

# Dan Strängberg

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Resumé

## Education

- 2014– **Doctor of Philosophy**, *Uppsala University*, Uppsala.  
Mathematics
- 2012–2014 **Master of Science**, *Uppsala University*, Uppsala.  
Mathematics

## PhD thesis

- title Dynamics of area-preserving Hénon-like maps
- supervisors Denis Gaidashev and Jordi-Lluís Figueras
- description Studying properties of invariant Cantor sets of infinitely renormalizable area-preserving maps.

## Master thesis

- title Legendrian Approximations
- supervisors Tobias Ekholm
- description Finding Legendrian approximations of 2-dimensional submanifolds of  $\mathbb{R}^5$  with the standard contact structure.

## Experience

### Vocational

- 2014– **PhD Student**, *Uppsala University*, Uppsala.  
Study and research in the area of dynamical systems and teaching general mathematics.
- 2016 **Visiting Research Scholar**, *Stony Brook University*, Stony Brook.  
Research in dynamical systems
- 2011–2014 **Amanuens**, *Uppsala University*, Uppsala.  
Teaching and light administrative duties.
- 2010 **Summer worker**, *Bombardier Transportation*, Västerås.  
Train repair and servicing.

### Papers

- 2017 **On the invariant Cantor sets of period doubling type of infinitely renormalizable area-preserving maps**, submitted, preprint available.

2016 **Non-Smooth Bifurcations of Uniformly Hyperbolic Invariant Manifolds in Skew Product Systems: Rigorous Results**, *joint with Jordi-Lluís Figueras*, submitted, preprint available.

#### Conferences

2016 **New Trends in One-dimensional Dynamics**, *IMPA*, Rio de Janeiro.

Attendee

2016 **SCAN 2016**, Uppsala.

Attendee

2015 **School and Conference in Dynamical Systems**, *ICTP*, Trieste.

Attendee

#### Talks

2017 **PhD Seminar**, *Uppsala University*.

Chaos: Friend and foe

2017 **CAPA Seminar**, *Uppsala University*.

Invariant Cantor sets of infinitely renormalizable area-preserving maps

2016 **CAPA Seminar**, *Uppsala University*.

Non-smooth bifurcations in skew product systems at the anti-integrable limit

2016 **PhD Seminar**, *Uppsala University*.

Renormalization in dynamical systems

#### Teaching

Spring 2017 **Single variable calculus**, *Uppsala University*.

Problem sessions

Fall 2016 **Algebra I**, *Uppsala University*.

Main lecturer and problem sessions.

Fall 2015 **Algebra I**, *Uppsala University*.

Main lecturer and problem sessions.

Spring 2015 **Linear Algebra II**, *Uppsala University*.

Problem sessions.

Fall 2014 **Algebra I**, *Uppsala University*.

Problem sessions.

Fall 2013 **Transform methods**, *Uppsala University*.

Problem sessions.

Fall 2012 **Transform methods**, *Uppsala University*.

Problem sessions.

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#### Languages

Swedish Fluent

*Mother tongue*

English Fluent

French Basic

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#### Computer skills

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### General skills

- Rigorous numerics with interval arithmetic
- Apache Spark
- Apache Hadoop

### Programming languages

- Python
- C++
- Scala
- SQL
- MATLAB

### Miscellaneous

- HTML5 and CSS3
- L<sup>A</sup>T<sub>E</sub>X
- Linux

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### Other experience

- Regular attendant at the Uppsala Big Data Meetup.
- PhD student representative on the board of the Department of Mathematics at Uppsala University.
- Board member of Matematiska föreningen in Uppsala.
- President of the student union of mathematics students.
- Student representative on the board of the Department of Mathematics at Uppsala University.