CURRICULUM VITAE

Ching Kai Douglas Wu

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OBJECTIVE

Intership opportunity working data-intense biology-related projects.

EDUCATION

The University of Texas at Austin (UT Austin) **Austin, TX**
PhD student, Institute of Cellular & Molecular Biology ***Fall 2013-present***

- Joint advisors: Dr. Alan M. Lambowitz and Dr. Claus O. Wilke

University of Illinois at Urbana Champaign (UIUC) **Urbana, IL**
B.S. (GPA of 3.67), Biochemistry ***Fall 2009-Spring2013***

- Biochemistry High Distinction Award
- Dean List (Fall 2010, Spring 2011)
- Member of Alpha Lambda Delta Honor Society (Since 2009)

RESEARCH EXPERIENCE

Prof. Alan Lambowitz's Lab **Austin, TX**
Institute of Cellular and molecular Biology ***Winter 2013-present***
The University of Texas at Austin

- Leukemia T-cell (Jurkat cell) whole cell RNA-seq library
- RNA-seq analysis for exosomal RNA-seq and plasma RNA-seq data
- Applying mathematical models on RNA-seq data
- Machine learning predictions of RNA modifications

Prof. Claus Wilke's Lab **Austin, TX**
Institute of Cellular and molecular Biology ***Winter 2013-present***
The University of Texas at Austin

- Bioinformatics: RNA-seq analysis on plasma RNA library

Prof. Laura Sugg's Lab **Austin, TX**
Department of Biomedical Engineering ***Fall 2013***
University of Texas at Austin

- Computer simulation for quantifying magnetic-induced force that directs embryoid bodies into mesodermal lineages

Prof. Ning Wang's lab **Urbana, IL**
Department of Mechanical Engineering ***Spring 2010 - Spring 2013***
University of Illinois at Urbana Champaign

- Study force-induced biochemical changes in embryonic stem cells
- Examine the stress-induce disruption of cajal body using CFP-SMN, YFP-Coilin Hela cells
- 3D-culturing melanoma B16F1 cells, tumorigenic cells, Embryonic stem cells in fibrin matrix

Prof. Mary Waye's Lab **Hong Kong**
Department of Biochemistry ***Summer 2010***
Chinese University of Hong Kong

- Investigate KIAA0319 gene on suicide and musically perfect pitch using human DNA extracted from saliva as experimental subject

PUBLICATION

- Laura R. Geuss, **Douglas C. Wu**, Divya Ramamoorthy, Corinne D. Alford, Laura J. Suggs. Paramagnetic Beads and Magnetically Mediated Strain Enhance Cardiomyogenesis in Mouse Embryoid Bodies. *PLoS ONE*. Vol. 9, no. 12
- Youhua Tan, Arash Tajik, Junwei Chen, Qiong Jia, Farhan Chowdhury, Lili Wang, Junjian Chen, Shuang Zhang, Ying Hong, Haiying Yi, **Douglas C. Wu**, Yuejin Zhang, Fuxiang Wei, Yeh-Chuin Poh, Jihye Seong, Rishi Singh, Li-Jung Lin, Sultan Doganay, Yong Li, Haibo Jia, Taekjip Ha, Yingxiao Wang, Bo Huang, Ning Wang. Matrix softness regulates plasticity of tumour-repopulating cells via H3K9 demethylation and Sox2 expression. *Nature Communication*. Vol. 5, no. 4691
- Yeh-Chuin Poh, Junwei Chen, Ying Hong, Haiying Yi, Shuang Zhang, Junjian Chen, **Douglas C. Wu**, Lili Wang, Qiong Jia, Rishi Singh, Wenting Yao, Youhua Tan, Arash Tajik, Tetsuya S. Tanaka, Ning Wang. Generation of organized mouse germ layers from single embryonic stem cell. *Nature Communication*. Vol. 5, no. 4000
- Yeh-Chuin Poh, Sergey P. Shevtsov, Farhan Chowdhury, **Douglas C. Wu**, Sungsoo Na, Miroslav Dundr, Ning Wang (2012). Dynamic force-induced direct dissociation of protein complexes in a nuclear body in living cells. *Nature Communication*. Vol. 3, no. 866
- Yuhei Uda, Yeh-Chuin Poh, Farhan Chowdhury, **Douglas C. Wu**, Tetsuya S. Tanaka, Masaaki Sato, and Ning Wang (2011). Force via integrins but not E-cadherin decreases Oct3/4 expression in embryonic stem cells. *Biochemical and Biophysical Research Communications*. Vol. 415, no. 2, pp. 396-400.
- **Douglas Wu** and Mary Waye (2011). The relationship between MicroRNA and Tumor Suppressors, *Tumor Suppressors*, eds Susan D. Nguyen (Nova Science Publishers, New York), pp. 175-188.

MANUSCRIPT

- Yidan Qin, Jun Yao, **Douglas C. Wu**, Ryan M. Nottingham, Sabine Mohr, Scott Hunicke-Smith and Alan M. Lambowitz. Profiling of circulating RNAs in human plasma by using thermostable group II intron reverse transcriptase template switching. *RNA* (In press).
- Ryan M. Nottingham*, **Douglas C. Wu*** , Yidan Qin, Jun Yao, Scott Hunicke-Smith, and Alan M. Lambowitz. RNA-Seq of human reference RNA samples using a thermostable group II intron reverse transcriptase.(In preparation) (*co-first author)
- **Douglas C. Wu**, Alfread Lentzsch, Jun Yao, Ryan M. Nottingham, Yidan Qin, Claus O. Wilke, and Alan M. Lambowitz. TGIRT-HAMR: Thermostable Group II Intron Reverse Transcriptase High Throughput Annotation of Modified Ribonucleotides. (In preparation)

SKILLS

- Languages: Fluent in writing and speaking Mandarin Chinese, Cantonese Chinese
- Programming Languages: *Python, R, Bash, Matlab, Octave*, LaTeX, *MySQL*, IGV scripts, *C++/C*
- Working knowledge of High Performance Computing: SGE Batch Environment (TACC lonestar), SLURM (TACC stampede)
- Working knowledge of High throughput Computing/ Grid computing: HTcondor
- Working knowledge of machine learning approaches

INVITED TALK

- Next generation sequencing of circulating RNA in plasma
  Byte club meeting
  The University of Texas at Austin, Austin TX. Feb 19, 2014