

Annual report 2012

Professor Marianne Thoresen's group, Dep of Physiology, IMB, UiO

Members

Professor Marianne Thoresen

Postdoc Maja Elstad

Postdoc Damjan Osredkar (from Nov 15)

Avdelingsingeniør Elke Maes

Overingeniør (50%) Torun Flatebø

Nathalie Holme "Forskerlinjestudent"

Inger Helene Nådland PhD student (ended July 1)

Erling B Rein PhD student

Professor Emeritus Lars Walløe

PhD thesis

M.Sc. Inger Helene Nådland: The role of the calf muscle venous pump in exercise hyperaemia : arterial leg blood flow response to rhythmic calf exercise in the supine and head-up tilted positions in healthy subjects, and in patients with venous insufficiency. Main supervisor Dr.med. Karin Toska, co-supervisor Professor Emeritus Lars Walløe

Personal Awards

Postdoc Maja Elstad

Carl Ludwig award 2012 (Acta Physiologica and Scandinavian Physiological Society for "an outstanding paper by young scientist")

Burgen Scholarship Award 2012 (Academia Europeae for "early stage scholars at the post-doctoral level")

Grants 2012

The Norwegian Research Council and University of Oslo: PI Professor Marianne Thoresen "Optimal resuscitation and rapid exposure to cooling and xenon protects the newborn brain and heart after oxygen deprivation" ~10 mill NOK 2012-2015

External donation over 3 years

Publications

Chakkarapani, E; **Thoresen, M**; Liu, X; Dingley, J & **Walløe, L** (2012). Xenon offers stable haemodynamics independent of induced hypothermia after hypoxia-ischaemia in newborn pigs. *Intensive Care Medicine* 38(2), s 316-23.

Elstad, M. Respiratory variations in pulmonary and systemic blood flow in healthy humans. *Acta Physiol (Oxf)*. 2012 Jul;205(3):341-8

Dalen, ML; Liu, X; **Elstad, M**; Løberg, EM; Saugstad, OD; Rootwelt, T; **Thoresen, M**. Resuscitation with 100% Oxygen Increases Injury and Counteracts the Neuroprotective Effect of Therapeutic Hypothermia in the Neonatal Rat. *Pediatr Res*. 2012 Mar;71(3):247-52.

Thoresen, M; **Osredkar, D**. Brain wave recovery predicts outcome after cardiac arrest. Resuscitation. 2012 Nov 28.

Glover, KA; Haug, T; Øien, N; **Walløe, L**; Lindblom, L; Seliussen, BB; Skaug, HJ. The Norwegian minke whale DNA register: a data base monitoring commercial harvest and trade of whale products *Fish and Fisheries* 13(3) Pages: 313-32

Aquilina, K; Chakkarapani, E & **Thoresen, M** (2012). Early Deterioration of cerebrospinal Fluid Dynamics in a Neonatal Piglet Model of Intraventricular Hemorrhage and Post-Hemorrhagic Ventricular Dilatation.. *Journal of Neurosurgery: Pediatrics*.

Carlsson, Y; Wang, X; Schwendimann, L; Rousset, Cl; Jacotot, E; Gressens, P; **Thoresen, M** et al. (2012). Combined effect of hypothermia and Caspase-2 gene deficiency on neonatal hypoxic-ischemic brain injury. *Pediatric Research*. 71(5), s 566-72

Chakkarapani, E & **Thoresen, M** (2012). Brain and whole body cooling, In Mac Donald MG & Remasethu J (ed.), *Procedures in Neonatology, 5th edition*. Lippincott Williams and Wilkins. ISBN 1451144105. Chapter.

Guillet, R; Edwards, AD; **Thoresen, M**; Ferriero, DM; Gluckman, PD; Whitelaw, A; Gunn, AJ (2012). 7-8 Year Follow-up of the CoolCap Trial of Head Cooling for Neonatal Encephalopathy. *Pediatric Research*. 71(2), s 205-9

Sabir, H; Jary, S; Tooley, J; Liu, X & **Thoresen, M** (2012). Increased inspired oxygen in the First Hours of Life is associated with Adverse Outcome in Newborns Treated for Perinatal Asphyxia with Therapeutic Hypothermia. *Journal of Pediatrics* 161(3), s 409-16

Sabir, H; Scull-Brown, E; Liu, X & **Thoresen, M** (2012). Immediate hypothermia is not neuroprotective after severe hypoxia-ischemia and is deleterious when delayed by 12 hours in neonatal rats. *Stroke* 43

Thoresen, M; Liu, X; Jary, S; Brown, E; Sabir, H; Stone, J; Cowan, F et al. (2012). Lactate dehydrogenase in hypothermia-treated newborn infants with hypoxic ischemic encephalopathy. *Acta Paediatrica Scandinavica* 101(10), 1038-44

Azzopardi D, Strohm B, Linsell L, Hobson A, Juszczak E, Kurinczuk JJ, Brocklehurst P, Edwards AD, on behalf of the UK TOBY Cooling Register (2012). Implementation and conduct of therapeutic hypothermia for perinatal asphyxial encephalopathy in the UK – Analysis of National Data. PLoS ONE 7(6): e38504.

In press

Hufthammer, AK; **Walløe, L** (2013). Rats cannot have been intermediate hosts for Yersinia pestis during medieval plague epidemics in Northern Europe. Journal of Archaeological Science
<http://dx.doi.org/10.1016/j.jas.2012.12.007>

Liu, X; Dingley, J; **Elstad, M**; Scull-Brown, E; Steen, PA; **Thoresen, M** (in press). Minimum Alveolar Concentration (MAC) for Sevoflurane and Xenon at Normothermia and Hypothermia in Newborn Pigs. Acta Anaesthesiologica Scandinavica

Abstracts (selected)

Holme, N, Rein, EB, Elstad, M. Cardiac stroke volume as a marker for threatening hypovolemic shock. Integrative Human Cardiovascular Control, Workshop and course, May 2012, Copenhagen, Denmark

Elstad, M, Walløe, L. Respiratory variations in pulmonary and systemic blood flow in healthy humans. [Oral presentation] ESCGO2012, Kaizmierz Dolny, Poland, April 22-25 2012

Collaboration

National

Dr.med. Kristin Bergersen, Consultant in Dermatology, Oslo University Hospital

Drude Fugelseth, Pofessor Neonatal Medicine, Oslo University Hospital

Else-Marit Løberg, Consultant in Pathology, Oslo University Hospital

Petter Andreas Steen, Professor of Anesthesiology, Oslo University hospitals

International

John Dingley, Professor of Anesthesiology, Swansea Medical School, University of Swansea, UK

Alistar Gunn, Professor of Physiology and Pediatrics, University of Auckland, NZ

Frances Cowan, University of Bristol, UK

Henrik Hagberg, Professor of Physiology and Obstetrics, University of Gothenburg, Sweden

Xun Liu, PhD, The Neonatal Neuroscience lab, University of Bristol, UK

Financial support

The Norwegian Research Council and University of Oslo: PI Professor Marianne Thoresen **“Optimal resuscitation and rapid exposure to cooling and xenon protects the newborn brain and heart after oxygen deprivation”** 2012-15

The Norwegian Research Council: PI Postdoc Maja Elstad **“Cardiac stroke volume and its contribution to the circulation: Interaction of mechanical and nervous factors affecting the heart”** 2010-14

University of Oslo and the Norwegian Research Council: Forskerlinjestudent Nathalie Holme 2012-15