

Defence announcement

Public Defence on 15 May 2023

Utilizing ALD/MLD for thermoelectrics

Title of the doctoral thesis	Transport-property tailored thin films for thermoelectrics through atomic/molecular layer deposition
Content of the doctoral thesis	This thesis research work is about using a technique called Atomic/molecular Layer Deposition (ALD & MLD) to change the way materials behave. The study focuses on a group of materials called thermoelectrics, which can turn heat into electricity and vice versa. ALD and MLD can modify the properties of these materials, making them better at producing electricity from heat. The study found that small changes in the way the materials are deposited and creating interfaces between different materials can make big differences in their performance. Using ALD beside spin coating (SC) for this purpose is also looked into. In the end, a versatile ALD mechanism is developed to deposit p-type SnO to complete the thermoelectric system.
Field of the doctoral thesis	Chemical Technology
Doctoral candidate and contact information	M.Sc. Ramin Ghiyasi Ramin.ghiyasi@aalto.fi
Public defence date and time	15 May 2023 at 12 o'clock (in Finnish time)
Remote defence	https://aalto.zoom.us/j/62404730001
Place of public defence	Aalto University School of Chemical Engineering, Circular Raw Materials Hub, lecture hall Aluminium, Vuorimiehentie 2, Espoo
Opponent(s)	Professor David Muñoz-Rojas, Laboratoire des Matériaux et du Génie Physique LMGP, CNRS/Grenoble INP, France
Custos	Professor Maarit Karppinen, Aalto University School of Chemical Engineering
Link to electronic thesis	https://aaltodoc.aalto.fi/handle/123456789/51
Keywords	ALD, atomic layer deposition, MLD, Molecular layer deposition, thermoelectrics, superlattice, inorganic-organic