

Eleonora Svanberg

EDUCATION

DPhil Mathematics

Magdalen College

Supervisor: Prof. Xenia de la Ossa

Funding: STFC Scholarship, Saven European Scholarship

University of Oxford, UK

2024 -

MASt in Applied Mathematics

St John's College

Essay: Holographic CFT₂: Modular Forms Applied to Quantum Gravity

Funding: Part III International Scholarship by the Faculty of Mathematics, Swedish Engineers Scholarship 2022 etc.

University of Cambridge, UK

2022 - 2023

BSc in Physics

Bachelor thesis: [Higher-order time derivative theories and the Ostrogradsky ghost](#)

Supervisor: Dr. Fawad Hassan

Stockholm University, Sweden

2019 - 2022

EMPLOYMENTS

Department of Applied Mathematics and Theoretical Physics, University of Cambridge

Summer Research Intern, 10 weeks on site

Funding: Philippa Fawcett Internship Programme 2021

Travel Grant: Swedish Astronomical Youth Association

Cambridge, UK

Summer 2021

PUBLICATIONS

1. **Svanberg, E.**; Cui, C.; Latter, H., MNRAS 2022 [Wavelike nature of the vertical shear instability in global protoplanetary disks](#)
2. **Svanberg, E.**, Preprint 2022 [Higher-order time derivative theories and the Ostrogradsky ghost](#)

RESEARCH PROJECTS

University of Tokyo

The project aims to explore the applications of number theory and algebraic geometry to physics, particularly string theory and black holes. I am currently studying L -functions.

Supervisor: Dr. Abhiram Kidambi

Remote

2023 -

University of Cambridge

By using linear analysis and perturbation theory, I examined the wave nature of the non-linear inertial waves in protoplanetary disks due to the vertical shear instability. Moreover, I verified the theory through high-performance simulations using Athena++.

Supervisors: Dr. Can Cui, Prof. Henrik Latter

Publication in MNRAS: <https://doi.org/10.1093/mnras/stac1598>

Remote/Cambridge

2021 - 2022

Stockholm University

Project: Optimising modelling of data of supernovas type 1a, by focusing on colour bands, ZTF telescope

Supervisor: Prof. Edvard Mörtzell

Stockholm, Sweden

2020

Royal Institute of Technology (KTH) and ATLAS Experiment, CERN

High School Thesis: Precision measurement of the mass of the z-boson and ATLAS detector improvements

Supervisor: Dr. Giulia Ripellino

Stockholm/Geneva

2018

ATLAS Experiment, CERN

Summer Student Project: Monte Carlo simulations of the small wheel upgrade of the muon spectrometer

Supervisor: Dr. Edoardo Farina

Geneva, Switzerland

2017

CODING SKILLS

Languages: Python, Mathematica, LaTeX (and Overleaf), Bash, C++, C#, SageMath

Libraries: numpy, matplotlib, snoopy, astropy, pandas etc.

Frameworks: PyROOT, HEASoft, PyXspec, Athena++ etc.

Other: Experiences with Linux environments and high-performance computing and simulations.

AWARDS, GRANTS AND HONORS

Fredrika Bremer Scholarship Fund Master's Studies Scholarship (£2,000)	2023
Dr. Felix Neuberghs Fund Master's Studies Scholarship (£1,500)	2023
University of Cambridge Part III International Scholarship (£8,800)	2022
University of Oxford Saven European Scholarship for Master's Studies (£25,000) <i>Declined due to pursuing Part III</i>	2022
Handelsbanken Anna Whitlock Trust Master's Studies Scholarship (£8,000)	2022
The Society of Swedish Engineers in Great Britain/Swedish Embassy Master's Studies Scholarship (£5,000)	2022
SEB Foundation (AAA) Master's Studies Scholarship (£4,500)	2022
VANBRUUN Master's Studies Scholarship (£950)	2022
Handelsbanken Gustaf Söderbergs Foundation Master's Studies Scholarship (£300)	2022
University of Cambridge Philippa Fawcett Internship Programme, for excellent students in mathematics (£4,000)	2021
Swedish Astronomical Youth Association Travel Grant (£300)	2021
The Swedish King's Foundation for Young Leadership Elected by H.M King for Compass Rose Scholarship (£4,500)	2021
The Swedish Federation of Young Scientists Member of the Year, for my work with Girls in STEM	2018
East Swedish Chamber of Commerce The Future Scholarship, for my high school thesis (£300)	2017
Swedish Astronomical Society Elected as the Swedish student for the annual ESO Astronomy Camp (£1,000)	2016
Oxford Royale Academy Thomas Garner bursary, covering fees for summer courses in mathematics (£3,000)	2016

INVITED ACADEMIC AND PUBLIC TALKS

Royal Academy of Engineering Sciences (IVA)	Stockholm, Sweden
Invited to give a talk about getting more girls to do STEM.	2024
GeekGirlMeetUp + TikTok Nordics	Stockholm, Sweden
Invited to give a talk about imposter syndrome.	2024
NTNU: Trondheim Science Week	Trondheim, Norway
Invited to give a talk about my research and research journey.	2024
Womxn in Physics Conference	King's College London
Participated in a panel about physics degrees.	2023
The Lise Meitner Days	Stockholm, Sweden
Talk about getting into physics research at a young age, for Swedish high school students.	2022
The Almedalen Week	Gotland, Sweden
Sweden's annual democracy meeting. Participated in a panel about gender equality in scientific fields	2022
Summer Research Festival	Cambridge, UK
Presenting my mathematical research on astrophysical waves for the faculty and other students.	2021
Girls in STEM	Sweden
Through my organisation Girls in STEM, I have hosted workshops and lectures about why one should study mathematics and physics for students between 8-18 years of age.	2016-

OUTREACH AND EXTRACURRICULAR

Science Communicator	Sweden/Remote
The last few years I have actively engaged in getting more people to study mathematics and physics, in particular young girls. I use social media (over 150k+ followers), visit schools and advice companies and organisations to achieve this. Some examples of what I have done:	2019-
<ul style="list-style-type: none">Elected to write a text on the future of technology by the Committee for Technological Innovation and Ethics (Komet), established by the Swedish Government (Paid)Recorded a web series to get more Swedish young girls to specialise in technology for high school, with Teknikföretagen (Paid)Book deal with Fri Tanke: I am currently writing a popular scientific book about mathematics, to get more young students in Sweden to study mathematics. Estimated to be released in autumn 2023 (Paid)	

- Initiating a discord server with over 1000 members, for young students all over the world to share academic advice

In Sweden I am represented by the agency [Infly](#).

Student Representative

Cambridge, UK

I was elected, by the committee, as the student representative for my course Part III of the Mathematical Tripos.

2022 - 2023

Physics Student Ambassador for Stockholm University

Stockholm

Involved in marketing videos and produced content on their social platforms with the purpose of getting more people to study physics.

2019 - 2022

Girls in STEM: Co-Founder

Sweden

A non-profit organisation aiming to close the gender gap in STEM (Science, Technology, Engineering and Mathematics) through role models, workshops and a community.

2016 -

<https://girlsinstem.se>

The Swedish Federation of Young Scientists

Sweden

Project: Part of the organising group of the National Research Competition for Swedish High School Students 2020

2020

List of some of the organisations I have collaborated with

- Nobel Prize Outreach
- Swedish Parliament
- UNESCO
- European Commission
- British Embassy
- Mölnlycke Health Care
- The Association of Swedish Engineering Industries
- TikTok UK and TikTok Nordics
- Stockholms University
- Cambridge University
- Oxford University
- King's College London
- Trondheim Science Week
- UN Women (Finland)
- GeekGirl Meetup