CV - Ulrik Wisløff

Professor in Cardiovascular Physiology
Head of Cardiac Exercise Research Group
Department of Circulation and Medical Imaging
Norwegian University of Science and Technology (NTNU), Trondheim, Norway.
Born: 1968, **Civil status:** Married, 4 children, **Nationality:** Norwegian

Personal statement: I am a researcher, a professor and an entrepreneur in the field of exercise physiology, and the Head of the Cardiac Exercise Research Group (55 employees) (ntnu.edu/cerg) at the Dept. of Circulation and Medical Imaging, Norwegian University of Science and Technology, and I am also a Honorary Professor at University of Queensland Australia. I was appointed professor in 2008 and quickly built up an international, transdisciplinary, and competitive group, as documented by about 340 peer-reviewed publications and ~127 000 citations. According to Google Scholar, I figures among the world's 4 most cited scientists in the broad field of "exercise" and the worlds most cited Exercise Physiologist. Many of my publications demonstrate my group's capacity to translate basic experimental research into clinical use in a short timeframe. I have served as PI of several successful national and international collaborations, demonstrating scientific leadership. I have chaired the European Union-funded FP7 project OptimEx, a multi-continental study, and a large 5-year prospective randomized exercise-trial with more than 1600 older adults (NCT01666340). Currently (2023) I am PI of NorEx (ntnu.no/cerg/norex)(NCT04617639) in which about 10 000 patients with myocardial infarction are randomized to exercise training or a control group aiming to finally determine whether exercise training actually reduce re-infarctions and give longer and better lives of these patients. I am also the PI of ExPlas (NCT05068830) where the main objective is to test safety and tolerability of transfusing exercised plasma from young, healthy, fit adults to patients with early Alzheimer's disease. The key secondary objectives are examining the effect of plasma transfusions on cognitive function, fitness level, vascular risk profile, assessment of cerebral blood flow and hippocampal volume, quality of life, functional connectivity assessed by resting state functional MRI and biomarkers in blood and cerebrospinal fluid. I have for 6-years been the PI of the successfully "My Medical Digital Twin Project" leading a group researchers (6 professors, 6 PhDs, 1 post-doc) from six departments with very different scientific backgrounds at NTNU that have been collaborating to create a medical digital twin that can both monitor the blood pressure of each individual and provide tailored treatment advice. This project was completed by July 2023, and is taken further in a small NTNU-spin-off company. I also work on projects related to optimising the benefits of exercise training in health and disease and utilising technologies to improve adherence to exercise training. My colleagues and I provided the first causative evidence that low exercise capacity *per se* dramatically increased risk of heart disease. The study published in Science in 2005, with commentary in Nature Medicine, was ranked as one of the most important papers in the metabolism field at the time. We subsequently showed that high-intensity exercise training was safe and lead to superior improvements in aerobic capacity (fitness) and cardiac function in heart failure patients (Circulation, 2007). This line of research formed the basis for my research group; with later studies showing optimal results with high intensity exercise in various lifestyle related disorders. We revealed that temporal changes in resting heart rate predict death from heart disease in the general population (JAMA, 2011). This led to creation of a calculator to estimate fitness and so predict death in the general population. The calculator is free and available on the web and all app stores. To date 80.5 million users have used the fitness calculator; they also agreed to share their data in research. The American Heart Association now advocates the use of our fitness calculator in clinical practice (Circulation, 2016). I am also the inventor of the Personalized Activity Intelligence (PAI); a metric that calculates how much physical activity a person needs to be protected against life-style related disease and premature death. PAI app is free and available in all app stores (used by more than 70 million people worldwide). Now we are developing an even stronger health-score; HeartBeatScore that is more accurate than the PAI-score to tell a user how much physical activity that is needed to stay healthier for longer. My group has translated basic experimental evidence into clinical trials (and patient benefit) within a short timeframe of 10 years, with research spanning from molecules to society, and back again. My record of accomplishment demonstrates leadership, capability and innovation required to perform ground-breaking research. I am also a committed mentor who actively supports next generation scientists and have personally supervised 22 postdoctoral fellows and 38 PhD students, who have gone on to have successful careers in both industry and academia. I am confident I have the qualities to continue to be a lead scientist and inventor in order to use my research and innovation knowledge for a better and healthier population worldwide.

URL for personal website at university: ntnu.edu/employees/ulrik.wisloff URL for research group website: ntnu.edu/cerg

Current Professional Post	
2008 –	**Professor in Cardiovascular Physiology, Head of K.G. Jebsen Center for Exercise in Medicine**, Department of Circulation and Medical Imaging, Faculty of Medicine, NTNU, Norway

Previous Professional Posts	
2016 –	**Professor II**, School of Human Movement and Nutrition Sciences, Faculty of Health and Behavioural Sciences, Queensland University, Australia
2013-2016	**Professor II,** Norwegian Association for Lung and Heart Disease, NTNU, Norway
2004-2008	**Researcher**, NTNU, Norway
2001-2004	**Post-doc**, St. Olavs University Hospital, Norway
1997-2001	**PhD Research Fellow**, NTNU, Norway
1995-1997	**Scientific Manager** Exercise Test Laboratory and lecturer DSS, NTNU, Norway

Education / Training	
2001	**Ph.D., PhD in Cardiovascular Physiology**, Faculty of Medicine, Department of Circulation and Medical Imaging, Norwegian University of Science and Technology (NTNU), Norway
1995	**Master in Exercise Physiology**, Department of Sport Sciences, NTNU, Norway

Key scientific / professional contributions

TRACK RECORD

Total number of publications	342 peer-reviewed papers (PUBMED, as per February 1st, 2024)
Citations	127 000 (Google Scholar)
H-index	96 (Google Scholar)
Total career funding (since 2008)	550 000 000 NOK (ca. 55 000 000 Euro)

Selected publications

1. Wohlwend M…**Wisløff U**, Moreira JBN, Auwerx J. The exercise-induced long noncoding RNA CYTOR promotes fast-twitch myogenesis in aging. Sci Transl Med. 2021
2. Berglund I... **Wisløff U**, Stensvold D. The Long-term Effect of Different Exercise Intensities on High-Density Lipoprotein Cholesterol in Older Men and Women Using the Per Protocol Approach: The Generation 100 Study.Mayo Clin Proc Innov Qual Outcomes. 2021
3. Letnes JM. Nes BM, **Wisløff U**. Age-related decline in peak oxygen uptake: Cross-sectional vs. longitudinal findings. A review. Int J Cardiol Cardiovasc Risk Prev. 2023
4. Bye A... **Wisløff U.** Identification of novel genetic variants associated with cardiorespiratory fitness. Prog Cardiovasc Dis. 2020
5. Smenes BT.... **Wisløff U**, Wahba A. Cardiorespiratory fitness and the incidence of coronary surgery and postoperative mortality: the HUNT study. Eur J Cardiothorac Surg. 2022
6. Nauman J… **Wisløff U.** Temporal changes in personal activity intelligence and mortality: Data from the aerobics center longitudinal study. Prog Cardiovasc Dis. 2021
7. Tari AR… **Wisløff U**. Temporal changes in Personal Activity Intelligence and risk of dementia incidence and mortality: results from the HUNT Study. EClinicalMedicine. 2022 Aug
8. Tari AR… **Wisløff U**. Safety and efficacy of plasma transfusion from exercise-trained donors in patients with early Alzheimer's disease: protocol for the ExPlas study. BMJ Open. 2022
9. Huuha AM… **Wisløff U**, Tari AR. Can exercise training teach us how to treat Alzheimer's disease? (2022) *Ageing Research Reviews*.
10. Letnes JM… **Wisløff U**, Stensvold D. Effect of 5 years of exercise training on the cardiovascular risk profile of older adults: the Generation 100 randomized trial. (2021) *European Heart Journal.*
11. Stensvold D… **Wisløff U**. Effect of exercise training for five years on all-cause mortality in older adults-the Generation 100 study: randomised controlled trial, (2020) *The BMJ.*
12. Tari AR... **Wisløff U**. Temporal changes in cardiorespiratory fitness and risk of dementia incidence and mortality: a population-based prospective cohort study, (2019) *The Lancet Public Health.*
13. Tari AR… **Wisløff U**. Are the Neuroprotective Effects of Exercise Training Systemically Mediated? (2019) *Progress in cardiovascular diseases*.
14. Ross R… **Wisløff U**. A Case for Fitness as a Clinical Vital Sign: A Scientific Statement from the American Heart Association. (2016) *Circulation*.
15. Malmo V… **Wisløff U**, Loennechen JP. Aerobic Interval Training Reduces the Burden of Atrial Fibrillation in the Short Term: A Randomized Trial. (2016) *Circulation*.
16. Rognmo Ø…**Wisløff U**. Cardiovascular risk of high- versus moderate-intensity aerobic exercise in coronary heart disease patients (2012) *Circulation*.
17. Nauman J.. **Wisløff U.** Temporal changes in resting heart rate and deaths from ischemic heart disease. (2011) *JAMA*.

18. Stølen TO… **Wisløff U.** Exercise training reveals micro-RNAs associated with improved cardiac function and electrophysiology in rats with heart failure after myocardial infarction. J Mol Cell Cardiol. 2020
19. Croci I… **Wisloff U.** Non-alcoholic fatty liver disease: Prevalence and all-cause mortality according to sedentary behaviour and cardiorespiratory fitness. The HUNT Study. Prog Cardiovasc Dis. 2019
20. Stensvold D... **Wisløff U.** Cardiorespiratory Reference Data in Older Adults: The Generation 100 Study. Med Sci Sports Exerc. 2017

Leadership positions outside employing institutions	
2015 –	Board member National Advisory Unit for Exercise as Medicine, Norway
2004-2015	Nucleus member of the Exercise, Basic & Translational Research Section of the European Association for Cardiovascular Prevention and Rehabilitation

Prizes and distinctions		
	2020	**Heart Research Award, handed over by King of Norway Harald V**
	2014	Workplace Gender Equality Award, NTNU, Norway
	2014	One-year sabbatical stay, University of Queensland, Australia
	2007	Young Investigator Award 2008-2012 (4-year prestigious funding; 900K Euros, Norwegian Research Council)
	2007	The American College of Sports Medicine New Investigator Award
	2005	The European Society of Cardiology, Prize for best oral presentation of the study "Anti-remodelling effect of interval training in patients with post-infarction heart failure"
	2005	National Scientific Award, Norwegian Society of Cardiology, "for excellence in science".
	2004	National Award in Medical Technology for study in J Physiol. 2003: 546; 577-82
	2001	American College of Sports Medicine & International Relations Committee: International Student Award for the Excellence in Cardiovascular Science.
	2000	European Society of Cardiology: Award for best oral presentation from the study "Training effects on post-infarction heart failure in rats: Remodelling, contractility and calcium handling".
	1997	Norwegian Society of Exercise Physiology, best national presentation selected for presentation at American College of Sports Medicine.

Current major research funding	
2020-2025	54 MNOK project NorEX - ntnu.no/cerg/norex - Project Coordinator, RCN
2019-2024	30 MNOK project ExPlas – ntnu.no/cerg/explas
2012 -	75 MNOK Generation 100 – ntnu.no/cerg/generasjon100 – Project coordinator, RCN, NTNU