Curriculum Vitae
Inwon C. Kim

Education

Seoul National University: Mathematics. B.A, 1997

University of Wisconsin at Madison: Mathematics M.A, 1999

University of Texas at Austin: Mathematics Ph.D, 2002

M.A and Ph.D advisor: Takis P. Souganidis.

Appointments

C. L. E. Moore Instructor, MIT 2002-2005

Assistant Professor, UCLA 2005-present

Grants and Awards

2008 Alfred P. Sloan research fellowship.

2007-2010: NSF research grant DMS 0700732.

2004-2007: NSF research grant DMS 0627896.

2003-2004: NSF research grant DMS 0244991 (co-PI).

Publications and Preprints

*All articles are available online at www.math.ucla.edu/∼ikim/research.htm

[K1] I. C. Kim, *Singular limits of Chematoxis model,* Nonlinear Anal. TMA, 46 (2001) no.6 , 817-834.

[K2] I. C. Kim, *Uniqueness and Existence results of Hele-Shaw and Stefan problem,* Arch. Rat. Mech. Anal. 168 (2003) 299-328

[K3] I. C. Kim, *A free boundary problem arising in flame propagation,* J. Diff. Equations , 191 (2003) 470-489

[DKS] F. Da Lio, I. C. Kim and D. Slepcev, *Front propagation problems with nonlocal normal velocity,* Asymptotic analysis , 37 (2004) 257-292

[K4] I. C. Kim, *Regularity of free boundary for one phase Hele-Shaw problem,* J. Diff. Equations, vol. 223 (2006).

[K5] I. C. Kim, *Long time regularity of solutions of Hele-Shaw and Stefan problem,* Nonlinear Anal. TMA, vol.64, (2006), 2817-2831.

[K6] I. C. Kim, *A free boundary problem with curvature,* Comm. PDE 37 (2005) 121-138

[JK] D. Jerison and I.C. Kim, *Singularity analysis of the one phase Hele-Shaw problem,* J. Geom.

Anal., 15 (2005), 641-667.

[CJK1] S. Choi, D. Jerison and I. C. Kim, *Regularity properties of initially Lipschitz free boundaries in one-phase Hele-Shaw problem,* Amer. J. Math. 129 (2007), no. 2, 527582.

[CK1] S. Choi and I. C. Kim, *Waiting time phenomena for Hele-Shaw ans Stefan problems,* Indiana Univ. Math. J., 55(2006), 525-552.

[K7] I. C. Kim, *Homogenization of free boundary velocities,* Arch. Ration. Mech. Anal. vol. 185 (2007), 69103.

[GK] K. Glasner and I. C. Kim, *Global-time solutions for a model of contact line motion,* to appear in Interfaces and Free boundaries.

[CJK2] S. Choi, D. Jerison and I. C. Kim, *Locating the first nodal set in higher dimensions,* to appear in Transactions of AMS.

[K8] I. C. Kim, *Homogenization of contact angle dynamics,* to appear in Comm. PDE.

[CJK3] S. Choi, D. Jerison and I. C. Kim, *A local regularization theorem on one-phase Hele-Shaw flow,* under revision.

[K9] I. C. Kim, *Error estimate on homogenization of free boundary velocities,* submitted.

[MK1] I. C. Kim and A. Mellet, *Homogenization of a Hele-Shaw type problem in periodic and random media,* to appear in Arch. Ration. Mech. Anal.

[MK2] I. C. Kim and A. Mellet, *Homogenization of one-phase Stefan-type problems in periodic and random media,* submitted.

[ChK1] L. Chayes and I. Kim, *Two-sided contracting Stefan problem,* submitted.

[CK2] S. Choi and I. C. Kim, *Regularity of one-phase Stefan problem near Lipschitz initial data,* submitted.

[ChK2] L. Chayes and I. Kim, *The Supercooled Stefan problem in one dimension,* in revision.

Ph.D students under supervision

Nobert Pozar (UCLA math, 2nd year), Yao Yao (UCLA math, 1st year)

Professional Services

- Served at NSF-DMS review panel, 2008.

- Referee for the following journals: Archive for Rational Mechanics and Analysis, Communications on PDE, SIAM Journal of Mathematical Analysis, Interfaces and Free boundaries.

Recent Invited Talks at Seminars and Conferences

2009 (tentative)

PDE seminar, University of Chicago (January)

Workshop on Nonlinear PDE, Warwick Mathematics Institute, UK (June)

Analysis of nonlinear PDEs and free boundary problems; Applications to homogenization: Workshop at PIMS-UBC, part of Thematic program and PDE summer school 2009 at PIMS, Canada (July)

2007

The Third Symposium on Analysis and PDEs, Purdue University.

Workshop on Evolution of Interfaces and Applications, Roscoff, France.

Mini-workshop on potential theory and PDEs, University of Stockholm, Sweden.

Prof. Bhattacharyas Group meeting, Dep. of Mechanics and Materials Science, Caltech.

PDEs and Geometric Analysis session, AMS meeting, Tucson.

Free boundary problems seminar, UC Irvine.

2006

PDE seminar, UC Davis.

Minisymposium: Analysis of Front Propagation and its Applications, SIAM PDE meeting, Boston.

PDE seminar, Korea Institute for Advanced Study, Seoul, Korea.

PDEs and their Applications session, AMS meeting, San Francisco.

Analysis seminar, UC Berkeley.

Analysis seminar, USC.

2005

Seminar talks at the following institutions: UCLA, Caltech, UC San Diego, UC Davis, University of Minnesota, University of Washington, Northwestern University, University of Michigan.