

# Eric K. Juang

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## Education

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### University of Washington

#### M.S. IN BIOENGINEERING

Seattle, WA

Sept. 2016 - Aug. 2017

- Thesis: Ultrasound and Microbubble Mediated Drug delivery in Microvascular Networks
- Cumulative GPA: 3.83 / 4.0
- Distinctions: GSFEI Graduate Student Travel Award. Young Investigators Award.

### University of Washington

#### B.S. IN BIOENGINEERING WITH HONORS

Seattle, WA

Sept. 2012 - Aug. 2016

- Cumulative GPA: 3.70 / 4.0
- Distinctions: Mary Gates Research Scholar. Dean's List.

## Work & Research Experience

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### Averkiou Lab, University of Washington (Department of Bioengineering)

Seattle, WA

#### RESEARCH SCIENTIST & FORMER GRADUATE STUDENT RESEARCHER

Sept. 2016 - present

Projects: Ultrasound Image-guided Therapy & Lesion Detection and Perfusion Quantification with Ultrasound

- Designed a methodology to quantify tissue perfusion with clinical ultrasound scanners and microbubbles (publication)
- Designed a 3D endothelialized microvascular model for ultrasound drug-delivery studies (publication)
- Optimized a machine-perfused porcine liver model for liver transplantation and cancer therapeutic studies (publication in prep)
- Analyze clinical ultrasound scans and assist physicians with lesion detection
- Characterize ultrasound transducers with MATLAB simulation models and water tank measurements
- Analyzed experimental data with MATLAB, Python, and ImageJ.
- Handled rodents and performed basic animal surgery
- Design and modify lab website with HTML and CSS
- Prototyping: Design and 3D-print auxiliary parts for experiments
- Mentor younger students on research practices

### Swedish Hospital at Ballard (Emergency Department)

Seattle, WA

#### MEDICAL SCRIBE (SCRIBE AMERICA)

Dec. 2019 - present

- Document patient complaints, physical exam findings, and medical assessments on electronic health record system (EPIC)
- Assist physicians in all non-clinical, organizational tasks

### Zheng Lab, University of Washington (Department of Bioengineering)

Seattle, WA

#### UNDERGRADUATE RESEARCH ASSISTANT

Aug. 2013 - Aug. 2017

Project: Biotransport in Human Kidney Extracellular Matrix

- Co-developed a perfusable "organ-on-a-chip" model to study biotransport in the human kidney extracellular matrix
- Examined specific cell markers and protein expressions with immunostaining and microscopy
- Cultured primary human endothelial (HUVEC) cells and hepatocellular carcinoma (HepG2) cells for in vitro experiments

## Clinical Volunteer Experience

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### Lahai Health (formerly Puget Sound Christian Clinic)

Seattle, WA

#### PATIENT ADVOCATE, RECEPTIONIST

Dec. 2017 - present

- Conduct 1-on-1 counseling sessions to understand patients' needs and connect them to social resources
- Register patients for free or reduced health insurance (Medicaid) and prescription drugs (Project Rx)
- Compile patient information and communicate with care providers through electronic health record system

### Virginia Mason Hospital

Seattle, WA

#### EMERGENCY ROOM RECEPTIONIST, PATIENT AND FAMILY LIAISON COORDINATOR

Dec 2015 - Sept 2017

- Bridged communication between patients and their care providers.
- Listened to patients' requests and kept patients company while they waited for their appointments
- Restocked medical supplies to ensure smooth hospital operation

## Seattle/King County Clinic

Seattle, WA

### MEDICAL INTERPRETER (LEAD)

Feb 2020 - present

- Mandarin/English Translation: Bridge communication between patients and their care providers.
- Instruct new volunteers on proper practices
- Connect vulnerable patients to social resources

## Other Volunteer Experience

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### Seattle's Union Gospel Mission

Seattle, WA

#### "HOMELESS SEARCH AND RESCUE" VOLUNTEER, CHEF

June 2016 - Present

- Collect donations: food, toiletries, clothes, etc.
- Deliver food and essential supplies to the homeless in Seattle
- Cook food for women and children in residential recovery program (Hope Place)

### ROOTS Young Adult Shelter

Seattle, WA

#### EVENING VOLUNTEER

Sept. 2019 - Present

- Befriend and converse with homeless young adults and learn about their experiences
- Maintain the order of the shelter
- De-escalate stressful situations

## Leadership Experience

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### Biomedical Engineering Society (BMES, University of Washington Chapter)

Seattle, WA

#### STORE MANAGER, MEMBER OF THE NATIONAL SOCIETY

Aug. 2016 - June 2017

- Renovated and managed a lounge/store for BioE students and faculty
- Fundraised for BMES official activities
- Co-managed BMES finances

### Seattle Formosan Student Fellowship

Seattle, WA

#### CO-FOUNDER, PRESIDENT

June 2013 - Apr. 2016

- Organized club activities and outreach events
- Secured funding for club activities
- Mentored Mandarin-speaking international students and helped them transition to life in America

## Bibliography

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### Journal Publications

- **Eric Juang**, Ine De Cock, Christina Keravnou, Madison Gallagher, Sara Keller, Ying Zheng, Michalakis Averkiou. "Engineered 3D microvascular networks for the study of ultrasound-microbubble-mediated drug delivery". *Langmuir*. 2018. DOI: 10.1021/acs.langmuir.

### Conference Proceedings (Oral)

- Dingjie Suo, **Eric Juang**, Sara Keller, Mike Averkiou. "Image-guided, bubble-enhanced heating using HIFU". Presented at: 176th ASA conference, Victoria, BC, CA, 2018
- Ine De Cock, **Eric Juang**, Christina Keravnou, Sara Keller, Madison Gallagher, Ying Zeng, Mike Averkiou. "Sonoporation in 3D endothelialized microvascular networks". Presented at: The 24th European symposium on Ultrasound Contrast Imaging, Rotterdam, The Netherlands. Jan. 19-20, 2017.

### Conference Proceedings (Poster)

- **Eric Juang**, Ine De Cock, Christina Keravnou, Sara Keller, Madison Gallagher, Ying Zheng, Mike Averkiou. "Engineered 3D microvessels for the study of angiogenesis and sonoporation". Presented at: The 24th European symposium on Ultrasound Contrast Imaging, Rotterdam, The Netherlands. Jan. 19-20, 2017.
- **Eric Juang**, Ryan Nagao, Ying Zheng. "Characterization of Human Renal Extracellular Matrix for the Development of a Microphysiological Model of Human Kidney in vitro". Presented at: 17th Annual University of Washington Undergraduate Research Symposium, Seattle, WA, USA. May. 20, 2017.

## Hobbies and Activities

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### Music and the Great Outdoors

- Casual singer and guitar player. Two-time winner of community talent shows.
- Avid road-biker and hiker. Nature photography enthusiast. Proud 12th man.