

# Stephanie Wang

Education	<p><b>Ph.D. and M.S. in Mathematics</b>, <i>UCLA</i>, Eugene V. Cota-Robles Fellow. <b>2014-2020</b></p> <p><b>B.S. in Mathematics</b>, <i>National Taiwan University</i>, <i>magna cum laude</i>. <b>2009-2013</b></p>
Positions	
Research	<p><b>Postdoc – with Prof. Albert Chern</b>, <i>UCSD</i>, San Diego, CA. <b>2020-present</b></p> <p>Geometry processing and physical simulation using mathematical insights from geometric measure theory, exterior calculus, partial differential equations, and optimization theory. Developing in Houdini and Python. Mentored students: <a href="#">Mohammad Sina Nabizadeh</a>, <a href="#">Shiyang Jia</a>, <a href="#">Chad McKell</a>, <a href="#">Hang Yin</a>, <a href="#">Baichuan Wu</a>.</p> <p><b>Ph.D. Study – with Prof. Wilfrid Gangbo</b>, <i>UCLA</i>, Los Angeles, CA. <b>2019-2020</b></p> <p>Regularity theory for minimizers of polyconvex functionals related to Navier-Stokes equation.</p> <p><b>Exchange Study – with Prof. Johan Gaume</b>, <i>EPFL</i>, Lausanne, Switzerland. <b>2019 summer</b></p> <p>Simulations and data analysis of snow and tire interaction, avalanche release, and snow micro-structure.</p> <p><b>Ph.D Study – with Prof. Joseph Teran</b>, <i>UCLA</i>, Los Angeles, CA. <b>2016-2019</b></p> <p>Physics-based simulations of various materials with Material Point Method and Finite Element Method, using continuum mechanics, convex and nonconvex optimization technique, numerical analysis, parallel computing, developing in C++ and Houdini.</p>
Industry	<p><b>Tech Intern</b>, <i>Walt Disney Animation Studio</i>, Burbank, CA. <b>2018 summer</b></p> <p>R&amp;D for pioneering simulation technology in animated feature films, teaming with VFX artists and developing in C++ and HDK.</p>
Teaching	<p><b>Assistant Adjunct Professor / Instructor</b>, <i>UCLA Math Dept</i>, Los Angeles, CA. <b>2019-2020</b></p> <p>Taught three courses: linear algebra, machine learning (remote) and multivariable calculus (remote).</p> <p><b>Teaching Assistant</b>, <i>UCLA Math Dept</i>, Los Angeles, CA. <b>2015-2020</b></p> <p>Taught 11 courses: linear algebra and intro to mathematical proofs, undergrad and grad level numerical methods, intro, intermediate, and advanced C++ programming.</p>
Skills	<p><b>Programming:</b> C++ (Eigen, tbb), Python (PyTorch, SciPy), lua, MATLAB (CVX), L<sup>A</sup>T<sub>E</sub>X, Vim, git, zsh, Houdini VEX</p> <p><b>Math:</b> Optimization, differential geometry, numerical and theoretical PDEs, scientific computing</p> <p><b>Languages:</b> English and Mandarin Chinese - bilingual proficiency</p> <p><b>Technical communication:</b> 9 papers at top journals and 17 talks at top conferences / institutes.</p>
Selected Publications	<p><a href="#">Exterior Calculus in Graphics: Course Notes for a SIGGRAPH 2023 Course</a>. <a href="#">Stephanie Wang</a>, <a href="#">Mohammad Sina Nabizadeh</a>, <a href="#">Albert Chern</a>. SIGGRAPH 2023.</p> <p><a href="#">DeepCurrents: Learning implicit representations of shapes with boundaries</a>. David Palmer, Dmitriy Smirnov, <a href="#">Stephanie Wang</a>, <a href="#">Albert Chern</a>, and Justin Solomon. CVPR 2022.</p> <p><a href="#">Computing minimal surfaces with differential forms</a>. <a href="#">Stephanie Wang</a> and <a href="#">Albert Chern</a>. SIGGRAPH 2021.</p> <p><a href="#">A thermomechanical material point method for baking and cooking</a>. Mengyuan Ding, Xuchen Han, <a href="#">Stephanie Wang</a>, Theodore F. Gast, and Joseph M. Teran. SIGGRAPH Asia 2019.</p> <p><a href="#">Simulation and visualization of ductile fracture with the material point method</a>. <a href="#">Stephanie Wang</a>, Mengyuan Ding, Theodore F. Gast, Leyi Zhu, Steven Gagniere, Chenfanfu Jiang, and Joseph M. Teran. SCA 2019 (<b>Best Paper Award</b>).</p> <p>And 3 more preprints (2 accepted) and 4 more papers in top journals in computer graphics and other scientific fields.</p>