# Complex epilepsy

#### Group Leader

Morten I. Lossius, Consultant neurologist, National Centre for Epilepsy, OUS (mortenl@ous-hf.no) and Professor, UiO (morten.lossius@medisin.uio.no)

**Group Members**

* Marit Bjørnvold, MD/PhD, SSE
* Cecilie Johannessen Landmark, MSc/PhD, SSE and OsloMET
* Kristin Alfstad, MD/PhD, SSE
* Karl Otto Nakken, MD/PhD, SSE
* Magnhild Kverneland, MSc, SSE and UiO
* Kari Modalsli Aaberg, MD/PhD, SSE
* Hilde Karterud, Cand.san/PhD, SSE
* Antonia Villagran, MD, SSE and UiO
* Torleiv Svendsen, MD, SSE and UiO
* Oliver Henning, MD, SSE
* Sigrid Pedersen, MSc, SSE
* Erik Sætre, MD, PhD, SSE
* Annette Holth Skogan Clin.Neuro.Psych/PhD, SSE
* Ellen Molteberg, MD, SSE and UiO
* Konstantin H. Kostov, MD, SSE and UiO
* Gernot Hlauschek, MD, SSE
* Merete Tschamper, MSc, SSE

**Associated group members**

* Anette Huuse Farmen, MD, Innlandet Hospital and UiO
* Marte Syvertsen, MD, Vestre Viken and UiO
* Kaja Kristine Selmer, MD/PhD, OUS and UiO
* Ine Cockerell, MSc, OUS and UiO

**Research profile and aims**

Clinical research in patients with difficult-to-treat epilepsy, with particular focus on:

* + - Characterization of different epilepsy syndromes (genotype/phenotype)
		- Clinical pharmacology of antiepileptic drugs
		- Different diagnostic and treatment options; EEG, pharmacotherapy, surgery, VNS, diets
		- Psychosocial, psychiatric and neurocognitive aspects
		- Psychogenic non-epileptic seizures

### Ongoing projects

PhD candidates in the UiO PhD program:

* **Magnhild Kverneland**: *Effect of modified Atkin’s diet in adult patients with pharmacoresistant focal epilepsy. A randomized controlled study*. Supervisor: **Karl Otto Nakken**. Co-supervisor: Erik Taubøll
* **Antonia Villagran**: *Psychiatric comorbidity in patients with psychogenic non-epileptic seizures (PNES)*. Supervisor: Morten I. Lossius. Co-supervisor: Roderick Duncan
* **Torleiv Svendsen:** *Tolerability and efficacy of new antiepileptic drugs*. Supervisor: **Cecilie Johannessen Landmark**. Co-supervisors: Ole Morten Rønning and **Morten I. Lossius**
* **Sigrid Pedersen:** *Epilepsy in Children: The Impact of the Gut Microbiota and Epigenetics in Successful Treatment of Epilepsy.* Supervisor: **Kaja Kristine Selmer**. Co-supervisors: Knut Rudi, Per Ole Iversen, and Benedicte Alexandra Lie
* **Ellen Molteberg**: *Long term effects of modified Atkins diet in therapy-resistant epilepsy.* Supervisor: Erik Taubøll. Co-supervisor: Per Medbøe Thorsby and **Karl O. Nakken**

 **Eli B. Kyte:** “*Impact of epilepsy surgery on cognition, psychiatry and quality of life at the commencement of aging”* Supervisor: **Kristin Å. Alfstad.** Co-supervisor**: Morten I. Lossius and Annette H. Skogan.**

Dr. philos. candidate:

* **Oliver Henning**: “*Sexuality, depression and side effects in refractory epilepsy patients*”. Senior reseacher: **Morten I. Lossius**

Post doc:

* **Silje Alvestad**: *“Scandinavian multi-registry study of antiepileptic drug teratogenicity:*

 *the SCAN-A study”*

PhD-candidates not yet in the UiO PhD program:

* **Kathrine C. Haavardsholm:** “*Long term effect of ketogenic diet in children with epilepsy”*
Supervisor: Anette Ramm -Pettersen
* **Konstantin H. Kostov:** “*Clinical outcomes and determinants of effectiveness of vagus nerve
stimulation in a large national refractory epilepsy population*”
Supervisor: Jukka Peltola. Co-supervisor: **Morten I. Lossius** and Pål Gunnar Larsson

PhD-candidates in the UiO PhD program, associated to the group:

* Anette Huuse Farmen: “*Effect of epilepsy and antiepileptic drugs in pregnancy: cognition, neurodevelopmental symptoms and obstetric outcome in offspring ‒ a prospective cohort study”* Supervisor: **Morten I. Lossius**. Co-supervisor: Merethe Øien
* Ine Cockerell: *“Treatment and follow-up in patients with tuberous sclerosis”*

Supervisor: Terje Nærland. Co-supervisor: Caroline Lund and Ketil Heimdal

International projects:

* “*EURAP study. An International Antiepileptic Drugs and Pregnancy Registry”* (International concerted Action on the Teratogenesis of Anti-epileptic Drugs) [(http:](http://www.eurapinternational.org/%29%3B)/[/www.eurapinternational.org/);](http://www.eurapinternational.org/%29%3B)
Silje Alvestad and Kari Mette Lillestølen, national coordinators
* *“E-PILEPSY”* is a pan European project, with the primary aim of improving awareness and
accessibility of surgery for epilepsy across different countries. Epilepsy surgery is an established treatment in the management of individuals with drug resistant focal epilepsy [(http:](http://www.e-pilepsy.eu/%29%3B)/[/www.e-pilepsy.eu/);](http://www.e-pilepsy.eu/%29%3B) **Morten I. Lossius**, associated partner
* *“EpiCARE” European Reference Network (ERN) on rare and complex epilepsies associated member.*Head of Scientific Advisory Board**Morten I. Lossius**
* *“NESREC” Nordic Epilepsy Surgery Research Consortium.* ***SSE***
* *“Nordic prospective observational study of outcomes after rare epilepsy surgery procedures”*;
**Fridny Heimisdottir**
* *“TRACE”* (Transcutan VNS (t-VNS) for drug resistant epilepsy); **Oliver Henning** and **Konstantin Kostov**
* *“Pharmacokinetic variability, efficacy and tolerability of a new antiepileptic drug, brivaracetam”* Scandinavian project between the National Centre for Epilepsy in Norway and Denmark (Filadelfia, Dianalund); **Torleiv Svendsen**, medical leader, **Cecilie Johannessen Landmark**, project leader
* *“Children with refractory epilepsy and use of the newest antiepileptic drugs”*. Scandinavian project between the National Center for Epilepsy in Norway and Denmark (Filadelfia, Dianalund); Margrete Larsen Burns, Marina Nikoronova, responsible in Denmark, **Cecilie Johannessen Landmark**, project leader
* *“EDDI EMG triggered seizure alarm”*; **Oliver Henning** in cooperation with Danish Epilepsy Center Dianalund

“*ERAS-Trial (Effect Related to Auto Stimulation): Does additional ECG-triggered stimulation increase the efficacy of Vagus Nerve Stimulation?”* **Oliver Henning, Hrisimir Kostov and Tatiana Evsikova**.

* “*EEG in Nodding Syndrome (Onchocerca volvulus associated epilepsy).*”: In cooperation with the Makarere University in Kampala, Uganda we are part in a study. **Oliver Henning**

* *“Scandinavian multi-registry study of antiepileptic drug teratogenicity: the SCAN-A study”*;

**Silje Alvestad**, post-doc, in cooperation with UiB/Haukeland

* CMD Expert Group. **Cecilie Johannessen Landmark**
* EpiPed. ILAE Task Force. **Cecilie Johannessen Landmark**
* EpiEd. ILAE Task Force. **Cecilie Johannessen Landmark**
* Pediatric Treatment. ILAE Task Force. **Cecilie Johannessen Landmark**
* A Study to Test the Efficacy and Safety of Padsevonil as Treatment of Focal-onset Seizures in Adult Subjects With Drug-resistant Epilepsy (DUET)

P.I. **Torleiv Svendsen,** Investigator: **Morten I. Lossius,** Study coordinator**: Stein Atle Roestad.**

### Most important national and international collaborators

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| National |  |  | International |  |
| - | Prof. Eylert Brodtkorb, St. Olavs Hospital and NTNU, Trondheim |  | - | Prof. Torbjörn Tomson, Karolinska Institutet, Stockholm, Sweden |
| - | Prof. Erik Taubøll, OUS and UiO |  | - | Prof. Philipe Ryvlin, Lausanne University Hospital, Switzerland  |
| - | Prof. Jeanette Koht, Drammen hospital and UiO |  | - | Prof. Marina Nikoronova, Dianalund, DenmarkProf. Anne Sabers, Copenhagen, Denmark  |
| - | Marte Syvertsen, MD,PhD Drammen hospital and UiO |  | - | Prof. Christoph Helmstaedter, Bonn University Hospital, Germany |
| - | Ass. prof. Marte Bjørk, Haukeland University Hospital and UiB |  | - | Prof. Kristina Malmgren, Sahlgrenska University Hospital, Sweden |
|  |  |  | - | Prof. Sándor Beniczky, Århus University, Denmark |
|  |  |  | - | Prof. Guido Rubboli, Copenhagen University, Denmark |
|  |  |  | - | Ass. Prof. Rikke Steensbjerre Møller, University of Southern Denmark, Denmark |
|  |  |  | - | Prof. Jukka Peltola, Tampere University Hospital, Finland |

### Scientific production of the research group in 2019

#####  Peer reviewed

#####  original research articles: 17

##### Other publications: 11

**Submitted doctoral thesis : 3**

3 Selected publications:

**Henning O**, **Johannessen Landmark C**, **Nakken KO**, **Lossius MI** (2019)
Nonadherence to treatment regimens in epilepsy from the patient's perspective and predisposing factors: Differences between intentional and unintentional lack of adherence
Epilepsia, 60 (5), e58-e62

**Henning O**, **Johannessen Landmark C**, Traeen B, **Svendsen T**, Farmen A, **Nakken KO**, **Lossius M** (2019)
Sexual function in people with epilepsy: Similarities and differences with the general population
Epilepsia, 60 (9), 1984-1992

**Johannessen Landmark C**, Fløgstad I, Baftiu A, Syvertsen M, Enger U, Koht J, **Johannessen SI** (2019)
Long-term follow-up with therapeutic drug monitoring of antiepileptic drugs in patients with juvenile myoclonic epilepsy
Epilepsy Res, 155, 106148

**Funding**

* South-Eastern Norway Regional Health Authority
* Norwegian chapter of ILAE
* Norwegian ExtraFoundation for Health and Rehabilitation (Dam Stiftelsen)
* Innlandet Hospital Trust