Curriculum Vitae

Nils Kristian Skjærvold

Born January 23rd, 1975
Address: Gamle Åsvei 21, 7020 Trondheim, Norway
Phone: +47 99 37 57 74
Email: nils.k.skjervold@ntnu.no
Married and has two children

Medical education and degrees

SSAI two-year Advanced Educational Programme in Cardiothoracic and Vascular Anaesthesia and Intensive Care, course approval April 2016

Philosophical Doctorate (*PhD*) in Clinical Medicine November 29th, 2012, Norwegian University of Science and Technology, Trondheim

Authorised as a specialist in anaesthesiology by the Norwegian Medical Association, November 16th, 2010

Authorised as medical practitioner (MD) by the Norwegian Registration Authority for Health Personnel, March 3rd, 2005, Id # 8768358

Candidatus medicinae (*cand.med.*), June 13th, 2003, Faculty of Medicine, Norwegian University of Science and Technology, Trondheim

Current positions

Sept 20 →	Associate Professor at Dep of Circulation and Medical Imaging, NTNU.
May 12 →	Senior Consultant at Dep of cardiothoracic anaesthesia and intensive care medicine, Trondheim University Hospital.

Earlier work experience

Jan 15 – Sept 20	Postdoctoral fellow at Dep of Circulation and Medical Imaging, NTNU.
June 17 – May 20	Co-founder and Chief Medical Officer, Moon Labs AS
April 14 – Dec 14	Associate Professor at Dep of Circulation and Medical Imaging, NTNU.
Jan 11 – April 12	Senior Consultant at Dep of anaesthesia and intensive care medicine, Trondheim University Hospital.
Oct 08 – Dec 10	Combined Junior registrar and research-fellow (“D-stilling”) Trondheim University Hospital and Dep of circulation and medical imaging, NTNU.

March 05 – Oct 08	Junior Registrar at Dep of anaesthesia and emergency medicine, Trondheim University Hospital.
Aug 04 – Feb 05	Residency with general practice in Meløy, Nordland
Aug 03 – Aug 04	Residency with hospital practice at Dep of medicine and Dep of surgery, Narvik Sykehus.

Medical and academic interests

Medical technology and innovation with a focus on novel biosensing methods and future monitoring systems

Non-linear dynamics in biological systems (complexity, chaos, oscillations, and synchronization phenomena)

Optimizing the treatment of circulatory failure in cardiothoracic and general intensive care by physiological knowledge, state-of-the art monitoring, and new treatment modalities

On-going supervision

Eline Stenwig: Continuous monitoring of vital patient data with the novel Evo biosensor. PhD-study in Medical Technology, Faculty of Medicine and Health Sciences, NTNU.

Halvor Langeland: *Characterization of the Post Cardiac Arrest Syndrome*. PhD-study in Clinical Medicine, Faculty of Medicine and Health Sciences, NTNU.

Erlend Harbo: *Kognitiv overvåkning etter hjertekirurgi*. Master thesis, Faculty of Medicine and Health Sciences, NTNU, spring 2020.

Sigrid Baardsdatter Kleveland: *Forekomst av delirium etter hjertekirurgi ved St Olavs Hospital*. Master thesis, Faculty of Medicine and Health Sciences, NTNU, spring 2021.

Earlier supervision

Kathrine Knai: *Biological oscillations*. PhD-study in Clinical Medicine, Faculty of Medicine and Health Sciences, NTNU, fall 2020.

Mikael Dyb Wedeld: *Preliminary preprocessing of ECG-signals for use in real-time multivariate analysis*. Master thesis, Faculty of Information Technology and Electrical Engineering, NTNU, spring 2018.

Tina Danielsen: *Preprocessing of Arterial Pressure Waves for Later Use in Modeling of Individual Heartbeats*. Master thesis, Faculty of Information Technology and Electrical Engineering, NTNU, spring 2018.

Bror Vedbjørn Steen: *Optimalisering av kalium, magnesium og temperatur i kardioplegiløsninger for hjertetransplantasjoner*. Master thesis, Faculty of Medicine and Health Sciences, NTNU, fall 2017.

Kathrine Knai: *Biological oscillations*. "Forskerlinjen", Faculty of Medicine and Health Sciences, NTNU, fall 2017.

Erik Norvald Orten: *Distortion of complexity in oscillations of arterial blood pressure, due to aging.* Master thesis, Faculty of Medicine and Health Sciences, NTNU, spring 2017.

Kathrine Knai: A pig model of acute right ventricular afterload increase by hypoxic pulmonary vasoconstriction. Master thesis, Faculty of Medicine and Health Sciences, NTNU, spring 2017.

Martinus Velle: *Variasjon i bruk av arteriekateter og sentralvenekateter i Noreg og Europa*. Master thesis, Faculty of Medicine and Health Sciences, NTNU, spring 2017.

Hanne Bø: *Blodsukkerkontroll i intensivavdeling: teori versus praksis.* Master thesis, Faculty of Medicine and Health Sciences, NTNU, fall 2016.

Kristian Stenerud: *Analysis of low Frequency content from the Circulatory System.* Master thesis, Faculty of Information Technology and Electrical Engineering, NTNU, spring 2016.

Bjørn Gardsjord Lio & Fredrik Axelsson: *Circulatory oscillations in post cardiac surgery patients.* Master thesis, Faculty of Medicine and Health Sciences, NTNU, spring 2016.

Ksenia Shvets: *Cardiac Power Output og Stroke Work postoperativt etter hjertekirurgi*. Master thesis, Faculty of Medicine and Health Sciences, NTNU, fall 2015.

Erik Kjetså: *Synchronizing thermodilution cardiac output measurements with spontaneous breathing does not improve precision.* Master thesis, Faculty of Medicine and Health Sciences, NTNU, fall 2013.

Per review publications

S G Schaanning, N K Skjaervold. Rapid declines in systolic blood pressure are associated with an increase in pulse transit time. PLoS One 2020; 15(10): e0240126

E Harbro, S S Fuglerud, N K Skjaervold. Visualization of limb movements by accelerometers in sedated patients. Crit Care 2020; 24(1): 283

K Knai, P Aadahl, N K Skjaervold: Cardiac surgery does not lead to loss of oscillatory components in circulatory signals. Physiol Rep 2020; 8(9): e14423

T Tannvik, A Rimehaug, N K Skjaervold, I Kirkeby-Garstad: Post Cardiac Surgery Stunning Reduces Stroke Work but leaves Cardiac Power Output unchanged in patients with maintained Cardiac Reserve. Physiol Rep 2018; 6(13): e13781.

H Langeland, D Bergum, M Løberg, K Bjørnstad, J K Damås, T E Mollnes, N K Skjaervold, P Klepstad: Transitions Between Circulatory States After Out-of-Hospital Cardiac Arrest: Protocol for an Observational, Prospective Cohort Study. JMIR research protocols 2018;7(1),e17

N K Skjaervold, K Knai, N Elvemo: Some oscillatory phenomena of blood glucose regulation: An observatory study in pigs. PLOS One 2018; 13(4): e0194826.

K Knai, G Kulia, M Molinas, N K Skjaervold: Instantaneous frequencies of continuous blood pressure signals – A comparison of the power spectrum, the continuous wavelet transform and the Hilbert-Huang transform. Advances in Data Science and Adaptive Analysis 2017;9(4),1750009.

A W Carlsen, N K Skjaervold, N J Berg, Ø Karlsen, E Gunnarson, A Wahba: Swedish-Norwegian co-operation in the treatment of three hypothermia victims: a case report. Scand J Trauma Resusc Emerg Med 2017;25(1):73.

N K Skjaervold, K Tøndel, G Cedersund, H Brovold, H Rahmati, L Munck, H Martens: Multivariate analyses and the bridging of biology's "Math-Gap". Encyclopedia of Analytical Chemistry, 2017; 1:23.

H Langeland, O Lyng, P Aadahl, N K Skjaervold: The coherence of macrocirculation, microcirculation, and tissue metabolic response during nontraumatic hemorrhagic shock in swine. Physiol Rep 2017;5:e13216.

K Knai, N K Skjaervold: A pig model of acute right ventricular afterload increase by hypoxic pulmonary vasoconstriction. BMC Research Notes 2017;10:2.

A L Fougner, K Kölle, N K Skjaervold, N Elvemo, D R Hjelme, R Ellingsen, S M Carlsen, Ø Stavdahl: Intraperitoneal Glucose Sensing is Sometimes Surprisingly Rapid. Modeling, Identification and Control 2016;37:121-31

E Kjetså, N K Skjaervold, E Skogvoll, I Kirkeby-Garstad: Synchronizing thermodilution cardiac output measurements with spontaneous breathing does not improve precision. Acta Anaesthesiol Scand 2016;60(3):354-9.

N K Skjaervold, D Ostling, D R Hjelme, O Spigset, O Lyng, P Aadahl P: Blood glucose control using a novel continuous blood glucose monitor and repetitive intravenous insulin boluses: exploiting natural insulin pulsatility as a principle for a future artificial pancreas. Int J Endocrinol. 2013;2013:245152.

N K Skjaervold: Automated Glucose Control – Development and Testing of an Artificial Endocrine Pancreas Using a Novel Intravascular Glucose Monitor and a New Approach to Insulin Pharmacology. Doctoral theses at NTNU, 2012:275.

N K Skjaervold, P Aadahl: Comparison of arterial and mixed venous blood glucose levels in hemodynamically unstable pigs: implications for location of a continuous glucose sensor. Acta Diabetol 2012;49(6):489-91.

N K Skjaervold, O Lyng, O Spigset, P Aadahl: Pharmacology of Intravenous Insulin Administration: Implications for Future Closed-Loop Glycemic Control by the Intravenous/Intravenous Route. Diabetes Technol Ther 2012;14(1):23-9.

N K Skjaervold, E Solligard, D R Hjelme, P Aadahl: Continuous measurement of blood glucose: Validation of a new intravascular sensor. Anesthesiology 2011; 114(1): 120-5.

N K Skjaervold, K Bergh, L Bevanger: Distribution of PFGE types of invasive Norwegian group B streptococci in relation to serotypes. Indian J Med Res 2004;119:S201-4.