

CURRICULUM VITAE 551116-7834 Olof Lindahl**2022-04-21**

I got my MSc in Technical Physics & Electronics in 1979 and my PhD in Biomedical Engineering in 1993, both at Linköping University, Sweden. I became a professor in Biomedical Engineering in 1999 at Umeå University and chaired professor in the same subject at Luleå University of Technology 2005-2011. My scientific research interest is focused on biomedical sensors, specifically resonance and optical sensors, and tactile video. I have supervised eight PhD-students and six licentiates to completion. I have a long experience of R&D in biomedical engineering in general and have worked as project manager and been responsible for business development of medical and biomedical research results contributing to the establishment of new companies. Moreover, I was head of an R&D team in biomedical engineering and informatics for 20 years and have contributed to the development of some 200 R&D projects. I am inventor of 7 granted patents and I have also founded some companies and an interdisciplinary research center, where I am still engaged. I was awarded the Erna Ebeling price 2008 for outstanding scientific research in the area of Biomedical Engineering and for establishing a Centre for Biomedical Engineering in Northern Sweden. I was for four years (2003-2007) Swedish delegation leader for the Umeå/Fukushima Local to Local project that promoted research and business development between Umeå, Sweden, and Fukushima prefecture, Japan.

Appointments, employments and assignments

- 2020-** Researcher/hospital engineer at Dept of Biomedical Engineering R&D 80%, University Hospital of Umeå and Professor in biomedical engineering at Umeå university (UmU) (20%), Sweden
- 2010-2020** Head of Biomedical Engineering R&D 80%, University Hospital of Umeå and Professor in biomedical engineering at Umeå university (UmU) (20%), Sweden
- 2010-2014** Guest Professor at Luleå Technical University (LTU) 10%
- 2005- 2010** Chaired Professor in biomedical engineering, dept of computer science & electrical engineering, Luleå University of Technology 100%. Sweden
- 2005 -2008** Guest professor in biomedical engineering, dept of applied physics & electronics, Umeå University
- 2002-2005** Professor in biomedical engineering, dept of applied physics & electronics, Umeå University
- 2001 - 2016** Director of Centre for biomedical engineering & physics, Umeå University
- 1999 -2002** Visiting professor (40%) in physiological measurements, dept of applied physics & electronics, Umeå University
- 1996 -** Associate professor in biomedical engineering, dept of Radio physics, Umeå Univ
- 1996 -** Associate professor in biomedical engineering, dept of biomedical engineering, Linköping University
- 1994 – 1998** Biomedical engineer and researcher (40%) in biomedical engineering & informatics, Umeå University Hospital
- 1988 - 2005** Project manager (50%), appointed by NUTEK and Västerbotten Administrative County Council, responsible for business development of medical and biomedical research results, Uminova Innovation Co LTD, Umeå
- 1982 – 1993** Head of R&D, dept of biomedical engineering & informatics, Umeå Univ. Hospital
- 1980- 1982** Research engineer, dept of physiology, Umeå University

Other assignments:

- **Secretary** of the Swedish Society for Medical Engineering & Medical Physics (MTF), **vice chair** and founder of its award foundation.
- **Vice president** and two times two years **President** of MTF (1988-2003), member of its scientific advisory board (2008-2015).
- **Member** of the Biomedical Engineering self-certifying committee in MTF for 5 years.
- **Swedish delegate** of the General Assembly in the International Federation for Medical and Biological Engineering, IFMBE, (1989-still)
- **Member and chair** of the Administrative Council IFMBE (2009-2015)
- **Member and chair** of the Industrial Working Group IFMBE (2010-2018)
- **Member and chair** of the Constitution and Bylaws committee, IFMBE (2014-2018)
- **Board member** of Umeå institute of technology, Umeå University (2003-2005)
- **Board member** and founder of RSA BioMedical Innovations Co LTD (1994-1999)
- **Board member** of Uminova Center Foundation (1994-1997)
- **Board member** of Uminova Center Co LTD (1998-2003)
- **Deputy board member** of Umecrine Co LTD (1999)
- Scientific advisory board member of LinkMed Co LTD and Optoq Co LTD
- **Founder** of Bioresonator CO LTD and board member (2000-2009)
- **Founder** of Videoakt CO LTD, board member and Managing Director (2003-2013)
- **Founder** of Centre for Biomedical Engineering and Physics 2001
- **Founder and chairman** CMTF CO LTD (2007-2009)
- **Founder and Chairman** of the board MEDSENS CO LTD (2016-still)
- **Deputy board member** MICUS CO LTD (2007-2009)
- **Member** of the steering board for ISS (Intelligent Sensor System) at Mälardalen University together with Prof Herbert Voight and Prof. Metin Akay
- **Fellow** EAMBES (European Alliance for Biomedical Engineering and Science) (2015-still).
- **Chairman** of the financial committee of IFMBE (2018- still).
- **Senior member** IEEE (2018-still)
- **Scientific examiner for grants** at the Swedish Childhood Cancer Foundation (2022-still)

Publications: Seven approved patents and more than 150 journal and conference publications. Ten selected below:

- 1.1 Eklund, A., Bergh, A., Lindahl, O.A.: A Catheter Tactile Sensor for Measuring Softness of Human Tissue- Measurement in an in vitro human prostate model, *Medical & Biological Engineering & Computing*, 37, 618-624, 1999
- 1.2 Eklund, A., Lindén, C., Bäcklund T., Andersson, B. Lindahl, O.A: Evaluation of applanation resonator sensors for intraocular pressure measurement, results from clinical and in vitro studies, accepted for publication in *Medical & Biological Engineering & Computing*, 41, 190-197, 2003
- 1.3 Candefjord, S., Ramser, K., Lindahl, O.: Effects of snap-freezing and near-infrared laser illumination on porcine prostate tissue as measured by Raman spectroscopy. *Analyst*

2009, 134(9), p. 1815-1821.

- 1.4 Candefjord, S, Nyberg, M, Jalkanen, V, Ramser, K & Lindahl, O.: 'Combining fibre optic Raman spectroscopy and tactile resonance measurement for tissue characterization', *Measurement Science and Technology* 2010, vol 21, nr 12.
- 1.5 Alrifaiy, A., Lindahl, O. A., & Ramser, K.: Polymer-based microfluidic devices for pharmacy, biology and tissue engineering. *Polymers*, 4(3), 2012, 1349-1398.
- 1.6 Nyberg, M., Candefjord, S., Jalkanen, V., Ramser, K., & Lindahl, O. A.: A combined tactile and raman probe for tissue characterization - design considerations. *Measurement Science and Technology*, 2012, 23(6).
- 1.7 Jonsson, U. G., Andersson, B. M., & Lindahl, O. A.: A FEM-based method using harmonic overtones to determine the effective elastic, dielectric, and piezoelectric parameters of freely vibrating thick piezoelectric disks. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 2013, 60(1), 243-255.
- 1.8 Murayama, Y. and Lindahl, OA.: Sensitivity improvements of a resonance-based tactile sensor. *J Med Eng Technol* 2016:1-10.
- 1.9 Åstrand, AP., Andersson, BM. Jalkanen, V., Ljungberg, B., Bergh, A., Lindahl, O.A.: Prostate Cancer Detection with a Tactile Resonance Sensor—Measurement Considerations and Clinical Setup. *Sensors* 2017, 1-18.
- 1.10 Lindahl OA, Bäcklund T, Ramser K, Liv P, Ljungberg B & Bergh A.: A tactile resonance sensor for prostate cancer detection- Evaluation on human prostate tissue. *Biomedical Engineering & Physics Express*, 2021, 7(2), Article ID 025017.

For further information on publications see: <https://www.umu.se/personal/olof-lindahl/>