Walter M. Rusin

Curriculum Vitae (October 2015)

Address:
Oklahoma State University
Department of Mathematics
Stillwater, OK 74078

Office phone: (405) 744-5847
Mobile phone: (612) 245-3813
E-Mail: walter.rusin@okstate.edu
Citizenship: Polish (permanent resident)

Appointments

Oklahoma State University, Assistant Professor   August 2013 – present

University of Southern California, Assistant Professor (NTT)   August 2010 – May 2013

Education

Ph.D. in Mathematics   July 2010
University of Minnesota; Minneapolis, MN
Thesis: *On solutions of the Navier-Stokes equations in critical spaces*
Advisor: Vladimír Šverák

M.Sc. in Mathematics   May 2008
University of Minnesota; Minneapolis, MN

B.Sc. in Mathematics   June 2005
Warsaw University; Warsaw, Poland
Graduated *Summa Cum Laude*

B.A. in Economics   December 2004
Warsaw School of Economics; Warsaw, Poland
Graduated *Summa Cum Laude*

Awards and Honors

NSF Grant DMS-1311964, $122,881   September 2013 – September 2016

Doctoral Dissertation Fellow, University of Minnesota   2009 – 2010

Publications

17. W. Rusin. *Persistence of regularity for the non-dissipative viscous magneto-geostrophic equation.* Submitted.

16. S. Friedlander, W. Rusin. *On the smoothing effect in the kinematic dynamo equations in critical spaces.* Journal of Mathematical Fluid Mechanics, Volume 17 (2015), Issue 1, pp.145–153

15. I. Kukavica, W. Rusin, and M. Ziane. *An anisotropic partial regularity criterion for the Navier-Stokes equations.* Submitted.

14. I. Kukavica, W. Rusin, and M. Ziane. *A class of large BMO^{-1} non-oscillatory data for the Navier-Stokes equations.* Journal of Mathematical Fluid Mechanics, 16 (2014), 293-305.

13. I. Kukavica, Y. Pei, W. Rusin, and M. Ziane. *Primitive Equations With Continuous Initial Data.* Nonlinearity 27 (2014), 1135-1155.

12. S. Friedlander, W. Rusin, and V. Vicol. *The magneto-geostrophic equations: a survey.* Proceedings of the St. Petersburg Mathematical Society, Volume XV: Advances in Mathematical Analysis of Partial Differential Equations, American Mathematical Society, 2014.

11. S. Benachour, I. Kukavica, W. Rusin, and M. Ziane. *Anisotropic estimates for the two-dimensional Kuramoto-Sivashinsky equation .* Journal of Dynamics and Differential Equations, 26 (1014), 461-476.

10. S. Friedlander and W. Rusin. *On the second iterate for critically diffusive active scalar equations.* Journal of Mathematical Fluid Mechanics, 15 (2013), no. 3, 481–492.

9. I. Kukavica, W. Rusin, and M. Ziane. *A class of solutions to the Navier-Stokes equations with large data.* Journal of Differential Equations, 255 (2013), no. 7, 1492–1514.

8. I. Kukavica, W. Rusin, and M. Ziane. *Solutions to Navier-Stokes equations for large oscillatory data.* Advances in Differential Equations, 18 (2013), no. 5/6, 549–586.

7. S. Friedlander, W. Rusin, and V. Vicol. *On the supercritically diffusive magneto-geostrophic equations.* Nonlinearity, 25 (2012), no. 11, 3071–3097.

6. W. Rusin. *Inviscid limits for active scalar equations with mildly singular gradients.* Journal of Mathematical Fluid Mechanics 15 (2013), no. 2, 415–423.

5. W. Rusin. *Incompressible Navier-Stokes equations as a limit of a nonlinear parabolic system.* Journal of Mathematical Fluid Mechanics 14 (2012), no. 2, 383–405.

4. W. Rusin. *Navier-Stokes equations, stability and minimal perturbations of global solutions.* Journal of Mathematical Analysis and Applications 386 (2012), no. 1, 115–124.

3. W. Rusin and V. Sverak. *Minimal initial data for potential Navier-Stokes singularities.* Journal of Functional Analysis, 260 (2011), no. 3, 879–891.

2. P.B. Mucha and W. Rusin. *Zygmund spaces, inviscid limit and uniqueness of Euler flows.* Communications in Mathematical Physics 280 (2008), no. 3, 831–841.

1. W. Rusin. *On the inviscid limit for the solutions of two-dimensional incompressible Navier-Stokes equations with slip-type boundary conditions.* Nonlinearity 19 (2006), no. 6, 1349–1363.

Talks and Presentations

Conference Talks

- SIAM Conference on Analysis of PDE, *Mathflows*, Phoenix   December 2015

- Mathflows 2015, Porquerolles, France   September 2015

- NSF-CBMS Regional Research Conference in the Mathematical Sciences, Problems of PDEs Related to Fluids, Oklahoma State University, Stillwater   August 2014

- AMS Sectional Meeting, *Special Session on Navier Stokes Equations and Fluid Dynamics*, Texas Tech, Lubbock   April 2014

- SIAM Conference on Analysis of PDE, *Mathflows*, Orlando   December 2013

- AMS Sectional Meeting, *Special Session on Fluids and Boundaries*, University of California, Riverside   November 2013

- The 4th Oklahoma PDE Workshop, Oklahoma State University   October 2013

- AMS Sectional Meeting, *Special Session on PDEs of Fluid Mechanics I*, Washington University St. Louis   October 2013

- AMS Sectional Meeting, *Special Session on Partial Differential Equations II*, University of Kansas   March 2012

- AMS Sectional Meeting, *Special Session on Nonlinear Partial Differential Equations of Fluid and Gas Dynamics II*, University of Hawaii Manoa   March 2012

- AMS Sectional Meeting, *Special Session on Nonlinear Partial Differential Equations at the Common Interface of Waves and Fluids I*, University of Hawaii Manoa   March 2012

- SIAM Conference on Analysis of PDE, *Analysis of Partial Differential Equations Arising in Fluid Dynamics*, San Diego   November 2011

- The Fourth Southern California Symposium on the Mathematics of Fluids, University of California Riverside   October 2011

- 5th Southern California Symposium on Flow Physics, *Turbulence, Vortices, and Flow Instabilities*, University of Southern California   April 2011

- AMS Sectional Meeting, *Special Session on Applications of Nonlinear PDE IV*, University of California Los Angeles   October 2010

- Symposium about Pure Mathematics, University of Zurich, Switzerland   December 2009

- EEC-300, Euler Institute, St. Petersburg, Russia   June 2007

- 5th Forum of Partial Differential Equations, Bedlewo, Poland   June 2006

Conferences organized

- AMS Sectional Meeting, Special Session on Nonlinear Elliptic and Parabolic PDEs,   April 2015
- The Fifth Oklahoma PDE Workshop   March 2015
- NSF-CBMS Regional Research Conference in the Mathematical Sciences, Problems of PDEs Related to Fluids, Oklahoma State University, Stillwater   August 2014

Seminar Talks

- Colloquium, Oklahoma State University   November 2014
- Colloquium, Oklahoma State University   February 2013
- Colloquium, California State University San Jose   January 2013
- Colloquium, Clemson University   January 2013
- Combined Applied Mathematics/PDE Seminar, University of California Davis   May 2012
- PDE Seminar, University of Minnesota   April 2012
- PDE/Applied Mathematics Seminar, University of California Santa Barbara   April 2012
- Nonlinear PDEs Seminar, University of California Irvine   May 2011
- Combined Applied Mathematics and PDEs, University of California Riverside   November 2010
- Analysis Seminar, Indiana University Bloomington   April 2010
- CAMS Colloquium, University of Southern California   January 2010

Teaching and Mentoring

Teaching at the Oklahoma State University

- Ordinary differential equations and linear algebra   Spring 2016
- Ordinary differential equations – honors add-on   Spring 2016
- Ordinary differential equations   Spring 2016
- Calculus III – honors add-on   Fall 2015
- Calculus III   Fall 2015
- Calculus II (honors)   Spring 2015
- Calculus I (honors/regular)   Fall 2014, Fall 2015
- Introduction to modern analysis   Spring 2014
- Calculus II   Fall 2013
- Introduction to mathematical modeling   Fall 2013

Teaching at the University of Southern California

- Calculus I   Fall 2010 (2 classes), Fall 2011

- Calculus II   Spring 2011

- Calculus III   Fall 2012 (2 sections)

- Partial Differential Equations I (graduate course)   Fall 2011

- Partial Differential Equations II (graduate course)   Spring 2012

- Topics in Real Analysis (graduate course)   Summer 2012

- Topics in Complex Analysis (graduate course)   Summer 2011

Teaching at the University of Minnesota

- Precalculus   Fall 2009

- Short Calculus   Spring 2008

- Linear Algebra and Differential Equations   Summer 2010

- Teaching assistant for various courses (Short Calculus, Calculus I, IT Calculus I)

Mentoring

- Student teams supervisor and mentor for the 2014 edition of the COMAP competition, Oklahoma State University   Spring 2014, Spring 2015

- Research group mentor, *California Research Training Program in Computational and Applied Mathematics*, University of California Los Angeles   Summer 2011

- Co-organizer, *Graduate Seminar in Analysis*, University of Southern California   Fall 2010–2013

Service

- Referee for: *SIAM Journal of Mathematical Analysis*, *Journal of Differential Equations*, *Journal of Mathematical Fluid Mechanics*, *Journal of Mathematical Physics*, *Nonlinearity*, *Communication in Pure and Applied Analysis*, *Communication in Mathematical Sciences*, *Journal of Nonlinear Analysis*, *Communications in Contemporary Mathematics*, *Advances in Differential Equations*.

- The personnell committee, Dep. of Mathematics, Oklahoma State University   2014/2015

- The undergraduate committee, Dep. of Mathematics, Oklahoma State University   2014/2015

- Appointments committee, Dep. of Mathematics, Oklahoma State University 2013/2014, 2015/2016

- The college of Arts & Sciences Policy & Planning Committee, College of Arts & Sciences, Oklahoma State University   2013/2014

- Merit evaluation committee, Dep. of Mathematics, University of Southern California   2010–2011

- Speaker at Math Days 2015 (OSU)   October 2015

- Guest speaker at Ridgecrest Intermediate School   May 2011

References

Available upon request.