Research @ Department of Neurology

Dear Reader,

With this newsletter, we have the pleasure to give you insights into ongoing research activities at our Department and to portrait the people behind it. In addition, we would like to inform you about upcoming events, recent publications and open calls for proposals.

We hope you will enjoy reading it!

The Research Board of the Department of Neurology

July / August 2022

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What are your main research interest?

My research combines machine learning techniques with electrophysiological recordings to study functions of the human brain in health and disease. In our daily lives, we are exposed to environmental stimuli, like sounds or images. Our brains can efficiently extract patterns from recurring stimuli of the environment, and anticipate future events before they occur. The neural mechanisms that support processing of sensory stimuli and detection of environmental regularities may also be preserved in states of reduced consciousness, such as in coma or sleep.

To investigate auditory processing without consciousness, in a first series of studies we used electroencephalography recordings in patients in a coma. We have shown, for the first time, that even patients who do not awake from coma can track simple [1] and complex [2] sound sequences at a neural level, in the scale of a few seconds. These results suggest that the human brain possesses a higher storage capacity in tracking sensory inputs than previously thought [2], even when any conscious perception of the incoming stimuli can be excluded. The ability of patients to track auditory information neurally was also found to be predictive of the patients’ chances of survival, as an improvement in auditory discrimination was mainly observed for patients who later awoke [3].

In more recent work, my group has been investigating the neural mechanisms supporting auditory processing in post-anoxic coma. We have shown that neural synchrony in response to auditory stimuli is stronger for patients who eventually regain consciousness, and predicts coma outcome [4].

What is your motivation to do research?

First, I am interested in studying the neural mechanisms that support conscious perception and how these are altered when consciousness is lost physiologically, for example while sleeping, or pathologically, such as when someone falls into a coma. Advancing our understanding of how brain functions are altered when consciousness is lost can facilitate the development of novel clinical tests for detecting consciousness levels in unresponsive patients or for prognosticating their outcome.
Second, there is a methodological motivation. As the amount of data collected in neurology increases, there is a strong need for novel computational approaches to analyze them. Machine learning applications have brought major advances in the field of computer vision or medical imaging, but their use in electrophysiology remains limited. There is a clear motivation to develop novel techniques for analyzing electrophysiological data that are robust and also interpretable in order to assist the field of neurology.


Affiliations:

- Institute of Computer Science, University of Bern, Switzerland
- Sleep Wake Epilepsy Center - NeuroTec, Department of Neurology, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland
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Congratulations

1) Awarded Grants (in chronological order)

**Prof. Dr. med. Selma Aybek**

**Funding Institution:** SNSF-Professorship Follow-up proposal [Link](#)

**Title:** Modulation of Agency in Functional Neurological Disorders

**Awarded Grant:** CHF 408’953 (12 months)

**Sigurd Lerkerød Alnes**

PhD student Cognitive Computational Neuroscience

**Funding Institution:** Support for Young Academics: Open Round 2022, Faculty of Science, University of Bern [Link](#)

**Mentor:** Ass. Prof. Dr. Athina Tzovara

**Awarded Grant:** CHF 4’500 (research stay of 2 months at University of California Berkeley USA)
Prof. A.Chan  Dr.med. N.Kamber  Dr.med. H.Hammer  Dr.med. E.Fischer

Funding Institution: SNSF Investigator Initiated Clinical Trial (IICT) [Link]

Title: Neurorehabilitation of cognitive deficits in multiple sclerosis using an adaptive cognitive exergame

Partners: PI: Prof. Dr. Dr. Arseny Sokolov; CHUV Lausanne
Dr. Dr. Roman Gonzenbach, Dr. Jens Bansì; Kliniken Valens
Dr. Dr. Giampaolo Brichetto; Associazione Italiana Sclerosi Multipla
Prof. Dr. Marco Bove; Università Degli Studi Di Genova

Awarded Grant: Total Grant: 1'954'229 CHF (5 years); Share Inselspital: 276'922 CHF

Dr.med. Morin Beyeler

Funding Institution: Kurt und Senta Herrmann-Stiftung [Link]

Title: Discovery of new neuroimaging biomarkers in stroke patients with underlying active malignancy

Awarded Grant: CHF 29'632.00
PD Dr. med. David Seiffge

Funding Institution: AstraZeneca; funding scheme: externally sponsored research

Title: FIRE-Xa (Forecast of functional outcome and impact of anti-factor Xa-levels in patients with intracerebral haemorrhage related to direct factor Xa inhibitors – a multi-center cohort study)

Awarded Grant: CHF 678’510

Prof. Dr. med. Dr. sc. nat. Maxime Baud

Dr. Timothée Proix, UniGE

Funding Institution: CURE Epilepsy Award 2022 Link

Title: Forecasting cycles of seizure in people with genetic generalized epilepsy (Support for ORACLE study, starting in early 2023)

Awarded Grant: USD 250’000
2) Awarded Prizes (in chronological order)

Dr. med. Morin Beyeler

has **won the best presentation** in Clinical Neurology at the **EAN Tournament** for Neurologists in Training. [Link]

**Title:** Absence of Susceptibility Vessel Sign in Patients with Malignancy-related Acute Ischemic Stroke [Abstract]

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PD Dr. med. Mirjam Heldner

Prof. Dr. med. Marcel Arnold

won the **EAN Award for the best Paper of the Year** published in European Journal of Neurology 2021.

**Post-SARS-CoV-2-vaccination cerebral venous sinus thrombosis: an analysis of cases notified to the European Medicines Agency**

Link to the publication
3) Appointments

PD Dr. med. Mirjam Heldner

Has been elected to join the World Stroke Organization Board of Directors 2022-2026 as an individual member from the geographical region EUROPE. [Link](#)

4) Outstanding Publications

Prof. Dr. med. Urs Fischer

Prof. Dr. med. Jan Gralla,
Universitätsinstitut für Diagnostische und Interventionelle Neuroradiologie

Schlaganfallstudie (SWITCH Direct) zeigt hervorragende Ergebnisse durch Kombinationstherapie.

[Media Release of Insel Gruppe](#)

Publication:


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Call for Grants and Prizes

Medical Faculty of the University of Bern: Grants for Visiting Scholars from Ukraine

Focus of the grant: Grants for Visiting Scholars from Ukraine
Eligible for: Postdocs/ professors; no PhD candidates

- The Medical Faculty has decided to offer grants to visiting scholars (professors and post-doctoral researchers) from Ukraine, to teach and / or to conduct research at the Medical Faculty of the University of Bern.

- The grants provide a maximum of 2,000 CHF per full month spent at the Medical Faculty of the University of Bern (pro-rated per week for shorter periods), for periods of up to 5 months (max. amount of 10,000 CHF per scholar).

- The application itself must be submitted by the candidates together with a host professor of the Medical Faculty of the University of Bern.

- Visiting scholars are expected to hold an academic degree (post-doctoral researchers or professors; no PhD candidates)

- Deadline: rolling basis [Link]

Medical Faculty of the University of Bern: «Talent4Bern» Program

Focus of the grant: Funding for researchers, who wish to apply for ERC/SNSF Starting Grant 2023
Eligible for: PhD or MD-PhD/ Staatsexamen plus min. 2-3 years of research

- The Faculty of Medicine of the University of Bern has announced a funding program to support researchers who wish to apply for an ERC Starting Grant 2023 or SNSF-Starting Grant 2023 to establish their own independent research group at the Faculty of Medicine.

- A total of four selected candidates from the "Talent4Bern" program will receive support in preparing the grant proposal and benefit from additional core funding as well as coaching and mentoring opportunities during the project period.

- Deadline: 12 September 2022 [Link] (see “Aktuelle Ausschreibungen”)
Swiss Participation in Horizon Europe: Update on ERC Starting Grant 2023

- There is a possibility that Switzerland might be placed on the list of countries to become associated to Horizon Europe in time for the **ERC Starting Grant (ERC StG) 2023 deadline of 25 October 2022**, and this might happen at short notice.

- The State Secretariat for Education, Research and Innovation therefore recommends that researchers in Switzerland prepare their proposals for this deadline.

- If Switzerland is not eligible, the SNSF will open a call in November 2022, with an expected deadline of 1 February 2023, that is aligned as much as possible to the ERC StG.

- Please get in touch with the [Grants Office](#) if you are planning a StG submission. All new developments will be published on the Grants Office’s webpage.

- See also: [ERC StG call page](#) and [ERC-StG-2023 Applicants’ Training Session (30.08.22)](#)

**SNSF: Advanced Grants 2023**

| Focus of the grant: Career Funding/ Researchers who intended to apply for ERC Advanced Grant |
| Eligible for: Senior Researchers (10 years of outstanding research) |

- Due to Switzerland’s status as a non-associated third country in the Horizon Europe programme, the federal government mandated the SNSF to launch the SNSF Advanced Grants 2023 funding scheme. It is aimed at researchers who intended to apply for an ERC Advanced Grant.

- The scheme is open to all research disciplines and topics.

- The applicants must have a track record of outstanding research over the past ten years and must be recognised leaders in their fields.

- **Pre-registration deadline: 1 October 2022**

- **Submission deadline: 2 November 2022**  [Link](#)
EAN Clinical Fellowship 2023

**Focus of the grant:** Clinical research/ research stay abroad

**Eligible for:** Young clinicians (AA)

- The objective of the “Clinical Fellowship Programme” is to provide a well-defined clinical observational experience in a department with recognised expertise in a specific field.

- With this programme, neurologists that are still in the process of training, or recently qualified and setting up a new service/practice can learn from observing the usual practice in that new department.

- The programme is designed for a minimum stay of 6 up to a maximum of 12 weeks in a Hosting Department outside the country of residence (with a minimum of frequency of 5 days/week in each week).

- **Deadline:** 31 October 2022  [Link]

Other Open Calls for Proposals

- **UniBE Doc.Mobility**
  Deadline: 1 September 2022  [Link]

- **UniBE Short Travel Grants for (Post)Docs**
  Deadline: 1 September 2022  [Link]

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- **Bridge Proof of Concept**
  Deadline: 5 September 2022  [Link]

- **Medizinische Fakultät Bern: Talent4Bern**
  Deadline: 12 September 2022  [Link] (s. «aktuelle Ausschreibungen»)

- **Albrecht von Haller Young Investigator Award**
  Deadline: 30 September 2022  [Link]
• SNSF Project Funding  
  Deadline: 1 October 2022 [Link]

• SNSF Agora  
  Deadline: 10 October 2022 [Link]

• DBMR Travel Grant  
  Deadline: rolling application throughout the year, as long as funding is available [Link]

• ERC Starting Grant  
  Deadline: 25 October 2022 [Link]  see also: [Link SBSI]

• EAN Clinical Fellowship 2023  
  Deadline: 31 October 2022 [Link]

• SNSF Advanced Grants  
  Pre-Registration Deadline: 1 October 2022  Submission Deadline: 2. November 2022 [Link]

• SNSF Ambizione  

• ERC Synergy Grant 2023  
  Deadline: 8 November 2022 [Link]

• DLF Nachwuchsförderungs-Grants für patientenorientierte Forschung  
  Deadline: 30 November 2022 [Link]  Interne Meldung an chantal.kottler@insel.ch bis am 21 Oktober 2022

• Olga Mayenfisch Stiftung  
  Deadline: 1 Dezember 2022 [Link]
Important Dates

- **12th Swiss Movement Disorders Symposium**, 01 September 2022 – 02 September 2022, Radisson Blu Hotel, Luzern [Link](#)
- **5. SFCNS Congress**, 28 – 30 September 2022, Basel [Link](#)
- **ECTRIMS 2022**, 26 – 28 October 2022, Amsterdam [Link](#)
- **SHS Headache-Symposium**, 24 November 2022, CHUV Lausanne [Link](#)

For further events of the Department, please check our [website](#).
Support

1) SNSF: New CV Format for Project Funding

- The SNSF has introduced a **new CV format**, with the aim to facilitate comparisons between applicants and to make the evaluation of their scientific career more transparent.

- The new format will be used **for the first time in project funding** for the submission date of **Monday 3 October 2022**.

- The new format will then be extended step-by-step to most funding schemes.

- **Important**: All applicants must use the new CV format which requires an **ORICD profile**.

- [Link](#)

The Grants Office organizes four informal information events to discuss the SNSF's new CV format and your open questions.

**Info events for experienced researchers:**

- 30 August 2022 at 12.00:  [https://unibe.ch.zoom.us/j/62929005481](https://unibe.ch.zoom.us/j/62929005481)
- 5 September 2022 at 14.00:  [https://unibe.ch.zoom.us/j/68403509341](https://unibe.ch.zoom.us/j/68403509341)

**Info events for early career researchers (for example Ambizione applicants):**

- 26 September 2022 at 14.00:  [https://unibe.ch.zoom.us/j/65682937250](https://unibe.ch.zoom.us/j/65682937250)
- 11 October 2022 at 12.00:  [https://unibe.ch.zoom.us/j/65682937250](https://unibe.ch.zoom.us/j/65682937250)

No registration is required.

2) University Library Bern: Medicine and Pharmacy Portal for Academic Writing

The Medicine and Pharmacy Portal offers support for your studies, research and teaching. Here you may find news and information about subject-specific events and services offered by the university library as well as useful tools for your scientific work. [Link](#)
5) Trainings and Workshop

CTU Trainings:

*Clinical Investigators I/II: Basic/ Advanced GCP & clinical research training*

The course is designed to introduce basic concepts of patient-oriented clinical research to health care professionals involved in the recruitment of study participants. It is split in two parts. The first part consists of self-learning and home-based exercises. For the second part, participants will attend the lectures and workshops.

*Next Course Dates 2022 Clinical Investigators I: Link and Registration*
*Next Course Dates 2022 Clinical Investigators II: Link and Registration*

*The Clinical Study Protocol Basics*

The study protocol is the basis of any clinical investigation and a key factor in the success of the trial. This half-day course is a very condensed version of the former “Writing a clinical trial protocol”-course.

*Next Course Dates: Link and Registration*

*REDCap Database Implementation*

The course will give an introduction to the Clinical Data Management System REDCap and is designed for persons who plan to set up their own study in REDCap. After the course researchers will be able to set up their own database in REDCap. Target audience: Clinical Researchers, Study Nurses and all persons who would like to set up their own study in REDCap.

*Next Training Dates 2022: Link and Registration*

*Statistics using STATA*

In this workshop we will learn how to do statistical inference with Stata. Basic statistical methods for the analysis of continuous, binary, count and time-to-event data will be covered, e.g. linear and logistic regression, or Cox proportional hazard models.

*Next Training Dates 2022: Link and Registration*

For other CTU Trainings and Courses, check the CTU website [here](#).
Gender Equality and Diversity

If you come across interesting news and/or would like to read about a specific topic related to gender equality and diversity, please let us know (chantal.kottler@insel.ch).

Innosuisse Start-up Training Module: Female Founders

This Innosuisse-event marks the start of a multipart series of women-focused events and workshops aiming to increase representation of women among entrepreneurs and bring female members of higher institutions into contact with successful female entrepreneurs. Get inspired by the stories of Barbara Studer, CEO of Hirncoach GmbH, Léa Miggiano, Co-Founder and CMO of Carvolution AG, and Florence von Gunten, Co-Founder and CEO of YLAH. They come together to share their experiences and discuss the challenges and opportunities of being an entrepreneur. Link

Reminder: Female Empowerment in Life Sciences (FELS)

The Female Empowerment in Life Sciences (FELS) is an interdisciplinary association of female scientists with a medical or life-science background, which was established in September 2021 with the support of the Equal Opportunity Commission of the Faculty of Medicine and the Directorate of Teaching and Research of the University of Bern. The goal is to create a network that supports gender-neutral scientific career development, the implementation of gender equality for women, and female leadership.

Anyone who would like to get to know FELS better has the opportunity to participate in the networking meetings, which take place in the form of a regulars’ table (Stammtisch), without obligation. The aim of these meetings is to promote networking and exchange within the group, as well as to welcome new interested participants.

Location: Pizzeria Ambiente, Bühlstrasse 5, Bern

Time: every first Thursday of the month, from 18.30. Link
Equal Opportunities Board (EOB) of the Department of Neurology

The Equal Opportunities Board (EOB), created in September 2021, aims at promoting diversity and gender equity in all areas and aspects of teaching and research activities as well as in clinical services and duties of the Department of Neurology. Our mission is to promote diversity and gender equity in the Department of Neurology, Inselspital.

Visit our website and get in touch with us, if you have input, comments or information you wish to disseminate within the Department. [EOB Website]

Members

- Prof. Dr. Antoine Adamantidis
- Dr. phil. Chantal Kottler
- Dr. med. Thomas Moineau

Publications on the Topic:


Recent Publications

**Stroke**


**Neuroimmunology**


**ZfPB**


**Neuromuscular Center**


Contact
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