

Complex epilepsy



Group Leader

Morten I. Lossius, Consultant neurologist, National Centre for Epilepsy (NCE), Oslo University Hospital (OUH) (mortenl@ous-hf.no) and Professor, University of Oslo (UiO) (morten.lossius@medisin.uio.no)

Group Members

Senior researchers

- Marit Bjørnvold, MD, PhD, NCE
- Cecilie Johannessen Landmark, MSc/PhD, NCE, Dept. of pharmacology and Oslo Met. University
- Kristin Alfstad, MD, PhD, NCE
- Karl Otto Nakken, MD, PhD, NCE
- Magnhild Kverneland, MSc, PhD, NCE
- Kari Modalsli Aaberg, MD, PhD, NCE
- Hilde Karterud, Cand.san., PhD, NCE
- Oliver Henning, MD, Dr. Philos., NCE
- Erik Sætre, MD, PhD, NCE
- Annette Holth Skogan, ClinNeuro.Psych, PhD, NCE
- Lisa E. Hauger, Clin. Psych. PhD, NCE
- Silje Alvestad, MD, PhD, NCE
- Sigrid Pedersen, MSc, PhD, NCE
- Torleiv Svendsen, MD, PhD, NCE and UiO
- Antonia Villagran, MD, PhD, NCE and UiO
- Ellen Molteberg, MD, PhD, NCE and UiO
- Konstantin H. Kostov, MD, PhD, NCE and UiO

PhD candidates

- Eli B. Kyte, Clin.neuro.Psych, NCE and UiO
- Gernot Hlauschek, MD, NCE and UiO
- Merete Tschamper, MSc, NCE and UiO
- Truls Vikin, MD, NCE and UiO
- Fridny Heimsdottir, MD, NCE and UiO

Associated group members

- Anette Huuse Farmen, MD/PhD, Innlandet Hospital Trust and UiO
- Marte Syvertsen, MD/PhD, Vestre Viken Hospital Trust and UiO
- Kaja Kristine Selmer, MD/PhD, OUH and UiO
- Ine Cockerell, MSc, PhD, OUH and UiO
- Margrete Larsen Burns, MD, PhD, Dept. of Pharmacology, NCE, OUS

Research profile and aims

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

Characterization of epilepsy syndromes (genotype/phenotype)

Clinical pharmacology of antiseizure medications

Diagnostic and treatment options; EEG, pharmacotherapy, surgery, VNS, ketogenic diets

Psychosocial, psychiatric and neurocognitive aspects

Functional dissociative seizures (FDS)

Vision, ambition and aims for the research group: [OUH - Vision, ambition, goals, and strategy](#)

Dissertations 2025

Konstantin H. Kostov: *“Clinical outcomes and determinants of effectiveness of vagus nerve stimulation in a large national refractory epilepsy population”*

Supervisor: **Morten I. Lossius**, Co-supervisor: Jukka Peltola

Ongoing projects

PhD candidates in the PhD program, University of Oslo:

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

Merete Tschamper: *“Childhood epilepsy and parental health literacy”* Supervisor: Marie Hamilton Larsen, Co-supervisors: Astrid K. Wahl, Rita Jakobsen.

Gernot Hlauschek: *“Identifying novel imaging and clinical biomarkers of epileptogenesis poststroke”*. Supervisor: **Morten I. Lossius**, Co-supervisors: Patrick Kwan and Meng Law

Truls Vikin: *«Epilepsy in children-how are they doing?»*. Supervisor: **Kari M. Aaberg**, Co-supervisors: **Morten I. Lossius**

Guro Minken: *«Monitoring cognition in brain tumor patients undergoing awake brain surgery”* Supervisor: **Annette Holth Skogan**. Co-supervisor: Einar Osland Vik-Mo, Andreas Espinoza, Awais Mughal Ahmad

Fridny Heimisdottir: *“FORCE: FOcal Refractory Childhood Epilepsy A study of surgical treatment in Norway – aetiology and predictive factors”*. Supervisor: **Kaja K. Selmer** Co-supervisors: **Kristin Å. Alfstad, Inger-Lise Mero**.

Post doc

Kari M. Aaberg: *«Development in childhood epilepsy»*. Co-workers: **Morten I. Lossius**

Other projects

Kristin Å. Alfstad: *“Risk factors for psychiatric symptoms and executive problems in youth with epilepsy”*. Co-worker: Morten I. Lossius

EpilepsiNett: «Can we close the gap? Socioeconomic differences and health inequality in young people with epilepsy. An EpilepsiNett project of health registry data and clinical cohorts. Co-workers: Antonia Villagran, Kari Modalsli Aaberg, Silje Alvestad, Kristin Alfstad.

Magnhild Kverneland: *“Who should be treated with ketogenic diet for epilepsy”*. Co-worker: **Kaja K. Selmer**

Erik Sætre: *“Mortality in Epilepsy”*. Co-worker: Michael Abdelnoor

Lisa Evju Hauger: *“Adapted fMRI paradigms for pediatric patients and adults with cognitive impairment”*. Co-workers: **Annette Holth Skogan**, Markus H Sneve.

Lisa Evju Hauger: *“EpiTrack jr., Quality Assurance Study”*. Co-workers: **Morten I. Lossius, Annette H. Skogan, Kari M. Aaberg.**

Guro Minken: «Development of a pediatric language protocol for awake brain surgery». Co-workers: **Annette H. Skogan, Fridny Heimisdottir**, Ingeborg Ribu, Silje Systad, Christiane Sørensen, DuLIP gruppen.

Kathrine C. Haavardsholm: *“Long term effect of ketogenic diet in children with epilepsy”*. Co-workers: Anette Ramm- Pettersen, **Kaja K. Selmer**, Mahtab Zamani, Karolina Skagen, Mona Skjelland

Cecilie Johannessen Landmark: «Pharmacological variability and follow-up of new antiseizure medications». Co-workers: Margrete Larsen Burns, Erik Sætre, Anne Våtevik, Torleiv Svendsen, Caroline Lund et al.

National network

EpilepsiNett: National Network for Evidence-based Epilepsy Care.
Chairperson: Marte Syversen. Management team: **Morten I. Lossius**, Nils Erik Gilhus, Marte Bjørk, **Kristin Å. Alfstad**, Bente Lill krigerød

International networks

EpiCARE: European Reference Network (ERN) on rare and complex epilepsies. Lead (**Morten I. Lossius**) of working group 18 (Beyond seizures) including **Kristin Å. Alfstad** and **Oliver Henning**. Executive committee member: **Morten I. Lossius**

BIOJUME – the biology of juvenile myoclonic epilepsy. Members of consortium: **Marte Syvertsen and Kaja Selmer**

International projects

“EURAP study”. *An International Antiepileptic Drugs and Pregnancy Registry* (International concerted Action on the Teratogenesis of Anti-epileptic Drugs) (<http://www.eurapinternational.org/>). Silje Alvestad, international steering committee and Torill Martinez, national coordinator.

“Ultra-long subcutaneous EEG monitoring: reliability, safety and impact on clinical management in uncontrolled epilepsies.” **Kristin Å. Alfstad, Oliver Henning, Margrete Halvorsen Bø**, Arild Egge, Oslo University hospital, **Guido Rubboli**, University of Copenhagen, Danish Epilepsy Centre, Dianalund, Denmark and **Sándor Benizky**, Aarhus University Hospital and Danish Epilepsy Centre, Dianalund, Denmark.

“Precision treatment of genetic epilepsies” PhD project, Cathrine Gjerulfsen. Project between the National Centre for Epilepsy in Norway and Danish Epilepsy Centre, Dianalund, Denmark; Rikke S. Møller, Danish Epilepsy Centre, Dianalund, project leader; co-supervisor, Cecilie Johannessen Landmark.

“Nordic Delphi Consensus on VNS guidelines” An international multicenter project. The aim of the project is to find Consensus for mutual clinical VNS guidelines in the Nordics for drug resistant epilepsy patients. **Oliver Henning**, project leader, **Hrisimir Kostov**, Thorsten Gerstner, Stein-Helge Tingvoll, Susanne Ingebrigtsen, Atle Lillebø, Omar Hikmat (Norway), Dragan Marsanovic, Kern Olofsson, Anne Sabbers, Ioannis Tsiropoulos, Noemi Becser Andersen (Denmark). Liisa Metsähonkala, Reina Roivainen, Salla Lamouso, Jukka Peltola (Finland), Sintia Kolbjør, Lisa Gordon, Helena Gauffin, Jeohan Lundgren, Elinor Ben-Menachem, Fredrik Asztely, (Sweden).

Expert groups and international commissions

- NorEpiNet. **Kathrine Cammermeyer Haavardsholm, Magnhild Kverneland**
- EpiCARE. Special Interest group on Ketogenic Diet. **Ellen Molteberg, Magnhild Kverneland**
- ILAE Dietary Therapy Task Force of the medical Therapies Commission. **Magnhild Kverneland**

Treatment strategies on pediatric epilepsies annual educational courses:

<https://www.epiped-course.com> (EpiPed.) **Cecilie Johannessen Landmark**

- Plant-based I Medicines Task Force and Treatment task force, all initiated by the International League Against Epilepsy (EpiED) **Cecilie Johannessen Landmark**

- Faculty member, Eilat Educational course: Pharmacological treatment of epilepsy. **Cecilie Johannessen Landmark:**

<https://www.ilae.org/congresses/10th-eilat-educational-course-pharmacological-treatment-of-epilepsy>

- Faculty member, annual course Baltic Sea summer school for epilepsy: **Oliver Henning** and **Cecilie Johannessen Landmark:**

<https://www.ilae.org/congresses/ilae-sponsored-meetings-and-courses/baltic-sea-summer-school-on-epilepsy-bssse>

- Nordic Expert Group on Epilepsy and Dementia. **Erik Sætre**

- NorEpiNet Nordic network for precision medicine, leader and steering group member **Kaja Selmer** and **Cecilie Johannessen Landmark**

- Commission on Epidemiology, International League Against Epilepsy. **Kari Modalsli Aaberg**

- Scientific and organizing committee member, European Epilepsy Congress, Athens 2026, Cecilie Johannessen Landmark

- Committee member, Pharmacy Section, ILAE, Cecilie Johannessen Landmark

Most important national and international collaborators

National

International

- Norwegian Epilepsy Society
- Prof. Nils Erik Gilhus, Haukeland University Hospital and OIB
- Assoc. prof. Marte Bjørk, Haukeland University Hospital and UiB
- 1.Amanuensis Maryam Shirzadi, St. Olavs Hospital and NTNU, Trondheim
- Marte Syvertsen, MD, PhD, Viken Hospital Trust and UiO
- Assoc. prof. Sverre Myren NTNU, Møre and Romsdal Hospital Trust
- Prof. Erik Taubøll, OUH and UiO
- Prof. Sándor Beniczky, Danish Epilepsy Centre, Dianalund, Aarhus University, Denmark
- Jacob Christensen, PhD, University of Aarhus, Denmark
- Ass. Prof. Rikke Steensbjerre Møller University of Southern Denmark, Denmark
- Prof. Guido Rubboli, Danish Epilepsy Centre, Dianalund, University of Copenhagen, Denmark
- Prof. Jukka Peltola, Tampere University Hospital, Finland
- Prof. Richard Chin, Muir Maxwell Epilepsy Centre and University of Edinburgh
- Prof. Christoph Helmstaedter, Bonn University Hospital, German
- Prof. Marina Nikorona, Danish Epilepsy Centre, Dianalund, Denmark

Scientific production of the research group in 2025

Total: 30

Peer reviewed original research articles: 26

Other publications: 4

3 Selected publications:

1. **Kostov KH, Kostov H, Larsson PG, Henning O, Egge A, Lossius MI, Peltola J (2025) Turning up the current - optimizing stimulation parameters with vagus nerve stimulation in a nationwide Norwegian cohort (The NOR-current study)**

Brain Stimul, 18 (4), 1212-1219

DOI [10.1016/j.brs.2025.06.016](https://doi.org/10.1016/j.brs.2025.06.016), PubMed [40588127](https://pubmed.ncbi.nlm.nih.gov/40588127/)

2. **Vikin T, Chin RF, Lossius MI, Hofoss D, Brandlistuen RE, Aaberg KM (2025)**
Syndromic and etiological classification predicts seizure freedom in childhood and youth onset epilepsy: A population-based study from the Norwegian Mother, Father, and Child Cohort Study
Epilepsia (in press)
DOI [10.1111/epi.18672](https://doi.org/10.1111/epi.18672), PubMed [41066145](https://pubmed.ncbi.nlm.nih.gov/41066145/)

3. **Vikin T, Lossius MI, Brandlistuen RE, Chin RF, Aaberg KM (2025)**
Incidence of childhood and youth epilepsy: A population-based prospective cohort study utilizing current International League Against Epilepsy classifications for seizures, syndromes, and etiologies
Epilepsia, 66 (3), 776-789
DOI [10.1111/epi.18238](https://doi.org/10.1111/epi.18238), PubMed [39797741](https://pubmed.ncbi.nlm.nih.gov/39797741/)

On-going funding

South-Eastern Norway Regional Health Authority : 1 PhD, 1 Post doc 6 yrs

Stiftelsen Dam (Norwegian Foundation for Health and Rehabilitation): 3PhD

Other financial support:

- Norwegian Epilepsy society (NEF)
- Norwegian chapter of ILAE(NES)
- Norwegian National Advisory Unit on Rare Disorders
- Unifor