Bohyun Kim | CV

📍 Address: 3770 Keystone ave 213, Los Angeles, CA 90034
📞 Phone: +1-(650)-477-0978
@ Email: bohyunk@math.ucla.edu
🔗 Website: https://hyunbrianna.wixsite.com/website

EDUCATION

University of California, Los Angeles   Los Angeles, CA
Ph.D., Mathematics   *Sept. 2016 - Jun. 2023 (Expected)*
Advisor: Dr. Andrea L. Bertozzi
Leave of Absence from Mar. 2017 - Sept. 2017 and from Mar. 2020 - Mar. 2021

University of California, Los Angeles   Irvine, CA
B.S., Mathematics, Minor in Computer Science   *Sept. 2012 - Jun. 2016*

RESEARCH INTERESTS

My research interests lie in designing numerical methods for nonlinear partial
differential equations with applications in fluid mechanics, imaging, graphics, and
climate modeling.

PUBLICATIONS

1. **Kim, B.**, Ji, H., Bertozzi., A., Sadeghpour A., Ju, S. (preprint). A positivity-preserving numerical method for a thin liquid film on a vertical cylindrical fiber.

2. **Kim, B.**, Lou, Y. (2021). Two-Step Blind Deconvolution of UPC-A Barcode Images. In: Demir, I., Lou, Y., Wang, X., Welker, K. (eds) Advances in Data Science. Association for Women in Mathematics Series, vol 26. Springer, Cham. https://doi.org/10.1007/978-3-030-79891-8_3

3. Birns, S., **Kim, B.**, Ku, S., and Stangl, K. (2016). A Practical Study of Longitudinal Reference-Based Compressed Sensing for MRI. Rose-Hulman Undergraduate Mathematics Journal: Vol. 17 : Iss. 2 , Article 1. https://doi.org/10.48550/arXiv.1608.04728

HONORS AND AWARDS

Eugene V. Cota-Robles Fellowship: A 5-year fellowship in Fall 2016 by UCLA
NRT-MENTOR Fellowship: One year fellowship awarded in Fall 2018 by UCLA Mathematics Department.
Houts Family Scholarship: $3500 in 2011 by UC Irvine

RESEARCH PROJECTS

University of California, Los Angeles   Los Angeles, CA
Graduate Researcher with Dr. Andrea L. Bertozzi   *Jan. 2020 - Present*
Thesis: A positivity-preserving numerical method for a thin liquid film on a vertical cylindrical fiber

Graduate Researcher with Dr. Yifei Lou   *Jul. 2019 - Feb. 2020*
Two-step Blind Deconvolution of UPC-A Barcode Images

Undergraduate Researcher with Dr. Deanna Needell   *Jun. 2015 - Aug. 2016*
Longitudonal MRI and compressed sensing

Applied and Computational Mathematics REU Program 2015

University of California, Irvine
<div align="right">Irvine, CA</div>

Undergraduate Researcher with Dr. Natalia Komarova *Sept. 2013 - Jun. 2016*
Mathematical modeling of stem cells and differentiated cells

Undergraduate Researcher with Dr. Yifei Lou *Jun. 2013 - Aug. 2013*
Barcode Deconvolution via Wiener Filter and Dictionary Analysis
iCAMP 2013

Mathematical Biosciences Institute
<div align="right">Columbus, OH</div>

Undergraduate Researcher with Dr. Yaroslav Molkov *Jun. 2014 - Aug. 2014*
Mathematical modeling of thermoregulation
Summer REU 2014

TEACHING EXPERIENCE

University of California, Los Angeles
<div align="right">Los Angeles, CA</div>

Instructor *Jan. 2023 - Apr.2023*

Nominated to teach an upper division math class (Math 182: Algorithms) as a graduate student for the first time in Math department history.

Teaching Assistant *Sept. 2017 - Present*

Average Teaching Score of 11 courses taught: 8.078/10

Lower Division: Calculus for life science students, Integral and Infinite series, Calculus of Several Variable, Linear Algebra and Applications, Differential Equations.

Upper Division: Introduction to Probability and Statistics, Applied Numerical Methods.

University of California, Physics
<div align="right">Irivine, CA</div>

Physics Tutor *Mar. 2015 - Jun. 2016*

PRESENTATION (ORAL)

Positivity-preserving numerical method for thin liquids film on vertical cylindrical fibers.
The 74th Annual Meeting of the Division of Fluid Dynamics (DFD), Indianapolis, 2022

Barcode Deconvolution via Wiener Filter and Dictionary Analysis.
MAA Fall Sectional Meetings, Irvine, 2014

Barcode Deconvolution via Wiener Filter and Dictionary Analysis.
Southern California Conferences for Undergraduate Research (SCCUR), Fullerton 2014

Effect of Locomotion on a Body Temperature Control Mechanism.
Indiana University Research Conference, Bloomington 2014

Effect of Locomotion on Body Temperature Control Mechanism
Mathematical Biosciences Institute REU Capstone Conference, Columbus 2014

The Ultimate Brownie Pan
Pacific Coast Undergraduate Mathematics Conference (PCUMC), Pomona, 2013

Presentation (Poster)

Positivity-preserving numerical method for thin liquids film on vertical cylindrical fibers.
The 74th Annual Meeting of the Division of Fluid Dynamics (DFD), Indianapolis, 2022

Barcode Deconvolution via Wiener Filter and Dictionary Analysis.
Joint Mathematics Meetings (JMM), San Antonio 2015

Effect of Locomotion on Body Temperature Control Mechanism
Indiana University Research Conference, Bloomington 2014

Effect of Locomotion on Body Temperature Control Mechanism
Mathematical Biosciences Institute REU Capstone Conference, Columbus 2014

Service

Department of Mathematics, UCLA   Los Angeles, CA
Teaching Committee - Graduate Student Representative   *Sept. 2022 - Present*
Improved and evaluated teaching policies at UCLA mathematics department. The
member was elected by graduate students and recommended by faculty members.

Research Mentor for Research Experience for Undergraduate (REU)   *Jun. 2019*

Association for Computing Machinery (ACM), UC Irvine   Irvine, CA
Logistics Manager of hackUCI, UC Irvine hackathon   *Feb. 2014- May. 2016*
Planned and coordinated all event details for 400+ participants, sponsors, and
organizers.

Programming Skills

Python, C++, C, MATLAB, Maple, Git, Mathematica, R