Timo Sprekeler | Curriculum Vitae

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Personal Details

Birth: December 26, 1996 in Dortmund, Germany

Citizenship: German

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Education

University of Oxford, Keble College   **Oxford, UK**
DPhil in Mathematics   *10/17–Present*
DPhil student in the EPSRC Centre for Doctoral Training in Partial Differential Equations
Research project: Finite element approximation of elliptic homogenization problems in nondivergence-form
Supervisors: Prof. Endre Süli (primary), Prof. Yves Capdeboscq (secondary)

University of Cambridge, Trinity College   **Cambridge, UK**
MASt in Mathematics (Part III of the Mathematical Tripos)   *10/16–07/17*
Master of Advanced Study in Mathematics, grade: Distinction
Thesis: Deep variational models
Thesis Supervisor: Prof. Carola-Bibiane Schönlieb

University of Dortmund   **Dortmund, Germany**
B.Sc. in Mathematics   *10/13–08/16*
Bachelor of Science in Mathematics with minor subject Physics, grade: 1.0 (highest, top student)
Thesis: Non-trivial solutions of a semilinear equation with critical Sobolev-exponent
Thesis Supervisor: Prof. Ben Schweizer

Visits

Cantab Capital Institute for the Mathematics of Information (CCIMI)   **Cambridge, UK**
Summer internship in the CCIMI within the University of Cambridge   *07/17–09/17*
Research project: Regularised optimal transport for solving gradient flows.
Supervisors: Prof. Carola-Bibiane Schönlieb, Prof. José Antonio Carrillo de la Plata

Academic Positions

10/20–Present: Stipendiary Lecturer in Applied Mathematics, Keble College, University of Oxford

01/16–07/16: Undergraduate Research Assistant, Numerical Analysis group of Prof. Stefan Turek, University of Dortmund

Academic Awards

2017–2021: Clarendon Fund Scholarship and Keble College Sloane Robinson Scholarship
07/2017: Examination Prize and Senior Scholarship, Trinity College Cambridge
11/2016: Best B.Sc. Mathematics overall grade of year group, University of Dortmund
2015–2016: Deutschlandstipendium ('Germany Scholarship')

Publications

- Yves Capdeboscq, Timo Sprekeler and Endre Süli. *Finite element approximation of elliptic homogenization problems in nondivergence-form*,
  ESAIM Math. Model. Numer. Anal., 54(4):1221–1257, 2020.
- Dietmar Gallistl, Timo Sprekeler and Endre Süli. *Mixed finite element approximation of periodic Hamilton–Jacobi–Bellman problems with application to numerical homogenization*, submitted.
  `https://arxiv.org/abs/2010.01647`
- Timo Sprekeler and Hung Vinh Tran. *Optimal convergence rates for elliptic homogenization problems in nondivergence-form: analysis and numerical illustrations*, submitted.
  `https://arxiv.org/abs/2009.11259`

Talks

06/2020[*]: LMS Scottish Numerical Methods Network "Multiscale & Multilevel Methods: Numerical Analysis and Applications", ICMS, UK (online)

02/2020[*]: Inria–LJLL (Laboratoire Jacques-Louis Lions) Scientific Calculus Seminar, Sorbonne University, France

09/2019[†]: Chemnitz Finite Element Symposium, Mülheim an der Ruhr, Germany

09/2018[*]: PDE CDT Summer School, University of Oxford, UK

04/2018[*]: PDE CDT Spring School, University of Oxford, UK

09/2017[*]: Cambridge Image Analysis Seminar, University of Cambridge, UK

08/2017[*]: Post Masters Placement Presentation, University of Cambridge, UK

[*]Invited talk, [†]contributed talk

Teaching

Mathematical Institute, University of Oxford   **Oxford, UK**
Teaching Assistant and Tutor for the following courses:

B4.1: Functional Analysis I	Michaelmas 2019
B6.1: Numerical Solution of Differential Equations I	Michaelmas 2019
B6.2: Numerical Solution of Differential Equations II	Hilary 2019
CDT: Analysis of Partial Differential Equations	Michaelmas 2018
MMSC: Further Mathematical Methods	Hilary 2019
MMSC: Further Partial Differential Equations	Hilary 2020

- MMSC: Numerical Solution of Differential Equations   Michaelmas 2018

Keble College, University of Oxford   **Oxford, UK**

Stipendiary Lecturer (2020/21) and College Tutor for the following courses:

- Introduction to University Mathematics   Michaelmas 2020
- A1: Differential Equations 1   Michaelmas 2020
- A6: Differential Equations 2   Hilary 2021
- ASO: Calculus of Variations   Trinity 2019 & Trinity 2020
- ASO: Integral Transforms   Hilary 2021
- M3: Introductory Calculus   Michaelmas 2020
- M4: Constructive Mathematics   Trinity 2020
- M5: Fourier Series and PDE's   Hilary 2021
- M5: Multivariable Calculus   Hilary 2020

Oxford terms: Michaelmas (Oct–Dec), Hilary (Jan–Mar), Trinity (Apr–Jun)

Academic Responsibilities

2020–Present: Referee for manuscripts submitted to Foundations of Computational Mathematics

2018–Present: Chaperoning of Undergraduate Admissions Interviews, Keble College Oxford

11/2019: Marking the Mathematics Admissions Test (MAT), Mathematical Institute, University of Oxford

06/2019: Script Checker for Undergraduate Exams, Mathematical Institute, University of Oxford

Languages

German: Native.

English: Fluent. Passed the IELTS test on C1 CEFR level. Student in the UK since 2016.

French: Intermediate. Passed the DELF B2 test (B2 CEFR level).

Chinese: Intermediate. Passed the HSK 3 test (B1 CEFR level).

Computer Skills

MS Office, LaTeX, MATLAB, C++, FreeFem++, FEniCS

Additional Qualifications

2006–Present: Member of the European Society for Memory Enhancement "MemoryXL"
Participation in several Memory Championships. Notable results:
- Team World Champion 2012,
- German Vice-Champion and North-German Champion 2008 (in age group)

2016–Present: Member of the Cambridge (2016/17) and Oxford University Badminton Club
Representing the University in BUCS matches and in the annual varsity match

08/16–09/16: Academic Development and Training for International Students
Academic Skills Training Course, University of Cambridge Language Centre