

Felix Schulze

Contact

Department of Mathematics
University College London
25 Gordon St
London WC1E 6BT, UK
Tel.: +44 20 7679 7897

Email: f.schulze@ucl.ac.uk

www: www.felixschulze.eu

Research Interests

Differential Geometry, Partial Differential Equations, Geometric Analysis

Education

- 2008 Habilitation in Mathematics, Free University Berlin
- 2002 PhD in Mathematics, University of Tübingen,
Thesis advisor: Gerhard Huisken
- 1999 Degree in Mathematics (Diplom), University of Tübingen,
Thesis advisor: Gerhard Huisken

Appointments

- 02/2013 - present Associate Professor (Reader) in Pure Mathematics, University College London, UK
- 05/2008 - 01/2013 Junior Research Group Leader, Emmy Noether Program of the German Research Foundation, Free University Berlin, Germany
- 10/2003 - 04/2008 'Assistent', Geometric Analysis Group of K. Ecker, Free University Berlin, Germany
- 10/2002 - 09/2003 Postdoctoral Fellow, ETH Zürich, Switzerland
- 10/2000 - 09/2002 PhD Position, University of Tübingen, Germany

Grants and Awards

- 12/2017 - 09/2019 Royal Society International Exchanges Grant, together with M. Saez as Co-PI (6,000 GBP)
- 05/2018 - 02/2019 Leverhulme Visiting Professorship on behalf of Prof M. Saez to visit UCL (20,050 GBP)
- 01/2018 HIMR focused research grant '*Lagrangian Mean Curvature Flow: Progress and Problems*' as Co-PI, together with J. Lotay (PI) (7,500 GBP)
- 01/2017 - 12/2020 Leverhulme research grant 'Advances in contact topology via Lagrangian mean curvature flow', together with J. Lotay (337,709 GBP)

01/2016 - 05/2016	Eisenbud Research Professorship at MSRI Berkeley
05/2008 - 01/2013	Emmy Noether Fellowship of the German Research Foundation (733,000 EUR)
01/2008 - 03/2010	Feodor Lynen Fellowship of the Alexander von Humboldt Foundation (27,000 EUR)
06/2007 - 06/2009	Project Grant in the Program 'Global Differential Geometry' of the German Research Foundation, joint with O. Schnürer (5,000 EUR)
09/1997 - 08/1999	Travel Grant of the Fulbright Foundation
10/1996 - 04/2000	Fellowship of the German National Academic Foundation

Editorial Boards

Editorial Board, *Advances in Differential Equations*, since 2019

Editorial Advisor, *Publications of the LMS* (*Bulletin of the LMS*, *Journal of the LMS*, *Proceedings of the LMS*), since 2015

Editorial Advisory Board, *Geometric Flows*, since 2014

Invited Lectures

07/2014	ERC School on Geometric Evolution Problems, Centro De Giorgi, Pisa, Italy
01/2013	KIAS Winter School in Differential Geometry, Korea

Organised workshops and seminars

06/2019	Conference ' <i>Geometric Analysis and General Relativity</i> ' on the occasion of the 60th birthday of G. Huisken at ETH Zürich, together with B. Andrews (ANU Canberra), C. Cederbaum (Tübingen) and J. Metzger (Potsdam)
2018 - present	Brussels-London Geometry Seminar, with J. Fine (ULB Brussels) and J. Lotay (UCL/Oxford), once per term
2018 - present	Joint KCL/UCL Geometry Seminar, with Y. Lekili (KCL), weekly
01/2018	2 day workshop ' <i>Lagrangian Mean Curvature Flow: Progress and Problems</i> ' at UCL, together with J. Lotay (UCL), funded by the Heilbronn Institute for Mathematical Research
2013 - present	London Geometric Analysis Reading Seminar, together with C. Bellettini (UCL), J. Lotay (UCL) and H. Ngyuen (QMUL), weekly, UCL
05/2013	UCL Geometry and Topology Day 3
2008 - 2013	Oberseminar Geometry and Physics, weekly, joint with K. Ecker and G. Huisken, Free University Berlin
2004 - 2005	Seminar Wave Equations, weekly, joint with K. Ecker and G. Huisken, Max-Planck-Institute for Gravitational Physics, Potsdam

Publications

- [17] *Ricci flow from spaces with isolated conical singularities*, with P. Gianniotis, [arXiv:1610.09753](https://arxiv.org/abs/1610.09753), (2016), to appear in *Geom. & Topol.*
- [16] *Consequences of strong stability of minimal submanifolds*, with J.D. Lotay, [arXiv:1802.023941](https://arxiv.org/abs/1802.023941), (2018), to appear in *IMRN*.

- [15] *On Short Time Existence for the planar network flow*, with A. Neves and T. Ilmanen, [arXiv:1407.4756](https://arxiv.org/abs/1407.4756), (2017), *J. Diff. Geom.*, **111** (1), (2019).
- [14] *A local regularity theorem for mean curvature flow with triple edges*, with B. White, [arXiv:1605.06592](https://arxiv.org/abs/1605.06592), (2016), to appear in *J. Reine Angew. Math.*
- [13] *Uniqueness of compact tangent flows in Mean Curvature Flow*, *J. Reine Angew. Math.* (690), 163–172 (2014).
- [12] *The Half-Space Property and entire positive minimal graphs in $M \times \mathbb{R}$* , with H. Rosenberg and J. Spruck, *J. Differ. Geom.*, **95** (2), 321–336 (2013).
- [11] *Expanding solitons with non-negative curvature operator coming out of cones*, with M. Simon, *Math. Z.* 275 (1-2), 625–639 (2013).
- [10] *Stability of Hyperbolic space under Ricci-flow*, with O.C. Schnürer and M. Simon, *Comm. Anal. Geom.* **19**, No. 5, 1023–1047 (2011)
- [9] *Foliations of asymptotically flat spacetimes by surfaces of Willmore type*, with T. Lamm and J. Metzger, 2009, *Math. Ann.* **350**, No. 1, 1–78 (2011).
- [8] *Evolution of convex lens-shaped networks under curve shortening flow*, with O.C. Schnürer, M. Saez, A. Azzouani, M. Georgi, J. Hell, N. Jangle, A. Koeller, T. Marxen, S. Ritthaler, and B. Smith, *Trans. Amer. Math. Soc.* **363**, No. 5, 2265–2294 (2011).
- [7] *Stability of Euclidean space under Ricci-flow*, with M. Simon and O.C. Schnürer, *Comm. Anal. Geom.* **16**, No. 1, 127–158 (2008).
- [6] *Self-similarly expanding networks to curve shortening flow*, with O.C. Schnürer, *Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5) Vol. VI* (2007), 511-528.
- [5] *No mass drop for mean curvature flow of mean convex hypersurfaces*, with J. Metzger, *Duke Math. J.*, Vol. 124 (2) (2008), 283–312.
- [4] *Nonlinear evolution by mean curvature and isoperimetric inequalities*, *J. Differ. Geom.* **79** (2008), 197–241.
- [3] *Stability of translating solutions to mean curvature flow*, with J. Clutterbuck and O. C. Schnürer, *Calc. Var. Partial Differential Equations* **29** (2007), no. 3, 281–293.
- [2] *Convexity estimates for flows by powers of the mean curvature*, appendix with O.C. Schnürer, *Ann. Scuol Norm. Sup. Pisa Cl. Sci. (5), Vol. V* (2006), 261–277.
- [1] *Evolution of convex hypersurfaces by powers of the mean curvature*, *Math. Z.* **251** (2005), no. 4, 721–733.

Preprints

- [6] *Uniqueness of conical tangent flows*, with O. Chodosh, [arXiv:1901.06369](https://arxiv.org/abs/1901.06369), (2019).
- [5] *Ancient solutions in Lagrangian mean curvature flow*, with B. Lambert and J.D. Lotay, [arXiv:1901.05383](https://arxiv.org/abs/1901.05383), (2019).

- [4] *Generic uniqueness of expanders with vanishing relative entropy*, with A. Deruelle, [arXiv:1812.08504](#), (2018).
- [3] *Local foliation of manifolds by surfaces of Willmore type*, with T. Lamm and J. Metzger, [arXiv:1806.00465](#), (2018).
- [2] *Remarks on the self-shrinking Clifford Torus*, with C.G. Evans and J.D. Lotay, [arXiv:1802.01423](#), (2018).
- [1] *Optimal isoperimetric inequalities for surfaces in arbitrary codimension in Cartan-Hadamard manifolds*, [arXiv:1802.00226](#), (2018).

Surveys

- [1] *Evolution of networks with triple junctions*, with C. Mantegazza, M. Novaga and A. Pluda, [arXiv:1611.08254](#), (2016).

Invited talks over the last 4 years

- 2019
 - Workshop 'Partial Differential Equations', MFO, Oberwolfach, Germany
 - Workshop 'Differentialgeometrie im Grossen', MFO, Oberwolfach, Germany
 - Conference 'Geometric Analysis and General Relativity', ETH Zürich, Switzerland
 - Conference 'Optimal Transport and Geometric Analysis', Venice, Italy
 - Geometry Seminar, University of Bath, UK
 - UK-Japan Winter School, Leeds, UK
- 2018
 - Geometric Analysis Seminar, University of Fribourg, Switzerland
 - Colloquium, University of Fribourg, Switzerland
 - Workshop 'Mean Curvature and Regularity', Institute of Advanced Studies, Princeton, USA
 - Workshop 'Ricci flow, mean curvature flow and related singular flows', University of Hamburg, Germany
 - Workshop 'Geometric PDEs in Freiburg', Freiburg, Germany
 - Simons Collaboration workshop 'Geometric flows in special holonomy', Imperial College, London, UK
 - Workshop 'Geometrie', MFO, Oberwolfach, Germany
 - 'Conference on geometric analysis', Tsinghua University, Beijing, China
 - Oberseminar Analysis, MPI Leipzig, Germany
 - Workshop 'Geometric Evolution Equations', University of Regensburg, Germany
 - Workshop 'Geometry: exchanges and perspectives', Institut Henri Poincaré, Paris, France
- 2017
 - Workshop 'Geometric flows and related problems', Tokyo Institute of Technology, Japan
 - PDE and Real Analysis Seminar, University of Tokyo, Japan
 - Workshop 'Geometric Analysis', Centre Henri Lebesgue, Roscoff
 - Workshop 'Analysis, Geometry and Topology of Positive Scalar Curvature Metrics', MFO, Oberwolfach, Germany
 - Workshop 'Partial Differential Equations', MFO, Oberwolfach, Germany
 - Workshop 'Minimal and Evolving Networks', Centro de Giorgi, Pisa, Italy
 - Advances in Geometric Analysis, ETH Zürich, Switzerland

- LMS Workshop 'Variational methods in submanifold theory', University of York, UK
- 2016 · Geometric PDE Workshop, University of Warwick, UK
- Oberseminar Geometrie, University of Münster, Germany
- Seminar on Differential Geometry and Analysis, University of Magdeburg, Germany
- Geometry Seminar, Université Pierre et Marie Curie (Jussieu), France
- Geometry Seminar, University of Leeds, UK
- Clay Research Conference, Workshop 'Mean Curvature Flow', Oxford, UK
- Workshop 'Geometrie', MFO, Oberwolfach, Germany
- Differential Geometry and PDE Seminar, UBC Vancouver, Canada
- MSRI Workshop 'Geometric Flows in Riemannian and Complex Geometry', Berkeley, USA.
- Differential Geometry Seminar, UC Irvine, Irvine, USA
- Geometry Seminar, Stanford University, Stanford, USA
- Geometry and Analysis Seminar, UC Santa Cruz, Santa Cruz, USA
- Colloquium, University of Arizona, Arizona,, USA