

Audun Oppedal Pedersen, ph. d.

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4 pages

Personalia

- Date of birth: 03.06.1977
- Nationality: Norwegian
- Civil status: Married, two children

Work experience

ASSOCIATE PROFESSOR | UNIVERSITY OF BERGEN | 2021-PRESENT

- Acoustics
- Marine technology

SENIOR R&D ENGINEER | CLAMPON AS | 2021-PRESENT

- Product and technology development
- Measurement physics, industrial instrumentation
- Intellectual property management

DEVELOPMENT MANAGER | CLAMPON AS | 2012-2021

- Product and technology development
- Measurement physics, industrial instrumentation
- Product qualification
- Sustaining and 2nd line product support
- Compliance, global market access
- Intellectual property management
- Department management

ADJUNCT ASSOCIATE PROFESSOR II | UNIVERSITY OF BERGEN | 2009-2012

- Measurement physics, industrial instrumentation, nonlinear ultrasound acoustics
- Secondary position while working at CMR Instrumentation

DEPARTMENT MANAGER | CHRISTIAN MICHELSEN RESEARCH AS | 2008-2012

- Business area: CMR Instrumentation
- Scientist and Department Manager
- Measurement physics, industrial instrumentation, marine science
- Fisheries, aquaculture, offshore wind energy
- Ultrasound acoustics
- Department and project management

RESEARCH & DEVELOPMENT ENGINEER | CLAMPON AS | 2006-2008

- Measurement physics, industrial instrumentation
- Passive ultrasound sensing
- Guided wave ultrasound monitoring

RESEARCH FELLOW | CHRISTIAN MICHELSEN RESEARCH AS | 2003-2006

- PhD work on marine instrumentation; nonlinear ultrasound acoustics in the sea
- Experimental, theoretical, and numerical physics

Education

PH. D. | 2007 | DEPARTMENT OF PHYSICS AND TECHNOLOGY, UNIVERSITY OF BERGEN, NORWAY

- Nonlinear Effects in Sonar and Echosounder Acoustics
- Supervisors: Per Lunde and Magne Vestrheim

TEACHER | 2003 | DEPARTMENT OF PSYCHOLOGY, UNIVERSITY OF BERGEN, NORWAY

- Postgraduate Certificate in Education (PGCE)

CAND. SCIENT. | 2002 | DEPARTMENT OF PHYSICS AND TECHNOLOGY, UNIVERSITY OF BERGEN, NORWAY

- Ultrasound Transducer Design and Experimental Study of Nonlinear Acoustic Propagation
- Supervisor: Halvor Hobæk

Commissions

PROGRAMME COUNCIL | WESTERN NORWAY UNIVERSITY OF APPLIED SCIENCES | 2018-2021

- Advisory board for the Department of Computer Science, Electrical Engineering, and Mathematical Sciences

BOARD MEMBER | FANATUNET BARNEHAGE SA | 2014-2018

- Privately run kindergarten

STEERING COMMITTEE | NCE SUBSEA ACOUSTICS GROUP | 2009-2015

- Committee for acoustics in instrumentation under the NCE Subsea industry cluster (Norwegian Centre of Expertise)
- Chair of the Committee May 2012–June 2015

Granted projects

SIMPLIFIED TOMOGRAPHIC IMAGING | NFR – SKATTEFUNN PROJECT | 2020–2021

- Project Manager and author of the application, for ClampOn AS
- Project size: 12 MNOK

WIRELESS INSTRUMENTATION WITH NEW ELECTRONICS PLATFORM | NFR – SKATTEFUNN PROJECT | 2019–2022

- Project Manager and author of the application, for ClampOn AS
- Project size: 17 MNOK

SUBSEA CORROSION-EROSION MONITOR WITH SIIS LEVEL 2 INTERFACE | NFR – SKATTEFUNN PROJECT | 2018–2020

- Project Manager and author of the application, for ClampOn AS
- Project size: 5 MNOK

MICROWAVE DETECTION OF CORROSION UNDER INSULATION | INNOVATION NORWAY – INNOVATION PROJECT | 2017–2019

- Project Manager and main author of the application, for ClampOn AS
- Partners: ClampOn AS, University of Cincinnati (USA), Your Solutions Engineering Co., Ltd. (Taiwan)
- Project size: 7 MNOK

TOMOGRAPHY FOR CORROSION-EROSION MONITORING | INNOVATION NORWAY – INNOVATION PROJECT | 2016–2017

- Project Manager and main author of the application, for ClampOn AS
- Partners: ClampOn AS, Cincinnati NDE Ltd. (USA), Shell Global Solutions (USA and The Netherlands)
- Project size: 9 MNOK

EXACTUS | NFR – KMB PROJECT IN THE HAVBRUK PROGRAMME | 2010–2012

- Work Package Manager and co-author of the application, for CMR Instrumentation
- Improvement of biomass control in fish farming. Our work package was on biomass measurement.
- Research partners: SINTEF, Christian Michelsen Research AS, Institute of Marine Research, Norwegian School of Veterinary Science, NTNU, University of Oslo.

Industry partners: The Directorate of Fisheries, Salmar Farming AS, Marine Harvest Norway AS, Lerøy Seafood Group ASA, VAKI Aquaculture Systems Ltd, EWOS Innovation AS, BioMar AS, Nexans Norway AS, Norbit Subsea AS, Ocea Gruppen AS

FISH FLOW METER | NFR – VERIFICATION PROJECT IN THE FORNY PROGRAMME | 2009–2010

- Project Manager and co-author of the application, for CMR Instrumentation
- Commercialization of electromagnetic flowmeter for pelagic fisheries
- Project owner: Christian Michelsen Research AS

MINIERROR – MINIMIZING EFFECTS OF NONLINEAR SOUND PROPAGATION IN FISHERIES AND RESEARCH ECHO SOUNDERS AND SONARS | NFR – HAVBRUK PROGRAMME | 2003–2006

- Participant, ph. d. student, for CMR Instrumentation
- Partners: Christian Michelsen Research AS, University of Bergen, Institute of Marine Research, Kongsberg Maritime AS

Publications

A. O. Pedersen and G. Instanes, “Method and apparatus for calculation of wall thickness variations,” U.S. patent application 16,842,027, UK patent application 2005130.6, Norwegian patent application 20200425, 2020. Publication pending.

G. Instanes, A. O. Pedersen, and F. Simonetti, “Using Long-Range Microwaves to Detect Wet Insulation & Corrosion Residue to Mitigate CUI”, Presented at the 17th Middle East Corrosion Conference & Exhibition, Bahrain, 30 September–3 October 2018.

G. Instanes, A. O. Pedersen, and F. Simonetti, “Ultrasonic Computerized Tomography for Continuous Monitoring of Corrosion and Erosion Damage in Pipes”, Presented at the 17th Middle East Corrosion Conference & Exhibition, Bahrain, 30 September–3 October 2018.

F. Simonetti, G. Instanes, and A. O. Pedersen, “First field results of guided wave tomography for continuous monitoring of corrosion and erosion damage in pipelines”, In Proceedings of the 11th International Workshop on Structural Health Monitoring, September 12-14, Stanford CA, 2017.

A. O. Pedersen. Combating corrosion. Oilfield Technology, January 2017. Available online: <https://www.clampon.com/wp-content/uploads/2017/05/Combating-Corrosion-Oilfield-Technology-January-2017.pdf>

G. Instanes, F. Simonetti, P. B. Nagy, and A. O. Pedersen, “Corrosion-Erosion Monitoring Systems for Managing Asset Integrity”, presented at 16th Middle East Corrosion Conference and Exhibition, Bahrain, 2016.

F. Simonetti, P. B. Nagy, G. Instanes, and A. O. Pedersen, “Ultrasonic Computerized Tomography for Continuous Monitoring of Corrosion and Erosion Damage in Pipelines”, presented at EuroCORR 2016, Montpellier, 11–15 September 2016.

F. Simonetti, P. B. Nagy, A. Brath, C. L. Willey, G. Instanes, and A. O. Pedersen, “Ultrasonic Computerized Tomography for Continuous Monitoring of Corrosion and Erosion Damage in Pipelines”, presented at NACE CORROSION 2015 Conference and EXPO, Houston TX, 2015.

P. Lunde and A. O. Pedersen, “Volume backscattering of finite-amplitude acoustic waves: Power flow, sampled volume, and scattering cross section”, presented at 38th Scandinavian Symposium on Physical Acoustics, Geilo, Norway, February 2015. Available online: <http://www.norskfysikk.no/nfs/faggrupper/akustikk2015/program.html>

G. Instanes, F. Simonetti, and A. O. Pedersen, “Can a Corrosion Monitoring System with Tomography Provide Minimum Wall Thickness Readings?”, presented at Deep Offshore Technology (DOT), Houston, TX, USA, 22–24 October, 2013.

P. Lunde, A. O. Pedersen, R. Korneliussen, F. E. Tichy, and H. Nes “Power-budget and echo-integrator equations for fish abundance estimation”, Fisker og havet no. 10/2013, Institute of Marine Research, Bergen, Norway, 39 p. Available online: https://www.hi.no/hi/nettrapporter/fisken-og-havet/2013/fh_10-2013_echo_integrator

P. Lunde and A. O. Pedersen, “Sonar and power budget equations for backscattering of finite amplitude sound waves, with implications in fishery acoustics for abundance estimation of marine resources”, presented at 35th Scandinavian Symposium on Physical Acoustics, Geilo, Norway, 29 January–1 February, 2012. Available online: https://www.ntnu.edu/documents/14687435/14716676/SSPA_2012_Lunde_Pedersen_Finite_ampl_fishery_11p.pdf

M. Breen, B. Isaksen, E. Ona, A. O. Pedersen, G. Pedersen, J. Saltskår, B. Svoldal, M. Tenningen, P. J. Thomas, B. Totland, and A. Vold, “A review of possible mitigation measures for reducing mortality caused by slipping from purse-seine fisheries”, The International Council for the Exploration of the Seas (ICES) CM 100/2012.

R. J. Korneliussen and A. Pedersen, “Correction of historical multi-frequency data for nonlinear loss”, presented at the ICES Working Group on Fisheries Acoustic Science and Technology (WGFAST), Reykjavik, Iceland, 2011.

O. Brix, G. Pedersen, A. O. Pedersen, J. Spilde, G. Lied, and E. O. Dahl, “Petroleum technology supports fisheries management”, Biophysics & Bioengineering Letters 4(1), 2011. Available online: <https://ojs.uniroma1.it/index.php/CISB-BBL/article/view/9156/0>

G. Instanes, A. Pedersen, M. Toppe, and P. B. Nagy, "Constant group velocity ultrasound guided wave inspection for corrosion and erosion monitoring in pipes". AIP Conf. Proc., 1096, pp. 1386–1393, 2009.

Available online: <https://doi.org/10.1063/1.3114119>

J. Dalen, J. M. Hovem, H. E. Karlsen, P. H. Kvalsheim, S. Løkkeborg, R. Mjelde, A. Pedersen, and A. B. Skiftesvik, "Kunnskapsstatus og forskningsbehov med hensyn til skremmeeffekter og skadevirkninger av seismiske lydbølger på fisk og sjøpattedyr" (Knowledge status and research needs regarding adverse effects of seismic sound waves on fish and marine mammals). Report to the Directorate of Fisheries, Norwegian Petroleum Directorate, and Norwegian Pollution Control Authority. Bergen, 2008. ISBN 82-7257-661-9.

G. Instanes and A. O. Pedersen, "Leaking subsea valves; identification, quantification, and monitoring by using ultrasonic systems", presented at SPE Asia Pacific Oil and Gas Conference and Exhibition, Perth, Australia, 20–22 October 2008.

A. Pedersen, "Effects of nonlinear sound propagation in fisheries research". Doctoral thesis, University of Bergen, Norway, 2007. ISBN 978-82-308-0345-5. Available in BORA: <http://hdl.handle.net/1956/2158>

A. Pedersen, M. Vestrheim, and P. Lunde, "Quantification of nonlinear sound propagation effects in fisheries research echo sounders". In Proc. Underwater Acoustic Measurements: Technologies & Results, Heraklion, Greece, 28 June–1 July, 2005.

A. Pedersen, M. Vestrheim, and P. Lunde, "Nonlinear sound propagation effects in fisheries research echo sounders – Measurements and simulations in fresh water". In Proc. 28th Scandinavian Symposium on Physical Acoustics, Ustaoset, Norway, 23–26 January, 2005.

A. Pedersen, "Design og studier av lydkilde for SOBER-prosjektet". Cand. scient. thesis, University of Bergen, Norway, 2002. Available in BORA: <http://hdl.handle.net/1956/1698>