Sean Thomas

PhD in Robotics

CONTACT

+41 79 780 4134

seanthomas0409@gmail.com

seanthomas0409.wordpress.com

PERSONAL

Nationality : Swiss

Fluent in English
Fluent in French

PUBLICATIONS

Microgripper Device
Patent Application
First Inventor

Designing compliant mechanisms composed of shape memory alloy and actuated by induction heating
2021 Smart Materials and Structures

A Self-Biasing Shape Memory Alloy Gripper for Lightweight Applications
2021 IEEE/RSJ IROS

Integrated, Eddy-Current-Based Sensing of Rotor Position for Magnetic Levitation
2020 IEEE ECCE

Shape memory effect of benchmark compliant mechanisms designed with topology optimization
2020 IEEE/ASME AIM

Multi-Output Compliant Shape Memory Alloy Bias-Spring Actuators
2020 IEEE/ASME AIM

Design analysis of a shape memory alloy bias-spring linear actuator
2019 IEEE LDIA

Actuation Displacement Analysis of a Self-Switching Shape Memory Alloy Buckled Beam
2018 IEEE ICEMS

EDUCATION

EPFL (Ecole Polytechnique Fédérale de Lausanne)

Bachelors in Micro-engineering
2012 - 2015

Masters in Robotics and Automation Engineering
2015 - 2017

EXPERIENCE

PhD at Integrated Actuators Laboratory
September 2017 - January 2022

Smart Grippers: Creating smart actuators powered by Shape Memory Alloys
In the current age of miniaturisation, the advent of artificial muscles has played a crucial role in creating futuristic compact and lightweight devices.
The aim of the project is to explore and create compact integrated lightweight actuators and robotic grippers using artificial muscles such as Shape Memory Alloys (NiTiNOL)
Supervisors : Prof. Yves Perriard

PhD at Integrated Actuators Laboratory
Imperial College London
October 2016 - March 2017

Master Thesis: Development of Single-Joint Neuromechanics device
Development of a patient-specific exoskeleton system capable of measuring the joint impedance of motor-impaired patients.
Supervisors : Prof. Etienne Burdet; Prof. Hannes Bleuler; Dr. Mohamed Bouri; Dr. Hsien Yung Huang

Research and Development Engineer Internship
Onward
September 2014 - September 2015

The project consisted of the design of the **Human Rehabilitation Robot (JANE)** and its implementation at the CRR Suva rehabilitation clinic.
https://www.onwd.com
Supervisors : Dr. Joachim v. Zitzewitz; Dr. Urs Keller