

## CURRICULUM VITAE

### Ching Kai Douglas Wu

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## EDUCATION

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**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-Spring 2013*

- Biochemistry High Distinction Award

## SKILLS

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- Scripting/Programming Languages: *Python, R, Bash, MySQL, Matlab, Octave, C++/C, L<sup>A</sup>T<sub>E</sub>X*
- Working knowledge of High Performance Computing: SGE Batch Environment (TACC Ionestar), SLURM (TACC stampede)
- Working knowledge of High throughput Computing/ Grid computing: HTcondor
- Working knowledge of machine learning approaches

## RESEARCH EXPERIENCE

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**Prof. Alan Lambowitz's Lab**

**Austin, TX**

*Institute of Cellular and molecular Biology*

*Winter 2013-present*

**The University of Texas at Austin**

- Perform RNA-seq analysis for exosomal RNA-seq and plasma RNA-seq data
- Apply mathematical models on RNA-seq data
- Machine learning predictions of RNA modifications
- Submitted and prepared 3 manuscripts.

**Prof. Ning Wang's lab**

**Urbana, IL**

*Department of Mechanical Engineering*

*Spring 2010-Spring 2013*

**University of Illinois at Urbana Champaign**

- Studied force-induced biochemical changes in embryonic stem cells
- Examined the stress-induced disruption of cajal body using CFP-SMN, YFP-Coilin Hela cells
- Worked on 3D-culturing melanoma B16F1 cells, tumorigenic cells, Embryonic stem cells in fibrin matrix
- Co-authored 4 publications

**Prof. Mary Waye's Lab**

**Hong Kong**

*Department of Biochemistry*

*Summer 2010*

**Chinese University of Hong Kong**

- Investigated KIAA0319 gene on suicide and musically perfect pitch using human DNA extracted from saliva as experimental subject
- Wrote a review on miRNA

## PUBLICATION

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- 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

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- 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**, Alfredd 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)