Curriculum Vitae

Professor, Dr.Techn., Ole Sigmund, January 14, 2025

Work address

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Personal Details

Date of birth: May 28th, 1966
Citizenship: Danish
Married, 2 children

Degrees

9/1991	M.Sc., Technical University of Denmark
1/1995	Ph.D., Technical University of Denmark
5/2001	Dr.Techn., Technical University of Denmark

Positions

1991–1992	Research Assistant, University of Essen, Germany
1993–1994	Ph.D.-student, Technical University of Denmark
1995–1996	Postdoc, Princeton Materials Institute, Princeton University
1995–1997	Assistant Research Professor, Dept. Solid Mechanics, Technical University of Denmark
1997–2001	Associate Research Professor, Dept. Solid Mechanics, Technical University of Denmark
2001–2010	Professor with special assignments, Dept. Mech. Eng., Technical University of Denmark
2004–2010	Chairman for the Danish Center for Applied Mathematics and Mechanics (www.dcamm.dk)
2010–	Professor, Dept. Mech. Eng., Technical University of Denmark
2011–2014	Head of Section, Solid Mechanics, Dept. Mech. Eng., Technical University of Denmark
2011–2015	Elected President of ISSMO (Int. Soc. for Structural and Multidisciplinary Optimization)
2017–2023	Villum Investigator, InnoTop, Villum Foundation.
2018–2021	Technical advisor and optionholder in Oqton (acquired by 3D Systems for 140M$US Fall 2021).
2021–	Elected member of the Executive Board of the Technical University of Denmark (DTU), reelected 2024.
2024–2029	Villum Investigator, AMSTRAD, Villum Foundation.

Selected Memberships

2003–	Danish Academy of Technical Sciences (ATV)
2008–	Royal Danish Academy of Sciences and Letters

Review Editor for: Struct. and Multidisc. Opt. (2017-) and J. of Opt. Th. and Appl. (2016-). Editorial Boards of: Struct. and Multidisc. Opt. (2000-), Lat. Am. J. of Sol. and Struct. (2003-), Acta Mech. Sin. (2008-), Arch. of Appl. Mech. (2009-2016), and Comp. Meth. in Appl. Mech. and Eng. (2011-). Advisory board of Int. J. for Num. Meth. in Eng. (2000-).

Honours and awards

Gorm Pedersens Mem. Prize, DTU (1996). ISSMO/Springer Prize 1999 for Young Scientists. STATOIL-prize (2000). Invited Sectional Lecturer at the 20th ICTAM 2000. Grundfos-Prize (2002). European Young Investigator Award (EURYI, 2004). Annual party speaker at DTU (2005). Elite Research Prize of The Danish Ministry of Science (2007), Villum Kann Rasmussen Annual Prize (2010). Honorary Professor NPU, Xi'an, China (2014). Sapere Aude Top-forsker (2014). Hyperion Innovation Exc. Award(2017). Knight of the Order of the Dannebrog (Ridder af Dannebrog) (2020), Highly Cited Researcher, Web of Science (2022).

Research education duties

Opponent 23 Ph.D. theses from universities in Australia, Belgium, Denmark, Germany, Finland, France, Holland, Luxembourg, Spain, Sweden and USA. Advisor or co-advisor for 24 (presently 4) Postdocs, 34 (presently 7) Ph.D.-students, 63 M.Sc.-projects and 15 guest Ph.D.-students. Course responsible for 6 different under-graduate and graduate level courses and co-organizer and teacher in 10 international Ph.D.-courses.

Research interests

Theoretical extensions and applications of topology optimization methods to the design of extremal materials, smart materials, compliant mechanisms, MicroElectroMechanical Systems, crashworthiness, fluid systems and wave-propagation problems in acoustics, elasticity, nano-optics, metamaterials and antennas.

Selected Grants (Personal[/Total])

1997-2002	PI, STVF Talent/THOR-programme: "Design of MicroElectroMechanical Systems (MEMS)" (7.22MDKK)
2003-2005	PI, STVF project, Danish Technical Research Council: "Designing bandgap materials" (2.9 MDKK)
2005-2010	PI, EURYI project, European Science Foundation: "Synthesis of optomechanical systems" (1.16 MEuro)
2008-2013	CI, Villum Kann Rasmussen Centre of Excellence: "NAnophotonics for TErabit Communications" (2.5/25 MDKK)
2011-2015	CI, HTF, Danish Nat. Adv. Techn. Foundation: "ODAAS" (2.7/27 MDKK)
2011-2015	PI, Research project NextTop, Villum Foundation (9/14 MDKK)
2014-2018	PI, DFF Advanced Grant (Sapere Aude), TopTEN, (8/12 MDKK)
2017-2023	PI, Villum Investigator Project InnoTop, Villum Foundation (28/31MDKK).
2020-2026	CI, DNRF Center of Excellence, NanoPhoton (8/63MDKK).
2021-2024	PI, DFF-2 project, TopCon (5/5MDKK).
2023-2028	PI, Villum Investigator Project AMSTRAD, Villum Foundation (30MDKK).

Papers and citations

Total of 299 accepted papers in international journals, 1 monograph (co-authored with M. P. Bendsøe and 3 patent applications (one granted). Number of citations in ISI Science Citation Index is 36,400 (plus 4,500 to the monograph and 300 to the ph.d.-thesis). Hirsch h-index is 85 (including monograph and thesis). ISI Highly Cited Researcher in 2022. 10 papers are on the ISI Highly Cited list. Number of citations in Google Scholar is 71,100 with h-index 105.