Qian Wang

Max Planck Institute for Gravitational Physics
Am Mühlenberg 1, D-14476 Golm, Germany
qwang@math.sunysb.edu
49-0331-5812682, 49-0331-5677341

Education

Ph.D. in Mathematics, Princeton University, September 2006
Advisor: Professor Sergiu Klainerman
Dissertation: Causal Geometry of Einstein Vacuum Spacetimes

Bachelor of Science in Mathematics, Nanjing University, 2001

Research Interests

Partial Differential Equations, Geometric Analysis, Mathematical Relativity

Professional Experience

September 2006 - August 2007: Visiting Postdoc in Department of Mathematics, Stanford University

September 2007 - August 2010: Simons instructor, Department of Mathematics, Stony Brook University

October 2010 - September 2012: Postdoc in Max Planck Institute for gravitational physics

February 2011 - May 2011: Visiting Postdoc in IHES

Publications

- Causal geometry of Einstein vacuum spacetimes. Ph.D thesis, 2006, Princeton University
- On the geometry of null cones in Einstein Vacuum Spacetimes. Ann. Inst. H. Poincarè Anal. Non Linéaire , 26 (2009), no. 1, 285–328.
- Improved breakdown criterion for Einstein vacuum equation in CMC gauge
  Preprint 2010, accepted by Communications on Pure and Applied Mathematics, arXiv:1004.2938
- On Ricci coefficients of null hypersurfaces with time foliation in Einstein vacuum space-time: Part I
  Preprint 2010, submitted to Calculus of variations and PDE, arXiv:1006.5963
- On Ricci coefficients of null hypersurfaces with time foliation in Einstein vacuum space-time: Part II
  Preprint 2010, submitted to Calculus of variations and PDE, arXiv:1006.5963
- Rough solutions of vacuum Einstein equations in CMC gauge: Energy estimates
  Joint work with Jin, Qinian. Preprint 2010
- Local well-posedness of Cauchy problem with rough data in Einstein vacuum spacetime in CMCSH gauge *Preprint 2011*

Personal Webpage www.math.sunysb.edu/∼qwang

Talks

October 3 to November 20, 2006, a series of lectures on the Einstein vacuum equations on working seminars organized by Richard Schoen in Stanford University.

October, 2007, a talk on Causal geometry of Einstein vacuum spacetimes in geometry seminar, Stony Brook University.

November, 2007, a talk on geometric Littlewood Paley theory in analysis seminar, Stony Brook University.

November, 2009, a talk on local geometry of CMC spacetime with L^2 initial curvature, geometry and topology seminar, Stony Brook University.

January, 2010, a talk on local geometry in CMC spacetime, AMS Joint mathematics meeting in San Francisco

November, 2010, a talk at Max Planck Institute for Gravitational physics

January, 2011, a talk at Ohio State University.

February, 2011, a talk in Séminaire de Relativité Générale at Institut Henri Poincaré

Teaching experiences

Fall 2007-Spring 2010, Math 126, Math 127, Math 131: Calculus B, Calculus C, Calculus I

Spring 2009, Math 305: Ordinary Differential Equations, Calculus IV

Fall 2008, Math 320: Introduction to Real Analysis, at Stony Brook University

Conferences

Nonlinear dispersive equations. NMSU
Summer 2005. One-week Lecture given by Terence Tao on Nonlinear Schrödinger equations in New Mexico State University, Las Cruces.

Analytic and Computational Aspects of Elliptic and Parabolic Equations, MSRI
October 23-27,2006

Summer Microprogram on Nonlinear Partial Differential Equations. MSRI.
Summer 2007. Three week program on nonlinear dispersive equations and elliptic equations.

MRC June 2009 Mathematical challenges in general relativity
One week workshop in relativity at Snow bird, Utah

AMS Joint mathematics meeting in San Francisco, January 2010

Citizenship:

People's Republic of China

References

Dr. Sergiu Klainerman, Princeton University, seri@math.princeton.edu

Dr. Michael Anderson, Stony Brook University, anderson@math.sunysb.edu

Dr. Lars Andersson, Max Planck Institute for Gravitational Physics, Lars.Andersson@aei.mpg.de

Dr. Mark Andrea de Cataldo, Stony Brook University, mde@math.sunysb.edu