

# Summer School

## VERTINNOVATION

*“Theoretical and practical training in Vestibular Neurotology research»*

*In honour of Pr Dr Hans STRAKA,  
LMU Munich*

*Research Laboratory on Psychology and Neurosciences, Marseille  
July 01-05 2024*



*Prof. Dr. Hans STRAKA*





- ✓ 75,000 students (including 10,000 foreign students)
- ✓ 8,000 employees

## ■ Organisation of the Summer School

### Research Group on the Pathophysiology of Vestibular Disorders (CNRS Unit GDR2074)

- 15 ENT services
- 12 Laboratories: INSERM, UMR1107, UMR8119, etc.
- 5 Professional & patient Associations
- 3 industrials



### German Center for Vertigo and Balance Disorders



Université franco-allemande, Deutsch-  
Französische Hochschule,





## ■ Teaching methods and evaluation

- **Courses and training:** two half-days are devoted to courses given by teacher-researchers, researchers and clinicians. These courses provide an opportunity to go into detail about the basics and principles of the different phases of detection, encoding, transfer and integration of the vestibular sensory information. They also review the practical aspects of the therapeutic management of vestibular disorders.
- **Research workshops:** Participants attend three research workshops proposed by the host teams. Participants are divided into groups of five to optimise training.
- **Clinical workshop:** A half-day workshop is devoted to the clinical practice of neurotology. Participants are welcomed in groups in the ENT department of the Hôpital Européen. They will be given the opportunity to participate to posture and vestibular function assessment tests with patients.
- **Visit of technology platforms:** Visit to the microscopy platform of the Aix-Marseille University
- **Networking day:** a day of sightseeing and relaxation is organised in the middle of the course. This convivial day helps to strengthen links between course participants.
- **Evaluation test:** The "Vertinnovation" Summer school session ends with a half-day debriefing and assessment tests to check the knowledge acquired and to get feedback from the participants on the organisation of the school.

## ■ Participants & speakers

### 20 participants:

5 ENTS

2 Neurologists

8 Students

3 Vestibular reeducators

2 others

### 16 speakers & organizers:

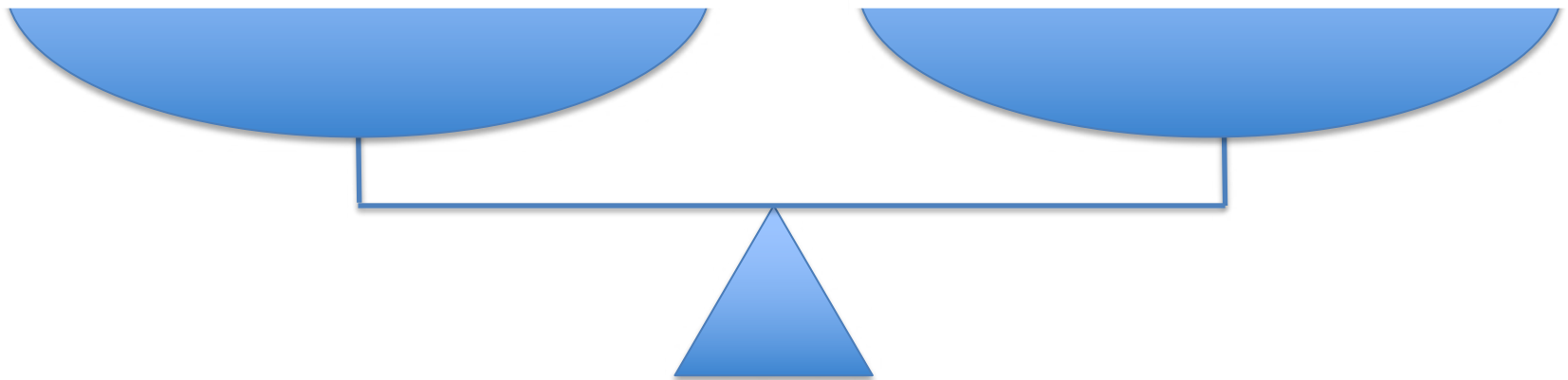
7 Researchers and teacher-researchers

5 Clinicians

1 Veterinary surgeon

2 Lab technicians and admin staff

1 students in Neuroscience



■ Pre-Program Summer School 2024

Summer School VERTINNOVATION

Monday 01/07	Tuesday 02/07	Wednesday 03/07	Thursday 04/07	Friday 05/07
<p>9-10 a.m.: Welcome / coffee &amp; resenation week (CC, BT, AZ)</p> <p>10-11h: Tribute to Hans Straka (FL)</p> <p>11am-12pm: Ethics &amp; animal welfare in research (MC)</p>	<p>9h-12h Workshops</p> <p>Gr2: Clinical workshop</p> <p>Gr4: Physiotherapy Workshop</p> <p>Gr1: vivo workshop</p> <p>Gr3: Vitro workshop</p>	<p>9 a.m. to 6 p.m.: Day outing with Bleu Evasion boat trip and lunch</p>	<p>9-12:30: Class 30+15 mins</p> <ul style="list-style-type: none"> <li>○ Vestibular Disorders (AZ, CH)</li> <li>○ pause</li> <li>○ Patho Vest &amp; Cognitive Alterations (CL)</li> <li>○ Neuroimaging of the vestibular system (AZ)</li> <li>○ Psychopathology in vestibular disorders (DH)</li> </ul>	<p>9h-12h Workshops</p> <p>Gr1: Clinical workshop</p> <p>Gr3: Physiotherapy workshop</p> <p>Gr4: vivo workshop</p> <p>Gr2: Vitro workshop</p>
Lunch	Lunch		Lunch	Lunch
<p>14-17h Workshops</p> <p>Gr3: Clinical workshop (ME, CJ, AZ)</p> <p>Gr1: Physiotherapy &amp; cognitive approaches Workshop (DH, CL)</p> <p>Gr2: Vivo workshop (BT, JT, EM)</p> <p>Gr4: Vitro workshop (CC, IW, SQ)</p>	<p>2-6 p.m.: Class 30+15 mins</p> <ul style="list-style-type: none"> <li>○ Physio Vestibular (CC)</li> <li>○ VOR Basics (MB)</li> <li>○ pause</li> <li>○ Vestibular Compensation (BT, AZ)</li> <li>○ Vestibulo Hypothalamic Axis (SB, video)</li> </ul>		<p>14-17h Workshops</p> <p>Gr4: Clinical workshop</p> <p>Gr2: Physiotherapy workshop</p> <p>Gr3: vivo workshop</p> <p>Gr1: Vitro workshop</p>	<ul style="list-style-type: none"> <li>○ Epidemiology (EG, video?)</li> <li>○ 2-4 p.m.: End of course evaluation</li> <li>○ Week report</li> <li>○ EVAL Questionnaire</li> </ul>
19h30 Diner out	Diner out	Free evening	Diner out	

CC: Christian CHABBERT  
 ME: Maya ELZIERE  
 CJ: Cassandre DJIAN  
 MB: Mathieu BERANECK

SB: Stéphane BESNARD  
 CH: Charlotte HAUTEFORT  
 FL: François LAMBERT  
 CL: Christophe LOPEZ

BT: Brahim TIGHILET  
 JT: Jessica TRICO  
 EM: Emna MAROUANE

MC: Myriam CAYRE  
 IW: Isabelle WATABE  
 SQ: Sabine QUITARD

AZ: Andreas ZWERGAL  
 DH: Doreen HUPPERT  
 EG: Eva GRILL

## ■ Courses 2024

➤ 10 Courses of 45min (including + 5min Q?):

1. Tribute to Pr Dr Hans Staka (Dr F LAMBERT)
2. Ethics and animal welfare in research (Dr M CAYRE)
3. Plasticity of primary vestibular synapses and functional restoration (Dr C CHABBERT)
4. Physiology and pathophysiology of the vestibulo-ocular reflex (Dr M BERANECK)
5. Cellular and molecular basis of vestibular compensation (Dr B TIGHILET & Pr A ZWERGAL)
6. Vestibulohypothalamic pathway and control of neuroendocrine functions (Dr S BESNARD)
7. Pathophysiology of peripheral and central vestibular disorders (Pr A ZWERGAL, Dr C HAUTEFORT)
8. Vestibular pathologies and cognitive impairment (C LOPEZ)
9. Multimodal imaging of the vestibular connectome (Pr A ZWERGAL)
10. Psychopathological aspects of vestibular pathologies (Dr D HUPPERT)
11. Epidemiology and social burden of vestibular disorders (Pr E GRILL)



## ■ Research immersion workshops 2024

➤ 4 turning half a day workshops (groups of 4 participants):

- **Workshop 1** : Clinical investigation of posture and balance (M ELZIERE, A ZWERGAL)
- **Workshop 2** : Vestibular and neurosensory rehabilitation (C LOPEZ, D HUPPERT)
- **Workshop 3** : Animal models in neurotology: Models of peripheral vestibulopathy & behavioural studies of vestibular syndrome in rodents (B TIGHILET, J TRICO, E MAROUANE, Melissa & Isabel)
- **Workshop 4** : Introduction to *in vitro* models to study endolymph metabolism and plasticity of vestibular primary synapses (C CHABBERT, I WATABE, S QUITARD)

■ Wednesday boat trip



<https://www.bleuevasion.com>