# Lucas Hedström

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## Current position

*PhD Student*, Umeå University, Umeå

## Areas of specialisation

Biophysics; Statistical mechanics; Computational physics

## Appointments held

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|---|---|
| 2016–2019 | Part time lab supervisor, Umeå University, Umeå |
| 2016–2017 | Part time teaching assistant (25%), Umeå University, Umeå |
| sum. 2018 | Computational Engineer, BAE Systems Hägglunds, Örnsköldsvik |

## Education

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|---|---|
| 2014–2019 | MSc in Engineering Physics, Umeå University |

## Publications & talks

### Thesis

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| 2019 | Hedström, L. (2019). Classifying the rotation of bacteria using neural networks. |

### Journal articles

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| 2022 | Hedström, Lucas and Lizana, Ludvig (2022), 'Modelling chromosome-wide target search' https://doi.org/10.48550/arXiv.2211.04195 (accepted to NJP) |

2020    Talk & poster at the 10th EpiCoN meeting; "Zooming in Hi-C maps with Convolutional Neural Networks"

2022    Talk at the MBM 2022 conference: "Modelling chromosome-wide target search"

2022    Poster at the EpiChrom 2022 conference and the 3rd workshop on stochasticity and fluctuations in small systems: "Modelling chromosome-wide target search"

2023    Talk at the 11th EpiCoN meeting: "Epigenetics on Multifractals"

## Teaching & Supervision

### Supervision

2019-    Academic supervision of master's thesis
Söderström, S. (2020). Detect obstacles for forest machinery from laser scanned data.
Dahlbäck, M. (2020). Evaluation of models for process time delay estimation in a pulp bleaching plant.
Vikström, A. (2021). A comparison of different machine learning algorithms applied to hyperspectral data analysis.
Kiflemariam, M. (2021). Development of a CFD Boundary Condition to Simulate a Perforated Surface.

### Courses

2016-    Foundations in Electromagnetism, Electrodynamics, Advanced Fluid Mechanics
Computer lab supervision and examinations. Later years head of labs.

2020-    Mekanik och energifysik
Head of practical labs. Supervision and examinations.

2020-    Modeling and Simmulations, Dynamical models of living systems
Head of computer labs. Reworked old and made new labs. A few lectures.

## Service to the profession

2019    Development of study help tool Röda Tråden
Used by students at the engineering physics programme at Umeå University personalize their education

2019    Stride at the Physics Department at Umeå Unversity
Deployed and made refinements to a tool by the computing science department at Umeå University which helps PhD students make their ISPs

2020–2022    Student representant in the research committee at TekNat faculty

2022    Planning committee of the 11th EpiCoN meeting

## Grants

2022    Wallenberg travel grant for South Korean research exchange

2022    Umeå Kommun conference grant for the 11th EpiCoN meeting

Last updated: February 28, 2023