



Caltech Mechanical and Civil Engineering

2021 Graduates



2021 MCE PhD Graduates



Guillaume Beardsell

PhD. In Mechanical Engineering
Advisor: Prof. Guillaume Blanquart

“Numerical Investigation of Compressibility Effects in Reacting Subsonic Flows”

Fond Caltech Memory: *Coffee breaks, SOPS banquet, walks on campus*

Favorite ME class: *Combustion Fundamentals*

Post graduation plans: *Work for a carbon-neutral engine startup*



Yikai Chen

PhD in Mechanical Engineering

Advisor: Prof. Nate Lewis

“Numerical simulation of performance and solar fuel conversion efficiency for photoelectrochemical devices”

Fond Caltech Memory: *Everyone gets together to celebrate Easter. Kids are running around the campus for egg hunt.*

Favorite ME class: *Combustion*

Post graduation plans: *Going into industry*



Richard Cheng

PhD in Mechanical Engineering

Advisor: Prof. Joel Burdick

“Assuring Safety under Uncertainty in Learning-Based Control Systems”

Fond Caltech Memory: *Having daily study breaks by the coffee machine with the other students in Gates Thomas*

Favorite ME class: *ME 134 (Robotic Systems)*

Post graduation plans: *Joining the robotics team at Toyota Research Institute as a research scientist*



Filippos Filippitis

PhD in Mechanical Engineering

Advisor: Prof. Tom Heaton

“Identification of Structural Damage, Ground Motion Response, and the Benefits of Dense Seismic Instrumentation”

Fond Caltech Memory: *A fond memory are the coffee chats that I shared with Caltech students and faculty by the turtle pond outside the Gates-Thomas building.*

Favorite ME class: *Mechanics of Structures and Solids part B, by Professor Michael Ortiz (Ae/AM/CE/ME 102b).*

Post graduation plans: *The plan is to follow a career in academia or a research institute.*



Leah Morgan Ginsberg

PhD in Mechanical Engineering
Advisor: Prof. Ravi Ravichandran

“Multiscale Mechanical Characterization of Subcellular Structures in Living Walled Cells”

Fond Caltech Memory: *It might sound strange, but some of my favorite memories of Caltech are from the time that I was in a wheelchair from breaking my arm and my leg. I found that I had very supportive friends from Caltech who were there for me through the entire ordeal. Many of them came to see me in the hospital, and brought balloons, flowers and games to play to pass the time. I remember playing Go Fish! with a group of my Caltech cohort in my hospital room. I have never lost a game so thoroughly before, or enjoyed losing so much!*

Favorite ME class: *definitely Solid Mechanics 102A with Professor Nadia Lapusta*

Post graduation plans: *I am going to work for a consulting company called Engineering Systems Inc. in my hometown Atlanta, GA.*



Sai Sharan Injeti

PhD in Mechanical Engineering

Advisors: Prof. Kaushik Bhattacharya, Prof. Chiara Daraio

“Multi-functional metamaterials”

Fond Caltech Memory: *The beginning of every academic year at Caltech is very special. I met several great people, many of whom are my friends now. The MCE socials stand out too, especially the Christmas gatherings.*

Favorite ME class: *CMS 113 (Mathematical Optimization) will be memorable. The topics and assignments were both fun and challenging.*

Post graduation plans: *I will be working at Apple in Haptic Engineering.*



Konstantinos Karapiperis

PhD in Applied Mechanics

Minor in Applied & Computational Math

Advisor: Prof. Jose Andrade

“Multiscale, data-driven and nonlocal modeling of granular materials”

Favorite ME class: *AM265ab Static and Dynamic Failure of Brittle Solids and Interfaces*

Post graduation plans: *Currently a Marie Curie Postdoctoral Fellow at ETH Zürich*



Danilo S. Kusanovic

PhD in Civil Engineering

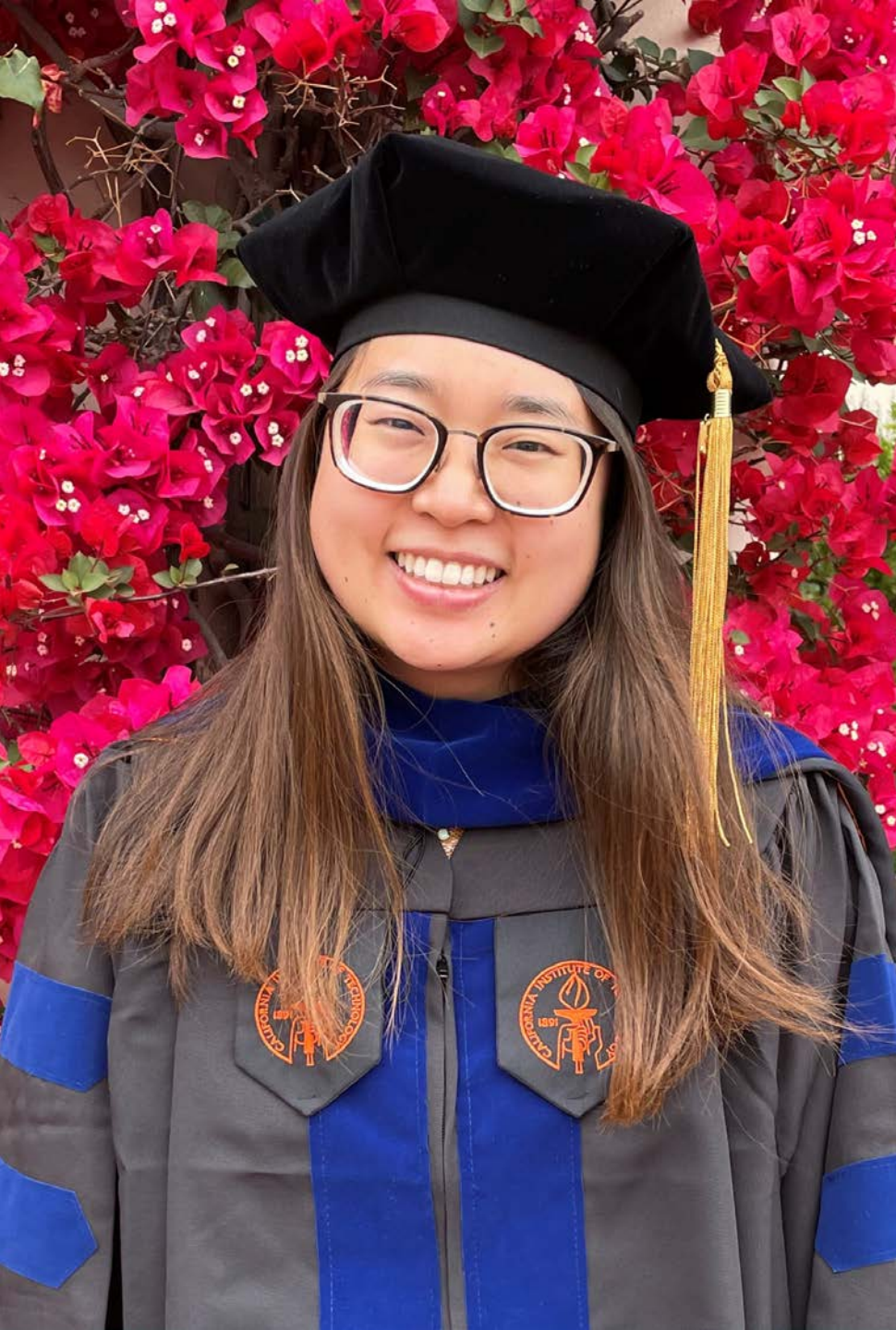
Minor in Applied & Computational Math

Advisor: Prof. Domniki Asimaki

“Improving Reduced Order Models of Soil-Structure Interaction Using an Ensemble Kalman Inversion Finite Element Model Updating Framework”

Favorite ME class: *Computational Solid Mechanics (ME/CE/AM214)*

Post graduation plans: *Faculty member*



Victoria (Tori) Lee

PhD in Mechanical Engineering

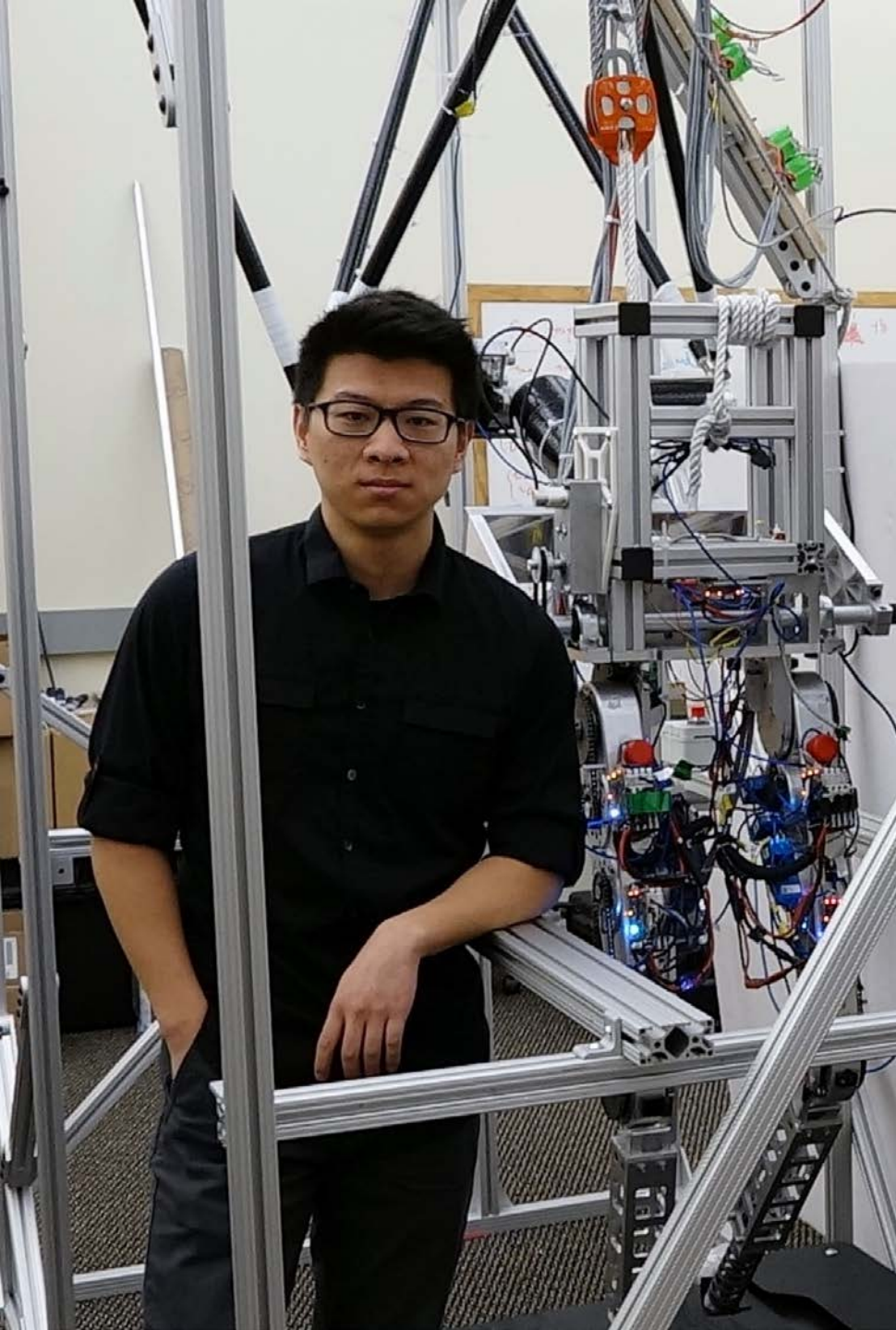
Advisor: Prof. Kaushik Bhattacharya

“Theoretical, computational, and experimental characterization of nematic elastomers”

Fond Caltech Memory: *In my first year, various members of our MCE/GALCIT cohort casually worked on a 2000-piece puzzle together over the course of a couple months. It was great to take puzzle breaks in the office between classes and homework!*

Favorite ME class: *Mechanics of Structures and Solids (ME102abc)*

Post graduation plans: *I'll be working as Senior Research Engineer in the Mechanics Competency Research Lab at Saint-Gobain Research North America in Northborough, MA.*



Wenlong Ma

PhD in Mechanical Engineering
Advisor: Prof. Aaron Ames

“From Bipedal to Quadrupedal Locomotion, Experimental Realization of Lyapunov Approaches”

Fond Caltech Memory: *The quiet campus and sunshine every morning every day is my favorite memory.*

Favorite ME class: *ME/CS 132, ME131: Advanced Robotics: Navigation with Joel Burdick*

Post graduation plans: *Start my own company in robotics.*



Tung Phan

PhD in Mechanical Engineering
Minor in Computer Science
Advisor: Richard Murray

“Contract-based Design: Theories and Applications”

Fond Caltech Memory: *Enjoying life in beautiful Pasadena with my wife during the first years of our marriage.*

Favorite ME class: *ME 300!*

Post graduation plans: *Working as an Autonomous Vehicle Research Scientist at Motional.*



Ethan Pickering

PhD in Mechanical Engineering
Advisor: Prof. Tim Colonius

“Resolvent modeling of turbulent jets”

Fond Caltech Memory: *Our MCE/SOPS team winning the Caltech Soccer league (for possibly the first time ever) and the celebratory aftermath ...*

Favorite ME class: *ME150*

Post Graduation Plans: *Postdoctoral position at MIT focusing on modeling and predicting rare and extreme events in dynamical systems.*



Jenna Reher

PhD in Mechanical Engineering
Advisor: Prof. Aaron Ames

“Dynamic Bipedal Locomotion: From Hybrid Zero Dynamics to Control Lyapunov Functions via Experimentally Realizable Methods”

Fond Caltech Memory: *I got to drive my Cassie robot at Bill Nye and pretend to cut him off while filming a promo for the planetary society on campus.*

Favorite ME class: *ME 113 - I love any chance to play with more robots!*

Post graduation plans: *I have moved to San Francisco and am working on control of autonomous systems in the Special Projects Group at Apple.*



Becky Roh

PhD in Civil Engineering
Minor in Geophysics
Advisor: Prof. Tom Heaton

"Matching waveform envelopes for earthquake early warning"

Fond Caltech Memory: *A fond memory I have at Caltech is any GSC sporting event - softball, dodgeball, inner tube water polo, kickball, etc. They were fun, active ways to meet and interact with people from different departments!*

Favorite ME class: *CE 181 Engineering Seismology.*

Post graduation plans: *I relocated to Arlington, VA and started working full-time as a research analyst at the Center for Naval Analyses.*



Joseph Ruan

PhD in Mechanical Engineering
Advisor: Prof. Guillaume Blanquart

“Streamwise homogeneous turbulent boundary layers”

Fond Caltech Memory: *Getting calf cramps on our first lab group hike after covid restrictions were lifted.*

Favorite ME class: *Energy Policy (EST 109). It was fun being a TA and designing a debate for the final. My only wish is that we could have improved the scope of the debate. And maybe limited the fictional budget each group had.*

Post graduation plans: *Current interviewing in industry-related jobs.*



Ying Shi Teh

PhD in Mechanical Engineering

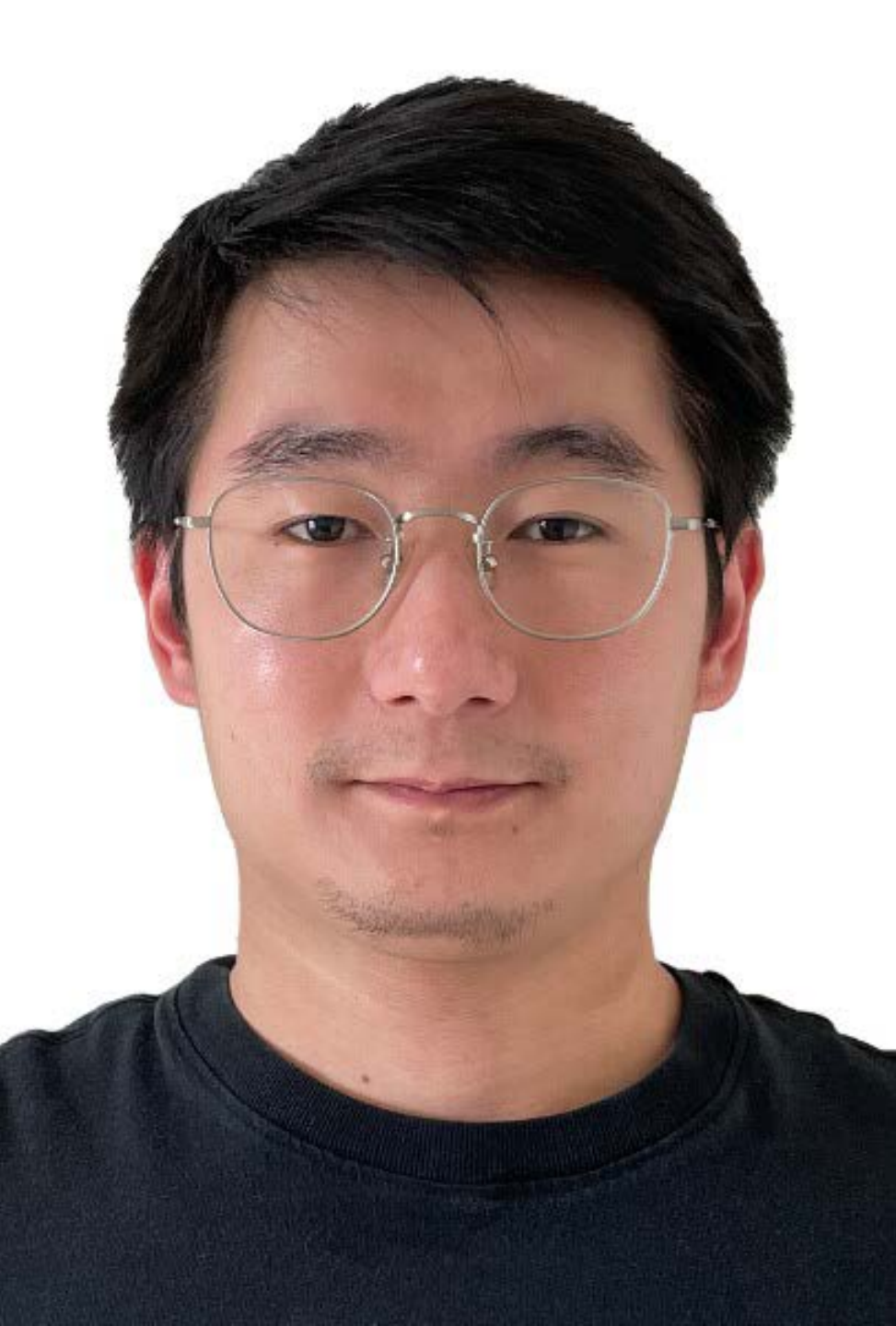
Minor in Computational Science and Engineering

Advisor: Prof. Kaushik Bhattacharya

“Understanding imperfections and instabilities in crystals via physics-based and data-driven models”

Favorite ME class: *Computational solid mechanics.*

Post graduation plans: *Postdoc at Lawrence Livermore National Laboratory*



Xiaobin Xiong

PhD in Mechanical Engineering
Advisor: Prof. Aaron Ames

***“Reduced Order Model Inspired Robotic Bipedal Walking:
A Step-to-Step Dynamics Approximation Based Approach”***

Fond Caltech Memory: *I sometimes go to the turtle pond to take a break in the afternoon. The best place for me to chill and relax*

Favorite ME class: *Ae/AM/CE/ME 102B Mechanics of Structures and Solids*

Post graduation plans: *Possibly going to a robotics company to lead the development of legged robots.*



Ke Yu

PhD in Mechanical Engineering
Minor in Applied and Computational Math
Advisor: Prof. Tim Colonius

“Multi-Resolution Lattice Green's Function Method for High Reynolds Number External Flows”

Fond Caltech Memory: *I really miss all the coffees we had together on the second floor of Gates-Thomas!*

Favorite ME class: *Computational Fluid Dynamics*

Post graduation plans: *Quant @ Citadel Securities*



Haolu (Jane) Zhang

PhD in Mechanical Engineering
Advisor: Prof. Julia Greer

“Microstructure-Enabled Plasticity in Nano-to-Microscale Materials”

Fond Caltech Memory: *Grabbing coffee at red door in the afternoon with my lab mates :)*

Favorite ME class: *ME 102a*

Post graduation plans: *Starting a consulting career at McKinsey*

Mechanical and Civil Engineering PhD Class of 2021



**Guillaume
Beardsell**



**Yikai
Chen**



**Richard
Cheng**



**Filippos
Filippitzi**



**Leah
Ginsberg**



**Sai Sharan
Injeti**



**Konstantinos
Karapiperis**



**Danilo
Kusanovic**



**Victoria
Lee**



**Wenlong
Ma**



**Tung
Phan**



**Ethan
Pickering**



**Jenna
Reher**



**Becky
Roh**



**Joseph
Ruan**



**Ying Shi
Teh**



**Xiaobin
Xiong**



**Ke
Yu**



**Haolu
Zhang**

Congratulations!



Jose Andrade
Executive Officer



Nadia Lapusta
Option Representative