

Hyunwoo Will Kwon

Lecturer (with rank of Lieutenant) / Ph. D. Student in Mathematics
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Employment

Lecturer with rank of Lieutenant (non-tenure track)

Republic of Korea Air Force Academy

– Mandatory military service, will be discharged at 2022. 5. 31.

Cheongju, Korea

2019.9 – 2022.5.

Education

Sogang University

Ph. D. student in Mathematics (Advisor: Prof. Hyunseok Kim)

* Leave of absence from 2019.2 due to military service

Seoul, Korea

2019.2 – Present

Sogang University

M.S. in Mathematics (Advisor: Prof. Hyunseok Kim)

Thesis: Dirichlet and Neumann problems for elliptic equations with singular drifts on Lipschitz domains

Seoul, Korea

2017.2 – 2019.2

Sogang University

B.S. in Mathematics, *Summa Cum Laude*

Seoul, Korea

2013.2 – 2017.2

Research Interests

- Unique solvability of boundary value problem for elliptic and parabolic equations with singular drift terms
- Real variable methods in harmonic analysis
- Mathematical theory on dispersive, kinetic, fluid equations.

Publication and Preprints

1. *Elliptic equations with drifts in L^2 on Lipschitz domains in \mathbb{R}^2* , arXiv:2104.01300 [math.AP], submitted for publication.
2. *Existence and uniqueness of weak solution in $W^{1,2+\varepsilon}$ for elliptic equation with drifts in weak- L^n spaces*, J. Math. Anal. Appl. 500(1) (2021) 125165, arXiv:2011.07524 [math.AP]
3. *Dirichlet and Neumann problems for elliptic equations with singular drifts on Lipschitz domains*, with H. Kim, arXiv:1811.12619 [math.AP], submitted for publication.

Awards, Grants & Honours

BK Plus Scholarship, Sogang University	2017
Albatross Fellowship (full funding support, 2 years), Sogang University	2017
President prize for highest achievement in academic(1%), Sogang University	2015
Dean's List of Natural Science, Sogang University for highest achievement in academic	2014
Full Funding Scholarship(7 semesters) from Hyundai Chung Mong-Koo Foundation	2013

Teaching

Lecturer

Republic of Korea Air Force Academy

Cheongju, Korea

Sep. 2019 – Jun. 2022

- 2021-2 Linear Algebra (Humanities, 2 class), (Science, 1 class)
- 2021-1 Calculus (Science, 2 classes), Engineering Mathematics I
- 2020-2 Linear Algebra (Humanities), Engineering Mathematics I, Engineering Mathematics II
- 2020-1 Calculus (Humanities), Engineering Mathematics I (2 classes)
- 2019-2 Linear Algebra (Science, 3 classes), Engineering Mathematics I

Coordinator of Undergraduate Seminar in Sogang Math Honors Club

Sogang University

Seoul, Korea

Apr. 2017 – Aug. 2017

- 2017-1 Introduction to Hilbert Spaces

Recitation Instructor and Grader

Sogang University

Seoul, Korea

Mar. 2017 – Present

- 2018-2 Advanced calculus II (Recitation instructor, Grading)
- 2018-1 Advanced calculus I (Grading)
- 2018-1 Theory of complex variable I (Grading)
- 2017-2 Advanced calculus II (Recitation instructor, Grading)
- 2017-1 Advanced calculus I (Recitation instructor)

Mathematics Tutor

Sogang University

Seoul, Korea

Mar. 2016 – Dec. 2016

- Worked as a tutor at Sogang Mathematics Learning Center
- Helped several subjects which use mathematics

Talks in Mathematics

$W^{1,2+\varepsilon}$ -results for elliptic equations with singular drifts in weak L^n -spaces

Contribution talks in Analysis session, 2021 Spring Meeting of KMS

Apr. 2021

$W^{1,2+\varepsilon}$ -results for elliptic equations with drifts in weak L^n -spaces

KIAS Analysis, PDE & Probability Seminar (Host: Prof. In-Jee Jeong)

Jan. 2021

Elliptic equations with singular drifts on Lipschitz domains

HA-GMT-PDE seminar at University of Minesotta (Host: Bruno Poggi Cevallos)

Sep. 2020

Elliptic equations with singular drifts on Lipschitz domains

KIAS Analysis, PDE & Probability Seminar (Host: Dr. In-Jee Jeong)

Dec. 2019

Neumann problems for elliptic equations with singular drifts on Lipschitz domains Contribution talks in Analysis session, 2019 Spring Meeting of KMS	Oct. 2019
Elliptic equations with singular drifts on Lipschitz domains IBS-CGP Seminar (Host: Dr. Jin Woo Jang)	Jan. 2019
L^2-boundedness of the Cauchy integral operator on Lipschitz curves KIAS Analysis&PDE Learning seminar (Host: Prof. Sung-Jin Oh)	Oct. 2018
Dirichlet problems for elliptic equations with singular drifts in Lipschitz domains Contribution talks in Analysis session, 2018 Joint Meeting of KMS and DMV	Oct. 2018
Dirichlet problems for elliptic equations with singular drifts in Lipschitz domains Graduate student seminar, Yonsei University (Host: Prof. Kyungkeun Kang)	Sep. 2018
The resolution of Hilbert's 19th problem Graduate student seminar, Sogang University	Sep. 2018
Elliptic equations with singular drifts on Lipschitz domains Workshop for students in Analysis and PDE	Jul. 2018

Work Experience

L^AT_EX Technician

Freelancer

Seoul, Korea
2014 - 2019.2.

- Made several books with Kyungmoon Publisher and the others
- Technical Editor for Publication of ICM 2014 Seoul, Korea

Academic Services

Organizer of workshop

Workshop for students in Analysis and PDE

Seoul, Korea
July. 2018

Co-organized with H. Kim (Sogang Univ.), Y.-R. Lee (Sogang Univ.) and S. W. Ryoo (SNU)

Founder and Orgernizer of Undergraduate Mathematics Seminar

United Mathematics club in Korea : Stupid Mathematics Seminar

Seoul, Korea
Feb. 2014 – Feb. 2016

Conference and Workshop Attended (will attend)

- Yonsei Ewha Sogang Seminar on Analysis & PDEs, Online via Zoom, 2021.01.20.
- Workshop on Harmonic Analysis Techniques for PDEs, JBNU, Jeonju, Korea, 2019.12.13 – 2019.12.14.
- The 3rd meeting of Young PDE researchers in PDEs, KIAS, Seoul, Korea, 2018.12.13 – 2018.12.14.
- Workshop for students in Analysis and PDE(as a organizer and speaker), Sogang Univ., Seoul, Korea, 2018. 07. 12 – 2018. 07. 13.
- Dynamics of partial differential equations, KAIST, Daejeon, 2018. 06. 27 – 2018. 06. 29.
- 2018 Korea PDE School #8, NIMS, Daejeon, 2018. 01. 29 – 2017. 02. 02.
- Minicourse: General relativity in spherical symmetry, KIAS, 2017.04.07 – 2017.04.28.
- Lecture Series on various topics in PDEs, KIAS, Seoul, Korea, 2017.02.13 – 2017.02.17 / 2017.02.20 – 2017.02.24.
- 2017 Korea PDE School #7, NIMS, Daejeon, 2017. 01. 16 – 2017.01.20.
- 2016 CMC Foundations for Mathematical Challenge: Solitons in the Korteweg-de Vries equations, inverse scattering approaches, KIAS, Seoul, Korea, 2016. 08. 22 – 2016. 08. 26.
- IBS-CGP Mathematics Festival 2016, IBS Center for Geometry and Physics, Pohang, 2016. 07. 18 – 2016. 07. 22.
- 7th Workshop on PDEs of Mathematical Physics, UNIST, Ulsan, 2016. 01. 14 – 2016. 01. 16

Updated: May 21, 2021