 EP01235 **The limits of brain plasticity – lessons from low-grade gliomas**
V. Pavlov, K. Minkin, M. Damianova, K. Gabrovski, P. Karazapryanov, V. Karakostov, D. Gancheva, V. Velinova
- 10:27 – 10:30 EP01236 **From pre- and intraoperative functional mapping to postoperative adjuvant treatment – Individualized glioma treatment reveals optimal oncological results in the elderly**
S. Ille, L. Baumgart, A. Schroeder, B. Meyer, S. Krieg
- 10:30 – 10:33 EP01237 **Navigated 3D-ultrasound power Doppler and visualization of lenticulostriate arteries during resections of insular gliomas**
A. Steno, J. Buvala, D. Toma, J. Steno
- 10:33 – 10:36 EP01238 **Impact of intraoperative CT scan in brain tumors. Surgical and radiological considerations based on 503 patients**
G. Cammarata, F. Certo, R. Altieri, G.M. Barbagallo
- 10:36 – 10:40 **Discussion**
- 12:20 – 13:50 **Spine**
Presentation Booth 1
- 12:20 – 12:23 EP01239 **Operative management of Lumbar Disc Herniation**
M. Jovanović, M. Radović, V. Simić
- 12:23 – 12:26 EP01240 **Do flare-ups in systemic Disease Activity correlate to cervical deformity in patients with Rheumatoid Arthritis?**
C. Vleggeert-Lankamp, A.B. Veldman, D. Spinkelink
- 12:26 – 12:29 EP01241 **Enabled by 4K visual field during full endoscopic spinal surgery**
Y. Nishimura, T. Luebbbers
- 12:29 – 12:32 EP01242 **Single-level anterior cervical disc arthroplasty versus anterior cervical discectomy and fusion: a multicenter retrospective case-control study of 153 patients**
K.R. Nanthan, T.H. Nielsen, M.M. Rasmussen, C.R. Bjarkam

- 12:32 – 12:35 EP01243 **Accuracy and safety of C1 and C2 screws placement without computerized navigation**
V. Pinto, C. Magalhães, L. Pereira, D. Kitumba, R. Reinas, Ó.L. Alves
- 12:35 – 12:38 EP01246 **The meningovertebral ligaments as a barrier to a herniated intervertebral disc – an anatomical study**
M. Tosik, K. Krystkiewicz, M. Maślanka, T. Skadorwa, B. Ciszek
- 12:38 – 12:41 EP01247 **Transforaminal endoscopic lumbar discectomy versus open microdiscectomy for symptomatic lumbar disc herniation: A comparative cohort study on costs and long-term outcomes in a resource-limited setting**
S. Saghebdoost, M.R. Rouhbakhsh Zahmatkesh, N. Pak, M. Faghih Jouibari, M. Khadivi, M. Abdi, M.R. Boustani
- 12:41 – 12:44 EP01248 **Patient attrition in two decades of spinal surgical trials**
M.A. Khan, R.A. Khan, M. Sofi, B.M Davies
- 12:44 – 12:47 EP01249 **Long-term outcomes after four-level cervical arthrodesis with stand-alone PEEK cage versus PEEK cage with anterior plating: A retrospective multicenter comparative study**
W. Abouzeid, T. Niazy, M. Abdeltawab, M. Al Mamoaan
- 12:47 – 12:50 EP01250 **Surgery for 6 cases of advanced cervical hyperostosis (Forestier's disease)**
S. Mihaylova, K. Ninov, H. Tsonev, L. Tatarchev, N. Karakashev, V. Karakostov, H. Hristov
- 12:50 – 12:53 EP01253 **Clinical and radiological outcomes for mini-open one step anterior, and oblique approach for L5-S1 and L4-L5 interbody fusion. A single center prospective study**
P. Mendivil
- 12:53 – 12:56 EP01254 **Reoperation rate after open versus minimally invasive spine surgery**
D. Fahim, S. Ramanathan
- 12:56 – 12:59 EP01255 **Minimally invasive surgical methods in the treatment of chronic back pain**
A. Gorodnina, A. Ivanenko, K. Samochnykh
- 12:59 – 13:02 EP01256 **Independent double-center observational study of minimally invasive sacroiliac joint fusion for sacroiliac joint dysfunction: One-year results**
S. Hermans, R. Knoef, V. Schuermans, M. Schotanus, J. Nellensteijn, H. van Santbrink, I. Curfs, W. van Hemert
- 13:02 – 13:05 EP01258 **Screening for Degenerative Cervical Myelopathy (SCREEN-DCM) in patients based on signs, symptoms and known risk factors: preliminary results of an ongoing prospective multicenter study**
A. Nouri, G. Molligaj, A. Lave, G. Jannelli, B. Davies, M. Kotter, A. Martin, J. Virojanapa, J. Cheng, T. Somma, P. Cappabianca, C. Vleggeert-Lankamp, V. ter Wengel, K. Schaller, E. Tessitore

- 13:05 – 13:08 EP01259 **“Lateral-PLIF”, modified PLIF technique for spinal arthrodesis: Concept, technique, results, complications and outcomes**
G. Capo, I. Zaed, F. Calvanese, D. Di Carlo, C. Barrey
- 13:08 – 13:11 EP01260 **Is gender a factor affecting long-term heterotopic ossification incidence after single-level cervical disc arthroplasty?**
D. Bongetta, M. Bua, R. Bruno, E.V. Colombo, C. de Laurentis, A. Versace, M. Locatelli, R. Assietti
- 13:11 – 13:14 EP01261 **Discontinuation and non-publication of randomised controlled trials in spine disease: an observational analysis**
J.J. Park, J. Tiefenbach, A.K. Demetriades
- 13:14 – 13:17 EP01262 **Radiological findings in degenerative spine diseases at the Provincial General Reference Hospital of Bukavu**
A.D. Nyalundja, F. Nzabara, Q.K. Kabunga
- 13:17 – 13:20 EP01263 **The benefits and indications of spinal injections in degenerative disease: a case series**
P. Papadopoulos-Manolarakis, I. Charalampous-Georgoulakos, G. Georgountzos, M.-E. Sakellaridou, A. Leventis, K. Barkas
- 13:20 – 13:23 EP01264 **Increased osteophyte length: a possible risk factor for motor weakness after oblique lumbar lateral fusion surgery**
J.-H. Hong, M.-S. Han, B.J. Moon, J.-K. Lee
- 13:23 – 13:26 EP01265 **Intraoperative CT scan for instrumented spine surgery: A single-institution experience**
M. Maion, F. Certo, R. Altieri, G. Cammarata, G.M. Barbagallo
- 13:26 – 13:29 EP01266 **An audit of referrals for suspected cauda equina syndrome at a tertiary neurosurgical centre during the COVID-19 pandemic**
S.M.B. Momin, R. Lobo, J. Staufenberg, B. Batbayar, H. Tahir, L. Thorne, P. Sayal
- 13:29 – 13:50 **Discussion**
- 12:20 – 13:50 **Neuro-Oncology** ePoster Presentation
Presentation Booth 2
- 12:20 – 12:23 EP01268 **Refractory epilepsy in grade II and III gliomas: A translacional approach**
J.E. Martin Colom, E. Moya Trillo, C. Doval Rosa, A. Toledano Delgado, J. Solivera Vela
- 12:23 – 12:26 EP01269 **DeepEOR: Automated perioperative volumetric assessment of variable grade gliomas using deep learning**
O. Zanier, V.E. Staartjes, R. Da Mutten, M. Vieli, L. Regli, C. Serra

- 12:26 – 12:29 EP01270 **Surgical and oncological score to estimate the survival benefit of resection and chemoradiotherapy in elderly (≥ 70 years) glioblastoma patients: a preliminary analysis**
J. Roach, M. Zorman, P. Webb, M. Nixon, S. Sravanam, S. Honeyman, M. Nandhabalan, V. Apostolopoulos, R. Stacey, C. Hobbs, P. Plaha
- 12:29 – 12:32 EP01271 **Are thalamic intrinsic lesions operable? No-man's land revisited by the analysis of a large retrospective, mono-institutional, case-control cohort**
F. Restelli, G. Bertolini, J. Falco, E. Monti, I. Tramacere, B. Pollo, C. Calatuzzolo, M. Patanè, S. Schiavolin, M. Broggi, F. Acerbi, A. Erbetta, S. Esposito, G. Bonomo, E. Mazzapicchi, E. Vetrano, G. Broggi, P. Ferroli, M. Schiariti
- 12:32 – 12:35 EP01272 **An assessment of predictive factors for overall survival in glioblastoma – MGMT methylation is solely important for younger patients**
T. Cosar, A. Krigers, J. Kerschbaumer, M. Demetz, D. Pinggera, C. Thomé, C.F. Freyschlag
- 12:35 – 12:38 EP01273 **The association between calreticulin and glucagon-like peptide-1 expressions with prognostic factors in high-grade gliomas**
G. Akyoldas, O. Baran, A. Kayhan, S. Evran, N. Demirel, D. Sonmez, H. Serin, A. Kocak, R. Kemerdere, T. Tanriverdi
- 12:38 – 12:41 EP01274 **Clinical and radiologic predictors of IDH mutation status among adult Filipinos diagnosed with gliomas: development of a multivariable prediction model**
J.-C. Leong, E. Torio, I.M. Sih
- 12:41 – 12:44 EP01275 **First-in-human study of a novel Upar-targeted imaging agent (FGO01) for visualization of malignant glioma during surgery**
J. Skjøth-Rasmussen, A. Azam, K. Juhl, S. Ginsborg, M. Kryspin Sørensen, C. Sølling, C.C. Larsen, D. Scheie, A. Kjaer
- 12:44 – 12:47 EP01276 **Mechanisms of cytomegalovirus to tumor transmission across the blood brain barrier in glioblastoma**
N. Keric, H. Krenzlin, L. Schmidt, N. Lemmermann, S. Lawler, F. Ringel
- 12:47 – 12:50 EP01277 **Photodynamic effect of 5-ALA on cancer stem cells cultivated from glioblastoma**
K. Minkin, P. Karazapryanov, K. Gabrovski, L. Zaharieva, I. Angelov, K. Tumangelova-Yuzeir, E. Ivanova-Todorova, E. Naydenov, V. Pavlov, V. Karakostov, H. Hristov, D. Kyurkchiev
- 12:50 – 12:53 EP01278 **Prognostic value of 0-(2-[18F]-fluoroethyl)-L-tyrosine PET in patients with recurrent GBM**
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- 12:53 – 12:56 EP01280 **Fluorescein-guided surgery with a dedicated filter on the surgical microscope for the resection of pilocytic astrocytomas and other astrocytic tumors: a monocentric, retrospective preliminary study**
F. Acerbi, J. Falco, M. Broggi, F. Restelli, M. Schiariti, E. Mazzapicchi, I.G. Vetrano, G. Bonomo, P. Ferroli
- 12:56 – 12:59 EP01282 **Accuracy of FET-PET for detection of glioma recurrence**
M. Jägersberg, L. Borscheid, D. Kalasauskas, F. Ringel, M. Miederer, N. Keric
- 12:59 – 13:02 EP01283 **Protoporphyrin IX in serum of glioblastoma patients after 5-ALA administration – a potential biomarker?**
E. Suero-Molina, A. Walke, C. Krone, S. Hellwig, M. Mütter, W. Stummer, S. König
- 13:02 – 13:05 EP01284 **Nanomechanical characterization of gliomas**
A. Tsitlakidis, A. Kritis, A.S. Tsingotjidou, A. Cheva, I. Patsalas, N. Foroglou
- 13:05 – 13:08 EP01285 **Meta-topologies define distinct anatomical classes of brain tumors linked to histology and survival**
K. Akeret, J.M. Kernbach, D. Delev, G. Neuloh, H. Clusmann, D. Bzdok, S.B. Eickhoff, V.E. Staartjes, F. Vasella, M. Weller, L. Regli, C. Serra, N. Krayenbühl
- 13:08 – 13:11 EP01286 **HbA1c in patients with glioblastomas – a preliminary study**
D. Orešković, A. Kaštelančić, M. Raguž, M. Lakić, D. Chudy
- 13:11 – 13:14 EP01287 **The role of cytoreductive surgery in multifocal/multicentric glioblastoma**
D. Dimov, D. Brainman, B. Berger, R. Coras, A. Grote, M. Simon
- 13:14 – 13:17 EP01288 **Quantifying functionally relevant subcortical differences in arcuate and inferior fronto-occipital fasciculus between language-eloquent brain tumor patients with no, transient and permanent aphasia**
L. Kram, S. Ille, B. Meyer, S.M. Krieg
- 13:17 – 13:20 EP01289 **Surgical management of periventricular glioblastomas: does porencephaly define outcomes?**
A. Rozumenko, V. Kliuchka, V. Rozumenko, A. Dashchakovskiy
- 13:20 – 13:23 EP01290 **MR-guided LITT therapy in patients with primary irresectable glioblastoma: a controlled, prospective pilot study (EMITT pilot-study)**
I. Viozzi, K. Overduin, M. Rovers, M. Ter Laan
- 13:23 – 13:26 EP01291 **Fully endoscopic trans-sphenoidal (TNS) gross total resection of a rare granular cell tumour of the neurohypophysis: Surgical video and case strategy discussion**
D. Gagliano, L. Tariciotti, G. Fiore, L.G. Remore, L. Schisano, R. Accorona, G.A. Bertani, M. Locatelli

- 13:26 – 13:29 EP01292 **Zika/Lentiviral pseudotype particles as a novel tool for glioblastoma infection in oncolytic virotherapy**
C. Schwalbe, M. Schreiber, P. Kremer
- 13:29 – 13:32 EP01293 **Sexual hormones and Androgen Receptor activity may influence radiological features in Glioblastoma: Preliminary data**
J. Plata-Bello, H. Fariña-Jerónimo, R. Martín-Ramírez, R. González-Fernández, L. Medina-Vega, A. De Vega, P. Martín-Vasallo
- 13:32 – 13:35 EP01294 **Impact of combined use of intraoperative MRI and awake microsurgical resection on patients with gliomas: a systematic review and meta-analysis**
C. Tuleasca, H.-A. Leroy, I. Peciu-Florianu, M. Levivier, M. Schulder, N. Reynolds
- 13:35 – 13:50 **Discussion**
- 16:10 – 16:50 **Spine**
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- 16:10 – 16:13 EP01295 **ePoster Presentation**
Chair: Anna Zdunczyk (Germany)
- 16:10 – 16:13 EP01295 **Six pediatric cases with thoracic vertebral pathological subsidence: gross total tumor removal, corpectomy and 360 degree stabilization via posterolateral approach**
K. Erdoğan, A. Eray, B. Abbasoğlu, S. Haşimoğlu, O. Tekneci, S. Solmaz, Y.Ş. Çağlar, İ. Doğan
- 16:13 – 16:16 EP01296 **The role of mini-invasive surgery (MIS) in symptomatic spinal metastases**
S. Telera, R. Gazzeri, L. Raus, C. Delfinis, F. Rasile, M. Lecce, L. Marucci, A. Farneti, F. Crispo
- 16:16 – 16:19 EP01297 **Early results, complication and revision rates following CFR-PEEK pedicle screw instrumentation for spinal metastases and spinal primary bone tumors**
A.-K. Joerger, S. Seitz, N. Lange, Y.-M. Ryang, D. Bernhardt, S. Combs, J. Gempt, B. Meyer
- 16:19 – 16:22 EP01298 **The treatment of spinal metastasis in the 21st century**
M.-N. Bonk, S. Motov, P.E. Krauß, B. Sommer, B. Hackanson, K.-H. Kahl, A. Berlis, G. Stüben, B. Märkl, M. Trepel, E. Shiban
- 16:22 – 16:25 EP01299 **Comparison of artifact intensity after implantation of thoracolumbar titanium vs. carbon-fibre/PEEK pedicle screws**
D. Kalasauskas, L. Serrano, M. Selbach, N. Keric, M.A. Brockmann, F. Ringel
- 16:25 – 16:28 EP01300 **Video-assisted thoracoscopy in surgical treatment of paravertebral tumors of the thoracic spine**
A. Gorodnina, A. Kudziev, K. Samochernykh

- 16:28 – 16:31 EP01301 **The predictive value of the spinal instability neoplastic score (SINS)**
M.-N. Bonk, S. Motov, B. Sommer, P. Krauß, K.-H. Kahl, C. Schmid, B. Hackanson, A. Berlis, G. Stüben, B. Märkl, M. Trepel, E. Shiban
- 16:31 – 16:34 EP01302 **Durability of short segment posterior construct with concomitant vertebrectomy for the treatment of metastatic disease to the thoracic spine**
D. Fahim
- 16:34 – 16:37 EP01303 **Impact of intraoperative neurophysiological monitoring on the extent of resection and postoperative neurological outcomes in patients with spinal cord ependymoma: A retrospective multicenter comparative study**
W. Abouzeid, M. Abdeltawab, B. Labib, M. AlMaamoun, S. Hussein, T. Niazy
- 16:37 – 16:40 EP01304 **One-piece C0-C3 piezoelectric osteotomy for a cervicobulbar intramedullary ependymoma**
F. Restelli, G. Bonomo, G. Iess, E. Mazzapicchi, J. Falco, M. Schiariti, F. Acerbi, M. Broggi, M. Saini, P. Ferroli
- 16:40 – 16:43 EP01305 **Intradural Spinal Tumors: surgical considerations and 11 years of institutional experience**
D. Gajski, K. Rotim, T. Sajko
- 16:43 – 16:46 EP01306 **Relevance of Nerve root sacrifice for spinal foraminal and/or dumbbell schwannomas**
A. Vandenbulcke, G.F. D'Onofrio, G. Capo, C. Barrey
- 16:46 – 16:49 EP01307 **Assessment of neurological outcome after resection of spinal meningiomas**
D. Jankovic, D. Kalasauskas, F. Ringel, N. Keric
- 16:49 – 16:52 EP01308 **Intraoperative neurophysiology monitoring for excision of intradural extramedullary tumours - Is it useful?**
M. Arora, P. Bhatt, A. Ahmed, W. Gerrie, L. Clark, A. Forster
- 16:10 – 16:50 **Neuro-Oncology ePoster Presentation**
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Chair: Naureen Keric (Germany), Petar Vulekovic (Serbia)
- 16:10 – 16:13 EP01309 **Outcome of patients affected by supratentorial single brain metastasis after "en bloc" resection related with decrease of perilesional edema**
P. Familiari, P. Bruzzaniti, M. Palmieri, L.V. Berra, D. Armocida, A. Frati, P. Lapolla, A. Santoro
- 16:13 – 16:16 EP01310 **The Clinical Frailty Scale is superior to the Karnofsky Performance Status as predictor of overall survival in patients with surgical treatment of brain metastases**
N. Pichler, A. Krigers, J. Kerschbaumer, M. Demetz, J. Klingenschmid, C. Thomé, C.F. Freyschlag

- 16:16 – 16:19 EP01311 **Status epilepticus after posterior fossa surgery: a journey to a mysterious land. Case series and systematic literature review**
L. Mongardj, A. Musio, M. D'Andrea, L. Tosatto
- 16:19 – 16:22 EP01312 **Resection versus biopsy for management of primary central nervous system lymphoma: a meta-analysis**
M. Offi, V. Stifano, G. Della Pepa, N. Montano, R. Pallini, L. Lauretti, A. Olivi, Q.G. D'Alessandris
- 16:22 – 16:25 EP01313 **Now you see me - the use of sodium fluoresceine for resection of brain metastases**
J. Kerschbaumer, M. Demetz, A. Krigers, D. Pinggera, A. Spinello, C. Thomé, C.F. Freyschlag
- 16:25 – 16:28 EP01314 **Tumor Treating Fields (TTFields) therapy in glioblastoma patients with ventriculoperitoneal shunts: real-world safety and feasibility evidence**
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- 16:28 – 16:31 EP01315 **Photodynamic therapy for malignant brain tumors**
I. Trifonov, V. Krylov, E. Kozlikina, V. Loschenov
- 16:31 – 16:34 EP01316 **Nimodipine in combination with vincristine: increases tumour cell susceptibility and protects normal tissue**
M. Scheer, J. Werner, C. Strauss, C. Scheller, S. Leisz
- 16:34 – 16:37 EP01317 **Management and safety of intraoperative ventriculostomy during early surgery for ruptured intracranial aneurysms**
D. Nasi, C. Iaccarino, R. Stanzani, E. Moriconi, A. Puzzolante, G. Pavesi
- 16:37 – 16:40 EP01318 **Glycated hemoglobin in patients with intracranial meningiomas**
D. Oreskovic, A. Kaštelančić, M. Raguz, M. Lakic, A. Rotim, D. Chudy
- 16:40 – 16:43 EP01319 **The clinical and prognostic role of S100B expression in meningiomas**
F. Behling, C. Fodi, J. Honegger, G. Tabatabai, M. Tatagiba, J. Schittenhelm
- 16:43 – 16:46 EP01320 **Immunoregulatory effects of glioma-associated stem cells on the glioblastoma peritumoral microenvironment: a differential PD-L1 expression from core to periphery?**
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- 16:46 – 16:49 EP01321 **Cytokines as prognostic and diagnostic tools of gliomas**
E.C. Stamoulaki, E. Xylouris, O. Kotronaki, A. Vakis, C.P. Tsitsipanis
- 16:49 – 16:50 **Discussion**

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O. Pavlov, N. Mirchev
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 N. Syrmos, V. Giannouli, A. Mylonas, A. Fachantidou
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- EP01564 **Microvascular decompression for trigeminal neuralgia secondary to vertebral artery dolichoectasia: cyanoacrylate glue-coated teflon sling transposition technique**
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- EP01566 **The suprasellar volume of nonfunctioning pituitary adenomas: a useful tool for predicting visual field deficits**
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- EP01571 **CSF shunting methods in the renal system – a review of past and present practice**
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- EP01576 **Biportal endoscopic spinal surgery in lumbar spinal stenosis – a prospective comparative study versus microscopic spinal surgery**
F. Vaz da Silva, T. Costa, A. Picão Fernandes, R. Batata, J. Reis, A. Calheiros
- EP01577 **Dystonia treated successfully using GPi DBS in early childhood**
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- EP01585 **Curcumin plus radiotherapy for glioblastoma treatment**
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- EP01588 **Siderol suppress glioma proliferation and induce cell cycle arrest**
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- EP01593 **Retro-odontoid pseudotumor with cervicomedullary compression: a case report**
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- EP01595 **Improvement in patient safety through provision of medication information leaflets**
M. Besa, K. Tariq, V. Kakar, A. Toma, L. Thorne, L. Watkins
- EP01596 **Chiari-type I: service evaluation in a regional neurosurgical centre to inform interim guidelines for management**
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- EP01603 **Frailty and temporal muscle mass as predictors of immunotherapy response and overall survival in patients with brain metastases of non-small cell lung cancer**
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- EP01604 **The surgical planning for brain surgery using machine learning: cranial artificial intelligent approaches**
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L. Schisano, G. Fiore, L. Tariciotti, G. Bertani, M. Pluderi, M. Locatelli
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- EP01621 **Diffusion Tensor Imaging (DTI) as a predictor of neurological outcome in patients affected by Traumatic Brain Injury (TBI). A systematic review**
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- EP01630 **Myxopapillary ependymomas of the cauda equina revisited in neuromonitoring era**
P. Papadopoulos-Manolarakis, M.-E. Sakellaridou, I. Gkalonakis, G. Georgountzos, P.G. Papanikolaou, T.S. Palaiologos
- EP01631 **Thoracic dumbbell spinal chordoma mimicking a schwannoma**
R. Costanzo, S. Marrone, G.E. Umana, F. Graziano, M. Furnari, G. Ponzo, M. Giuffrida, D.G. Iacopino, G.F. Nicoletti, G. Scalia
- EP01632 **Primary spinal Burkitt's lymphoma: case report and literature review**
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A. Kramer, Y. Elkoukhou, T. Bostel, F. Ringel
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Y. Samanci, S. Peker, G.D. Ardor, M. Budak, F. Karaköse

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L. Brunasso, N. Casamassima, S. Abrignani, F. Incandela, G.R. Giammalva, D.G. Iacopino, R. Maugeri, G. Craparo
- EP01668 **Spinal dysraphisms association in a day-old newborn. A case description and pathological overview**
L. Brunasso, M.C. Lombardo, A. Adorno, M. Sanzo, S. Porcaro, M. Filizzolo, D.G. Iacopino, R. Maugeri, S. Tumbiolo
- EP01669 **Orbital trauma, nausea, and bradycardia: a Trapdoor fracture case report**
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- EP01671 **Brainstem hemorrhage following drainage of chronic subdural hematoma: A case report**
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- EP01680 **The rise of pheonix- frontal osteomyelitis due to rhinocerebral mucormycosis – our institutional experience, Andhra Medical College, King George Hospital, India**
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A. Consuegra, K. Lutz, A.K. Exadaktylos, W.J. Z'Graggen, R.M. Hasler
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G. Alexiou, G. Kafritsas, A. Zygouris, S. Voulgaris
- EP01685 **Translaminar approach for resection of a ventricular metastatic lesion**
A. Eray, K. Erdoğan, B. Abbasoğlu, O. Tekneci, S. Haşımoğlu, S. Solmaz, Y.Ş. Çağlar, İ. Doğan

- EP01686 **Neuroinflammation and intracranial meningiomas**
J.L. Haslund-Vinding, T. Mathiesen, M. Ziebell
- EP01687 **Natural history and treatment options of radiation-induced brain cavernomas: A systematic review**
G. Patet, A. Bartoli, T. Meling
- EP01688 **Cancer-type somatic mutations in saccular cerebral aneurysms**
B. Rezaei Jahromi, M. Valori, R. Tulamo, S. Jauhiainen, H. Immonen, J.E. Jääskeläinen, M. Kaikkonen-Määttä, J. Kantonen, A. Laakso, S. Ylä-Herttua, P. Tienari, M. Niemelä
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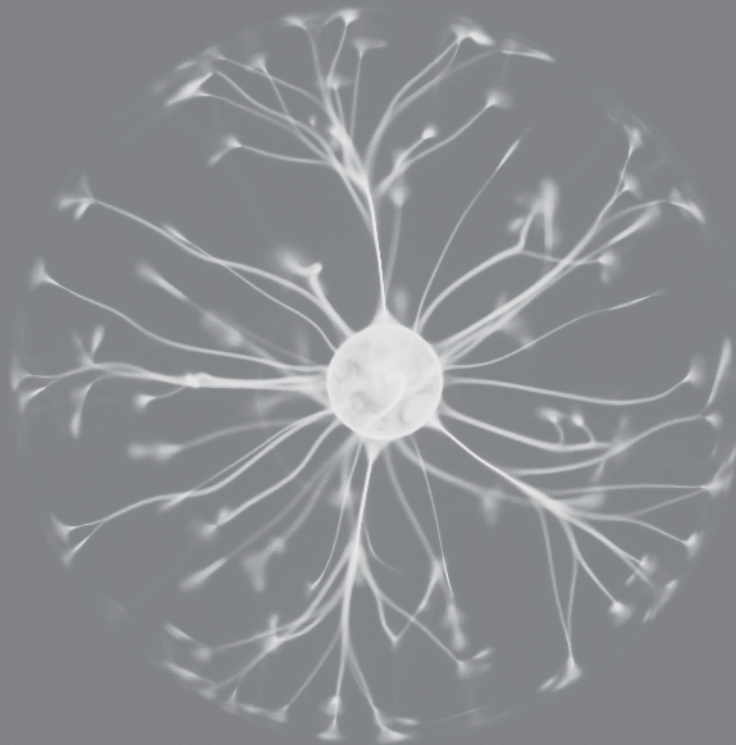
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Speaker:

Marie Krüger, PD Dr., National Hospital of Neurology and Neurosurgery,
Queen Square, London

13:15 – 14:15 Monday, October 17, 2022

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INTERVENTIONALISTS AND NEUROSURGEONS ESSENTIAL COOPERATION: A REAL ADDED VALUE IN DAILY PRACTICE.

Speakers:

Prof. Elsa Magro, CHRU Brest, Brest, France
Prof. Jean-Christophe Gentric, CHRU Brest, Brest, France
Prof. Gianluigi Zona, IRCCS Policlinico San Martino, Genova, Italy
Dr. Lucio Castellan, IRCCS Policlinico San Martino, Genova, Italy

13:15 – 14:15 Tuesday, October 18, 2022

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Speakers:

Prof. Jan Regelsberger (Flensburg, Germany)
Prof. Marco Cenzato (Niguarda - Milano, Italy)

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Artemis Neuro Evacuation Device

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John R. Adler, MD, Stanford University & CEO of ZAP Surgical

Kita Sallabanda Diaz, MD, PhD, Complutense University, Madrid, Spain

Peter Douglas Klassen, MD, Lingen, Germany

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Getting Started with the Endoscopic Hematoma Evacuation

Dr. Sune Munthe, Odense Universitetshospital, Odense, Denmark

The Dutch ICH Surgery Study: Pilot Results and Next Steps

Dr. Ruben Dammers, Erasmus MC, Rotterdam, Netherlands

13:15 – 14:15 Tuesday, October 18, 2022

Mediterranean

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VENOUS THROMBOEMBOLISM RISKS DURING NEUROSURGERY AND THE BENEFITS OF MECHANICAL PROPHYLAXIS

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Jeilmedical (Booth #17)

www.jeilmed.co.kr

JEIL MEDICAL CORPORATION is a specialist in the manufacturing of titanium plates and screws for bone fixation for the Cranio-Maxillo-Facial Surgery. We have accumulated know-how in the Cranio-Maxillo-Facial Surgery field for more than 20 years. And since the launch of the LeForte Neuro Plating System in 2013, JEIL MEDICAL CORPORATION has been conducting clinical studies and researches on products by collaborating with various neurosurgery specialists around the world and had completed the product line-up with screw and plate variations to reflect the needs of surgeons.



KLS Martin Group (Booth #29)

www.klsmartin.com

The KLS Martin Group is an internationally operating group of companies for innovative medical technology in almost all areas of surgery. In line with our corporate philosophy "Surgical Innovation is our Passion", we develop and distribute medical technology products such as implant systems, high-frequency surgical devices, surgical lasers, sterilization containers, surgical lights, surgical instruments as well as individual complete solutions for the operating room.



Medac (Sponsorship only)

www.medac.de

medac is a privately held pharmaceutical company with a growing pharmaceutical and diagnostics business. Medicinal products from medac support doctors and patients throughout the world in overcoming acute and chronic diseases in the indication areas of oncology, haematology, urology and autoimmune disorders. In addition, medac develops and markets special diagnostic test systems.

Since 1970 medac has been committed to unifying therapeutic and diagnostic areas under one roof.



Medprin (Booth #20)

www.medprin.com

Medprin is a high-tech enterprise distributes to combine characteristic of synthetic material and advanced manufacturing to develop high performance implantable medical device. It was co-founded by outstanding biomedicine scientists in Sep. 2008, specializing in R & D and manufacturing of human tissue regenerative implantable devices. We have got more than 300 patent applications worldwide and 150 patents authorized. Our products have been CE marked and sold to more than 70 countries and regions. Culture featured in "Care, Creativity, Cooperation".

Medtronic

Medtronic (Booth #45)

www.medtronic.eu

Bold thinking. Bolder actions. We are Medtronic.

We lead global healthcare technology and boldly attack the most challenging health problems facing humanity by searching out and finding solutions. Our Mission — to alleviate pain, restore health, and extend life — unites a global team of 90,000+ passionate people. Powered by our diverse knowledge, insatiable curiosity, and desire to help all those who need it, we deliver innovative technologies that transform the lives of two people every second, every hour, every day. Expect more from us as we empower insight-driven care, experiences that put people first, and better outcomes for our world.

In everything we do, we are engineering the extraordinary.



Möller Medical (Booth #54A)

www.moeller-medical.com

MÖLLER is a developer, producer and manufacturer of particularly patient-friendly applications which stand for optimized workflows.

With LiquoGuard® we are sustainably changing the way CSF pressure is managed. LiquoGuard® simultaneously measures CSF pressure and drains cerebrospinal fluid under controlled circumstances. Our technologies increase safety, efficiency and patient experience. At the same time, the cost of treatment and the number of complications are reduced. In more than 50,000 applications, LiquoGuard® has proven its ease of use and reliability. If you like to learn more, please contact us. We will be happy to show you how you can benefit from the advantages of automated CSF management.



NeuroLogica (Booth #14)

www.neurologica.com

NeuroLogica, a subsidiary of Samsung Electronics Co. Ltd., is a global leader in the field of point-of-care computed tomography (CT) imaging. NeuroLogica develops, manufactures, and markets all CT scanners from our headquarters in Danvers, Massachusetts. Our advanced medical technologies are used worldwide in leading healthcare institutions, helping providers enhance patient care, improve patient satisfaction, and increase workflow efficiency.

OLYMPUS

Olympus (Booth #4)

www.olympus.eu/orbeye

ORBEYE at a Glance

Olympus is focused on providing advanced solutions to meet customers' clinical needs. Our innovative technologies deliver superior imaging and video.

In 2018, Olympus launched the ORBEYE Orbital Camera System, a 4K3D Exoscopic Microsurgery System for neurosurgical applications. Now, four years later, multiple units are in use in numerous centers across Europe, many neurosurgeons have used the ORBEYE system for several years and across their entire spectrum of neurosurgical cases, over 45 publications in scientific journals have been published.

For more information please visit: www.olympus.eu/orbeye

If you like to schedule a clinical evaluation, please contact us: ORBEYE@olympus.com

OSSDSIGN®

Ossdsign (Booth #8)

www.ossdsign.com

OssDsign is a global developer and distributor of innovative solutions for spinal surgeries and other orthopedic surgery applications as well as cranial reconstructions. Our vision is to provide regenerative solutions to patients with bone defects, so they can be restored and healed as naturally as possible. Driven by a commitment to give patients back the lives they deserve, we collaborate with surgeons to engineer better healing by integrating biomaterials with clinical design.

OssDsign Catalyst – Nanosynthetic bone graft

OssDsign Cranial – Patient specific cranial implants and accessories

Osteopore®

Osteopore (Booth #27)

www.osteopore.com

Osteopore is a global leader in regenerative solutions. Our bioresorbable implant is the first of its kind to be successfully developed and commercialized for surgical use.

Our implants heal bone naturally. They are made of a bioresorbable polymer that dissolves over time, leaving only natural, healthy bone. This reduces post-surgery complication rates significantly, compared to permanent implants.

Our products are trusted and used by surgeons across Asia, Europe, Australia, and the Americas.



Evolution in Neurosurgical Imaging

We call it **ORBEYE – 4K 3D Orbital Camera System**

The digital surgical microscope that gives you the comfort and performance you deserve:

- Digital **Surgical Magnification** in stereoscopic **3D** and **Full 4K**
- Immerse everyone in your OR for **Team Surgery** and **Teaching**
- **Comfortable** working posture with Heads-Up Surgery
- Elevate **Performance** in Neurosurgical Microsurgery
- Stay focused with an **increased Depth of Field**
- **Plug & Play** – Ready when you are!

Visit us @Booth 4

Curious? Find out more here:

www.olympus.eu/orbeye



OLYMPUS EUROPA SE & CO. KG

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See ORBEYE
used by Neurosurgeons:
Lunch Symposium
Clinical Case Review with
Live Surgical Demonstration
Tuesday, Oct. 18th 2022
13:15-14:15pm, incl. Lunchbox
Room: Atlantic 1



Penumbra (Booth #40)

www.penumbrainc.com

Penumbra, Inc., headquartered in Alameda, CA, USA, is a leading global healthcare company that focuses on innovative therapies.

Penumbra designs, develops, manufactures and markets novel products and has a broad portfolio that addresses challenging medical conditions in markets with significant unmet need.

Penumbra's product portfolio includes the Artemis™ Neuro Evacuation Device, a minimally invasive surgical device designed for the controlled aspiration of tissue and/or fluid during surgery of the ventricular system and/or cerebrum.

Penumbra supports healthcare providers, hospitals and clinics in more than 100 countries.

Artemis™

Neuro Evacuation Device

Minimally Invasive
Haematoma Evacuation



Pump MAX™

Penumbra

86%

patients with a
postoperative
haematoma
≤ 15 ml¹
N=100

88%

mean
evacuation
percentage¹
N=100 | SD=20

1. Kellner CP, Song R, Pan J, et al. Long-term functional outcome following minimally invasive endoscopic intracerebral hemorrhage evacuation. *Journal of NeuroInterventional Surgery* 2020;12:489-494.

Rendering for illustrative purposes only. Individual results may vary depending on patient-specific attributes and other factors. Product availability varies by country. Please contact your local Penumbra representative for more information. Copyright ©2020–2022 Penumbra, Inc. All rights reserved. The Penumbra P logos, Artemis, and MAX are registered trademarks or trademarks of Penumbra, Inc. in the USA and other countries. 17550, Rev. C 08/22 EU



To view additional
risk information,
scan the QR code
or visit:
<http://bit.ly/2BYj7Yj>



Peter Lazic (Booth #49)

www.lazic.de

Peter Lazic, family owned and operated, is one of the TOP-3 manufacturers of aneurysm clip systems worldwide. Key factors in the sustainable and healthy growth of our company are: satisfied customers, strong personal commitment, creative minds, team spirit and the continuity of a family-owned company.

Doctors, hospitals and universities choose the innovative products of Peter Lazic GmbH. More than every second university hospital in Germany works with microsurgical instruments developed and manufactured by Peter Lazic. Our products are in use on all five continents.

POLYGANICS

TRANSFORMING PATIENT RECOVERY

Polyganics (Booth #5)

www.polyganics.com

Polyganics, a privately-held med-tech company founded in 1999, designs, manufactures and markets several portfolios of bioresorbable devices facilitating tissue repair and regeneration after surgery. Our products are distributed via a strong, world-wide distribution network in ENT-, peripheral nerve- and neurosurgery. To date, more than 7 million devices have been applied.

LIQOSEAL[®], our dura sealant patch successfully reduces CSF leakage, pseudomeningocele and woundinfection is available since 2021 and a pan-global study is running to support US market approval in 2023.

We strongly work together with leading universities and surgeons to create devices that matter. Products for surgeons developed with surgeons.



Söring (Sponsorship only)

www.soering.com

Söring stands for leading ultrasonic technology with its numerous established applications for liver surgery, neurosurgery and spine surgery as well as for wound debridement. At Söring, everything is "Made in Germany" – from the development to the design, production and quality management.

In neurosurgery we focus on the continuous development of our products. Through intensive global collaborations with leading neurosurgeons, we enable optimized work efficiency while improving patient safety. Specializing in the microscopic and endoscopic neurosurgery, we offer a unique and comprehensive product portfolio in ultrasonic tumor aspiration. These leading innovations provide the reliable support that neurosurgeons require in the OR.



Söring

INNOVATIVE SURGERY

Made
in
Germany



Experience surgical precision
and book your individual demo!

The only comprehensive product assortment:
for ultrasonic tumor aspiration

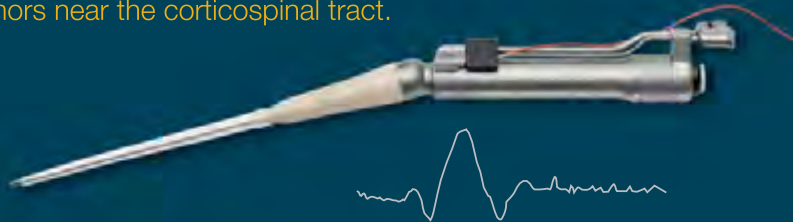
LEVICS ultrasonic aspirator:
Excellent instrument design for precise working

The low weight supports a safe working over long periods of surgery while the angled instrument ensures an optimum view of the surgical field.



LEVICS ultrasonic aspiration merged with IONM:
Clinical outcome maximized. Safety optimized.

The combination of two technologies: ultrasonic aspiration and IONM for resection of tumors near the corticospinal tract.



ENP Endoscopic Micro instrument:
Advanced neuroendoscopy with ultrasonic aspiration

The world's only endoscopic ultrasonic aspirator for the unique resection of intraventricular tumors and cysts.



Spiegelberg:

Technology for brains

Company

- Innovative products for neurosurgery
- Quality to rely on
- True pioneering work
- Made in Germany

Products

- ICP measurement
- CSF drainage
- Blood drainage
- EVD kit



Visit us in this exhibition hall at stand 54b

For more information visit
www.spiegelberg.de/en

Spiegelberg:

Technology for brains

Spiegelberg (Booth #54B)

www.spiegelberg.de

Spiegelberg was founded in Hamburg in 1986. Today we are producing and selling innovative neurosurgical and critical care products for customers in over 70 countries who trust in our high development and manufacturing quality.

With our extensive range for measuring intracranial pressure (ICP), such as epidural, parenchymal, ventricular probes and ventricular, subdural, and lumbar catheters – we offer a reliable solution for every neurosurgical indication. Our monitors can measure intracranial or intra-abdominal pressure. They are user-friendly, durable and impress with a long-lasting battery.

Trust in a German medical partner like Spiegelberg and our quality guarantee – Made in Germany.



StatuManu (Booth #41)

www.statumanu.com

StatuManu ICP (StatuManu) seeks to provide a non-invasive solution for a quick and accurate intracranial pressure (ICP) assessment. StatuManu is developing a solution that will help health care professionals in their diagnosis of patients with suspicion of elevated ICP. ICP Tracker, the software-as-a-service device, provides immediate measurement and continuous monitoring by analyzing fundus images to detect variations in ICP.

The software device is intended to be used in connection with existing clinical procedures and is not to be used as a stand-alone diagnostic tool. The output provides a preliminary assessment – not replacing comprehensive clinical evaluation.

stryker

Stryker (Booth #19)

www.stryker.com

Stryker is one of the world's leading medical technology companies and, together with our customers, we are driven to make healthcare better.

We offer innovative products and services in Medical and Surgical, Neurotechnology, Orthopaedics and Spine that help to improve patient and hospital outcomes.

SURGIFY

FOR SAFER BONE SURGERY

Surgify Medical (Booth #47)

www.surgifymedical.com

Surgify is commercializing a next-generation cutting technology for smarter, safer, and more precise bone surgery. Our first product is CE-marked and is in clinical use in Finland. It enables bone and hard tissue cutting without injuries to surrounding soft tissues, such as blood vessels or nerves. The core innovation is a patented protective mechanism around the tip of the drill. This ingenious design automatically covers the cutting edges when it comes into contact with soft tissue. So far, our technology has been piloted successfully in neuro- and spine surgeries, where it has prevented all soft tissue injuries.



Sutter (Booth #30)

www.sutter-med.de

Over 50 years of experience have led to multiple innovative breakthroughs on an international scale. Sutter Medizintechnik pioneered the non-stick technology for bipolar forceps and is a leader for radiofrequency systems for minimally invasive surgery.

With the CURIS® 4 MHz radiofrequency generator and a large variety of bipolar instruments such as the SuperGliss® non-stick and the Calvian endo-pen® bipolar forceps, Sutter offers innovative solutions for micro-, neuro- and skull base surgery. The Calvian endo-pen® bipolar forceps with their slender shaft and various tip styles and sizes address the specific challenges of microdissection and coagulation despite limited access to anatomical structures.



Takayama (Booth #46)

www.takayamamicro.com

"Are you a NeuroSamurai?"

TAKAYAMA was established 1905 in Tokyo, but the TAKAYAMA family has been producing Surgical Hand Instruments since the end of the 16th century. The family were blacksmiths making Samurai Swords, "KATANA". In our products, we use those ancient techniques with modern technology. Please come visit our booth #46 and take a look at our products.

Are you a NeuroSamurai? Yes, you are!



TECRES®
ADVANCING HIGH TECHNOLOGY

Tecres (Booth #11)

www.tecres.com

Thanks to our forty years of experience in the clinical application of PMMA, we can develop custom-made implants that perfectly adapt to the bone defect, even large ones.

They come in the following versions:

Cranos: without antibiotic

Cranos G: with Gentamicin

Cranos G+V: with Gentamicin and Vancomycin

The antibiotics are integrated into the PMMA and are released as soon as the implant comes into contact with body fluids and over time.

We supply also Mendec Cranio, a resin to be used for cranioplasty procedures when repairing skull holes, craniotomy cuts and other small cranial defects.



UFSK-International (Booth #12)

www.ufsk-osys.com

Ergonomics for your well-being.

The optimal equipment for a demanding medical field.

On the agenda of neurosurgeons and their assistants are surgical interventions of the central and peripheral nervous system. The surgical field of neurosurgical interventions is mostly limited to small areas and structures that require microsurgical access.

Our preconfigured set recommendations for neurosurgery are composed of the highly functional product portfolio of UFSK-OSYS. The individual set components complement each other perfectly and have been selected according to the specific requirements of neurosurgeons.

With our sets for neurosurgery, your OR is ready for immediate use.



Wise (Booth #9)

www.wiseneuro.com

WISE Srl is a Milan based biomedical company developing a genuinely new generation of implantable leads for Neuromodulation, Neuromonitoring and Brain Machine interface.

WISE's electrodes are highly biocompatible, foldable, stretchable and minimally invasive compared to existing products and will overcome the major limitations of today's technology.

The electrodes are produced through a proprietary innovative technology: the Supersonic Cluster Beam Implantation (SCBI), which allows the metallization of stretchable polymers. SCBI consists in embedding metal nanoparticles inside a preformed polymer base in order to form a conductive metal-polymer skin on its surface.



ZAP Surgical (Booth #53)

www.zapsurgical.com

ZAP Surgical Systems, Inc. designs and manufactures the ZAP-X[®] Gyroscopic Radiosurgery[®] platform. ZAP was founded in 2014 by Dr. John R. Adler. In addition to being CEO of ZAP, Dr. Adler is Emeritus Dorothy & TK Chan Professor of Neurosurgery and

Radiation Oncology at Stanford University. Dr. Adler is also renowned as the inventor of the CyberKnife[®] system and founder of Accuray, Inc. The ZAP-X platform incorporates a unique vault-free design that typically eliminates the need for costly shielded treatment rooms. ZAP-X also utilizes a modern linear accelerator to eliminate legacy use of Cobalt-60.



ZEISS (Booth #1)

www.zeiss.com

The medical technology business of ZEISS offers a comprehensive portfolio of innovative solutions to meet the needs of modern microsurgery. These include visualization solutions ranging from surgical microscopes and intraoperative fluorescence to loupes.

ZEISS supports neurosurgeons in the effective management of complex conditions, generating enhanced outcomes and improving patients' lives.

www.zeiss.com/meditec/int/specialties/neurosurgery/tumor-resection.html



Become a member of EANS!

The reasons to join our community...

- 1** Be part of a vibrant, inclusive worldwide neurosurgical community. Cement existing friendships and forge new connections
- 2** Take part in Discussion Fora related to crucial issues of Neurosurgery
- 3** Get involved - there are leadership opportunities available: become a part of a committee or a section
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ELSEVIER



UPCOMING EVENTS FROM THE EANS

15 OCT
2022

EANS Students' Pre-congress Course

Belgrade, Serbia

16 OCT
2022

EANS Peripheral Nerve Surgery Pre-congress Course

Belgrade, Serbia

16-20 OCT
2022



**EANS2022
Belgrade**

Trends. Insights. Innovations.
Neurosurgery beyond technology.

10-13 NOV
2022

EANS Microneurosurgery Course

Rotterdam, The Netherlands

22-25 NOV
2022

EANS Cranial Step I Hands-On Course

Brno, Czech Republic

27-29 NOV
2022

EANS Advanced Course in Spinal Surgery I

Edinburgh, United Kingdom

8-9 DEC
2022

EANS White Matter Dissection Course

Tours, France

For more details and to register for all EANS events, please visit www.eans.org

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**EURO
SPINE**

EANS Advanced Course in Spinal Surgery

Part I: Extended Indications and
Advanced Operative Techniques

27-29 November 2022

Edinburgh, United Kingdom

in cooperation with EUROSPINE

Course Organisers:

Andreas Demetriades and Florian Ringel





THE EUROPEAN ASSOCIATION
OF NEUROSURGICAL SOCIETIES

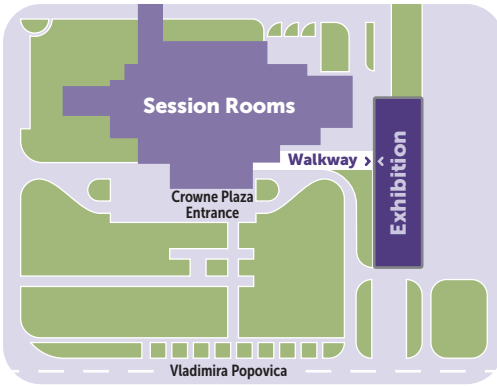
Save the Date!

**Bridging Neurosciences and Neurosurgery:
New Frontiers in Intraoperative Neurophysiology**

2-4.02.2023 | Verona, Italy



Exhibition Floorplan

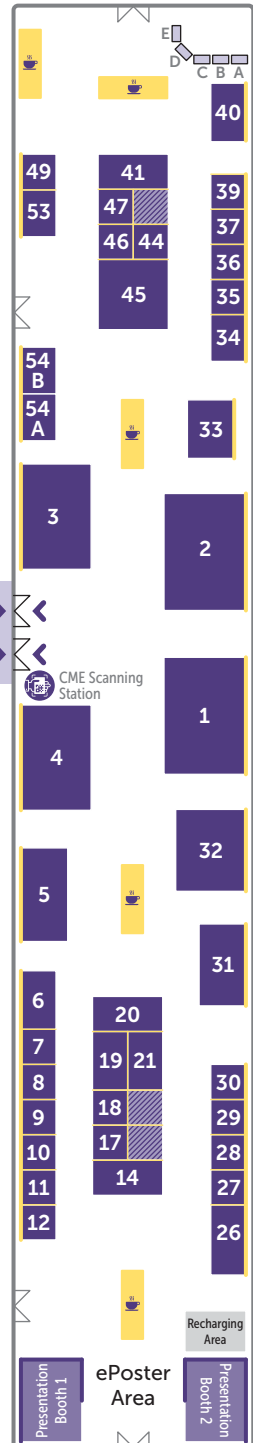


← Walkway to Session Rooms

Entrance/ Exit

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| #2 – Integra | #30 – Sutter |
| #3 – Braun Aesculap | #31 – Black Forest Medical Group |
| #4 – Olympus | #32 – Brainlab |
| #5 – Polyganics | #33 – Inomed |
| #6 – Elekta | #34 – Bissinger |
| #7 – Cardinal Health | #35 – Beijing Honghugaoxiang |
| #8 – Ossdsign | #36 – Balt Medical |
| #9 – Wise | #37 – BD |
| #10 – Irras | #39 – Designs for Vision |
| #11 – Tecres | #40 – Penumbra |
| #12 – UFSK-International | #41 – StatuManu |
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| #26 – BK Medical | #54A – Möller Medical |
| #27 – Osteopore | #54B – Spiegelberg |
| #28 – BHS Technological | |



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