Yu-Ying (Phoebe) Hsieh
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Research Interests

*Molecular mechanism of evolution *Phenotype-genotype map *Evolutionary cell biology
*Genome evolution *Evolutionary conflict *Microbial interaction *Experimental evolution

Education/Professional Appointments

2020–current Post-doctoral fellow, Fred Hutchinson Cancer Research Center
Mentor: Harmit Malik

2012–2019 Ph.D., Molecular, Cellular, and Organism Program, Harvard University
Mentor: Andrew Murray
*Thesis: "Repurposing the function of a kleisin protein in budding yeast"

2009–2012 Research Assistant, Institute of Molecular Biology, Academia Sinica
Advisor: Jun-Yi Leu
*Project: "Hsp90 is a capacitor of non-genetic morphological variation in budding yeast"

2007–2009 M.S., Genome Sciences, National Yang-Ming University
Advisor: Jun-Yi Leu
*Thesis: "Exploring the genetic architecture buffered by Hsp90 in the yeast genome"

2004–2007 B.S., Life Sciences, National Yang-Ming University
Advisor: Gwo-Jen Liaw
*Thesis: "To study the role of four BTB domain proteins (Tramtrack69, Pipsqueak, Tritoraxlike, and Lola like) on the repression of *tailless* gene"

Honors and Awards

2021 Cystic Fibrosis Foundation, Postdoctoral Research Fellowship Award
2018 Conference Grant, Graduate Student Council, Harvard University
2018 EMBL Advanced Training Centre Corporate Partnership Programme Fellowship
2018 Bernad Davis Endowed Scholarship, Marine Biological Laboratory
2015 Travel Award, KITP Quantitative Biology Summer Research Course
2015 Travel Award, MCO Graduate Program, Harvard University
2010 Traveling Fellowship, EMBO Conference Series: From Functional Genomics to Systems Biology
2008 Traveling Fellowship, The 2nd Taiwan-Japan Young Researchers Conference on Computational and Systems Biology
2007 The Research Creative Award, National Science Council, Taiwan
2007 Dean's Award of Academic Excellence, College of Life Sciences, National Yang-Ming University

Publications

Hsieh, Y. -Y., Makrantoni, V., Robertson D., Marston, A. L., Murray, A. W. (2020)

"Evolutionary repair: changes in multiple functional modules allow meiotic cohesin to support mitosis." ***PLoS Biology*** 18(3): e3000635

LaBar T., Hsieh, Y. -Y., Fumasoni M., Murray, A. W. (2020) "Evolutionary repair experiments as a window to the molecular diversity." ***Current Biology*** 30: R565-R574 (2020)

Hsieh, Y.-Y., Hung, P.-H., Leu, J-Y. "Hsp90 regulates non-genetic variation in response to environmental stress." ***Molecular Cell*** 50: 82–92 (2013)

McDonald, M.J., Hsieh, Y.-Y., Yu, Y.-H., Chang, S.-L. and Leu, J.-Y. "The evolution of low mutation rates in experimental mutator populations of *Saccharomyces cerevisiae*." ***Current Biology*** 22: 1235–1240 (2012)

Conference Presentations

2020 Cell Bio Virtual, Online ASCB/ EMBO Meeting
"Evolutionary Repair: changes in multiple functional modules allow meiotic cohesin to support mitosis"
(oral presentation)

2019 Gordon Research Conference: Molecular Mechanisms in Evolution Stonehill College, MA, USA
"Changes in multiple functional modules allow meiotic cohesin to support mitosis"
(poster)

2018 EMBO Conference Series: Experimental Approaches to Evolution and Ecology Using Yeast and Other Model Systems, Heidelberg, Germany
"Repurposing the function of a kleisin protein in budding yeast"
(oral presentation)

2017 Gordon Research Conference: Molecular Mechanisms in Evolution Stonehill College, MA, USA
"Repurposing the function of a meiotic cohesin protein in budding yeast"
(oral presentation)

2017 Boston Area Mitosis and Meiosis Meeting, ASCB
"Repurposing the function of a cohesin protein in budding yeast"
(poster and lightening talk)

2016 Cellular Dynamics Research, Harvard University
"Repurposing the function of a kleisin paralog in budding yeast"
(oral presentation)

2010 EMBO conference series: From functional Genomics to Systems Biology, Heidelberg, Germany
"To decipher the Hsp90-mediated mechanism of cell-to-cell variation in yeast"
(poster)

2008 The 2nd Taiwan-Japan Young Researchers Conference on Computational and Systems Biology, Tokyo, Japan
"Exploring the genetic architecture buffered by Hsp90 in the yeast genome"
(oral presentation)

Professional Courses Taken

2018 Physical Biology of the Cell, Marine Biological Laboratory
2015 The Course of Cellular Evolution: A Laboratory Course on the Evolution of Cellular Function, KITP Santa Barbara Advanced School of Quantitative Biology

Teaching/Mentoring Experience

Mentoring

2018 MCO graduate student, Julien Barrere
2016 MCB undergraduate student, Danielle Seda

Teaching

2107 Model System Jamboree, MCO Program, Harvard University
2014 Model System Jamboree, MCO Program, Harvard University
Introduced experimental techniques using yeast genetics and cell biology

2014 Life and Physical Sciences, Harvard University
2013 Life Science 1a, Harvard University
Participated lectures; prepared section materials; prepared laboratory courses; hosted discussion section and office hour; graded problem sets and exams

Research Skills

*Yeast Genetics *Bacterial Genetics *Microscopy and Image Analysis (ImageJ) * Molecular Biology *Flowcytometry *Chromatin Immunoprecipitation * NGS Library Preparation * NGS Data Analysis * PyMoL

Service Experience

2018 Organization Committee of Boston Taiwanese Biotechnology Association