Mats Alaküla
Division for Industrial Electrical Engineering and Automation
LTH Profile Area: The Energy Transition
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Research

Mats Alaküla started his scientific career 1986 as a PhD student in control and design of electrical machines and drives. This evolved into not least automotive applications from hybrid to full electric vehicles and Mats became a full Professor in Industrial Electrical Engineering in 1994.
His research render him a role as Scientific Advisor on Electromobility at AB Volvo, where he stayed for 14 years, after which moved on to Elonroad AB in a similar role and also as a research leader for 12 years in the Swedish Electromobility research centre.
Today Mats research evolves around electromobility, not least in energy supply to a full electric vehicle fleet, both on road, off road in farming, road construction and mining. Mats has many advisory roles in different committees, investigations and he is an apprechiated lecturer.

Employment

Professor
Division for Industrial Electrical Engineering and Automation
Lund University
Lund, Sweden
1994 Sept 21 → present

Profile area member
LTH Profile Area: The Energy Transition
Lund University
Sweden
2022 Sept 5 → present

Scientific advisor
Elonroad AB
Lund, Sweden
2021 Oct 1 → present

Scientific Advisor
Volvo AB
Sweden
2007 Sept 1 → 2021 Sept 30

Thematic area leader
Swedish Electromobility Centre
Sweden
2007 Jul 1 → 2019 Jun 30

Research outputs

Droop control strategy of a hybrid SEPIC-Cuk converter for bipolar DC microgrid-assisted charging infrastructures
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Enhancing energy efficiency and environmental sustainability through regional battery-powered train energy transfer systems
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Enhancing Regional Rail Efficiency and Reducing Emissions with Dual Electric Traction Machine Drivetrain
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Evaluating Electric Road Systems for Freight Transport in Sweden: A Simulation-Based Study on Trans-European Transport Network
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Awards

EV2X - Framtidens Energiresurs
Alaküla, M. (PI)
Swedish Energy Agency: SEK1,614,265.00
2025/06/02 → 2026/12/31

Projects

Charging INfrastrcutire for light and heavy vehicles in Sweden
Alaküla, M. (Researcher)
2021/07/01 → 2024/06/30

CONVERGE - En lösning för energidistributionen inom vägbyggnation
Alaküla, M. (PI)
Swedish Government Agency for Innovation Systems (Vinnova)
2023/03/06 → 2023/09/06

CONVERGE II - En lösning för energidistributionen inom vägbyggnation & bergtäkt
Alaküla, M. (PI)
Swedish Energy Agency
2024/05/06 → 2027/12/17

KOSER: Cost-effective and robust charging infrastructure from a site perspective
Al-Hysam, A. (Researcher), Alaküla, M. (Supervisor) & Frank, B. (Assistant supervisor)
2025/02/18 → 2028/02/18

DANE: Direkt kylning Av aluminium liNdade Elmaskiner
Alaküla, M. (PI)
Swedish Energy Agency
2024/01/01 → 2026/12/31

Effektiva och robusta elmaskiner och reglersystem för integration i jetmotorer
Alaküla, M. (PI)
Swedish Government Agency for Innovation Systems (Vinnova)
2024/06/11 → 2028/06/14

Electrical Properties of Conductive Electric Roads
Wenander, D. (Researcher), Alaküla, M. (Supervisor) & Marquez, F. (Assistant supervisor)
2019/10/01 → 2025/05/16

Electric Farm - Steg 2
Alaküla, M. (Researcher)
2019/10/01 → 2023/06/30

EPOS: Electric Powertrain OptimiSation for Vehicles and Fleets
Alaküla, M. (Researcher)
2020/04/20 → 2023/05/03

Elvägssystem för Materialhanteringsfordon - Konseptutstudie med Elonroad och Kalmar
Alaküla, M. (PI)
Swedish Energy Agency
2023/12/01 → 2025/06/30

EURail FP6 Future
Ahrling, C. (Researcher), Tunér, M. (Researcher), Alaküla, M. (Researcher) & Torkiharchegani, A. (Researcher)
2024/02/01 → 2026/11/30

Evolution Road
Alaküla, M. (Researcher), Wenander, D. (Research student) & Abrahamsson, P. (Researcher)
2019/08/01 → 2024/12/31

Framtidens depåladdningskoncept - För en skalbar och snabb omställning av transportsektorn
Alaküla, M. (PI)
Swedish Government Agency for Innovation Systems (Vinnova)

2022/04/01 → 2025/04/01

PREFER
Ahrling, C. (Researcher), Tunér, M. (Researcher), Torkiharchegani, A. (Researcher) & Alaküla, M. (Researcher)
2026/12/01 → 2029/06/30

SHORTS: Säkra, hållbara och resilienta transportsystem
Alaküla, M. (PI)
Swedish Energy Agency
2024/04/01 → 2028/04/01

TED: Terminalladdning av Elektriska Distributionsfordon
Alaküla, M. (Researcher)
2021/04/01 → 2023/06/30

TEEM: Tillverkningseffekter i elektriska maskiner
Alaküla, M. (Researcher)
2020/08/01 → 2024/03/31

TEEM: Tillverkningseffekter i elektriska maskiner
Colombo, L. (Researcher), Alaküla, M. (Supervisor), Reinap, A. (Researcher), Fyhr, P. (Researcher), Marquez, F. (Researcher) & Tokat, A. (Researcher)
2020/08/01 → 2026/10/31