Andre Montes

Ph.D. Candidate · Mechanical Engineering

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Education

University of California, Berkeley — *Berkeley, CA*
M.S./Ph.D. Mechanical Engineering — *Aug 2019 - present*
- Advisers: Mohammad Mofrad, Ph.D. & Grace O'Connell, Ph.D.
- GPA: 3.96/4.00

Colorado School of Mines — *Golden, CO*
B.S. Mechanical Engineering — *Aug 2013 - Aug 2016*
- Adviser: Ozkan Celik, Ph.D.
- *Summa Cum Laude*

Awards, Fellowships, & Grants

2022	**Ford Predoctoral Fellowship**, National Academies of Science Engineering & Medicine	*$ 81,000*
	Professional Development Grant, PPG Foundation	*$ 500*
2021	**Robert N. Noyce Fellowship**, UC Berkeley College of Engineering	*$ 75,000*
	Diversity & Community Fellowship, UC Berkeley Graduate Division	*$ 15,000*
	SURF SMART Fellowship, UC Berkeley Graduate Division	*$ 5,000*
	EDGE in Mentoring, UC Berkeley CITRIS	*$ 1,000*
2020	**Graduate Remote Instruction Innovation Fellowship**, UC Berkeley Graduate Division	*$ 5,000*
2019	**Graduate Student Research Fellowship**, UC Berkeley College of Engineering	*$ 18,000*

Publications

**co-author*

McKinley J*, **Montes A***, Wang M, Kamath A, Jimenez G, Lim J, Marathe S, Mofrad MRK, O'Connell GD. 2022. Design of a flexing organ-chip to model *in situ* loading of the intervertebral disc. *Biomicrofluidics*, 16, 054111.

Arevalo S*, **Montes A***, O'Connell GD. 2022. Research seminar designed for undergraduate students builds confidence and access to research opportunities. *Proceedings of ASEE Conference*. 37513

Harris M, McCarty M, **Montes A**, Celik, O. 2016. Enhancing Haptic Effects Displayed via Neuromuscular Electrical Stimulation. *Proceedings of DSC Conference*. V001T07A003.

Presentations

** presenting author; + mentored undergraduate*

Conference Presentations

Montes A*, Tepole AB, Mofrad MRK. Oct 2022. Towards a Multiscale Mechanical Model of Cell Adhesion Dynamics. *Biomedical Engineering Society Annual Conference*. Podium Talk. San Antonio, Texas.

Montes A*, McKinley J, Mofrad MRK, O'Connell GD. June 2021. *Summer Biomechanics, Bionengineering, and Biotransport Conference*. Podium Talk. Virtual.

Montes A*. Jan 2021. Spine-on-a-chip: We got your back. *Global Young Scientists Summit*. Video Abstract. Virtual.

Gutierrez G*+, **Montes A**, O'Connell GD, Mofrad MRK. Aug 2022. Modeling Cell Adhesion Molecules as a Mechanical System. *NSF CAMP Symposium*. Poster. Berkeley, CA.

Baeza M*+, **Montes A**, Mofrad MRK. Nov 2021. Quantifying cell elasticity through a microchannel using finite element analysis. *McNair Scholars Research Conference*. Poster. Miami, FL.

Lim J*+, **Montes A**, Mofrad MRK. Aug 2021. Computationally revealing cell elasticity within a micro-stretching device. *Berkeley SURF Symposium*. Poster. Virtual.

Lindgren J*+, **Montes A**, Mofrad MRK. Aug 2021. Quantifying cell elasticity by modeling microfluidics. *Berkeley CalTeach Summer Research Symposium*. Poster. Virtual.

Wang M*+, **Montes A**, McKinley J, O'Connell GD, Mofrad MRK. May 2021. Determining Mechanical Strains of Cells in 2D vs 3D Culture within a Deforming Microphysiological Chip. *Berkeley Bioengineering Research Symposium*. Poster. Virtual.

Cruz F*+, **Montes A**, McKinley J, O'Connell GD, Mofrad MRK. Aug 2020. Spine-on-a-chip: Finite Element Modeling of Strains in the Annulus Fibrosus. *Berkeley CalTeach Summer Research Institute Symposium*. Poster. Virtual.

Invited Talks

Spring 2022. *Multiscale Modeling in Cell Biomechanics*. Special Topics in Biomechanical Engineering Seminar, UC Berkeley.

Teaching Experience

Summer 2021	**ME W85 Introduction to Solid Mechanics**, Graduate Student Instructor	*UC Berkeley*
Spring & Fall 2021	**ME 198/298 Finding Your Research Pathway**, Instructor	*UC Berkeley*
Fall 2020 Spring 2021	**E295 Communications for Engineering Leaders**, Graduate Student Instructor	*UC Berkeley*
Spring 2015	**ENGN150 Multidisciplinary Engineering Lab**, Undergraduate Teaching Assistant	*CSM*

Professional Experience

Dec 2019 Jun 2020	**Research Engineer**, Respira Labs
Aug 2016 Jun 2019	**R&D Engineer**, Philips Healthcare

Outreach & Professional Development

Service and Outreach

Jan 2023	**Bioengineering Faculty Search**, Student Committee Chair	*UC Berkeley*
Fall 2022	**Discipline Cluster**, Graduate Student Instructor Workshop Leader	*UC Berkeley*
Fall 2021	**First Steps in Research**, Founder and Director	*UC Berkeley*
Fall 2020	**Latino/a Assoc. of Grad Students in Engineering & Science**, Outreach Chair	*UC Berkeley*
Fall 2020	**First-Gen &/or Low-Income Grads**, Co-founder	*UC Berkeley*

Development

NextProf Nexus 2022, a multi-day program that is part of a nationwide effort to strengthen and diversify the next generation of academic leaders in engineering. Sponsored by: Michigan, UC Berkeley and Georgia Tech.

Global Young Scientist Summit 2021, brings together bright young researchers and top scientific minds from around the world to discuss science and technology trends and how research could address major global challenges.