CURRICULUM VITAE

NAME	CONTACT INFORMATION
CHOU, HAN TING	hantingchou@gatech.edu
POSITION TITLE Research Scientist II	RESEARCH AREAS Molecular Biology and Biochemistry, Quantitative Genetics, Microbiology, Cell Biology, *C. elegans* Biology

Education:

INSTITUTION	DEGREE/TITLE	YEAR(s)	FIELD OF STUDY
Georgia State University	M.S.	2005-2007	Microbial Physiology and Genetics
Georgia State University	Ph.D.	2007-2011	Microbial Physiology and Genetics

PhD Dissertation: "L-lysine decarboxylase and cadaverine γ-glutamylation pathways in *Pseudomonas aeruginosa* PAO1". **Han-Ting Chou** (2011). Georgia State University, Atlanta, GA.

Professional Appointments:

2016-current Research Scientist II/ Dr. Annalise Paaby's Laboratory, Georgia Institute of Technology
2011-2016 Post-doc Associate / Dr. Casonya Johnson's laboratory, Georgia State University
2005-2011 Graduate Research Assistant, Dr. Chung-Dar Lu's Laboratory, Georgia State University
1998-2005 Research Specialist / Dr. Shen Chung lee's Laboratory, National Taiwan University

Current Research Topics:

1) **Applications of NGS: BSA and *de novo* Genome Assembly**
With the advances in bioinformatics, I am currently setting up a high-resolution mapping system which combines Next Generation Sequencing (NGS) techniques with Bulk Segregant Analysis (BSA). This approach is a powerful tool to study complex traits where many genes / modifiers are involved. Currently, I am using this approach to study the natural variations in gonadal RNAi susceptibility in *C. elegance* wild isolates.
In parallel to the BSA approach, I *de novo* assembled genomes of many wild isolates which exhibit difficulties with re-sequencing due to large amount of recombination and in/del regions. I successfully established a workflow using Illumina HiSeq and Discovar *de novo* assembly with high confidence.

2) **High-Throughput smFISH with Lab on a Chip**
One of my research dreams is to combine bioinformatics and engineering to solve biological problems. Taking the geographical advantage of Georgia Tech, I collaborate closely with engineers of Dr. Hang Lu's laboratory to develop a high-throughput imaging and quantitation workflow to collect smFISH data from worm embryos. I use a machine learning approach on MatLab to quantify mRNA, and microfluidics chip to collect larger sample sizes of high statistical significance. This challenging interdisciplinary project is finishing soon expecting a series of related articles to be published in near future.

Other Experiences and Professional Memberships:

2017- Panelist, Division of Molecular and Cellular Biosciences, NSF
2016- Panel reviewer, Division of Molecular and Cellular Biosciences, NSF
2015- Reviewer, Scientific Reports, Nature Publishing Group
2015- Reviewer, G3: Genes, Genomes, Genetics by the Genetics Society of America
2012- Ad-Hoc reviewer, Division of Molecular and Cellular Biosciences, NSF
2018- Member, Society for Molecular Biology & Evolution
2012- Member, Genetics Society of America
2007-2011 Member, American Society of Microbiology

Instructional Activities

Spring 2013	Invited Lecturer, Advanced Genetics, BIOL 6564, GSU
Fall 2012	Invited Lecturer, Molecular and Genetic Mechanisms of Development, BIOL8710, GSU
Summer 2012	Co-Instructor, "Wiggle Your Way to This", GSU Bio-Bus
Fall 2010	Consultant, Genetics Laboratory BIOL 3910, GSU
2007-2009	Teaching Assistant, Genetics Laboratory BIOL 3910, GSU

Awards and Honors

2007-2011	Graduate Fellowship - Molecular Basis of Disease Program
2008	Ahmed T. Abdelal Graduate Fellowship in Molecular Genetics, Georgia State University
2009	Graduate Award for Outstanding Instruction – Arts and Sciences, Georgia State University

Oral Presentations

1. Genetic Basis of Natural Variations in Germline RNAi in *C. elegans*. Symposium: SY27 Quantitative genetics of developmental evolution, SMBE 2018, Yokohama, Japan, July 11, 2018
2. Post-Embryonic HES-Mediated Repression of PTEN in *Caenorhabditis elegans*. Worm Club Meeting, Emory University, Atlanta. October 19, 2015
3. Fluorescence-Based Detection of Protein Interactions in Living *Caenorhabditis elegans*. Worm Club Meeting, Emory University, Atlanta. April 9, 2012.
4. L-lysine Catabolism Controlled by Arginine/ArgR in *Pseudomonas aeruginosa* PAO1. Seminar series. Department of Biology, Georgia State University, Atlanta, Georgia, October 1, 2010

Manuscripts in Preparation

1. Genetic Basis of Natural Variations in RNAi Susceptibility during Early Embryogenesis in *C. elegans*. **Chou HT** and Paaby AB
2. Evolution of Germline RNAi Resistance in *C. elegans*. **Chou HT**, Pollard D, Rockman MV, and Paaby AB
3. High Throughput smFISH for Worm Embryos using Microfluidic Chips. Charles S, **Chou HT**, Paaby AB, Lu H

Selected Peer-reviewed Publications

1. Molecular Characterization of *lysR-lysXE*, *gcdR-gcdHG*, and *amaR-amaAB* Operons for Lysine Export and Catabolism: A Comprehensive Lysine Catabolic Network in *Pseudomonas aeruginosa* PAO1. Indurthi SM, **Chou HT**, Lu CD. *Microbiology*. 2016 May;162(5):876-88
2. HES-Mediated Repression of PTEN in *Caenorhabditis elegans*. **Chou HT**, Vazquez RG, Wang K, Campbell R, Milledge GZ, Walthall WW, Johnson CM. G3 (Bethesda). 2015 Oct 4;5(12):2619-28
3. Functional Characterization of the *agtABCD* and *agtSR* Operons for γ-Aminobutyrate and δ-Aminovalerate Uptake and Regulation in *Pseudomonas aeruginosa* PAO1. **Chou HT**, Li J, and Lu CD. *Curr. Microbiology*. 2014 Jan;68(1):59-63.
4. Genome-wide Microarray Analysis Reveals Roles for the REF-1 Family Member HLH-29 in Ferritin Synthesis and Peroxide Stress Response. Quach TK, **Chou HT**, Wang K, Milledge GZ, and Johnson CM. *PLoS One*. 2013 Mar;8(3):e59719
5. Molecular Characterization of PauR in Control of Putrescine and Cadaverine Catabolism Through g-Glutamylation Pathway in *Pseudomonas aeruginosa* PAO1. **Chou HT**, Li J, Peng YC, and Lu CD. *J Bacteriol.* 2013 Sep;195(17):3906-13
6. Promoter Recognition and Activation by the Global Response Regulator CbrB in *Pseudomonas aeruginosa.* Abdou L, **Chou HT**, Haas D, and Lu CD. *J Bacteriol*. 2011 Jun; 193(11): 2784–2792
7. L-lysine Catabolism is Controlled by Arginine/ArgR in *Pseudomonas aeruginosa* PAO1. **Chou HT**, Hegazy M, Lu CD. *J Bacteriol*. 2010 Nov;192(22):5874-80

8. Synthesis and Evaluation of New Antagonists of Bacterial Quorum Sensing in *Vibrio harveyi.* Peng H, Cheng Y, Ni N, Li M, Choudhary G, **Chou HT**, Lu CD, Tai PC, Wang B. *ChemMedChem.* 2009 Sep;4(9):1457-68
9. Inhibition of Quorum Sensing in *Vibrio harveyi* by Boronic Acids. Ni N, Choudhary G, Peng H, Li M, **Chou HT**, Lu CD, Gilbert ES, Wang B. *Chem Biol Drug Des*. 2009 Jul;74(1):51-6
10. Structure-based Discovery and Experimental Verification of Novel AI-2 Quorum Sensing Inhibitors Against *Vibrio harveyi.* Li M, Ni N, **Chou HT**, Lu CD, Tai PC, Wang B. *ChemMedChem*. 2008 Aug;3(8):1242-9
11. Identification of Boronic Acids as Antagonists of Bacterial Quorum Sensing in *Vibrio harveyi.* Ni N, **Chou HT**, Wang J, Li M, Lu CD, Tai PC, Wang B. *Biochem Biophys Res Commun.* 2008 May 2;369(2):590-4
12. Transcriptome Analysis of Agmatine and Putrescine Catabolism in *Pseudomonas aeruginosa* PAO1. **Chou HT**, Kwon DH, Hegazy M, Lu CD. *J Bacteriol*. 2008 Mar;190(6):1966-75
13. CDK-dependent Activation of Poly(ADP-ribose) Polymerase Member 10 (PARP10). Chou HY, **Chou HT**, Lee SC. *J Biol Chem*. 2006 Jun 2;281(22):15201-7

Patent: PCT/US2008066028. Compositions for Regulating or Modulating Quorum Sensing in Bacteria. Methods of Using the Compounds, and Methods of Regulating or Modulating Quorum Sensing in Bacteria. Inventors: Binghe Wang, Nanting Ni, Junfeng Wang, Chung-Dar Lu, **Han-Ting Chou,** Minyong Li, Shilong Zheng, Yunfeng Cheng, Hanjing Peng. IPC8 Class: AA01N5508FI, USPC Class: 514 64, Publication date: 06/03/2010, Patent application number: 20100137249

Selected Abstract Presentations

1. Natural Variations in RNAi Susceptibility for *C. elegans* Embryos at Early Developmental Stages. Han Ting Chou, Diptodip Deb, Annalise B. Paaby. 21st International *C. elegans* Conference. UCLA, June 21-25, 2017
2. A Molecular and Genetic Characterization of HLH-25 Uncovers the Conservation of HES-mediated Repression of PTEN in *Caenorhabditis elegans.* Han Ting Chou and Casonya M. Johnson. Developmental Biology-Gordon Research Conference. Mount Holyoke College, South Hadley, MA, June 21-26, 2015
3. Peroxide Stress Response and Ferritin Synthesis Regulation by the REF-1 Family Member HLH-29. Chou HT and Johnson CM. 19th International *C. elegans* Meeting. UCLA, Los Angeles, 2013
4. A Novel Fluorescence-Based Method to Visualize Protein-Protein Interactions in Living *Caenorhabditis elegans*. Chou HT and Johnson CM. *C. elegans* Development, Cell Biology & Gene Expression Conference. University of Wisconsin – Madison. 2012
5. L-lysine Catabolism Controlled by Arginine/ArgR in *Pseudomonas aeruginosa* PAO1. Chou HT and Lu CD. The American Society for Microbiology 110th General Meeting, San Diego, 2010
6. Putrescine Catabolism in *Pseudomonas aeruginosa* PAO1. Chou HT and Lu CD. The American Society for Microbiology 108th General Meeting, Boston, 2008