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**Area of Research**

Several Complex Variables, Local Commutative Algebra, Singularities of Complex Varieties

**Education**

Purdue University, Research Assistant Professor, August 2006 - present

University of Illinois at Urbana-Champaign, Ph.D., Mathematics, 2001 - July 2006

Ph.D. in Mathematics, July 2006

Thesis Title : An Algebraic Generalization of Subelliptic Multipliers

Advisor : Professor John P. D'Angelo

University of Illinois at Urbana-Champaign, Visiting Student, funded by Brain Korea 21, 2000-2001

Seoul National University, MA, Mathematics, 1998

Seoul National University, BA, Mathematics, 1996

**Honors and Awards**

University of Illinois Graduate Fellowship, UIUC, fall 2005.

Kuo-Tsai Chen Award in Mathematics, in recognition of outstanding scholastic achievement by a graduate student, UIUC, April 14, 2005.

For details, see [http://www.math.uiuc.edu/mathtimes/Spring2005/mathtimes\\_spring05.htm](http://www.math.uiuc.edu/mathtimes/Spring2005/mathtimes_spring05.htm).

**Publications**

*A Monotone Property of Subelliptic Estimates under Ideal Inclusion*, in preparation.

*Types and Sharp Subelliptic Estimates on Regular Coordinate Domains*, with David W. Catlin, in preparation.

*Sharp Subelliptic Estimates on Rigid Homogeneous Domains in  $\mathbb{C}^3$* , in progress.

*Sharp Estimates for the  $\bar{\partial}$ -Neumann Problem on Regular Coordinate Domains*, with David W. Catlin, submitted, available at <http://arxiv.org/abs/0811.0830>.

*Monotonicity of Subelliptic Estimates on Rigid Pseudoconvex Domains*, submitted, available at <http://arxiv.org/abs/0804.2842>.

*An Algebraic Version of Subelliptic Multipliers*, Mich. Math. J. Vol. 56 (2006), 411-426.

*Complete Prolongation and the Frobenius Integrability for Overdetermined Systems of Partial Differential Equations*, (with C. K. Han), J. Korean Math. Soc. 39 (2002), no. 2, 237 - 252.

## Teaching Experience

Primary Lecturer, Purdue University, August 2006 - present

MA366, Ordinary Differential Equations

MA511, Linear Algebra with Applications (For Graduate Engineering Students)

MA304, Differential Equations and Analysis of Nonlinear Systems

MA351, Elementary Linear Algebra

Instructor, Fall 2004, Spring 2005, Spring 2006, UIUC

A Mathematical World - Elementary Course

Teaching Assistant, Fall 2001 - Spring 2004, UIUC

Calculus I, II

**Remark:** Posed on the incomplete list of teachers ranked as excellent by their student (spring 2004). For details, see <http://www.oir.uiuc.edu/dme/ices/Sp04Incl.htm>.

## Talks

(Scheduled), AMS Sectional Meeting, Special Section on Holomorphic and CR Mappings, University of Illinois at Urbana-Champaign, March 27-29, 2009.

*Sharp Subelliptic Estimates on Regular Coordinate Domains I,II*, Geometric Analysis Seminar, Purdue University, September 15, 22, 2008.

*Sharp Subelliptic Estimates for Special Domains*, Seminar in SCV and Complex dynamics, University of Michigan, March 10, 2008.

*Sharp Subelliptic Estimates for the  $\bar{\partial}$ -Neumann Problem on Regular Coordinate Domains*, Seminar in SCV, Seoul National University, December 21, 2007.

*Sharp Estimates for the  $\bar{\partial}$ -Neumann Problem on Regular Coordinate Domains*, AMS Sectional Meeting Special Section on Analysis and CR Geometry, DePaul University, October 5-6, 2007.

*An Algebraic Generalization of Subelliptic Multipliers - Some Aspects of Regular Local Rings*, International Conference in PDE, Complex Analysis, and Differential Geometry in honor of M. Salah Baouendi, University of Notre Dame, June 11 - 16, 2006.

*An Algebraic Version of Subelliptic Multipliers*, AMS Sectional Meeting Special Section on Several Complex Variables, University of Notre Dame, April 8 - 9, 2006.

*Subelliptic Multipliers and Singularities of Varieties*, Several Complex variables conference, Sogang University, Korea, Jun 11, 2005.

*An Algebraic Version of Subelliptic Multipliers*, Seminars in Korea Institute for Advanced Study, Korea, Jun 8, 2005.

## Attended Conferences

OSU/UM Algebraic Geometry Workshop, University of Michigan, October 20-21, 2007.

The 2007 Midwest Workshop on Complex Analysis and Geometry, the University of Illinois at Chicago, April 13-15, 2007.

Midwest Several Complex Variables Conference in honor of Professors Dave Barrett, Dan Burns, John ErikFornæss, Berit Stensønes, University of Michigan, March 2-4, 2007.

AMS Sectional Meeting Special Section on PDE Methods in Several Complex Variables, Miami University, Oxford, OH, March 16-17, 2007.

International Conference in PDE, Complex Analysis, and Differential Geometry in honor of M. Salah Baouendi, University of Notre Dame, June 11 - 16, 2006.

AMS Sectional Meeting Special Section on Several Complex Variables, University of Notre Dame, April 8 - 9, 2006.

Midwest Algebra, Geometry and their Interactions Conference - MAGIC 05 -, University of Notre Dame, October 7-11, 2005.

Commutative Algebra Conference honoring the contributions of Phillip Griffith, UIUC, September 16-18, 2005.

MSRI Summer Graduate Workshop, CR Geometry: Complex Analysis Meets Real Geometry and Number theory, MSRI, July 25 - August 5, 2005.

Conference on Several Complex Variables and Complex Geometry for the 70th Birthdays of Gunning and Kohn, Princeton University, September 18 - 22, 2002.

Midwest Several Complex Variables Meeting, Purdue University, October, 2000.

AMS Sectional Meeting Special Session on Several Complex Variables, University of Notre Dame, April 8 - 9, 2000.