

Sunhi Choi

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E d u c a t i o n & A p p o i n t m e n t

Assistant Professor, U of Arizona, Mathematics Department	2006 - present
C.L.E. Moore Instructor, MIT, Mathematics Department	2003 - 2006
Postdoctoral Fellow, UCLA, Mathematics Department	Spring 2003
Ph.D. in Mathematics, UCLA, Mathematics Department	Dec. 2002
Research Area: Harmonic Analysis	
Dissertation: The lower density theorem for harmonic measure	
Advisor: John Garnett	
B.S. in Mathematics, Seoul National University, Mathematics Department	Feb. 1997

R e s e a r c h I n t e r e s t s

Partial differential equations, Harmonic analysis.

P u b l i c a t i o n s / P r e p r i n t s

- [CKL] S. Choi, I. Kim, K. Lee *Homogenization of Neumann boundary data with fully nonlinear operator*, preprint
- [CK3] S. Choi, I. Kim, *The two-phase Stefan problem: regularization near Lipschitz initial data by phase dynamics*, submitted
- [C3] S. Choi, *Behavior of space periodic laminar flames near the extinction point*, submitted
- [CK2] S. Choi, I. Kim, *Regularity of one-phase Stefan problem near Lipschitz initial data*, Amer. J. Math. 132 (2010), no. 6, 1693-1727
- [CJK3] S. Choi, D. Jerison, I. Kim, *Local regularization of the one-phase Hele-Shaw flow*, Indiana Univ. Math. J. 58 (2009), no. 6, 2765-2804
- [C2] S. Choi, *Regularity near a contact point for flame propagation*, Comm. Partial Differential Equations 34 (2009), no. 4-6, 457-474.
- [CJK2] S. Choi, D. Jerison, I. Kim, *Locating the first nodal set in higher dimensions* Trans. Amer. Math. Soc. 361 (2009), no. 10, 5111-5137
- [CJK1] S. Choi, D. Jerison and I. Kim *Regularity for the One-Phase Hele-Shaw problem from a Lipschitz initial surface*, Amer. J. Math. 129 (2007), no. 2, 527-582

[CK1] S. Choi and I. Kim *Waiting time phenomena for the Hele-Shaw and the Stefan problem*, Indiana Univ. Math. J. 55 (2006) 525-551

[C1] S. Choi *The lower density theorem for harmonic measure*, J. d'Analyse Math. 93 (2004), 237-269.

T a l k s

On the lower density conjecture for harmonic measure,

- Analysis Seminar, UCLA, Fall 2002.
- Banff workshop - Analysis and Geometric Measure Theory, Summer 2003.

On the free boundary problems,

- Analysis Seminar, UCLA, Spring 2004.
- Analysis Seminar, Brown university, Fall 2004.
- Analysis Seminar, University of Arizona, Spring 2005
- Analysis Seminar, Cornell University, Spring 2005
- Analysis Seminar, University of Arizona, Spring 2007
- Analysis Seminar, University of Arizona, Spring 2008
- Analysis Seminar, Ajou University, Korea, Spring 2008
- Nonlinearity Randomness and Waves Seminar, University of Arizona, Fall 2008
- Analysis Seminar, University of Arizona, Spring 2009
- Special Session, Joint Meeting of KMS/AMS, Fall 2009
- Analysis Seminar, Sung Kyun Kwan University, Korea, Fall 2009
- Analysis Seminar, UCLA, Spring, 2010

On the first nodal set in convex domains,

- Analysis Seminar, Caltech, Spring, 2006
- Analysis Seminar, UCLA, Spring 2007

On the homogenization of Neumann boundary,

- Analysis Seminar, UCLA, Spring 2011
-

G r a n t

National Science Foundation, 2005 - 2008

-*Partial differential equations and Harmonic analysis.*

S e r v i c e / O u t r e a c h

1. Co-organizer (with Lennie Friedlander and David Glickenstein) of a special session on partial differential equations and geometric analysis, in the Spring 2007 AMS Western Section Meeting.
2. Colloquium chair, Department of Mathematics, the University of Arizona, Fall 2007-Spring 2008.

3. Grade appeal committee, Fall 2009-present.
4. Faculty advising panel, Fall 2010-present.

C o l l a b o r a t o r s

David Jerison, Department of Mathematics, MIT

Inwon Kim, Department of Mathematics, UCLA

Kiahm Lee, Department of Mathematics, Seoul National University, Korea