

CV of Jaywan Chung

Born: October 27th 1982, Republic of Korea.

Position: Post-doc.

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Education

- Ph.D. in Mathematical Sciences, KAIST, February 2011
- M.S. in Applied Mathematics, KAIST, February 2007
- B.S. in Mathematics, KAIST, February 2005

Research Interests

- Partial Differential Equations
- Long-time Asymptotics for Diffusion Equations
- Nodal Sets of Laplacian
- Buckling Analysis of Plates

Employment

- November 1, 2012 – : Post-doctoral Fellow in Laboratoire J.-L. Lions, UPMC (Paris 6), France; Funded by the Foundation Sciences Mathématiques de Paris.
- February 1, 2012 – May 31, 2012: Adjunct Professor in Dept. of Mathematical Sciences, KAIST, Republic of Korea
- March 1, 2011 – Present: BK21 Post-doctoral Fellow in Natural Science Research Institute, KAIST, Republic of Korea
- February 7, 2011 – June 7, 2011: Adjunct Professor in Dept. of Mathematical Sciences, KAIST, Republic of Korea

Publications and Preprints

- (3) *Long-time asymptotics of the zero level set for the heat equation*, Quart. Appl. Math. **70** (2012) 705–720.
- (2) *Relative Newtonian potentials of radial functions and asymptotics in nonlinear diffusion*, with Yong-Jung Kim, SIAM J. Math. Anal. **43** (2011) 1975–1994.
- (1) *Asymptotic agreement of moments and higher order contraction in the Burgers equation*, with Eugenia Kim and Yong-Jung Kim, J. Differential Equations **248** (2010) 2417–2434.

Interdisciplinary Research

- (1) *A study of characteristics for a spiral coil type ground heat exchanger*, with SKhan Park, Seung-Rae Lee, Hyunku Park and Seok Yoon, submitted to Computers and Geotechnics.

Presentations and Conference Participation

- (9) *Poisson's Equation and the Steady State Temperature in the Heat Equation*, BK21 Post-doc seminar, KAIST, Daejeon, Korea, May 14, 2012.
- (8) *Differential Equations in MATLAB 7*, 2nd Korea PDE Winter School, National Institute of Mathematical Sciences, Daejeon, Korea, January 10 & 12, 2012. (4hrs. Lecture); Lecture note is available at http://amath.kaist.ac.kr/pde_lab/members/JaywanChung/MatlabLecture.pdf
- (7) *Introduction to Porous Medium Equation*, BK21 Post-doc seminar, KAIST, Daejeon, Korea, December 12, 2011.
- (6) *Perturbation Method for Proportional Navigation Guidance*, ADD Project seminar, Kensington Resort, Gyeongju, Korea, April 22, 2011. (20 min. talk)
- (5) *Number of Zeros and Heat Equation on the Real Line*, BK21 Post-doc seminar, KAIST, Daejeon, Korea, April 14, 2011. (20 min. talk)
- (4) *Long-time Asymptotics of the Zero Level Set for the Heat Equation*, Canadian Mathematical Society Winter Meeting, Vancouver, British Columbia, Canada, December 5, 2010.
- (3) *Long-time Asymptotics of the Zero Level Set for the Heat Equation*, a talk in KAIST, Daejeon, Korea, November 10, 2010.
- (2) *Long-time Asymptotics of the Zero Level Set for the Heat Equation*, a talk in Seoul National University, Seoul, Korea, November 1, 2010.
- (1) *Potential Comparison and L^1 -Convergence Order for the PME and p -Laplacian Equation*, 7th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Univ. of Texas at Arlington, USA, May 19, 2008.

Research Projects

- (5) *Homing Guidance Loop Design and Analysis Based on Confluent Hypergeometric Kummer Differential Equation*, Korean Agency for Defense Development, July 2010–February 2011.
- (4) *Virtual Resistive Network & a Development of an Anisotropic Conductivity Reconstruction Method for a Medical Imaging*, Korea Science and Engineering Foundation, May 2009–February 2011.
- (3) *Evolution of Radial Solutions in Compressible Fluid Dynamics: Asymptotics and Regularity at the Origin*, Korea Science and Engineering Foundation, May 2007–February 2009.
- (2) *Development of Semi-analytical Methods for Ultimate Strength Analysis of Stiffened Panels*, Korean Register of Shipping, September 2006–August 2007.
- (1) *Development of Potential Comparison Technique and Convergence Study in Several Nonlinear Dynamics*, Korea Research Foundation, July 2006–June 2007.

Teaching Experience

- (8) “Calculus I” Instructor, KAIST, Spring 2012; Taught to 67 undergraduate students in English.
- (7) “Analysis for Engineers” Instructor, KAIST, Spring 2011; Taught graduate course to 24 students.
- (6) “Real Analysis” TA, KAIST, Spring 2009
- (5) Freshman Design Course TA, KAIST, Spring 2009; Led a project with 5 students.
- (4) Creative Global Leader Camp TA, KAIST, Summer 2007; Led two projects with a dozen high school students.
- (3) “Introduction to Partial Differential Equations” TA, KAIST, Spring 2007
- (2) Undergraduate Research Participation (URP) program TA, KAIST, Spring 2006
- (1) Teaching Assistant, KAIST, 2005–2009

Last modified on October 24, 2012.