

CV for Asmus Skar (*1982)

Orcid: 0000-0003-3176-791X



Degrees:

2013 PhD in Civil Engineering, Technical University of Denmark
2009 MSc in Civil Engineering, Technical University of Denmark
2007 BSc in Civil Engineering, Technical University of Denmark

Positions:

2020- Assistant Professor in pavement engineering, DTU Byg/Sustain
2017-2019 Postdoc in pavement mechanics, DTU Byg
2016-2017 Pavement specialist, COWI A/S
2013-2016 Industrial PhD candidate, DTU / COWI A/S
2009-2013 Pavement engineer, COWI A/S

Research Area:

Researcher in pavement mechanics. Identification and development of new testing, modeling, and analysis techniques for rigid, semi-rigid, composite, and small-element paving constructions. Exploration of new research ideas directed towards the integration of modern sensing technologies within these traditional civil engineering constructions.

Distinctions and awards:

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Memberships of scientific committees, review:

2022 Scientific Committee for BCRRA 2022
2020 Scientific Committee for Nordic Geotechnical Meeting 2020
2019- Referee for WoS journals, e.g.,: International Journal of Pavement Engineering (Taylor & Francis), Journal of Geotechnical and Geoenvironmental Engineering (ASCE), Sustainability (MDPI) and Applied Sciences (MDPI)
2019- Topic board of Infrastructures (MDPI)
2018- International Advisory Committee (IAC) for BCRRA (Bearing Capacity for Roads, Railroads and Airfields)

Web of Science publications: 11; Citations: 39; h-index: 4;

Other publications: 0; Patents: 0.

Supervision of PhDs, 2017 – present (ongoing or finished in 2017 or later):

Co-supervisor for 2 PhD in this period

Selected grants, 2017 – present (ongoing or finished in 2017 or later):

Invest in Arup, "Real time Pavement Monitoring using Thermal Sensing Technology and Data". Amount granted to Dept.: 45,000 DKK, Project period: 2019-2020.

Innovation Fund Denmark, Grand Solutions, "Live Road Assessment based on modern car sensors", Amount granted to Dept.: 3,842,308 DKK, Project period: 2019-2022

COWI, "ForsvarsBygg", Amount granted to Dept.: 122,375 DKK, Project period: 2017

Other significant contributions:

- 2020 Invited talk: "Analysis of the Raptor for project-level pavement evaluation". DaRTS 12 workshop, Washington 2020
- 2020 Invited talk: "Live Road Assessment (LiRA)". AKP10 Committee meeting, TRB annual Meeting, Washington 2020.
- 2019 Invited talk: "Tilstandsvurdering af veje: Nylige fremskridt og fremtidige tendenser". ITS Danmark, 7. november 2019.
- 2018-2019 DTU Young Researcher Training Programme

Selected publications (2017 or later):

- Adam, Q. F., Levenberg, E., Ingeman-Nielsen, T. & Skar, A., (2022). Modeling the Use of an Electrical Heating System to Actively Protect Asphalt Pavements against Low-temperature Cracking. *Cold Regions Science and Technology*. DOI: 10.1016/j.coldregions.2022.103681
- Skar, A. (2022). Flexible strain sensing plate for determination subgrade elastic modulus. In I. Hoff, H. Mork, & R. Saba (Eds.), *Eleventh International Conference on the Bearing Capacity of Roads, Railways and Airfields* (1st ed., Vol. 2, pp. 223-231). Taylor & Francis DOI: 10.1201/9781003222897-19
- Nielsen, J., Levenberg, E. and Skar, A. (2022). Mechanistic modelling of grid-reinforced milled-and-overlaid asphalt pavements. *International Journal of Pavement Engineering*. DOI: 10.1080/10298436.2022.2072502
- Levenberg, Skar, A., E., Pour, S., Kindler, E., Pettinari, M., Bajic, M., Alstrøm, T. S. and Schlotz, U. (2021). Live Road Condition Assessment With Internal Vehicle Sensors. *Transportation Research Record*. DOI: 10.1177/03611981211016852
- Skar, A. and Andersen, S., 2020. ALVA: An adaptive MATLAB package for layered viscoelastic analysis. *Journal of Open Source Software*, Vol. 5(52), 2548. DOI: 10.21105/joss.02548
- Levenberg, E. & Skar, A. (2020). Analytic pavement modeling with a fragmented layer. *The International Journal of Pavement Engineering*. DOI: 1080/10298436.2020.1790559
- Skar, A., Levenberg, E., Andersen, S. & Andersen, M. B. (2020). Analysis of a moving measurement platform based on line profile sensors for project-level pavement evaluation. *Road Materials and Pavement Design*, 1-17. DOI: 10.1080/14680629.2020.1741429
- Skar, A., Nielsen, J., & Levenberg, E. (2020). Pavement instrumentation with near surface LVDTs. In *Advances in Materials and Pavement Performance Prediction II: Contributions to the 2nd International Conference on Advances in Materials and Pavement Performance Prediction*, CRC Press. DOI: 10.1201/9781003027362-55
- Skar, A., Klar, A. & Levenberg, E. (2019). Load Independent Characterization of Plate Foundation Support Using High-Resolution Distributed Fiber-Optic Sensing. *Sensors* 19(16), 3518. DOI: 10.3390/s19163518
- Skar, A., Poulsen, P. N., & Olesen, J. F. (2017). Cohesive cracked-hinge model for simulation of fracture in one-way slabs on grade. *The International Journal of Pavement Engineering*. DOI: 10.1080/10298436.2017.1293263.
- Skar, A., Poulsen, P. N., & Olesen, J. F. (2017). General cracked-hinge model for simulation of low-cycle damage in cemented beams on soil. *Engineering Fracture Mechanics*, 175, 324-338. DOI: 10.1016/j.engfracmech.2017.01.016.
- Skar, A., Poulsen, P. N., & Olesen, J. F. (2017). A simple model for fatigue crack growth in concrete applied to a hinge beam model. *Engineering Fracture Mechanics*, 181, 38-51. DOI: 10.1016/j.engfracmech.2017.06.018.