

ADISAK SEESANEA

Curriculum Vitae

Department of Mathematics
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PERSONAL INFORMATION

DATE OF BIRTH: February 7, 1988
PLACE OF BIRTH: Ratchaburi, Thailand

GENDER: Male
CITIZENSHIP: Thai

EDUCATION

- **University of Missouri-Columbia, USA** *2013–2018*
Ph.D. in Mathematics
DOCTORAL DISSERTATION: Potential theory methods for some nonlinear elliptic equations
ADVISOR: Igor E. Verbitsky
- **Suranaree University of Technology, Thailand** *2010–2013*
M.Sc. in Applied Mathematics
MASTER'S THESIS: Extensions of the Heisenberg group by d -parameter groups of dilations
ADVISOR: Eckart R. Schulz
- **Silpakorn University, Thailand** *2006–2010*
B.Sc. in Mathematics (First Class Honors)
SENIOR PROJECT: Hamiltonian group
ADVISOR: Chawewan Ratanaprasert

PROFESSIONAL EXPERIENCE

- **Hokkaido University, Japan** *2018–present*
JOB TITLE: Research Fellow
DUTIES: Conduct independent and collaborative research (Mentor: Jun Masamune)
- **University of Missouri-Columbia, USA** *Summer 2017*
JOB TITLE: Graduate Research Assistant
DUTIES: Conduct research under the supervision of Igor E. Verbitsky
- **Silpakorn University, Thailand** *2009–2010*
JOB TITLE: Teaching Assistant
DUTIES: Teach recitation classes in undergraduate level

RESEARCH INTERESTS

Partial Differential Equations, Potential Theory, Harmonic Analysis

PUBLICATIONS AND PREPRINTS

- T. HARA AND A. SEESANEA, *Existence of minimal solutions to quasilinear elliptic equations with several sub-natural growth terms*, Nonlinear Anal. **197** (2020), published online. <https://doi.org/10.1016/j.na.2020.111847>.
- A. SEESANEA AND I. E. VERBITSKY, *Finite energy solutions to inhomogeneous nonlinear elliptic equations with sub-natural growth terms*, Adv. Calc. Var. **13** (2020), no. 1, 53–74. <https://doi.org/10.1515/acv-2017-0035>.
- A. SEESANEA AND I. E. VERBITSKY, *Solutions in Lebesgue spaces to nonlinear elliptic equations with sub-natural growth terms*, Algebra i Analiz **31** (2019), no. 3, 216–238. <http://mi.mathnet.ru/rus/aa/v31/i3/p216>.
- A. SEESANEA AND I. E. VERBITSKY, *Solutions to sublinear elliptic equations with finite generalized energy*, Calc. Var. Partial Differential Equations **58** (2019), no. 1, Art. 6. <https://doi.org/10.1007/s00526-018-1448-1>.
- E. SCHULZ AND A. SEESANEA, *Extensions of the Heisenberg groups by two-parameter groups of dilations*, Proceedings of the Annual Pure and Applied Mathematics Conference, Chulalongkorn University, Bangkok, Thailand (2013), 147–162. <https://arxiv.org/abs/1804.10305>.

WORK IN PROGRESS

- K. HIRATA AND A. SEESANEA, *The Dirichlet problem for sublinear elliptic equations with source.*
- A. SEESANEA, *Bounded solutions to quasilinear elliptic equations with measure coefficients.*
- Y. INAGAKI, A. SEESANEA AND T. UEMURA, *Homogenization of periodic elliptic operators with singular drifts.*

FELLOWSHIPS AND AWARDS

- **Japan Society for the Promotion of Science (JSPS)**
 - Research fellowship as part of JSPS KAKENHI grant no. JP17H01092 (PI: Hiroaki Aikawa) 2018–2020
- **Department of Mathematics, University of Missouri-Columbia**
 - Research assistantship (PI: Igor E. Verbitsky) Summer 2017
- **Development and Promotion of Science and Technology Talents Project (DPST)**
 - Full scholarship for doctoral study in the USA 2013–2018
 - Full scholarship for high school, undergraduate and graduate studies in Thailand 2003–2013
- **The Professor Dr. Tab Nilanidhi Foundation**
 - Award, recognizing outstanding performance in graduate study 2013

SELECTED ACADEMIC ACTIVITIES

- **Short-Term Visits**
 - Kansai University, Osaka, Japan, January 26–27, 2020.
 - Hiroshima University, Higashi-Hiroshima, Japan, January 27–February 2, 2019.
 - Hokkaido University, Sapporo, Japan, October 31–November 6, 2017.
- **Invited Talks**
 - Potential Theory Seminar, Meijo University, Nagoya, Japan, October 25, 2019.
TOPIC: *Solutions in Lebesgue spaces to sublinear elliptic equations with measure data.*
 - Potential Theory Seminar, Meijo University, Nagoya, Japan, December 7–8, 2018.
TOPIC: *Solvability of a class of nonlinear elliptic equations: Potential theoretic methods.*
 - The 13th HU-SNU Joint Symposium on Mathematics: Probability and Functional Analysis, Hokkaido University, Sapporo, Japan, November 8–9, 2018.
TOPIC: *Positive solutions to nonlinear elliptic equations with sub-natural growth terms.*
 - Suranaree University of Technology, Nakhon Ratchasima, Thailand, September 19, 2018.
TOPIC: *A potential theory approach to some nonlinear elliptic equations.*
 - Global Properties in Potential Theory of Continuous and Discrete Spaces, Hokkaido University, Sapporo, Japan, November 3–4, 2017.
TOPIC: *Finite energy solutions to nonlinear elliptic equations involving measures.*
- **Contributed Talks**
 - The 21st Northeastern Symposium on Mathematical Analysis, Hokkaido University, Sapporo, Japan, February 17–18, 2020.
POSTER: *A potential theory approach to nonlinear elliptic equations with sub-natural growth terms.*
 - The 5th Camp on Homogenization: Periodic Unfolding Method in Homogenization II, Kansai University, Osaka, Japan, December 25–29, 2019.
TOPIC: *Unfolding operators and gradients.*
 - Monday Analysis Seminar, Hokkaido University, Sapporo, Japan, October 15, 2018.
TOPIC: *Potential theory methods for some nonlinear elliptic equations.*

- The 34th Southeastern Analysis Meeting, Georgia Institute of Technology, Atlanta, Georgia, USA, March 23–25, 2018.
TOPIC: *Regularity of positive solutions to sublinear elliptic equations.*
- Analysis Seminar, University of Missouri, Columbia, Missouri, USA, October 17, 2017.
TOPIC: *Finite energy solutions to nonlinear elliptic equations.*
- Prairie Analysis Seminar 2017, Kansas State University, Manhattan, Kansas, USA, September 8–9, 2017.
TOPIC: *Finite energy solutions to nonlinear elliptic equations with sub-natural growth terms.*
- Graduate Analysis Seminar, University of Missouri, Columbia, Missouri, USA, April 14, 2017.
TOPIC: *One-sided approximation of functions in Sobolev spaces.*
- Graduate Analysis Seminar, University of Missouri, Columbia, Missouri, USA, September 23, 2016.
TOPIC: *A proof of Bochner’s theorem.*
- Annual Pure and Applied Mathematics Conference 2013, Chulalongkorn University, Bangkok, Thailand, 9–10 May, 2013.
TOPIC: *Extensions of the Heisenberg group by two-parameter groups of dilations.*
- The 8th Conference on Science and Technology for Youths, BITEC Exhibition Center, Bangkok, Thailand, 22–23 March, 2013.
TOPIC: *Extensions of the multidimensional Heisenberg group by d -parameter groups of dilations.*

• **Conferences and Workshops Attended**

- Singular Problems Associated to Quasilinear Equations (in honor of Marie-Francoise Bidaut-Veron and Laurent Veron on their 70th birthday), ShanghaiTech University, Shanghai, China, June 1–2, 2020. (upcoming)
- Asia-Pacific Analysis and PDE Seminar, The University of Sydney, Sydney, Australia, starting from May 11, 2020. (weekly online meeting)
- IMS Lecture Series on Regularity Theory for Quasilinear Equations, ShanghaiTech University, Shanghai, China, May 1–3, 2020. (online meeting)
- PDE Seminar via Zoom, ShanghaiTech University, Shanghai, China, starting from April 9, 2020. (weekly online meeting)
- One World PDE Seminar, University of Bath, Bath, United Kingdom, starting from March 31, 2020. (weekly online meeting)
- Intensive Lectures in Mathematical Physics, Kyoto University, Kyoto, Japan, January 28, 2020.
- The 44th Sapporo Symposium on Partial Differential Equations, Hokkaido University, Sapporo, Japan, August 5–7, 2019.
- PDE Real Analysis Seminar, The University of Tokyo, Tokyo, Japan, June 4, 2019.
- Potential Analysis and its Related Fields 2019, Hokkaido University, Sapporo, Japan, February 11–13, 2019.
- Homogenization Study Camp: Theory and Applications of Homogenization, Kansai University, Osaka, Japan, December 25–29, 2018.
- Annual ATPAC-MOST-OHEC-IPST Conference, Marriott Suites on Sand Key, Clearwater Beach, Florida, USA, January 25–27, 2018.
- The Seventh Ohio River Analysis Meeting, University of Cincinnati, Cincinnati, Ohio, USA, March 25–26, 2017.
- KUMU Conference on PDE, Dynamical Systems and Applications 2016, University of Missouri, Columbia, Missouri, USA, April 23–24, 2016.
- Rivière-Fabes Symposium on Analysis and PDE 2016, University of Minnesota–Twin Cities, Minneapolis, Minnesota, USA, April 15–17, 2016.
- Analytic and Probabilistic Techniques in Modern Convex Geometry, University of Missouri, Columbia, Missouri, USA, November 7–9, 2015.
- Franco-Thai Seminar in Pure and Applied Mathematics, Mahidol University, Bangkok, Thailand, October 29–31, 2009.

SERVICES

- Reviewer for Mathematical Reviews *2019–present*

PROFESSIONAL SOCIETY MEMBERSHIPS

- American Mathematical Society *2013–2018*
- Society for Industrial and Applied Mathematics *2017–2018*

RELATED SKILLS

- **Language Use:** Thai (Native), English (Fluent), Japanese (Beginner)
- **Computer Skills:** Maple, MATLAB, Mathematica, FreeFem++, LaTeX
Windows, Mac and Ubuntu operating systems

REFERENCES

Professor Igor E. Verbitsky

Department of Mathematics
University of Missouri-Columbia, USA
Email: verbitskyi@missouri.edu

Professor Loukas Grafakos

Department of Mathematics
University of Missouri-Columbia, USA
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Associate Professor Samuel Walsh

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Professor Hiroaki Aikawa

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Chubu University, Japan
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Professor Jun Masamune

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