

## ECMED Advanced Training course 2: In Vivo Assessment of Plasticity during Epileptogenesis

**Date and venue:** June 5-9, 2017, University of Eastern Finland, Kuopio, Finland

Location on June 5-7, Bioteknia1 building, 3<sup>rd</sup> floor, Seminar room 3208. Street address: Neulaniemetie 2, 70210 Kuopio, Finland.

Location on June 8-9, Medistudia building, Auditorium MS302. Street address: Yliopistonranta 1 A, 70210 Kuopio, Finland.

**Description:** This workshop will focus on current research in vivo assessment of plasticity during epileptogenesis.

On Wednesday (June 7) we will have four lectures for both ECMED and SynaNet students (<http://www.synanet2020.com/>.)

During Thursday and Friday (June 8-9) the training course is a part of 18<sup>th</sup> Kuopio Bio-NMR workshop “MRI of Brain Plasticity” <http://www.uef.fi/bionmrworkshop/>

**Fees:** Lunches, coffees and social program are covered by UEF.

**Weather in Kuopio:** Weather in Kuopio has not been warm yet (around +10 C). Please, check the current forecast from

<http://en.ilmatieteenlaitos.fi/weather/kuopio?forecast=daily>

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**Certificate of attendance:** You will receive Certificate of Attendance after the workshop on your email. Certificate requires participation on lectures and demos and having the power pitch presentation.

*“You all are cordially welcome to Kuopio in June 2017, and enjoy the early Finnish summertime with lots of daylight.” – Asla Pitkänen –*

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June 5, Monday	June 6, Tuesday	June 7, Wednesday
Bioteknia, room 3208	Bioteknia, room 3208	Bioteknia, room 3208
In vivo Imaging of Plastic Epilepsy Networks / Drug discovery		Drug Discovery
9:00-9:15 Welcome (Pitkänen)	9:00-10:00 CT, SPECT, PET (Jokivarsi)	9:00-10:30 Demo Group 1: DTI (Immonen, Manninen) Group 2: fMRI (Paasonen, Salo) Meeting point at Bioteknia lobby, by the cow
9:15-10:00 New ILAE classification of seizures and epilepsy (Walker)		
10:00-10:30 A TLE case study with EEG, MRI and Pathology (Walker)		
10:30-11:00 Coffee		
11:00-11:30 Modeling of structural epilepsies in animals (Pitkänen)	11:00-12:00 What should I know about pharmacokinetics before testing a drug in animal models (Forsberg)	ROOM 3118.2 11:00-12:00 Towards preclinical multicenter trials – CDEs, CRFs, and common databases (Lapinlampi)
11:30-12:30 Evolution of pathology behind the imaging: Unfolding the evolution of cortical lesion and plasticity after injury (Ndoe-Ekane)		12:00-13:00 Animal models and study designs to test AEDs (Walker)
12:30-13:00 Evolution of hippocampal and thalamic plasticity after injury (Puhakka)	12:30-13:00 ECMED & SynaNet joint lecture: MRS (Marjanska)	
13:00-14:00 Lunch at restaurant Hyvä Huomen		
14:00-14.30 Animal preparation, anesthesia and monitoring (Paasonen)	14:00-14:30 Animal models and study designs to test AEDs (Pitkänen)	14:00-14:30 ECMED & SynaNet Joint lecture: PET imaging (Poutiainen)
14:30-15:30 MRI basics: contrasts, anatomy & volumetry (Immonen)	14:30-15:30 Long-term video-EEG monitoring setup for preclinical studies (Andrade)	14:30-15:00 ECMED & SynaNet Joint lecture: 2-deoxyglucose functional brain imaging (Dawson)
15:30-16:15 Diffusion imaging (Manninen)	15:30-16:00 Advanced electrophysiological methods to measure treatment effects on network excitability? (Tanila)	Free time
16:15-16:30 Snacks	16:00-16:15 Snacks	
16:30-17:00 Functional MRI (Huttunen)	16:15-16:30 MRI safety demo (Kettunen)	
17:00-17:30 EEG-fMRI in rodents (Pirttimäki)	16:30-18:00 Demo Group 1: DTI (Immonen, Manninen) Group 2: fMRI (Paasonen, Salo)	17:30 BBQ Dinner at Hyvä Huomen ECMED and SynaNet Gettogether
Free time	18:00-18:15 Break	
	18:15-20:15 PowerPitch Presentations (a 3 min)	

**Thursday June 8<sup>th</sup>**

08:30-09:00	Registration & coffee
<b>Session: Functional MRI</b>	
09:00-09:15	<b>Opening of the workshop</b> Dr. Olli Gröhn, Biomedical Imaging Unit, A.I. Virtanen Institute for Molecular Sciences, University of Eastern Finland
09:15-9:45	<b>Basics of fMRI in animal models</b> Dr. Jaakko Paasonen, University of Eastern Finland
9:45-10:30	<b>Functional organization and dynamics of rodent connectivity networks</b> Dr. Alessandro Gozzi, Istituto Italiano di Tecnologia - IIT, Italy
10:30-11:00	Coffee
11:00-11:45	<b>Optogenetics and fMRI</b> Dr. Jin Lee, Stanford University, USA
11:45-12:15	<b>Combination of EEG and MRI biomarkers in Alzheimer's disease translational research: the contribution of the European IMI project "PharmaCog"</b> Dr. Claudio Babiloni, Università di Roma "La Sapienza", Italy
12:15-13:15	Lunch break
<b>Session: Diffusion</b>	
13:15-13:45	<b>Basics of diffusion MRI</b> Dr Daniel Topgaard, Lund University, Sweden
13:45-14:30	<b>Validation of diffusion MRI findings – correlation of diffusion MRI and tissue microstructure in damage induced plasticity</b> Dr Alejandra Sierra Lopez, University of Eastern Finland
14:30-15:15	Coffee & Posters
15:15-16:00	<b>Assessing learning induced brain plasticity using advanced microstructural diffusion MRI</b> Dr. Yaniv Assaf, Tel Aviv University, Israel
16:00-16.45	<b>Microstructural changes in damaged brain</b> Dr. Jiangyang Zhang, New York University School of Medicine, USA
16:45-17:30	3 x 15 min talks selected from submitted abstracts
17:45-	<i>Social Program</i> <i>Bus transportation from University to Jätkänkämpä</i> <i>Dinner around 18</i> <i>Sauna &amp; swimming around 20</i>

**Friday June 9<sup>th</sup>**

08:30-09:00	Coffee
<b>Session: MRS and Hyperpolarized MRI</b>	
09:00-09:15	<b>Opening of the ISMRM Nordic Chapter Meeting</b> Dr. Timo Liimatainen, Kuopio University Hospital
09:15-10:00	<b>Overview and basics of hyperpolarized MRI</b> Dr. Mikko Kettunen, University of Eastern Finland
10:00-10:30	Coffee
10:30-11:15	<b>Clinical translation of hyperpolarized metabolic MR</b> Dr. Jan Henrik Ardenkjaer-Larsen, Technical University of Denmark
11:15-12:00	<b>Exploring metabolism with MRs and hyperpolarized MRI</b> Dr. Małgorzata Marjańska, University of Minnesota, USA
12:00-13:00	Lunch break
<b>Session: Highlights from Nordic MRI research</b>	
13:00-13:30	<b>Neurovascular flow at 7T</b> Dr. Karin Markenroth-Bloch, Lund University, Sweden
13:30-14:00	<b>Multidimensional diffusion MRI</b> Dr. Daniel Topgaard, Lund University, Sweden
14:00-14:30	<b>Myelin measurement in the brain using synthetic MRI</b> Dr. Marcel Warntjes, Linköping University, Sweden
14:30-15:00	Coffee
15:00-15:30	<b>fMRI to uncover the pathophysiology of different clinical conditions in patients</b> Dr. Asta Håberg, Norwegian University of Science and Technology, Norway
15:30-15:50	2 x 10 min Highlights of Kuopio MRI Research
15:50-16:00	<b>Closing of the 18<sup>th</sup> Kuopio Bio NMR Workshop and ISMRM Nordic Chapter meeting</b> Dr. Olli Gröhn, Dr. Timo Liimatainen, University of Eastern Finland
17:30-19:00	<i>(Optional) Boat cruise with snacks</i> <i>Departure from Kuopio harbour</i>

## **Power pitch presentations**

Idea is to present “the progress report on your own project” (i.e. what you have accomplished since last December) in 3 minutes (strictly limited) and with maximum of 3 slides. There is 2 min discussion after each presentation and general discussion after all the presentations. In order to stay within the 3 min limit you need to practice your talk. You can use e.g. <http://mitcommlab.mit.edu/broad/use-the-commkit/> to get ideas on how to present your progress.

You should download your Powerpoint presentation during the breaks on Monday or Tuesday. All presentations have to be downloaded before the power pitch presentation session (on Tuesday at 18.15) starts in order to keep the strict schedule.

## **Social program**

**Wednesday June 7:** at 17:30 Informal BBQ event (“cook your own food”) in the local restaurant "Hyvä Huomen" This BBQ dinner is a joint event with ECMED and SynaNet projects.

**Thursday June 8:** at 17:45 transportation from Medistudia to “Jätkänkämpä” (jätkä=lumberjack, kämppä=lodge). “Come and enjoy real Finnish experiences in lumberjacks's style in 50's” <http://www.rauhalahti.fi/en/restaurants/jatkankamppa/the-jatkankamppa-lodge-and-worlds-biggest-smoke-sauna> We have the opportunity to have a delicious traditional dinner (at 18:00) with Kuopio specialties, visit the "world's largest" smoke sauna, swim in lake Kallavesi, and enjoy live accordion music.

Bring you swim suit if you are brave enough to swim in the lake Kallavesi (water temperature around +10 C). Towels are provided. Sauna is shared for all, but dressing room and bathroom are separate for ladies and gentlemen. In sauna you can wear either swim suit or towel.

Please note that there is no smoke during sauna! Wood is burned in a large stove and the smoke fills the sauna (no chimney). When the sauna is hot enough, the fire is allowed to die and the smoke is ventilated out. The residual heat of the stove is enough for the whole duration of the sauna. Smoke sauna is considered to be the most traditional (and the best) form of sauna that we have in Finland.

Transportation back to city center around 22.00.

**Friday June 9:** during 17:15-19:00 cruise (m/s Queen, ROLL risteilyt) with snacks in beautiful lake Kallavesi. Departure from Kuopio harbor (street address: Kauppakatu 1, 70100 Kuopio)

# Practical information

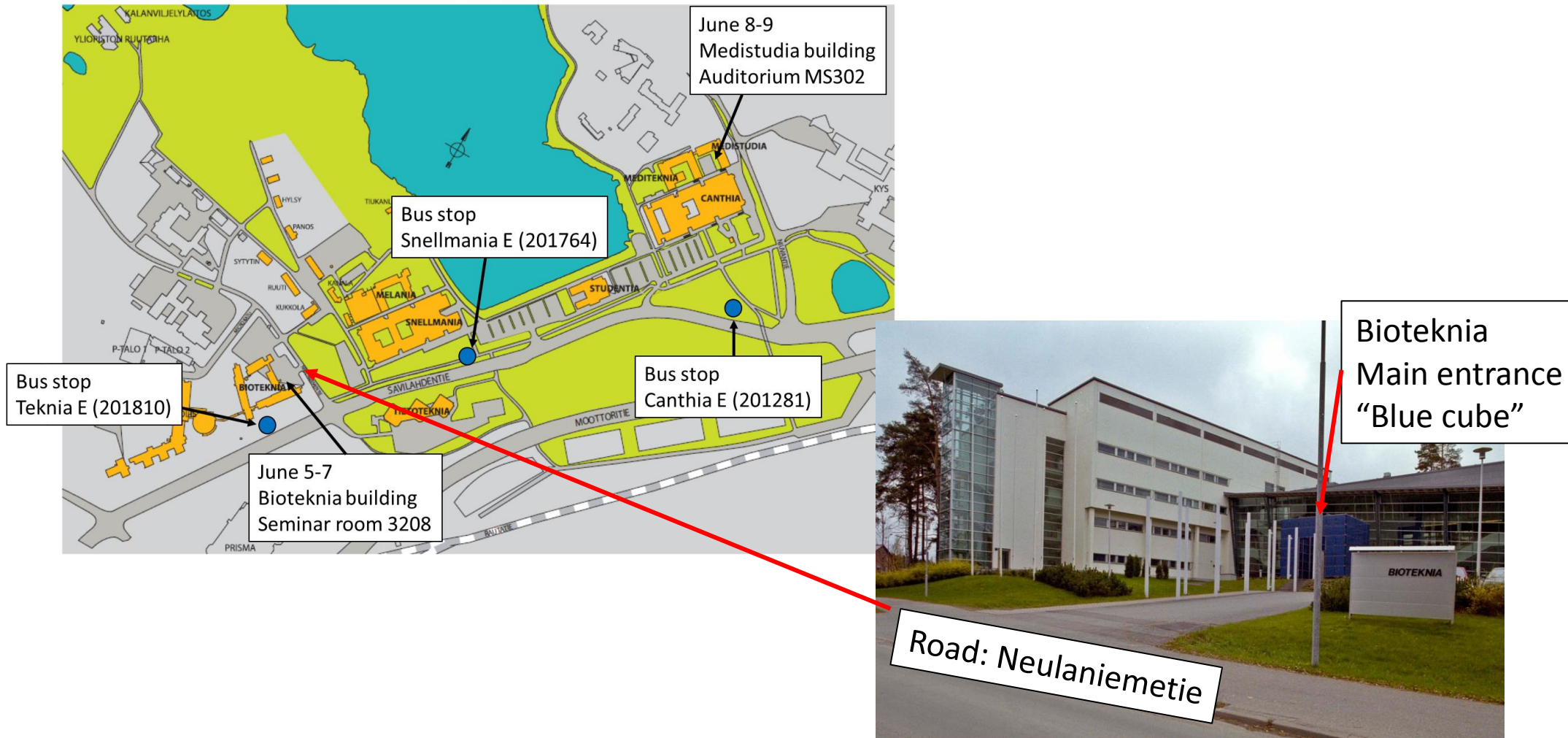
## Venue

**Location on June 5-7**, A. I. Virtanen Institute, University of Eastern Finland, Bioteknia building, 3<sup>rd</sup> floor, Seminar room 3208

Street address: Neulaniemetie 2, 70210 Kuopio, Finland.

**Location on June 8-9**, University of Eastern Finland, Medistudia building, Auditorium MS302.

Street address: Yliopistonranta 1A, 70210 Kuopio, Finland



## Kuopio public transportation

There are several bus connections from the city center to UEF / Medistudia / Bioteknia buildings: bus numbers 4, 7, 16, 21, 23, 29, 31, 35, 40. You can easily find routes on Kuopio City [Journey Planner](#). The bus ride costs 3,30e. Payment with cash only.

Bus stop names for course venues

- \* Bioteknia building, street address: Neulaniemetie 2 are **Snellmania E (201764)** or **Teknia E (2018210)**
- \* Medistudia building, street address Yliopistonranta 1A is **Canthia E (201281)**

## Arriving by air

Bus line 40 operates from Kuopio airport to Kuopio city centre and the university (Route: Lentoasema Airport - Kuopio tori - Savilahti). Single ticket price for a trip from Airport to Kuopio city is 5,50 € for adults. [Timetable for airport bus](#)

It's also usually easy to find a taxi from the airport. Taxi fare from airport to city centre or university is approx. 40 €. Taxi Kuopio +358 200 30 300.

## Arriving by train

Kuopio Main Railway station is almost in the center of Kuopio city, and it is easy to find a taxi - near the station is a taxi stop.

## Accommodation

Google map of Kuopio with hotels and course venues: <https://goo.gl/maps/QW79onVF1nN2>

Hotels in Kuopio are for example

- [Sokos Hotel Puijonsarvi](#) (a few blocks from the market square (=city center), next to a beautiful park)
- [Scandic Kuopio](#) (located in the beautiful Kallavesi lake district)
- [Hotel Cumulus City Keskusta Kuopio](#) (formerly known as hotel Atlas, in the very centre of Kuopio)
- [Hotel Cumulus City Asema Kuopio](#) (newly renovated hotel located in the centre of town, near the railway station)
- [Kuopio-Hotel Jahtihovi](#) (peaceful family hotel in the downtown of Kuopio)
- [Economy Hotel Savonia](#) (closest to University)

Hostels in Kuopio

- [Hostel Hermanni](#)
- [Hostel Matkustajakoti](#)
- [Guest House Asema](#)