

CURRICULUM VITAE: YUEXIA LUNA LIN

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Paulson School of Engineering and Applied Sciences
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EDUCATION AND RESEARCH EXPERIENCE

Paulson School of Engineering and Applied Sciences, Harvard University Ph. D. Applied Mathematics, expected May 2021 Advisor: Professor Chris H. Rycroft	2016 - Present
Lawrence Berkeley National Laboratory <i>CSGF practicum</i> Mentor: Ann Almgren	Summer 2018, 2019
Lawrence Berkeley National Laboratory <i>Research assistant</i>	Summer 2015, 2016
Barnard College, Columbia University Bachelor of Arts in Physics, Summa Cum Laude Advisor: Timothy Halpin-Healy	2011-2015
CHES, Wilson Synchrotron Laboratory, Cornell University <i>REU student</i>	Summer 2014
VERITAS, Nevis Laboratories, Columbia University <i>Hughes research intern</i>	Summer 2013

RESEARCH INTERESTS

Broadly: numerical methods in computational fluid dynamics, fluid-structure interaction; discrete modeling of physical and biological systems: diffusion-limited dissolution and aggregation, growth and patterning in biofilm, application of high performance computing to scientific computations

JOURNAL PUBLICATIONS

Chenzheng Wang, Yuexia Lin, Devin Bougie, and Richard E. Gillilan, *Predicting data quality in biological X-ray solution scattering*, Acta Cryst. D **74**, 727-738 (2018).

Timothy Halpin-Healy and Yuexia Lin, *Universal aspects of curved, flat, and stationary-state Kardar-Parisi-Zhang statistics*, Phys. Rev. E **89**, 010103(R) (2014).

CONFERENCE PRESENTATIONS

Reference map technique: a fully Eulerian method for fluid-structure interactions, oral presentation at Computational Science Graduate Fellowship Annual Program Review via Zoom, July 13 - 15, 2020.

An agent-based model of cell growth and T6SS-dependent competition, poster presentation at Computational Science Graduate Fellowship Annual Program Review, Arlington, VA, July 15-18, 2019.

Reference map technique: a fully Eulerian method for fluid-structure interactions, poster presentation at Mathematical fluids, materials and Biology conference, Ann Arbor, MI, June 13 - 15, 2019.

Reference map technique: a fully Eulerian method for fluid-structure interactions, Women In Numerical Methods for PDEs and their Applications workshop, Banff International Research Station, Banff, Canada, May 12 - 17, 2019.

A numerical model of V. fischeri growth and intraspecific competition, APS March Meeting, Boston, MA, Mar. 4-8, 2019.

Reference map technique: a fully Eulerian method for fluid-structure interactions, contributed talk at SIAM CSE, Spokane, WA, Feb. 25-Mar. 1, 2019.

Performance study on GPU offloading via CUDA, OpenACC, and OpenMP in AMReX, poster presentation at SIAM CSE, Spokane, WA, Feb. 25-Mar. 1, 2019.

Reference map technique: a fully Eulerian method for fluid-structure interactions, poster presentation at Computational Science Graduate Fellowship Annual Program Review, Arlington, VA, July 16-19, 2018.

A numerical model of V. fischeri growth and intraspecific competition, 30th Annual Euprymna scolopes-Vibrio fischeri Symbiosis Symposium La Jolla, CA, June 14-17, 2018.

The reference map technique for simulating dense suspensions of flexible particles, APS March Meeting, Los Angeles, CA, March 5-9, 2018.

A discrete particle model of diffusion-limited dissolution, poster presentation at Computational Science Graduate Fellowship Annual Program Review, Arlington, VA, July 24-27, 2017.

Interfacial dynamics of dissolving objects from discrete and continuum perspectives, SIAM Computational Science and Engineering 2017, Atlanta, GA, February 27-March 3, 2017.

A detection of the gamma-ray albedo of solar system bodies, APS April Meeting, Baltimore, MD, April 11-14, 2015.

FELLOWSHIPS AND AWARDS

Quantitative Biology Student Fellowship 2020
NSF-Simon Center for the Mathematical & Statistical Analysis of Biology
Harvard University

Computational Science Graduate Fellowship 2016-2020
Department of Energy

Peirce Fellowship Paulson School of Engineering and Applied Sciences, Harvard University	2016
Henry A. Boorse Prize Barnard College, Columbia University	2015
Grace Potter Rice Fellowship Barnard College, Columbia University	2015

TEACHING EXPERIENCE

Teaching fellow at School of Engineering and Applied Sciences, Harvard University

<i>Semester</i>	<i>Course</i>	<i>Instructor</i>
Fall 2017	AM205	Prof. Chris Rycroft
Fall 2020	AM205	Prof. Chris Rycroft

SKILLS

Programming languages: C++, Fortran, Python, Julia, Perl, Mathematica, Xcode with Swift

Language: Native in Mandarin/Simplified Chinese

Misc: Final Cut Pro