Huei-Mei Chen

Harvard University
Department of Molecular and Cellular Biology

Phone: (631)903-4468 Fax: (617)496-0132 E-mail: hueimeichen@fas.harvard.edu

Education

2005-2010	Ph.D.	Molecular and Cellular Biology Stony Brook University, Stony Brook, NY
2001-2003	M.S.	Biochemistry National Taiwan University, Taipei, Taiwan
1997-2001	B.S.	Plant Pathology National Taiwan University, Taipei, Taiwan

Research Experience

2011May-Present Post-doctoral fellow, Department of Molecular and Cellular Biology, Harvard University
Advisor: Dr. Susan Mango

2011Jan-April Post-doctoral fellow, Department of Molecular Genetics and Microbiology, Stony Brook University

2005-2010 Doctoral research, Department of Molecular Genetics and Microbiology, Stony Brook University
Study the molecular mechanism of regulated RNA stability in meiosis progression in S. pombe.
Indentify a novel set of antisense non-coding RNA and their role in regulation of meiotic gene expression.
Advisor: Dr. Janet Leatherwood

2003-2005 Research assistant, Department of Internal Medicine, National Taiwan University
Using yeast two-hybrid system to identify proteins that interact with metastasis suppressor Claudin-1.
Supervisor: Dr. Pan-Chyr Yang

2001-2003 Master research and research assistant, Institute of Biochemical Science, National Taiwan University
Identify the critical phosphorylation residues of hnRNP K and examine the nucleic acid and protein binding ability of hnRNP K in different phosphorylation states.
Advisor: Dr. Chin-Jin Chang

Publications

1. **Chen HM**, Mutlu B, Wang J, Nguyen K, Levine E, Hall D, Liu T and Mango SE. Increasing H3K9 methylation and nucleosome stability promote nuclear maturation and higher-order chromatin in embryos. Under review with e-Life.

2. Hsu HT, **Chen HM**, Yang ZY, Wang , Lee NK, Burger A, Zaret K, Liu T, Levine E and Mango SE. Recruitment of RNA Polymerase II by the pioneer transcription factor PHA-4. Under review with Science.

3. **Chen HM**, Rosebrock A, Khan SR, Futcher B and Leatherwood J. Repression of meiotic genes by antisense transcription and by Fkh2 transcription factor in *Schizosaccharomyces pombe*. PLoS One. 2012;7(1):e29917

4. **Chen HM**, Futcher B and Leatherwood J. The Fission Yeast RNA Binding Protein Mmi1 Regulates Meiotic Genes by Controlling Intron Specific Splicing and Polyadenylation Coupled RNA Turnover. PLoS One. 2011;6(10):e26804.

5. **Chen HM** and Neiman AM. A conserved regulatory role for antisense RNA in meiotic gene expression in yeast. Invited review article. Curr Opin Microbiol. 2011; 14(6):655-9.

6. Rhind N, **Chen HM**, Leatherwood J, et al. Comparative and functional analysis of fission yeast genomes reveals conserved regulation of meiotic genes by antisense transcription. Science. 2011; 332(6032):930-6

7. McPheeters DS, Cremona N, Sunder S**, Chen HM**, Averbeck N, Leatherwood J and Wise JA. A complex gene regulatory mechanism that operates at the nexus of multiple RNA processing decisions. Nat Struct Mol Bio. 2009; 16(3):255-64

8. Ullman E, Fan Y, Stawowczky M, **Chen HM**, Yue Z, Zong WX. Autophagy promotes necrosis in apoptosis-deficient cells in response to ER stress. Cell Death Differ. 2008; 15(2):422-5

9. **Ph.D. Dissertation.** Repression of meiotic gene expression by regulated RNA stability and by antisense transcription in *Schizosaccharomyces pombe.* 2010

10. **Master Thesis.** Characterization of the heterogeneous nuclear ribonuclearprotein K (hnRNPK) : phosphorylation status dictates the nucleic acid and protein binding ability of hnRNPK. 2003

Works in progress

Project 1: Close the genome during development. Manuscript in preparation.

Project 2: Is open chromatin a default state in early development or is it actively maintained? Searching for factors affect chromatin in early embryos.

Techniques and Skills

Languages

- Fluent in Mandarin Chinese and English.
- Beginner level in Japanese and Turkish.

Organisms

- Experienced with cell culture system. Familiar with multiple cell lines: 293T, HeLa, primary cancer cell lines and etc.
- Deep knowledge in yeasts, both budding and fission yeast. Genetic manipulation. Synchronize cell cycle and meiosis in large volume.
- Experienced with *C. elegans* embryonic development. Genetic manipulation by microinjection.

Wet Bench

- **Molecular biology:** recombinant DNA techniques, RT-qPCR, EMSA
- **Genetics:** RNAi screening,
- **Genomics:** performed Affymetrix arrays, home-brewed microarray, Illumina sequencing and data analysis
- **Biochemistry:** protein purification, protein immuno-precipitation, Western/ Northern/ Southern blotting
- **Cell culture:** cell maintenance, sterile technique, transfection, two hybrid
- **Microbiology:** sterile technique, electroporation, growth in fermenter
- **Microscopy:** wide-field microscopy, confocal microscopy, DNA FISH and single molecular RNA FISH

***In silico*:**

- Familiar with Perl and R languages
- Experienced with Cluster and TreeView
- Skillful with MicroWords, Excel, PowerPoint, Illustrator, Photoshop

Conference and Training

2013 Eukaryotic Transcription Meeting, Cold Spring Harbor, NY, USA
Title: Dynamic chromatin organization during embryonic development (Poster)

2012 Molecular and Cellular Department Retreat, Harvard University, USA
Title: PHA-4 regulates chromatin architecture in *C. elegans* (Poster)

2010 Grant writing and career training for early-career scientists.
American Society of Microbiology, Kadner Institute.

2009 International *S. pombe* Meeting, Tokyo, Japan
Title: Repression of meiotic gene expression by regulated RNA stability and by antisense transcription (Poster)

2009 Eukaryotic Transcription Meeting, Cold Spring Harbor, NY, USA
Title: Antisense transcription and forkhead transcription factor Fkh2 keep middle meiotic genes off in fission yeast. (Poster)

2009 Eukaryotic mRNA Processing Meeting, Cold Spring Harbor, NY, USA
Title: Coupled control of RNA processing and RNA turnover regulates meiotic gene expression in fission yeast. (Poster)

2008 Asia-Pacific *S. pombe* Meeting, Singapore
Title: Coupled control of splicing and 3' end processing in meiotic gene regulation. (Talk)

2007 Eukaryotic mRNA Processing Meeting, Cold Spring Harbor, NY, USA
Title: Regulation of intron-containing meiosis specific transcripts in fission yeast. (Poster)

2004 Biochemistry and Molecular Biology Meeting. Ken-Ting, Taiwan.
Title: Phosphorylation status regulate the nuclear-cytoplasm shuttling of hnRNP K. (Poster)

Awards

- Molecular Genetics and Microbiology Symposium, Stony Brook, Best Presentation (2009)
- GSO Stony Brook University Travel Funding (2008 and 2009)
- Cold Spring Harbor Laboratory Travel Funding (2007)

Teaching Experience

2014 Mentored a under graduate student for summer research project.

2006-11 Coached two under graduate students for their thesis projects.

2005 Lab instructor, Molecular and Cellular Biology Laboratory.
Stony Brook University
2004 Lab teaching assistant, General Biology and Laboratory.
National Taiwan University