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# Sven Pistre

## Career Experience

- 05/2016–  
now **Doctoral researcher**, RWTH Aachen University, Institute for Mathematics.  
*Teaching*: supervision and coordination of eight student assistants; organisation of lectures, in-class tutorials and exams for up to 500 students.  
*Mentoring*: guidance for first year undergraduate mathematics students and first year PhD students.  
*Research*: existence and regularity of anisotropic minimal surfaces of high codimension.
- 07/2014–  
11/2014 **Student teaching assistant**, Australian National University, Mathematical Sciences Institute.
- 10/2011–  
03/2016 **Student teaching and research assistant**, RWTH Aachen University, Chairs A, B and D for Mathematics and Institute for Geometry and Applied Mathematics.

## Software Development

- 01/2021–  
now **Exam-Gen 1.0 (Python)**.  
Project lead in a team of three; design and development of a one-click solution for automated exam generation for both paper and digital exams during the COVID-19 pandemic
- 04/2014–  
07/2014 **Multiwave (C++)**.  
Implementation of the results of the Bachelor's thesis into the existing C++ library for simulations of nonlinear first-order hyperbolic PDE systems at the Institute for Geometry and Applied Mathematics, under supervision of Prof. Dr. SIEGFRIED MÜLLER and Dr. NILS GERHARD

## Education

- 10/2013–  
03/2016 **Master of Science (Mathematics)**, *Convex extension of the Busemann–Hausdorff area integrand and the Plateau problem in arbitrary codimension*, RWTH Aachen University, Advisor: Prof. Dr. HEIKO VON DER MOSEL.  
Thesis grade: 1.0 (very good), GPA: 1.0 (excellent)
- 10/2010–  
09/2013 **Bachelor of Science (Mathematics)**, *Construction of multiwavelets on non-uniform one-dimensional grid hierarchies*, RWTH Aachen University, Advisor: Prof. Dr. SIEGFRIED MÜLLER.  
Thesis grade: 1.0 (very good), GPA: 2.0 (good)
- 08/2001–  
06/2010 **General University Entrance Qualification (Abitur)**, Gymnasium der Stadt Baesweiler.  
Grade: 1.6
- 10/2008–  
09/2010 **Participation at “Study as a school student”**, RWTH Aachen University.  
“Foundations of Mathematics” during winter '08 and “Linear Algebra I” during summer '10

## Academic Honors

- 2012–2016 **Scholarship Bildungsfonds**.  
RWTH Aachen
- 2014–2016 **Member of the Dean's List Mathematics**.  
RWTH Aachen, Top 3% of year

## Research Stays

- 09/2015–11/2015 **Mathematical Sciences Institute**, Canberra, Australia.  
Campus visitor: BEN ANDREWS
- 07/2014–11/2014 **Mathematical Sciences Institute**, Canberra, Australia.  
Visiting fellow: JOHN URBAS

## Publications and Preprints

- [1] with HEIKO VON DER MOSEL, *The Plateau problem for the Busemann–Hausdorff area in arbitrary codimension*. *European J. Math.* **Vol. 3, Issue 4** (2017), 953–973.

## Talks

- 02/2021 **1st Geometric Analysis Festival**, Zoom/YouTube, Lecture.  
Titel: Higher regularity of high-codimensional disk-type surfaces minimising a Finsler area,  
[https://www.youtube.com/playlist?list=PLPho5LshEOTclrTbGEIYSjnmqf-0E\\_GF](https://www.youtube.com/playlist?list=PLPho5LshEOTclrTbGEIYSjnmqf-0E_GF)
- 01/2021 **Oberseminar Analysis**, Bonn, Germany, Invited Seminar Talk.
- 06/2020 **Online Seminar Geometric Analysis**, Zoom, Seminar Talk.  
Titel: The Radon transform and higher regularity of surfaces minimising a Finsler area,  
[https://youtu.be/VP8qGfdY4\\_M](https://youtu.be/VP8qGfdY4_M)
- 01/2020 **Oberseminar**, Cologne, Germany, Invited Seminar Talk.
- 07/2016 **Conference: New Methods in Finsler Geometry**, Leipzig, Germany, Contributed Talk.  
Titel: Plateau problem for Finsler manifolds

## Public Communication

- 01/2020 **Beratungstage für Schülerinnen, Schüler und Studieninteressierte**, Aachen, Germany.  
Aimed at school students, Talk: *Die Bestimmung der Zahl Pi durch ein mathematisches Kollisionsexperiment*
- 2018, 2019 **RWTH Science Night "5 vor 12"**, Aachen, Germany.  
with Elisabeth Wacker, *The picture hanging problem*, poster and exhibit

## Departmental Service

- 2019–2021 **Committee for RWTH Scholarships for Doctoral Students**, Aachen.  
Representative of the doctoral student body

## Funding

- 2021 **Participation**, in the renewal application for RTG 2326 “Energy, Entropy, and Dissipative Dynamics” in Aachen.  
Status: pending

## Professional Development

- 2021 **Certificate ExAcT basics**, (*Excellence in Academic Teaching*).  
Comprised of the seminars: Academic Teaching, Media Competency in Education, Basic Tools for Examinations, Planning Your Own Modules, RWTHmoodle-Workshop, Teaching Portfolio
- 2021 **Certificate ExAcT extensions**, (*Excellence in Academic Teaching*).  
Comprised of the seminars: Effective Communication, E-Tests in RWTHmoodle, STACK in Moodle, H5P - Interactive Educational Content, Online-Teaching: Moderation and Interaction, Digital Teaching and Learning, Teaching Portfolio
- 2020 **Seminar**, *Good Scientific Practice*, Aachen, Germany.
- 2018 **Seminar**, *Scientific Writing from the Reader's Perspective*, Aachen, Germany.  
Held by Prof. GEORGE GOPEN

## Postgraduate Teaching

- '16–'21 **Organisation and teaching of exercise classes**, *Calculus I and II, Linear Algebra I and II*.  
with Prof. Dr. HEIKO VON DER MOSEL and Prof. Dr. ARIE KOSTER, substituted eight lecture sessions
- '16–'20 **Weekly oral examinations**, *Maple Course Part 1 and 2*.  
with Prof. Dr. ALICE NIEMEYER and Prof. Dr. GHISLAIN FOURIER

## Undergraduate Teaching

- Winter '14 **Tutorial**, Australian National University, Mathematical Sciences Institute.  
Assisting second year physics, engineering, chemistry students in partial differential equations and applications; marking assignments
- Summer '13 **Tutorial**, *Bridge Course in Mathematics*, Chair A for Mathematics.  
Bridging the gap between high school and university level mathematics
- Winter '12 **Homework corrections**, Institute for Geometry and Applied Mathematics.  
Marking assignments in numerical analysis
- '11–'13, '15 **Tutorial**, Chairs B and D for Mathematics.  
Teaching first year mathematics students and students in education how to use the CAS “Maple”

## Schools, Conferences and Workshops (Selection)

- 12/2019 **TriCity Seminar**, Aachen.  
Contributed poster
- 11/2019 **Conference**, *Geometric Variational Problems*, Ulm, Germany.
- 06/2019 **Conference**, *Geometric Analysis and General Relativity*, Zürich, Switzerland.
- 04/2019 **Conference**, *Geometry at Infinity*, Münster, Germany.
- 07/2018 **Conference**, *Geometric PDEs in Freiburg*, Freiburg, Germany.
- 06/2018 **Summer school**, *Geometric Analysis*, Cetraro, Italy.  
Contributed poster
- 05/2018 **Conference**, *New Methods in Finsler Geometry*, Pisa, Italy.
- 09/2017 **Workshop**, *Metric Measure Spaces and Ricci Curvature*, Bonn, Germany.
- 07/2017 **Conference**, *39. Süddeutsches Kolloquium über Differentialgeometrie*, Frankfurt, Germany.
- 06/2017 **Summer school**, *New trends on Analysis and Geometry in Metric Spaces*, Levico Terme, Italy.
- 02/2017 **Workshop**, *Fractional Sobolev Spaces in Geometric Knot Theory*, Aachen, Germany.

## Language Skills

- German native
- English fluent
- French fluent
- Spanish basic knowledge

## Other Interests

- Volleyball**, *Coach, Player and Referee*.
- Visual Arts**, *Descriptive Geometry, Contemporary Art, Photorealism*.

## Scientific Referees

- Heiko von der Mosel**, *RWTH Aachen University*, [heiko@instmath.rwth-aachen.de](mailto:heiko@instmath.rwth-aachen.de).  
also for teaching qualifications