Organised by

International Federation of Neuroendoscopy

**Under the patronage of**

International Federation of NeuroEndoscopy (IFNE)
Japanese Society for NeuroEndoscopy (JSNE)
Grupo Latinoamericano de Estudios en Neuroendoscopia (GLEN)
Neuroendoscopy Society-India (NESI)
World Federation of Neurosurgical Societies - Neuroendoscopy Committee (WFNS)
Società Italiana di Neurochirurgia (SINCH)
Chinese Society for NeuroEndoscopy (CSNE)

**In collaboration with**

SANTOBONO PAUSILIPON AZIENDA OSPEDALIERA PEDIATRICA

Antonio Cardarelli AZIENDA OSPEDALIERA DI RILIEVO NAZIONALE

# IFNE-JSNE-GLEN-NESI-CSNE

## Hands-on Workshop on

# CEREBRAL, VENTRICULAR AND SKULL BASE NEUROENDOSCOPY

*Naples, Italy*

July 18 - 22, 2022

www.ifneworkshop.org

# PROGRAM

# 10th IFNE World Congress of Neuroendoscopy

19-22 November
2023

Marina Bay Sands
Singapore

www.ifnecongress.org

International Federation of Neuroendoscopy

IFNE

TRANSFORMED FROM ISGNE SINCE 2001

PRE-CONGRESS WORKSHOP

18 November 2023

# Table of Contents

# Mobile application

Scan the below QR code using your Android or iOS device. Download the application. When you are prompted for a code upon launching the App, insert **ifneworkshop2022**.

The App may be used without logging in. If you do decide to log in, you will be able to use some additional features, such as messaging other attendees (having consent to) and your personalized agenda.
In order to log in, tap the **Log In** icon and insert your email address and the **4-digit PIN** that you can see on your badge.

Available on the App Store

Get it on Google play


Sponsored by: Medtronic

# Welcome Message

Dear friends and colleagues,

We hope that you are all in good health and good spirits during this unprecedented global health crisis.

In this difficult year, considering the positive effects of the extensive vaccination campaign especially among health professionals and the very strict and protective controls imposed by Italian health authorities, IFNE executive board made the decision to propose an hands-on event in presence. For another year, we have the implicit support of Japanese Society of Neuroendoscopy (JSNE), Grupo Latinoamericano de Estudios en Neuroendoscopia (GLEN), Neuroendoscopy Society-India (NESI), Chinese Society for Neuroendoscopy (CSNE), Societa Italiana Neurochirurgia (SINCH), The European Association of Neurosurgical Societies (EANS) and World Federation of Neurosurgical Societies (WFNS). A special thanks goes to Centro di Biotecnologie A.O.R.N." Antonio Cardarelli" that will help the realization of our event for another year. Thanks to extensive works of enlargement of working surfaces in the hands-on area, we will be able to offer excellent social distancing during hands-on still maintaining a good number of trainees (40) for 20 working stations.

As usual, enthusiastic faculty participation will allow the excellent Tutor/Trainees ratio of 1x2 confirming the presence of a world expert at each hands-on workstation for two trainees. This year, the Scientific Program will bring a rich assortment of lectures, video presentations, live demonstration on anatomical models and dissection videos. You will find educational sessions exploring ventricular endoscopy, cerebral endoscopy and skull base endoscopy delivered by world-renowned international faculty. Our workshop welcomes senior, students and recent graduate neurosurgeons who practice or want to practice neuroendoscopic surgery. Between each session, participants will have the opportunity to network and connect with other scientists from all over the world.

The transfer of knowledge knows no boundaries and throughout this evolving situation, we are here with the goal of making learning more accessible and inspire interaction. Your active participation will undoubtedly contribute to a successful and productive meeting.

With warm regards,

**Prof. Giuseppe Cinalli**
Chair of the Organizing Committee

**Prof. Luigi Maria Cavallo**
Co-Chair of the Organizing Committee

**Prof. Henry Schroeder**
IFNE President

# Organization

## Organized by:

International Federation of Neuroendoscopy

## In collaboration with

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Antonio Cardarelli
AZIENDA OSPEDALIERA DI RILIEVO NAZIONALE

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## Under the patronage of:

Japanese Society for Neuroendoscopy (JSNE)

Chinese Society for Neuroendoscopy (CSNE)

Grupo Latinoamericano de Estudios en Neuroendoscopia (GLEN)

World Federation of Neurosurgical Societies (WFNS) Neuroendoscopy Committee

Neuroendoscopy Society - India (NESI)

Società Italiana di Neurochirurgia (SINCH)

## Local Organizing Committee

Chair: **Giuseppe Cinalli**

Co-Chair: **Luigi Maria Cavallo**

## IFNE Administrative Secretariat & Workshop Organizing Bureau

ERASMUS Conferences & Events

**ERASMUS Conferences & Events S.A**
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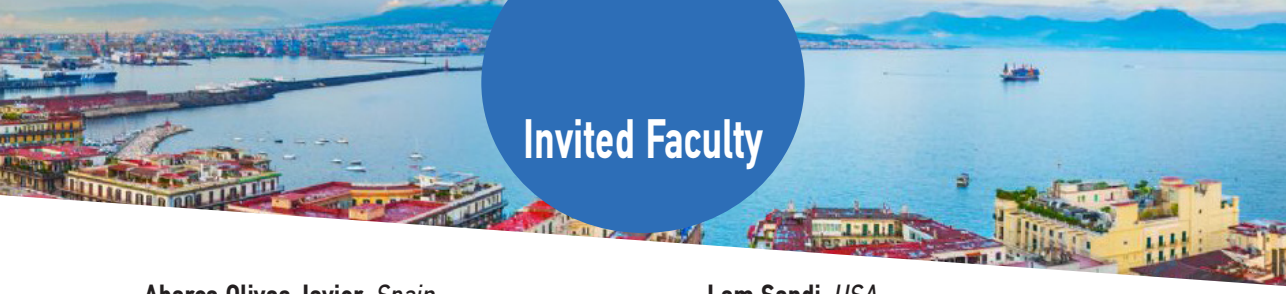
E. info@ifneworkshop.org | E. info@ifneuroendoscopy.org



# Invited Faculty

**Abarca Olivas Javier**, *Spain*
**Arcas Navarrete Esperanza**, *Spain*
**Azab Waleed**, *Kuwait*
**Bruneau Michaël**, *Belgium*
**Caceres Adrian**, *Costa Rica*
**Cappabianca Paolo**, *Italy*
**Cavallo Luigi Maria**, *Italy*
**Chico-Ponce de Leon Fernando**, *Mexico*
**Cinalli Giuseppe**, *Italy*
**Cordoba Alvaro**, *Uruguay*
**Cozzolino Santolo**, *Italy*
**Da Cunha Artur Henrique Galvão Bruno**, *Brazil*
**Delye Hans**, *The Netherlands*
**Deopujari Chandrashekhar**, *India*
**Di Somma Alberto**, *Spain*
**Doglietto Francesco**, *Italy*
**Elbabaa Samer**, *USA*
**Esposito Felice**, *Italy*
**Felleti Alberto**, *Italy*
**Fontanella Marco Maria**, *Italy*
**Froelich Sebastien**, *France*
**Galzio Renato**, *Italy*
**Gardner Paul**, *USA*
**Gellner Verena**, *Austria*
**Giussani Carlo**, *Italy*
**Gorelyshev Sergey**, *Russia*
**Herrada-Pineda Tenoch**, *Mexico*
**Hinojosa Jose**, *Spain*
**Iaccarino Corrado**, *Italy*
**Iacoangeli Maurizio**, *Italy*
**Imperato Alessia**, *Italy*
**Jouanneau Emmanuel**, *France*
**Kenichi Nishiyama**, *Japan*
**Lechanoine Francois**, *France*
**Lam Sandi**, *USA*
**Liu James K.**, *USA*
**Locatelli Davide**, *Italy*
**Mazzatenta Diego**, *Italy*
**Medvedeva Olga**, *Russia*
**Minniti Giuseppe**, *Italy*
**Mirone Giuseppe**, *Italy*
**Murai Hisayuki**, *Japan*
**Oppido Piero Andrea**, *Italy*
**Ozek Memet**, *Turkey*
**Padayachy Llewellyn**, *South Africa*
**Panigrahi Manas**, *India*
**Peraio Simone**, *Italy*
**Procaccini Emiddio**, *Italy*
**Ros Lopez Bienvenido**, *Spain*
**Sala Francesco**, *Italy*
**Santos De Oliveira Ricardo**, *Brazil*
**Schroeder Henry**, *Germany*
**Seow Wan Tew**, *Singapore*
**Sgouros Spyros**, *Greece*
**Sharif Salman**, *Pakistan*
**Solari Domenico**, *Italy*
**Spennato Pietro**, *Italy*
**Takeuchi Kazuhito**, *Japan*
**Tamburrini Gianpiero**, *Italy*
**Thomale Ulrich-Wilhelm**, *Germany*
**Venkataramana Neelam**, *India*
**Zada Gabriel**, *USA*
**Zebian Bassel**, *United Kingdom*
**Zenga Francesco**, *Italy*
**Zhang Yazhuo**, *China*
**Zhao Peng**, *China*
**Zona Gianluigi**, *Italy*

# General Information

## Venue

**Centro di Biotecnologie - A.O.R.N. "Antonio Cardarelli"**
9, Via Antonio Cardarelli, 80131 Naples, Italy
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## Compliance

The IFNE- JSNE- GLEN- NESI-CSNE Hands-on Workshop on Cerebral, Ventricular and Skull Base Neuroendoscopy, Naples, Italy, 18-22 July, 2022 has been compliant with the MedTech Europe Code of Ethical Business Practice.

## Name Badges

Registration badges will be used during the Workshop. Participants will receive their badges upon check-in at the Registration Desk. For identification purposes and admission to session halls, participants are requested to wear their badges at all times. Admission to Workshop areas will not be allowed without badge identification.
Important note: Delegates are requested to check-in at the Workshop Secretariat and scan their badges' barcodes on a daily basis.

## Official Language

The official language of the Course is English. No simultaneous interpretation will be provided.

## Certificate of Attendance

All registered delegates having attended the Workshop will receive an electronic Certificate of Attendance by e-mail.

## Coffee and Lunch Breaks

Coffee and Lunch Breaks will be served in the designated venue areas according to the Workshop schedule.

## Insurance

Neither the Organizing Committee nor the Workshop Secretariat accepts any liability for damages and/or loss of any kind which may incur to Workshop participants throughout Workshop dates. Participation is at one's own risk. Participants are advised to take out insurance against loss, accidents or damage that could be incurred during the Workshop. Verbal agreements will not be binding unless confirmed in written.

## Internet access

Wireless internet connection is available in all Workshop areas.

## Photography, Filming and Video Recordings

Please note, by registering for the workshop, you agree to your image and personal information being passed to the Organizing Secretariat and being used in materials, either online or in hard copy, for publicity and promotional purposes.

# General Information

## On-site Secretariat Desk

The Secretariat Desk will be operating at the venue during Workshop dates as follows:

| | |
|---|---|
| Monday, July 18, 2022 | 07:30-19:00 |
| Tuesday, July 19, 2022 | 07:30-19:00 |
| Wednesday, July 20, 2022 | 07:30-19:00 |
| Thursday, July 21, 2022 | 07:30-19:00 |
| Friday, July 22, 2022 | 07:30-19:00 |

## On-site registration

| Category Fee | Basic | Advanced |
|---|---|---|
| Auditor registration | 250 € | 250 € |
| Auditor registration • Medical student | 100 € | 100 € |
| Auditor registration • Advanced & Basic Techniques | 500 € | |
| Auditor registration • Medical students \| Advanced & Basic Techniques | 200 € | |

# PROGRAM OVERVIEW

## CEREBRAL AND VENTRICULAR NEUROENDOSCOPY

### Monday • July 18, 2022

Endoscopic 3rd ventriculostomy and septostomy

| Time | Main Hall | Rooms 1-2-3-4 |
|---|---|---|
| 08:00-10:30 | SESSION 1: Instruments - Anatomy - Applied technologies (available during hands-on) | |
| 10:35-11:30 | SESSION 2: ETV | |
| 11:35-11:50 | Coffee Break | |
| 11:50-13:00 | | Hands-on \| Anatomical and Animal models |
| 13:00-14:00 | Lunch Break | |
| 14:00-16:30 | | Hands-on \| Anatomical and Animal models |
| 16:30-16:45 | Coffee Break | |
| 16:45-17:45 | SESSION 3: ETV + Septostomy | |
| 17:45-18:30 | SESSION 4: Clinical Cases \| ETV & Septostomy | |

### Tuesday • July 19, 2022

Complex hydrocephalus

| Time | Main Hall | Rooms 1-2-3-4 |
|---|---|---|
| 08:00-09:50 | SESSION 5: Complex Hydrocephalus | |
| 09:50-10:55 | SESSION 6: Arachnoid cysts | |
| 11:40-11:50 | Coffee Break | |
| 11:50-13:00 | | Hands-on \| Anatomical and Animal models |
| 13:00-14:00 | Lunch Break | |
| 14:00-16:30 | | Hands-on \| Anatomical and Animal models |
| 16:30-16:45 | Coffee Break | |
| 16:45-18:15 | SESSION 8: Clinical Cases: Complex Hydrocephalus and Arachnoid Cysts & Video Session | |

## CEREBRAL AND VENTRICULAR NEUROENDOSCOPY

### Wednesday • July 20, 2022

| Time | Main Hall | Rooms 1-2-3-4 |
|---|---|---|
| 08:00-09:15 | SESSION 10: Different indications | |
| 09:20-10:30 | SESSION 17: Endoscopy in tumor management | |
| 10:30-11:35 | SESSION 18: Craniopharyngiomas - Miscellaneous | |
| 11:40-12:00 | Coffee Break | |
| 12:00-13:00 | | Hands on-Anatomical and Animal models |
| 13:00-14:00 | Lunch Break | |
| 14:00-16:30 | | Hands-on \| Anatomical and Animal models |
| 16:30-16:45 | Coffee Break | |
| 16:45-18:15 | SESSION 8: Clinical Cases: Endoscopic Tumor Surgery & Video Session | |

## SKULL BASE NEUROENDOSCOPY

### Thursday • July 21, 2022

| Time | Main Hall | Rooms 1-2-3-4 |
|---|---|---|
| 08:00-08:10 | Welcome and event presentation | |
| 08:15-08:25 | Addresses of the Presidents IFNE and SINch | |
| 08:30-10:10 | SESSION I | |
| 10:15-10:30 | Coffee Break | |
| 10:30-13:30 | | Hands-on \| Anatomical and Animal models |
| 13:30-14:00 | Lunch Break | |
| 14:00-16:15 | | Hands-on \| Anatomical and Animal models |
| 16:15-16:30 | Coffee Break | |
| 16:30-18:30 | SESSION II | |

### Friday • July 22, 2022

| Time | Main Hall | Rooms 1-2-3-4 |
|---|---|---|
| 08:30-10:10 | SESSION I | |
| 10:15-10:30 | Coffee Break | |
| 10:30-13:30 | | Hands-on \| Anatomical and Animal models |
| 13:30-14:00 | Lunch Break | |
| 14:00-16:15 | | Hands-on \| Anatomical and Animal models |
| 16:15-16:30 | Coffee Break | |
| 16:30-18:30 | SESSION II | |

# Detailed Scientific Program

## Monday • July 18, 2022 / Endoscopic 3rd ventriculostomy and septostomy

**08:00-10:30** **SESSION 1: Instruments – Anatomy – Applied technologies** — Main Hall
*(available during hands-on)*
Chairpersons: **Giuseppe Cinalli, Wan Tew Seow**

08:00-08:05 **Paolo Cappabianca**: *Welcome from the President of the SINCH*
08:05-08:10 **Giuseppe Cinalli**: *Organisation and objectives of the course*
08:10-08:20 **Santolo Cozzolino**: *Presentation of the Center*
08:20-08:30 **Giuseppe Mirone**: *Endoscope: basic principles and instrumentation*
08:30-08:40 **Wan Tew Seow**: *Endoscopic anatomy of the ventricles*
08:45-08:55 **Corrado Iaccarino**: *Neuronavigation and Neuroendoscopy*
09:00-09:10 **Piero Andrea Oppido**: *Laser in Neuroendoscopy*
09:15-09:25 **Bassel Zebian**: *Ultrasonic aspirator in Neuroendoscopy*
09:30-09:40 **Giuseppe Mirone**: *3D EXoscopy*
09:45-09:55 **Emiddio Procaccini**: *Robot assisted Neuroendoscopy*
10:00-10:15 **Nils Hecht** : *Minimally Invasive Endoscopic Evacuation of Intracerebral Hematomas*
10:20-10:30 **Verena Gellner**: *Stealth Autoguide Robotic system*

**10:35-11:30** **SESSION 2: ETV** — Main Hall
Chairperson: **Sergey Gorelyshev**

10:35-10:45 **Giuseppe Cinalli**: *Preoperative evaluation of hydrocephalus*
10:50-11:00 **Carlo Giussani** (remote): *ETV: Indications*
11:05-11:15 **Esperanza Arcas Navarrete**: *ETV: Surgical technique*
11:20-11:30 **Tenoch Herrada-Pineda**: *ETV: Complications avoidance*

11:35-11:50 Coffee Break

**11:50-13:00** **Hands on-Anatomical and Animal models** — Rooms 1-2-3-4

13:00-14:00 Lunch Break

**14:00-16:30** **Hands on-Anatomical and Animal models** — Rooms 1-2-3-4

16:30-16:45 Coffee Break

**16:45-17:45** **SESSION 3 ETV + SEPTOSTOMY** — Main Hall
Chairperson: **Adrian Caceres**

16:45-16:55 **Ricardo Santos de Oliveira**: *ETV: long-term results*
17:00-17:10 **Llewellyn Padayachy**: *ETV + CPC*
17:15-17:25 **Adrian Caceres**: *Septostomy: indications*
17:30-17:40 **Bienvenido Ros Lopez**: *Septostomy: surgical technique*

**17:45-18:30** **SESSION 4: CLINICAL CASES | ETV & Septostomy** — Main Hall
Instructors:**Adrian Caceres, Wan Tew Seow, Ricardo Santos de Oliveira**
Each instructor presents 3 cases and is allotted 15'.

## Tuesday • July 19, 2022 / Complex hydrocephalus

**08:00-09:50** **SESSION 5: Complex Hydrocephalus** — Main Hall

Chairperson: **Memet Ozek**

08:00-08:10 **Gianpiero Tamburrini**: *Multiloculated hydrocephalus: classification / radiology*
08:15-08:25 **Simone Peraio**: *Multiloculated hydrocephalus: surgical techniques*
08:30-08:40 **Alessia Imperato**: *ETV and shunt malfunction*
08:45-08:55 **Samer Elbabaa**: *ETV in spina bifida*
08:55-09:05 **Ulrich-Wilhelm Thomale**: *Ventricular washing in PHH in prematures*
09:05-09:15 **Artur da Cunha**: *Choroid plexus coagulation: indications, technique, results*
09:15-09:25 **Tenoch Herrada-Pineda**: *Neurocysticercosis*
09:30-09:40 **Fernando Chico Ponce de Leon**: *Endoscopic treatment of brain abscess and ventriculitis*
09:40-09:50 **Neelam Venkataramana** (remote): *ETV in post-tuberculosis hydrocephalus*

**09:50-10:55** **SESSION 6: Arachnoid cysts** — Main Hall

Chairperson: **Sergey Gorelyshev**

09:50-10:00 **François Lechanoine**: *Arachnoid cysts: classification and radiology*
10:05-10:15 **Olga Medvedeva**: *Sylvian cysts: endoscopic surgical technique*
10:15-10:25 **Memet Özek**: *Suprasellar cysts: endoscopic surgical technique*
10:30-10:40 **Pietro Spennato**: *Interhemispheric cysts: endoscopic surgical technique*
10:45-10:55 **Giuseppe Mirone**: *Posterior fossa cysts: endoscopic surgical technique*

11:40-11:50 Coffee Break

**11:50-13:00** **Hands on-Anatomical and Animal models** — Rooms 1-2-3-4

13:00-14:00 Lunch Break

**14:00-16:30** **Hands on-Anatomical and Animal models** — Rooms 1-2-3-4

16:30-16:45 Coffee Break

**16:45-18:15** **SESSION 8: CLINICAL CASES | Complex Hydrocephalus and Arachnoid Cysts** — Main Hall

Chairperson: **Spyros Sgouros**

Instructors: **Memet Ozek, Wan Tew Seow, Ricardo Santos de Oliveira**

Each instructor presents 3 cases and is allotted 15'.

**17:45-18:15** **VIDEO SESSION | Complex hydrocephalus**

Chairperson: **Gianpiero Tamburrini**

Instructors: **Bienvenido Ros Lopez, Ulrich-Wilhelm Thomale, Artur da Cunha**

Each instructor presents 3 videos and is allotted 15'.

# Wednesday • July 20, 2022

**08:00-09:15** **SESSION 10: Different indications** — Main Hall

Chairperson: **Alvaro Cordoba**

08:00-08:10 **Hisayuki Murai**: *Endoscopy in parenchymal haemorrhage*
08:15-08:25 **Alberto Feletti**: *Endoscopy in intraventricular haemorrhage*
08:30-08:40 **Alvaro Cordoba**: *Endoscope-assisted microsurgery in brain tumors*
08:45-08:55 **Renato Galzio**: *Endoscope-assisted microsurgery in vascular surgery*
08:55-09:05 **Sandi Lam**: *Endoscopic callosotomy and hemispherotomy*
09:05-09:15 **Hans Delye**: *Endoscopic repair of craniosynostosis*

**09:20-10:30** **SESSION 17: Endoscopy in tumor management** — Main Hall

Chairperson: **Henry Schroeder**

09:20-09:30 **Jose Hinojosa**: *ETV and posterior fossa tumors*
09:35-09:45 **Hisayuki Murai**: *ETV in pineal tumors: indications, technique*
09:50-10:00 **Kenichi Nishiyama** (remote): *Tumor biopsy / removal: surgical technique*
10:05-10:15 **Piero Spennato**: *Tumor biopsy with normal ventricles*
10:20-10:30 **Sergey Gorelyshev**: *Endoscope-assisted microsurgery in craniopharyngiomas and suprasellar lesions*

**10:30-11:35** **SESSION 18: Craniopharyngiomas – Miscellaneous** — Main Hall

Chairperson: **Davide Locatelli**

10:30-10:40 **Hisayuki Murai**: *Craniopharyngiomas: ventricular approach*
10:45-10:55 **Henry Schroeder**: *Colloid cyst*
11:00-11:10 **Henry Schroeder**: *Dryfield technique in intraventricular surgery*
11:10-11:20 **Kazuhito Takeuchi** (remote): *Cylinder tumor surgery*
11:25-11:35 **Salman Sharif** (remote): *Endoscopic Eyebrow approach*

11:40-12:00 Coffee Break

**12:00-13:00** **Hands on-Anatomical and Animal models** — Rooms 1-2-3-4

13:00-14:00 Lunch Break

**14:00-16:30** **Hands on-Anatomical and Animal models** — Rooms 1-2-3-4

16:30-16:45 Coffee Break

**16:45-18:15** **SESSION 8: CLINICAL CASES: ENDOSCOPIC TUMOR SURGERY & VIDEO SESSION** — Main Hall

Chairperson: **Spyros Sgouros**

17:15-17:30 **Peng Zhao**: Endoport technique in Intraventricular tumor

**17:45-18:15** **VIDEO SESSION | Endoscopic Tumor surgery**

Instructors: **Sandi Lam, José Hinojosa, Sergey Gorelyshev**

Each instructor presents 3 videos and is allotted 15'.

## Thursday • July 21, 2022 / **ADVANCED SKULL BASE SEGMENT**

**08:00-08:10** **Welcome and event presentation** — Main Hall
**Giuseppe Cinalli, Luigi Maria Cavallo**

**08:15-08:25** **Addresses of the Presidents IFNE and SINch**

**08:30-10:10** **SESSION I** — Main Hall

Chairpersons: **Luigi Maria Cavallo, Emmanuel Jouanneau**

08:30-08:40 **Francesco Doglietto**: *Endoscopic endonasal approach: history and evolution*
08:45-08:55 **Javier Abarca**: *Endoscopic endonasal anatomy of the skull base*
09:00-09:10 **Domenico Solari**: *Endonasal approach for adenomas*
09:15-09:25 **Waleed Azab**:*Current Strategies for giant adenomas*
09:30-09:40 **Luigi Maria Cavallo**: *Endonasal approach for craniopharyngiomas*
09:45-09:55 **Diego Mazzatenta**: *Endonasal approach to Cavernous Sinus*
10:00-10:10 **Gianluigi Zona**: *Endonasal approach for rare sellar lesions*

10:15-10:30 Coffee break

**10:30-13:30** **Hands-on Anatomical and Animal models** — Rooms 1-2-3-4

13:30-14:00 Lunch Break

**14:00-16:15** **Hands-on Anatomical and Animal models** — Rooms 1-2-3-4

16:15-16:30 Coffee break

**16:30-18:30** **SESSION II** — Main Hall

Chairpersons: **Michael Bruneau, Paul Gardner**

16:30-16:40 **Luigi Maria Cavallo**: *Endonasal approaches for ASB meningiomas*
16:45-16:55 **Michael Bruneau**: *Minimally invasive approaches for ACF meningiomas*
17:00-17:10 **Paul Gardner**: *The endonasal management of paramedian skull base lesions*
17:15-17:25 **Yazhuo Zhang**: *Endonasal approach for clival chordomas*
17:30-17:40 **Emmanuel Jouanneau**: *Transcranial vs endonasal route for Trigeminal Schwannomas*
17:45-17:55 **Chandrashekhar Deopujari**: *The Endonasal approach for CVJ lesions*
18:00 Adjourrn

## Friday • July 22, 2022 / **ADVANCED SKULL BASE SEGMENT**

**08:30-10:10** **SESSION I** — Main Hall

Chairpersons: **Sebastien Froelich, Marco Maria Fontanella**

08:30-08:40 **Gabriel Zada**: *Combined endoscopic skull base surgery*
08:45-08:55 **Francesco Zenga**: *Neuronavigation for skull base approaches*
09:00-09:10 **Francesco Sala**: *Intraoperative monitoring for skull base surgery*
09:15-09:25 **Sebastien Froelich**: *Skull base approaches for clival chordomas*
09:30-09:40 **Marco Maria Fontanella**:*Endoscopic supraorbital approach*
09:45-09:55 **Henry Schroeder**:*The value of the endoscope in CP angle surgery*
10:00-10:10 **Maurizio Iacoangeli**: *Complications of skull base surgery*

10:15-10:30 Coffee Break

**10:30-13:30** **Hands-on Anatomical and Animal models** — Rooms 1-2-3-4

13:30-14:00 Lunch Break

**14:00-16:15** **Hands-on Anatomical and Animal models** — Rooms 1-2-3-4

16:15-16:30 Coffee break

**16:30-18:30** **SESSION II** — Main Hall

Chairperson: **Gabriel Zada**

16:30-16:40 **Davide Locatelli**: *Endoscopic Transorbital approaches*
16:45-16:55 **Alberto Di Somma**: *Combined endonasal and transorbital approaches*
17:00-17:10 **James K.Liu**: *Endoscopic approaches to skull base in pediatric pts*
17:15-17:25 **Felice Esposito**: *Tips and tricks for skull base reconstruction*
17:30-17:55 **Giuseppe Minniti**: *Radiotherapy for Skull base tumors*
18:00 Adjourrn

# Sponsors Acknowledgements

The Organizing Committee would like to thank the following companies for their support of the Workshop:

## Platinum Sponsors

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## Companies Profile

Integra is a global leader in neurosurgery and offers a broad portfolio of products and solutions for dural access and repair, cerebrospinal fluid management and neuro-critical care. Our regenerative tissue technologies include products that address soft tissue, nerve and tendon repairs and for the treatment of acute and chronic wounds, burns, as well as for plastic and reconstructive surgery. The company has offices, manufacturing and research facilities in Asia, Australia, Europe, Middle East, and the Americas.

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

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.

Since its beginnings in 1945, the KARL STORZ family company has grown into a global manufacturer and distributor of endoscopes, medical instruments, and devices. We are no giant on an international scale but a leader in the things that matter: creativity, flexibility, and expertise.
Our range of endoscopic instruments for human medicine, veterinary medicine, and industrial endoscopy now includes more than 15,000 products. The most recent KARL STORZ developments are in digital documentation systems and comprehensive operating room concepts. As a system supplier, the company combines its expertise in endoscopy with software solutions to achieve integration in the operating room and to support clinical process and resource management.

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Ultrasound Ablation
Hydrocephalus
Dura Replacement
ICP & MM Monitoring
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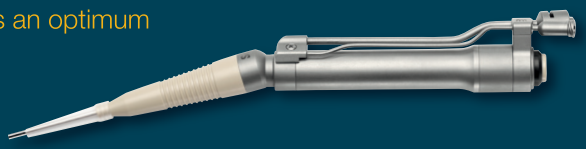
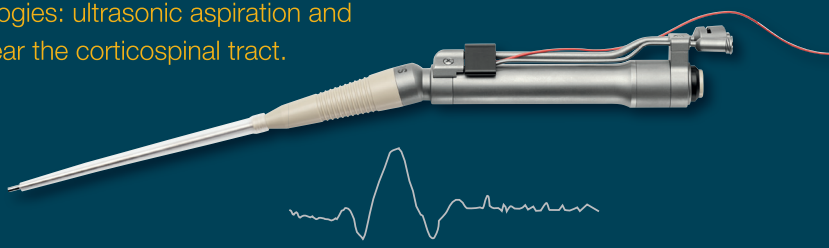
INNOVATIVE SURGERY

# 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.

Experience surgical precision and book your individual demo!

**www.soering.com**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# VITOM® 3D

## The **3**rgonomic **D**imension

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THE DIAMOND STANDARD

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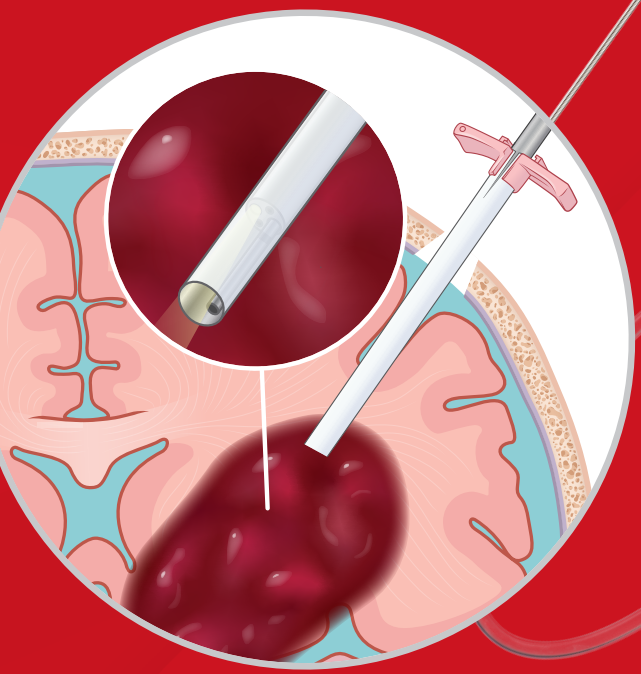
# Artemis™

## Neuro Evacuation Device

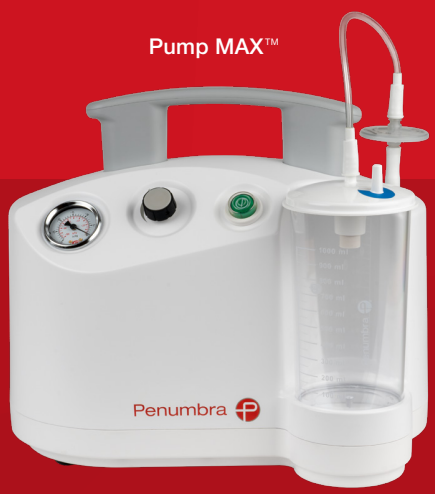
### Minimally Invasive Haematoma Evacuation



**86%**
patients with a postoperative haematoma ≤ 15 ml[1]
N=100

**88%**
mean evacuation percentage[1]
N=100 | SD=20

**Pump MAX™**




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.

Prior to use, please refer to the Instructions for Use for complete product indications, contraindications, warnings, precautions, potential adverse events, and detailed instructions for use.

**ARTEMIS Neuro Evacuation Device – Intended Use**
The ARTEMIS Neuro Evacuation Device is used for the controlled aspiration of tissue and/or fluid during surgery of the Ventricular System or Cerebrum for patients age 18 or older in conjunction with a Penumbra Aspiration Pump.

**Penumbra Aspiration Pump:**
The Penumbra Aspiration Pump is indicated as a vacuum source for the Penumbra Aspiration Systems.

**Potential Adverse Events**
Possible complications include, but are not limited to, the following: hematoma expansion, fever, headaches, vomiting, hyperglycemia, edema, re-bleeding, death, bleeding, increased blood pressure, infections, seizures, intraventricular hemorrhage, hydrocephalus, thromboembolic events, decreased consciousness, craniotomy, unintended removal of tissue leading to neurological and/or sensory deficit.

**Penumbra Pump MAX – Intended Use**
The Penumbra Pump MAX is intended as a vacuum source for the Penumbra Aspiration Systems.

Product availability varies by country. Rendering for illustrative purposes only. Individual results may vary depending on patient-specific attributes and other factors. Please contact your local Penumbra representative for more information.



Penumbra

Medtronic

Engineering the extraordinary

# Alleviate pain. Restore health. Extend life.

Six powerful words that inspire us to engineer the extraordinary, innovate life-transforming technologies, and create better outcomes for our world.