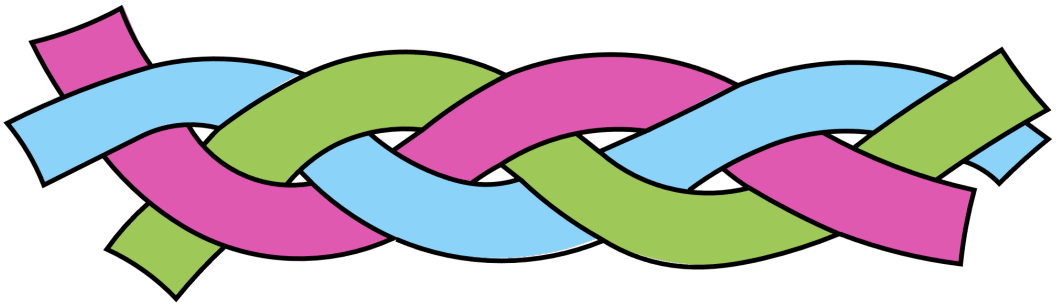
Vilma home



VILMA - Vir-tual laboratory for mo-lecu-lar level at-mo-spheric transformations

Understanding the formation of atmospheric aerosol is vital, as they help to cool the climate but also cause increased mortality through bad air quality. A key problem in predicting aerosol formation is the huge number of compounds, reactions and processes involved, as well as the complexity of the participating compounds.

The Virtual Laboratory for Molecular Level Atmospheric Transformations is a Centre of Excellence that will combine atmospheric and computer science to construct a virtual laboratory for atmospheric aerosol formation, interactively integrating experimental and theoretical state-of-the art methods from the fields of chemistry, physics and artificial intelligence. This will allow the researchers to tackle many unsolved problems in atmospheric science, for example the reactions responsible for the formation and growth of organic nanoparticles. Outreach-tailored versions of the virtual laboratory will also provide schoolchildren and the general public with insights not only into atmospheric science, but also into the scientific process more generally.

Virtual Laboratory for Molecular Level Atmospheric Transformations (VILMA) is a Centre of Excellence in Research, funded by the Academy of Finland during 2022-2029. The project is carried out by the University of Helsinki, University of Eastern Finland, Tampere University and Aalto University.

We are currently in the process of starting our activities - and hiring talented people! To learn more about the job opportunities in VILMA, please see our Job opportunities page or contact the participating principal investigators for more information:

- Hanna Vehkamäki *(director - UH - TM - molecular level modelling of clustering)*
- Theo Kurtén *(vice director- UH - TM - computational atmospheric chemistry)*
- Arkke Eskola *(UH - E - radical reaction kinetics)*
- Juha Kangasluoma *(UH - E - experimental aerosol science)*
- Kari Lehtinen *(UEF - TM - aerosol dynamics and inverse modeling)*
- Kai Puolamäki *(UH - AI - artificial intelligence) - jobs available!*
- Patrick Rinke *(Aalto - AI - machine learning in materials science) - post-doc position available*
- Matti Rissanen *(TU - E - free radical oxidation chemistry)*
- Siegfried Schobesberger *(UEF - E - chemical ionization mass spectrometry)*
- Mikko Sipilä *(UH - E - mass spectrometry instrumentation development)*

University codes: *UH = University of Helsinki, UEF = University of Eastern Finland, TU = Tampere University, Aalto = Aalto University.*

Topic codes: *TM = theory and modelling of atmospheric transformations, E = experiments, AI = artificial intelligence and machine learning.*

VILMA home page (this page): https://wiki.helsinki.fi/display/VILMA

For VILMAnauts only: Intra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