

Caroline Hu

scientist
& artist

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Summary

Interdisciplinary scholar passionate about making science accessible through visual communication and storytelling.

Professional Appointments

Assistant Professor

2023 - present

Massachusetts College of Art and Design
Integrative Sciences and Biological Arts

Education

Stanford University

2008 - 2014

Ph.D. in Biology

University of Michigan, Ann Arbor

2006 - 2007

M.S. in Molecular, Cellular, and Developmental Biology

Brown University

2004 - 2006

B.S. in Biology with Honors

Bard College at Simon's Rock

2002 - 2004

A.A. in Liberal Arts

**Research
Experience**

Postdoctoral Research

Harvard University

2014 - 2022

Mentor: Hopi Hoekstra

Project: *Genomic and behavioral basis of burrow evolution in wild mice*

Doctoral Thesis Research

Stanford University

2009 - 2014

Mentor: Russell Fernald

Project: *Neural activity during social status transition in cichlid fish*

Doctoral Rotation Research

Stanford University

2009

Mentor: Robert Sapolsky

Project: *Role of stress-hormone signaling in myeloid cells in neural injury*

Research Associate

University of Michigan, Ann Arbor

2007 - 2008

Mentor: Robert Denver

Project: *Development of satiety-signaling during amphibian metamorphosis*

Undergraduate Thesis Research

Brown University

2002 - 2004

Mentor: Alfred Ayala

Project: *Contribution of hepatic natural-killer T cells to septic shock*

**Research
Fellowships
& Awards**

Harvard Brain Initiative Young Scientist Transitions Award (2021)

Harvard Brain Initiative Young Scientist Travel Award (2018)

NSF Doctoral Dissertation Improvement Grant (2012 - 2013)

Stanford Department of Biology Excellence in Teaching Award (2010)

Stanford Graduate Fellowship (2008 - 2011)

Endocrinology Society Summer Research Fellowship (2007)

Acceleration to Excellence Full Merit Scholarship (2002 - 2004)

Professional Service

Student Affairs Committee

Massachusetts College of Art and Design

(2023 - present)

Met bi-weekly to address policies affecting student experience.

Women and Non-Binary Comics Meetup

(2019 - 2022)

Ran bi-weekly meetings about comics opportunities and craft

Mind, Brain, and Behavior Post-doctoral Committee

Harvard University

(2015-2017)

Organized monthly talks and career panels for post-doc community

Professional Development

Horror Comics

Center for Cartoon Studies

(2023)

Week-long intensive about the craft of horror comics

Kids Comics Intensive

Kids Comics Unite

(2023)

13-week graphic novel development course focused on kids comics

Inclusive STEM Teaching Project

edX & Harvard University

(2021)

Seven-week facilitated training and peer discussion groups

Science Education Partner

Harvard Museum of Natural History

(2021)

Three-week science communication training that culminated in giving a talk to a K-12 audience about my research.

Cartoon Workshop

Center for Cartoon Studies

(2018)

Week-long introductory comics intensive

Artist Residencies & Grants

Industry Lab Artist Residency (2023)

Wiregrid Microgrant (2019)

Massachusetts Independent Comics Expo Mini-Grant (2018)

Science Communication & Outreach

Animal Diary Comics Workshop

2023

Massachusetts Independent Comics Expo

Led all-ages comics workshop for ~50 attendees in making comics informed by the biology of native Massachusetts species.

Science & Self Workshop

2023

Phillips Exeter Academy

Led zine workshop for ~30 high school attendees in making zines about the intersection of science and their lives.

Galactic Polymath

2023

Science Communicator & Cartoonist

Translating complex science topics into open access comics for highschool educators

STEM Advocacy Institute

2021 - present

Junior Resident

Developing workshop "Museum Zines" to engage middle school students with museum collections through drawing.

Invited Talks & Panels

Storyteller, "Evolution", The Story Collider Podcast (2023)

Panelist, "Invention and research", Non-Fiction Comics Festival (2022)

Speaker, "Telling science stories through comics", The American Society of Parasitologists (2022)

Panelist, "Inspired by the Harvard Museum of Natural History", Harvard Museum of Natural History (2021)

Guest, "Exploring animal behavior through expressive storytelling with Caroline Hu". HMSC Connects! Podcast (2021)

Speaker, "Communicating science through comics", University of Michigan, Ann Arbor, Macromolecular Engineering & Science Program Symposium (2021)

Panelist, "Community in the Time of COVID", Ladies Con (2020)

Scientist collaborator, Art+Bio Flash Collab, Massachusetts College of Art and Design (2020)

Guest Lecturer, "Evolution of complex burrowing behavior in wild mice", Suffolk College (2016)

Guest Lecturer, "The genetic and neural bases of burrowing behavior in wild mice", Rhode Island College (2015)

Scientific Conferences

American Association for the Advancement of Science (2023)

Motor Control (2020)

Science Talk (2018)

Howard Hughes Medical Institute Investigators Conference (2016)

Gordon Research Conference: Genes and Behavior (2014)

J. B. Johnston Club for Evolutionary Neuroscience (2013)

The Society for Integrative and Comparative Biology (2013)

Gordon Research Conference: Genes and Behavior (2012)

Endocrinology (2007)

Immunology (2006)

Exhibitions & Shows

Group show, *Why We Make Comics*, Portland Public Library (2023)

Exhibitor, Massachusetts Independent Comics Expo (2023)

Solo show, *Mighty Metamorphosis*, Industry Lab (2023)

Exhibitor, Massachusetts Independent Comics Expo (2022)

Exhibitor, Non-Fiction Comics Festival (2022)

Exhibitor, Massachusetts Independent Comics Expo (2019)

Exhibitor, Small Press Expo (2019)

Exhibitor, New Zineland (2019)

Exhibitor, Massachusetts Independent Comics Expo (2018)

Research Publications

Hu CK*, Harringmeyer OS*, Metz HC*, Mihelic E, Rosher C, Sanguinetti NS, Hoekstra HE. A single genetic locus lengthens deer mouse burrows via motor pattern evolution. *bioRxiv* 2023.07.03.547545. (*in review*)

Bedford NL, Gable JT, **Hu CK**, Wooldridge TB, Sokolov NA, Lassance JM, Hoekstra HE. Automated tracking reveals the social network of beach mice and their burrows. *bioRxiv* doi: 10.1101/2021.08.07.455531. (*in revision*)

Hu CK*, York RA*, Metz HC, Bedford NL, Fraser HB, Hoekstra HE. Cis-regulatory changes in locomotor genes are associated with the evolution of burrowing behavior. *Cell Reports*. 2022;38:7.

Cui Bender M, **Hu CK**, Pelletier C, Denver RJ. To eat or not to eat: ontogeny of hypothalamic feeding controls and a role for leptin in modulating life-history transition in amphibian tadpoles. *Proc. R. Soc. B*. 2018;285:20172784.

Hu CK, Hoekstra HE. *Peromyscus* burrowing: A model system for behavioral evolution. *Semin. Cell Dev. Biol.* 2017;61:107-114.

Hu CK, Southey BR, Romanova EV, Maruska KP, Sweedler JV, Fernald RD. Identification of prohormones and pituitary neuropeptides in the African cichlid, *Astatotilapia burtoni*. *BMC Genomics*. 2016;17:660.

Ma Y*, Juntti SA*, **Hu CK**, Huguenard JR, Fernald RD. Electrical synapses connect a network of gonadotropin releasing hormone neurons in a cichlid fish. *PNAS*. 2015;112:3805–10.

Cui MY, **Hu CK**, Pelletier C, Dziuba A, Slupski RH, Li C, Denver RJ. Ancient origins and evolutionary conservation of intracellular and neural signaling pathways engaged by the leptin receptor. *Endocrinology*. 2014;155:4202–14.

Juntti SA*, **Hu CK***, Fernald RD. Tol2-mediated generation of a transgenic haplochromine cichlid, *Astatotilapia burtoni*. *PLoS ONE*. 2013;8:e77647.

Sorrells SF, Caso JR, Munhoz CD, **Hu CK**, Tran KV, Miguel ZD, Chien BY, Sapolsky RM. Glucocorticoid signaling in myeloid cells worsens acute CNS injury and inflammation. *J Neurosci*. 2013;33:7877–89.

Hu CK*, Venet F*, Heffernan DS, Wang YL, Horner B, Huang X, Chung C-S, Gregory SH, Ayala A. The role of hepatic invariant NKT Cells in systemic/local inflammation and mortality during polymicrobial septic shock. *J Immunol*. 2009;182:2467–75.

* co-first authors

Comics Publications

Hu, C. “Why I Am Proud to Be a Duck” (Hu, C. Illus.). Portland Public Library, 6 October, 2023.

Hu, C. “Figure Panels: A Comics Guide for Telling Research Stories with Comics” (Hu, C. Illus.). self-published (2022).

Hu, C. “How far away is China?” (Hu, C. Illus.). *Grow by Ginkgo*. Ginkgo Bioworks, 23 June, 2020.

Morris, A. “The Real Fishwives of Cashes Ledge” (Hu, C. Illus.). Conservation Law Foundation, 28 May, 2020.

Hu C. “Microcosms.” (Hu, C. Illus.) *Illustrated Research*, Vol. 1, No. 3. 2018.

Hu, C. *The Little Scientist* (Hu, C. Illus.). self-published (2018-present).

Hu, C. “Our Unknown Path” (Hu, C. Illus.). *Boundless*. Boston Comics Roundtable (2016).