

# Nils Nordström

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## EDUCATION

**Doctor of Philosophy (PhD), Materials Engineering**, 2024 – 2029 (Expected)

**Master of Science (MSc), Materials Engineering**, October 2024

*Chalmers University of Technology, Department of Industrial & Materials Science, Gothenburg, Sweden*

- Master's Thesis: "Metal Additive Manufacturing for Early Concept Validation: Controlled Modification of Material Properties."

**Bachelor of Mechanical Engineering (BME)**, May 2022

*University of Minnesota – Twin Cities, College of Science & Engineering, Minneapolis, MN, USA*

Earth Sciences Minor, University Honors Program, graduated *summa cum laude*

## SKILLS

**Programming languages:** C++, MATLAB, LabVIEW, G-code/CNC programming, Arduino IDE, ROBOTC

**CAD Programs:** Autodesk Inventor, SolidWorks, PTC Creo, Siemens NX, Fusion 360

**Operating systems:** Windows 7, 8, 10, 11, Linux

**Software:** Microsoft Word, Excel, PowerPoint, ImageJ, PlasmaCAM, KiCad, Cura, Moldflow, ANSYS, nTopology, Materialise Magics, Simufact, GIMP

**Languages:** English > Native; Swedish > Fluent/Bilingual; French > 5 years of instruction

**Lab skills:** Tensile testing, hardness testing, metallographic sample preparation (mounting, polishing, etching), optical microscopy, electron microscopy

**Shop skills:** 3D printing, welding, blacksmithing, metal casting, glassmaking, carpentry, soldering

## INDUSTRY & RESEARCH EXPERIENCE

**Doctoral Student**, Engineering Materials, Industrial and Materials Science, October 2024-present

*Chalmers University of Technology, Gothenburg, Sweden & GKN Aerospace Sweden*

BIFROST Project - Biaxial Fatigue Resistance at Oscillating Stress and Temperature on forged and AM Inco718

**Summer Employment**, June 2024 – September 2024

**Thesis Worker**, January 2024 – June 2024

*Volvo Cars Concept Centre & Chalmers Centre for Additive Manufacturing – Metal (CAM<sup>2</sup>), Gothenburg, Sweden*

- Investigated different heat treatments on AlSi10Mg manufactured using laser powder bed fusion
- Developed a heat treatment process for manufacturing prototypes using additive manufacturing with similar properties to parts made using high pressure die casting

**Technical Aide & Intern**, November 2020 – July 2022

*3M Corporate Research Process Laboratory (CRPL), 3M Center, St. Paul, MN, USA*

- Redesigned, repaired, and improved equipment in the Thin Film Particle Coating Lab
- Designed and ran sputtering efficiency experiments to analyze and build data for a run process app
- Assisted in the design of coating processes in the Chemical Vapor Deposition Lab
- Developed a new characterization method and tested samples for the Plasma Processing Lab

**Research Assistant**, September 2021 – May 2022

*Polymer Materials and Mechanics Laboratory, University of Minnesota – Twin Cities, Minneapolis, MN, USA*

- Undergraduate Honors Thesis: Creep Test Apparatus for HDPE Stress Corrosion Cracking

**Student Lab Worker**, February 2021 – May 2022

*Anderson Student Innovation Labs, University of Minnesota – Twin Cities, Minneapolis, MN, USA*

- Assisted students on their projects and provided guidance on how to operate lab equipment
- Managed the lab's 3D printers: LulzBot TAZ 6, Form 2, Markforged Mark Two, and Stratasys F170 3D

## HONORS & ACTIVITIES

**Tau Beta Pi Engineering Honor Society**, Minnesota Alpha Chapter, inducted March 2021

**American Society of Mechanical Engineers (ASME)** – UMN Student Section, 2019 – 2021

**Autonomous Snowplow Team**, University of Minnesota Robotics, 2019 – 2021

**Chalmers Sångkör – Chalmers Manskör**, 2022 – present