

Stephanie Wang

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Education

- Mar 2020 **Ph.D. in Mathematics**, *UCLA*, 3.88/4, Dissertation advisor: Prof. Joseph Teran.
Jun 2016 **M.S. in Mathematics**, *UCLA*, As a part of the PhD program..
Jan 2013 **B.S. in Mathematics**, *National Taiwan University*, 3.64/4, *magna cum laude*.

Research Experience

- 2020-present **Postdoc – under Prof. Albert Chern**, *UCSD*, San Diego, CA.
Weird maths, Houdini, and Python programming with applications in geometric processing, physics simulation, inverse rendering, and geometric learning.
- 2019-2020 **Ph.D. Study – under Prof. Wilfrid Gangbo**, *UCLA*, Los Angeles, CA.
Regularity theory for minimizers of polyconvex functionals related to Navier-Stokes equation.
- 2019 summer **Summer Exchange – under Prof. Johan Gaume**, *EPFL*, Lausanne, Switzerland.
Physics-based simulations, post-processing, and data analysis of snow and tire interaction and general consultation at the Snow and Avalanche Simulation Laboratory.
- 2016-2019 **Ph.D. Study – under Prof. Joseph Teran**, *UCLA*, Los Angeles, CA.
Physics-based simulations for animation purposes using C++ programming, convex and nonconvex optimizations, numerical PDEs, numerical linear algebra, and multithreading.
- 2013-2014 **Research Assistantship – under Prof. Wen-Wei Lin**, *NCTU*, Hsinchu, Taiwan.
Generalized eigenvalue problems using MATLAB programming.

Employment

- 2020 **Assistant Adjunct Professor**, *UCLA Math Dept*, Los Angeles, CA.
Teaching Machine Learning (Math156) and Calculus of Several Variables (Math32A).
- 2019 spring **Instructor**, *UCLA Math Dept*, Los Angeles, CA.
Teaching Linear Algebra and Applications (Math33A).
- 2018 summer **Technology Intern**, *Walt Disney Animation Studio*, Burbank, CA.
R&D for pioneer simulation technology in animated feature film, teaming with FX artists, numerical analysis, continuum mechanics, C++, HDK.
- 2015-2020 **Teaching Assistant**, *UCLA Math Dept*, Los Angeles, CA.
Linear algebra and intro to mathematical proofs, undergrad and grad level numerical methods, intro, intermediate, and advanced C++ programming.
- 2014 summer **Course Organizer**, *2014 Formosan Summer School on Logic, Language, and Computation*.

Awards and Prizes

- Jul 2019 **Best Paper Award**, *ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA) 2019*.
- Sep 2014 **Eugene V. Cota-Robles Fellowship**, *UCLA*.
- Jun 2013 **Dean's Award of College of Science**, *National Taiwan University*.
- Aug 2012 **Bronze Medal**, *S.T. Yau College Student Mathematics Contest*.
3rd place in Applied and Computational Mathematics.

Preprints

- Nov 2021 D. Palmer, D. Smirnov, S. Wang, A. Chern, J. Solomon, DeepCurrents: Learning Implicit Representations of Shapes with Boundaries, <https://arxiv.org/abs/2111.09383>
- Aug 2019 J. Carlen, J. Pont, C. Mentus, S. Chang, **S. Wang**, M. Porter, Role Detection in Bicycle-Sharing Networks Using Multilayer Stochastic Block Models <https://arxiv.org/abs/1908.09440>

Publications

- Sep 2021 L. Blatny, H. Löwe, **S. Wang**, J. Gaume, Computational micromechanics of porous brittle solids, *Computers and Geotechnics*.
- Aug 2021 **Stephanie Wang** and Albert Chern, Computing minimal surfaces with differential forms, *ACM Transactions on Graphics (SIGGRAPH 2021)*.
- Mar 2020 **Stephanie Wang**, A Material Point Method for Elastoplasticity with Ductile Fracture and Frictional Contact, *UCLA Doctoral Dissertation*.
- Nov 2019 M. Ding, X. Han, **S. Wang**, T. Gast, J. Teran, A thermomechanical material point method for baking and cooking, *ACM Transactions on Graphics. (SIGGRAPH Asia 2019)*
- Jul 2019 X. Han, T. Gast, Q. Guo, **S. Wang**, C. Jiang, J. Teran, A Hybrid Material Point Method for Frictional Contact with Diverse Materials, *Proc ACM on Computer Graphics and Interactive Techniques. (SCA 2019)*
- Jul 2019 **S. Wang**, M. Ding, T. Gast, L. Zhu, S. Gagniere, C. Jiang, J. Teran, Simulation and Visualization of Ductile Fracture with the Material Point Method, *Proc ACM on Computer Graphics and Interactive Techniques. (SCA 2019 Best Paper)*

Services

- 2018-2020 **President**, *Mathematics Graduate Student Organization, UCLA*.
Coordinate social and academic events and liaise with math faculty and administration representing the math graduate students.
- 2017-2020 **Math Dept Representative**, *Mathematical and Physical Sciences Student Council, UCLA*.
Student rights advocacy and cross-departmental social events planning.
- 2016-2018 **Cheif Organizer**, *Women in Math, UCLA*.
Organize social and volunteering events and advocate for women in math dept.
- 2017 **Creator**, *Women in Math Mentorship Program, UCLA*.
Secure fundings, coordinate regular mixers for undergraduate and graduate fellows to increase connection, awareness and mentorship.
- 2016-2018 **Fellow Mentor**, *California Teach, UCLA*.
- 2012-2013 **Vice President**, *Lambda Club, National Taiwan University*.

Skills

- Languages English and Mandarin Chinese - bilingual proficiency.
- Programming C++, lua, MATLAB, vim, bash, zsh, L^AT_EX
- Tools Houdini, HDK, git, gdb, valgrind, Eigen, tbb, CVX
- Mathematics Optimization, differential equations, scientific computing, and numerical linear algebra.
- Hobbies Rock climbing, hiking, and cooking