

## biomedical visualization

### EDUCATION **University of Illinois at Chicago**, Chicago, IL, 2015

Master of Science in Biomedical Visualization

### **Harvard University**, Cambridge, MA, 2013

Master of Liberal Arts in Biotechnology (Life Science concentration)

### **School of the Museum of Fine Arts**, Boston, MA, 2011

Continuing Education courses on design, figure painting and computer graphics

### **University of Waterloo**, Waterloo, ON, 2004

Bachelor of Science, Honours Biochemistry, Co-operative Education Program

### RELEVANT WORK EXPERIENCE **Scientific Animator**, Janet Iwasa's Animation Lab - University of Utah Oct 2018 – Present, Salt Lake City, UT

- Create original storyboards, 2D/3D illustrations and animations depicting complex molecular and cellular processes
- Work closely with a team of researchers and other animator/illustrators in the Lab
- Independently manage the full production cycle from intake meetings, concept art, storyboarding, 3D modeling, animation/rigging, rendering/compositing, delivery and archive
- Communicate effectively with scientific collaborators and provide constructive feedback and mentorship to others in the team

### **Experiential Instructional Designer-Developer**, Jump Simulation and Education Center Sep 2016 – Oct 2018, Peoria, IL

- Through collaboration with other team members, design and create engaging and effective instructional materials with sound instructional design principles
- Create interactive eLearning, medical illustration and animations using Adobe CC
- Develop and provide recommendations for design, sequencing of instruction, use of assessments, and design of educational materials and activities
- Ensures communication, coordination, development and integration of educational work plan with all areas affected, including course facilitators, instructors, end users, information services, technology integration and site leadership as needed

### **Freelance Medical Illustrator/Visual Designer**

Jan 2014 – Present

- Work with pharmaceutical and biotech clients on website re-branding projects
- Designed engaging illustrations for branding and explain the sciences to investors

### **Creative and Communications Lead**, LifeLearn Inc.

Feb – Jul 2016, Guelph, ON

- Designed brochures and logos for veterinary branding and marketing, used by clients at Western Veterinary Conference 2016
- Led a website re-branding project for a veterinary ultrasound company. Created wireframes and UI designs based on interviewing key stakeholders

### **Interactive Designer/Animator**, Boyd Lab, University of Illinois at Chicago

Aug 2014 – May 2015, Chicago, IL

- Designed user interface for mobile application and produced wireframes for interactive components
- Engaged and collaborated with stakeholders, end users and programmer
- Created 2D animations to explain medication information for low literacy patients

**SKILLS SOFTWARE**

Adobe Illustrator  
Adobe Photoshop  
Adobe InDesign  
Adobe After Effects  
Adobe Premiere  
Adobe XD  
ZBrush  
Chimera  
Autodesk Maya  
Autodesk 3ds Max  
Unity

**KNOWLEDGE**

Storyboarding  
3D modeling/Animation  
Wireframes & prototyping  
UI/UX design  
2D Animation  
Illustration  
Research & Development  
Web design  
MEL Script

**SERVICE &  
MEMBERSHIPS**

Vesalius Trust Board, Director, 3-year term started in June 2022  
GNSI online exhibition coordinator, Annual Meeting 2022  
American Society for Cell Biology Member, 2019-2020  
AMI Annual Conference Workshop Co-Chair, 2019  
Association of Medical Illustrators Professional Member, 2013 – 2020  
Society for Simulation in Healthcare Member, 2016 – 2017  
American Medical Informatics Association Student Member, Jan 2015 – Jan 2016  
Association of Medical Illustrators Meeting Student Volunteer, 2014  
Treasurer of the Student Association of Medical Artists, UIC, May 2014 – May 2015  
Representative on the Harvard Graduate Council, Sep 2012 – Apr 2013

**AWARDS &  
GRANTS**

2<sup>nd</sup> place Cell Bio 2020 image competition video award for animation of [TRIM5 \$\alpha\$  Forming a Lattice around HIV Capsid](#)  
ASCB Public Engagement Grant: Finding a Refuge in Visualization: teaching scientific animation to high school students from refugee background, 2020-2021  
Science Communication Fellow at Natural History Museum of Utah, 2019-2020  
Jump ARCHES grant recipient for KneeVIEW: A Virtual Education Window for Musculoskeletal Training , 2017  
Nelva B. Richardson Scholarship from Biomedical Visualization Program at UIC, 2015  
UIC Graduate Student Travel Award, 2015  
Vesalius Trust Research Grant, 2015  
UIC Women In Science and Engineering Graduate Student Research Award Honorable Mention, 2015  
Scientific Innovation Team Award for galactose- $\alpha$ -1,3-galactose Project at Momenta Pharmaceuticals, 2010  
Award for Team Spirit for Sanofi Pasteur's Melanoma Project, 2005

PRESENTATIONS  
AND  
INVITED TALKS

Presenter at Guild of Natural Science Illustrators annual meeting, August 13, 2022  
*Title: "Molecular Visualization Workflow of the Animation Lab (UCSF Chimera & PDB)"*

Panelist on Southern California Young Women in Bio 6<sup>th</sup> Bio-Influencer Session, April 14, 2021  
Horizons in Molecular Biology (Virtual meeting), September 14-17, 2020  
14<sup>th</sup> Career Fair of the International Ph.D. Student Symposium Horizons in Molecular Biology, Max Planck Institute for Biophysical Chemistry  
AMI Annual Meeting. July 18-21, 2018, Newton, MA.  
*Title: "Technology, Design and Growing Opportunities in Simulation-based Education"*

American Thoracic Society International Conference. May 18-23, 2018, San Diego, CA  
*Title: "Gamifying Tobacco-Free Kids: Employing Medical Visualization and Games in Youth Anti-Tobacco Outreach."*

Spectrum of Ideas Showcase at IMSH. January 14, 2018, Los Angeles, CA  
*Title: "Engaging Young Minds: Getting Adolescents Thinking About Health"*

Poster Presentation: Crawford SY, **Hsu GI**, Wirth SM, Cuellar S, Venepalli NK, Nayak AK, Boyd AD. Patient-centered design in developing mobile application to improve adherence to oral anticancer medications. American Pharmacists Association (APhA) Annual Meeting & Exposition. San Francisco, CA. March 25, 2017.

Poster Presentation at UIC Student Research Forum. April 2, 2015, Chicago, IL  
*Title: "Design of Customized Mobile Application for Patient Adherence to Oral Anticancer Medications Utilizing User-Centered Design and Animation"*

Poster Presentation and Lighting talk at Visualization of Biological Data Meeting. March 26, 2015, Cambridge, MA  
*Title: "Communicating Research using Visual Molecular Dynamics (VMD)"*

Stenstrom Scholars Presentation at O.A. Parkes Symposium & International Student Conference. March 13, 2015, Augusta, GA  
*Title: "Molecular Visualization using Visual Molecular Dynamics (VMD)"*

Consumer Health Informatics Midwest Conference. Oct 25, 2014, Fort Wayne, IN  
*Title: "Mobilizing for patient adherence to oral anticancer medications"*

## EXHIBITION

Association of Medical Illustrators Annual Meeting Student Salon, Jul 2015, Cleveland, OH  
Northwestern Public Health Reviews Annual Public Health Matters Seminar gallery exhibition of editorial illustration, Oct 2014, Chicago, IL  
Association of Medical Illustrators Annual Meeting Student Salon, Jul 2014, Rochester, MN  
Student Association of Medical Artists Art Show, Nov 2014, Chicago, IL  
National Museum of Health + Medicine Chicago, "Visible Human Male: Visualization of healthy and diseased organs", Jun 2014, Chicago, IL  
Biocommunication Academic Meeting, Salon digital showcase, April 2014, Toronto, ON

## PUBLICATIONS

Sinclair, R., **Hsu, G.**, Davis, D., Chang, M., Rosquete, M., Iwasa, J. H., & Drakakaki, G. Plant cytokinesis and the construction of new cell wall [published online ahead of print, 2022 Jun 13]. *FEBS Lett.* 2022;10.1002/1873-3468.14426.

Nayak S, Liu H, **Hsu GI**, Iwasa JH. Using 3D Animation to Visualize Hypotheses. *Trends Biochem Sci.* 2020;45(7):633-634.

Crawford SY, Boyd AD, Nayak AK, Venepalli NK, Cuellar S, Wirth SM, **Hsu GI**. Patient-centered design in developing a mobile application for oral anticancer medications. *J Am Pharm Assoc* (2019). Mar-Apr;59(2S):S86-S95.e1

**Hsu GIH**, Crawford SY, Paoella G, Wirth SM, Cuellar S, Venepalli NK, Wang E, Hughes D, and Boyd AD (2017). "Design of Customized Mobile Application for Patient Adherence to Oral Anticancer Medications Utilizing User-Centered Design." *Journal of Biocommunication*, [S.l.], v. 41, n. 1. ISSN 0094-2499.

Bosques CJ, Collins BE, Meador JW III, Sarvaiya H, Murphy JL, Bulik DA, **Hsu IH**, Washburn N, Sipsy S., Myette JR, Raman R, Shriver Z, Sasisekharan R, and Venkataraman G (2010). "Chinese hamster ovary cells can produce galactose- $\alpha$ -1,3-galactose antigens on proteins." *Nature Biotech.* 28 (11). 1153-1156.

## CERTIFICATION

