

# CURRICULUM VITAE

黃貞祥

**Chen Siang (Gene) Ng**

**OFFICE ADDRESS:**

409 Life Science Building I, National Tsing Hua University, No. 101, Section 2,  
Kuang-Fu Road, Hsinchu 30013, Taiwan.

**EMAIL:**

gcsng@life.nthu.edu.tw  
gcsng@gate.sinica.edu.tw  
gcsng15@gmail.com

**PHONE:**

Cell: +886-975-069-710  
Lab: +886-3-571-5131 ext. 33469

**NATIONALITY:**

Malaysia

**PERMENANT RESIDENCY:**

Taiwan (R.O.C.)

**CURRENT POSITION:**

Assistant Professor      Institute of Molecular and Cellular Biology & Department of  
Life Science, National Tsing Hua University, Hsinchu,  
Taiwan

**FORMER POSITION:**

Post-doctoral Fellow      Biodiversity Research Center, Academia Sinica, Taipei,  
Taiwan.

Ph.D. Candidate      Genetics Graduate Group, College of Biological Sciences,  
University of California – Davis

Student Affiliate      Center for Population Biology, College of Biological  
Sciences, University of California – Davis

Research Assistant      *Drosophila* Lab, Institute of Zoology, Academia Sinica,  
Taipei, Taiwan.

## **EDUCATION:**

2009	Ph.D. in Genetics	University of California at Davis, CA, U.S.A.
2003	M.S. in Life Science	National Tsing Hua University, Hsinchu, Taiwan.
2001	B.Sc. in Life Science	National Tsing Hua University, Hsinchu, Taiwan
1996	Diploma	Chinese High School, Malaysia

## **THESES:**

### **Ph.D.**

“The Genetics and Evolution of Sexually Dimorphic Traits in the *Drosophila bipectinata* Species Complex”. Advisor: Prof. Artyom Kopp. Thesis Committee: Profs. David J. Begun and David B. Neale. In Genetics Graduate Group, University of California at Davis, CA, U.S.A.

### **Master**

“Magnetite Biomineralization and Magnetoreception in Honeybee (*Apis mellifera*)”. Advisor: Prof. Chia-Wei Li (李家維). Thesis Committee: Profs. Juh-Tzeng Lue (呂助增) and Shun-Chern Tsaur (曹順成). In Department of Life Science, National Tsing Hua University, Hsinchu, Taiwan.

## **PUBLICATIONS\*:**

### **Published Papers**

1. Wu P\*, Ng CS\*, Yan J, Lai YC, Chen CK, Lai YT, Wu SM, Chen JJ, Luo W, Widelitz RB, Li WH, Chuong CM. Topographical mapping of  $\alpha$ - and  $\beta$ -keratins on developing chicken skin integuments: Functional interaction and evolutionary perspectives. *Proc Natl Acad Sci U S A*. 2015. doi: 10.1073/pnas.1520566112. (\*Co-first authors) [SCI, IF = 9.674, rank = 4/57 (7%), Multidisciplinary Sciences]
2. Ng CS, Chen CK, Fan WL, Wu P, Wu SM, Chen JJ, Lai YT, Mao CT, Lu MY, Chen DR, Lin ZH, Yang KJ, Sha YA, Tu TC, Chen CF, Chuong CM, Li WH. Transcriptomic analyses of regenerating adult feathers in chicken. *BMC Genomics*. 2015 Oct 6;16(1):756. doi: 10.1186/s12864-015-1966-6. (PMID: 26445093) [SCI, IF = 3.986, rank = 40/167 (24%), Genetics & Heredity]
3. Ng CS\*, Wu P\*, Fan WL, Yan J, Chen CK, Lai YT, Wu SM, Mao CT, Chen JJ, Lu MY, Ho MR, Widelitz RB, Chen CF, Chuong CM, Li WH. Genomic organization, transcriptomic analysis, and functional characterization of avian  $\alpha$ - and  $\beta$ -keratins in diverse feather forms. *Genome Biol Evol*. 2014 Aug 24;6(9):2258-73. doi: 10.1093/gbe/evu181. (\*Co-first authors) (PMID: 25152353) [SCI, IF = 4.229, rank = 9/46 (20%), Evolutionary Biology]
4. Fan WL\*, Ng CS\*, Chen CF, Lu MY, Chen YH, Liu CJ, Wu SM, Chen CK, Chen JJ, Mao CT, Lai YT, Lo WS, Chang WH, Li WH. Genome-wide patterns of genetic variation in two domestic chickens. *Genome Biol Evol*. 2013 Jul;5(7):1376-92. doi: 10.1093/gbe/evt097. (\*Co-first authors) (PMID: 23814129) [SCI, IF = 4.229, rank = 9/46 (20%), Evolutionary Biology]
5. Seher TD, Ng CS, Signor SA, Podlaha O, Barmina O, Kopp A. Genetic basis of a violation of Dollo's Law: re-evolution of rotating sex combs in *Drosophila bipectinata*. *Genetics*. 2012 Dec;192(4):1465-75. doi: 10.1534/genetics.112.145524. Epub 2012 Oct 19. (**Cover Story**) (PMID: 23086218) [SCI, IF = 5.963, rank = 21/167 (13%), Genetics & Heredity]
6. Ng CS\*, Wu P\*, Foley J, Foley A, McDonald ML, Juan WT, Huang CJ, Lai YT, Lo WS, Chen CF, Leal SM, Zhang H, Widelitz RB, Patel PI, Li WH, Chuong

CM. The chicken frizzle feather is due to an  $\alpha$ -keratin (KRT75) mutation that causes a defective rachis. *PLOS Genetics*. 2012 Jul;8(7):e1002748. doi: 10.1371/journal.pgen.1002748. Epub 2012 Jul 19. (\*Co-first authors) (PMID: 22829773) [SCI, IF = 7.528, rank = 14/167 (8%), Genetics & Heredity]

7. Matsuda M, Ng CS, Doi M, Kopp A, Tobar Y. Evolution in the *Drosophila ananassae* species subgroup. *Fly*. 2009 Apr-Jun;3(2):157-69. (PMID: 19377294) [SCI, IF = 3.325, rank = 102/290 (35%), Biochemistry & Molecular Biology]
8. Ng CS, Hamilton AM, Frank A, Barmina O, Kopp A. Genetic basis of sex-specific color pattern variation in *Drosophila malerkotliana*. *Genetics*. 2008 Sep;180(1):421-9. (PMID: 18723880) [SCI, IF = 5.963, rank = 21/167 (13%), Genetics & Heredity]
9. Ng CS, Kopp A. Sex combs are important for male mating success in *Drosophila melanogaster*. *Behavior Genetics*. 2008 Mar;38(2):195-201. (**Recommended by the FACULTY of 1000**) (PMID: 18213513) [SCI, IF = 3.210, rank = 13/51 (25%), Behavioral Sciences]

\*Impart factor (IF) and ranking are collected from the *Journal Citation Reports* (2014).

### **Manuscripts in Preparation**

1. Ng CS, Tu SL, Chang CY, Bhattacharjee MJ, Chen CK, Wu SM, Li WH. Genome-wide analysis of tissue-sensitive alternative splicing in chicken feathers. In Preparation.
2. Chen CK, Ng CS, Wu SM, Chen JJ, Cheng HC, Cheng PL, Chuong CM, Wu P, Lu MY, Chen DR, Ting CT, Li WH. Regulatory differences in natal down development between precocial chicken and altricial zebra finch. In Preparation.
3. Chen CK, Ng CS, Yu CP, SJ Li, Chuong CM, Wu P, Wu SM, Ting CT, Li WH. Long non-coding RNAs identification and functional analysis in birds natal down developments by stranded RNA-Seq. In Preparation.
4. Bhattacharjee MJ, Ng CS, Yu CP, Lin JJ, Chen CK, Wu SM, Li WH. Feather evolution viewed from regulatory transitions of avian  $\beta$ -keratin gene families. In

Preparation.

5. Wu SM, Ng CS, Li CW. Shift of saprotrophic fungi as mycorrhizal partners in two non-photosynthetic orchids. In Preparation.

## **CO-WRITTEN GRANT PROPOSALS**

Comparative Genomic and Functional Studies Avian Feather- and Scale-related Genes (MOST funded, 2015/08/01~2018/07/31, NT\$4.2 million for 3 years)

Genome-wide Association Study on High Feed Efficiency in Brown Tsaiya Ducks (MOST funded, 2015/08/01~2016/07/31, NT\$0.7 million for 1 year)

## **PROFESSIONAL SERVICES**

### **Conference and Society**

- |      |  |
|------|--|
| 2015 | Coordinator of International Symposium on Evolutionary Genomics and Bioinformatics 2015 (ISEGB 2015) |
| 2014 | Coordinator of International Symposium on Evolutionary Genomics and Bioinformatics 2014 (ISEGB 2014) |
| 2013 | Coordinator of International Symposium on Evolutionary Genomics and Bioinformatics 2013 (ISEGB 2013) |
| 2012 | Preparation committee member of Taiwan Society of Evolution and Computational Biology                |

### **Official Journal Reviewer**

- BMC Genomics* [SCI, IF = 3.986, rank = 40/167 (24.0%), Genetics & Heredity] (11)  
*Journal of Investigative Dermatology* [SCI, IF = 7.216, rank = 1/63 (1.6%), Dermatology] (1)  
*Genome Biology and Evolution* [SCI, IF = 4.229, rank = 9/46 (19.6%), Evolutionary

Biology] (1)

**AWARDS AND HOHORS:**

Best Postdoctoral Oral Presentation Award in the International Symposium on Evolutionary Genomics and Bioinformatics 2012

2011 SMBE Annual Meeting Postdoctoral Travel Award (Tokyo, Japan)

Phi Sigma Biological Honor Society of U.S.A.

Phi Tau Phi Scholastic Honor Society of R.O.C.

**ASSOCIATION MEMBERSHIPS:**

- Taiwan Society of Evolution and Computational Biology
- Society of Molecular Biology and Evolution

**ACADEMIC TALKS:**

February 18, 2016 "Genomic and Molecular Insights into Evolutionary Innovation and Domestication of Birds" in College of Life Science, National Tsing Hua University, Hsinchu, Taiwan.

November 09, 2015 "Genomic Insights into Evolutionary Innovation and Domestication of Birds" in Department of Life Science, National Cheng Kung University, Tainan, Taiwan.

October 05, 2015 "Genomic Insights into Evolutionary Innovation and Domestication of Birds" in College of Life Science, National Tsing Hua University, Hsinchu, Taiwan.

February 26, 2015 "Evolutionary Genetics and Genomics for Avian Feather Diversification (鳥類羽毛多樣化的演化遺傳學與基因體學)" in

Department of Biological Sciences, National Sun Yat-sen University, Kaohsiung, Taiwan.

- March 14, 2014 "The Genetic and Molecular Basis of Morphological Development and Evolution in Birds" in Biodiversity Research Center, Academia Sinica, Taipei, Taiwan.
- October 25, 2013 "Avian Evolutionary Genetics and Genomics of Feathers" in Department of Life Sciences, National Taiwan Normal University, Taipei, Taiwan.
- April 18, 2013 "Avian Evolutionary Genetics and Genomics" in Department of Life Sciences and Institute of Genome Sciences, National Yang-Ming University, Taipei, Taiwan,
- March 26, 2013 "Avian Evolutionary Genetics and Genomics" in Institute of Molecular and Cellular Biology, National Tsing Hua University, Hsinchu, Taiwan.
- November 29, 2012 "Avian Evolutionary Genetics and Genomics" in Exchange Workshop Center for Genomic Regulation, Spain & Academia Sinica, Taipei, Taiwan.
- October 19/2012 "The Genetics Basis of Morphological Traits and Evolution in Chickens" in 2012 International Symposium on Evolutionary Genomics and Bioinformatics, National Sun Yat-sen University, Kaohsiung, Taiwan.
- October 05, 2012 "The Genetic Basis of Morphological Traits and Evolution in Chickens" in 2012 Asia Pacific Developmental Biology Conference Satellite Meeting on EvoDevo, Taipei, Taiwan.
- May 25, 2012 "The Genetic Basis of Morphological Traits and Evolution in Chickens" in 2012 Minisymposium on Bioinformatics, Systems Biology, and Molecular Evolution, National Health Research Institutes, Chunan, Taiwan.
- September 18, 2011 "The Molecular and Genetic Bases of Morphological Traits,

- Evolution, and Domestication in Birds" in the 6th International Chick Meeting, Roslin Institute, University of Edinburgh, UK.
- July 27, 2011 "The Genetic Basis of Morphological Traits and Evolution in Chickens" in 2011 SMBE Annual Meeting, University of Kyoto, Japan.
- June 19, 2009 "Genetics and Evolution of Sexually Traits in the *Drosophila bipectinata* Species Complex" in University of California, Davis.
- January 20, 2009 "Genetics and Evolution of Sexually Traits in the *Drosophila bipectinata* Species Complex" in Biodiversity Research Center Seminar, Academia Sinica, Taipei, Taiwan.

## **PROFESSIONAL EXPERIENCE:**

### **Research**

- 2009~present Postdoctoral Fellow  
Dr. Wen-Hsiung Li's Lab, Biodiversity Research Center, Academia Sinica, Taipei, Taiwan. "The Genetic Basis of Morphological Development and Evolution in Birds".
- 2004~2009 Graduate Student Researcher  
Dr. Artyom Kopp's Lab, Department of Evolution and Ecology & Center for Population Biology, University of California – Davis. "Genetic Analysis of Intra- and Interspecific Differences of Sexually Dimorphic Traits in *Drosophila*".
- 2003~2004 Research Assistant  
Drs. Shun-Chern Tsaur, Shu Fang & Chau-Ti Ting, *Drosophila* Lab, Institute of Zoology, Academia Sinica, Taipei, Taiwan. "Genetic Analysis of Premating Sexual Isolation of *Drosophila melanogaster*".
- 1999 ~ 2003 Undergraduate/Master Student  
Prof. Chia-Wei Li's Lab, Institute of Molecular and Cellular



Biology & Department of Life Science, National Tsing Hua University, Hsinchu, Taiwan. "Magnetite Biomineralization and Magnetoreception in Honeybee (*Apis mellifera*)".

Jul. ~ Aug. 1999 Summer Student  
Prof. Zihé Rao's Laboratory of Structural Biology, Department of Biological Sciences and Technology, Tsinghua University, Beijing, China. "Expression and Purification of Pertussis-Toxin-Insensitive Gz protein Subunit".

### **EXTRA CURRICULUM EXPERIENCE:**

2014~present Columnist of Center for the Advancement of Science Education, National Taiwan University

2013~present Columnist of Readmoo.com

2013~2015 Council member, Alumni Association of the College of Life Science of National Tsing Hua University

2011~present Consultant and Columnist of *PanSci* (<http://pansci.tw>)

2000~2012 Chief editor of a nonprofit Chinese science news website *SciScape* (<http://www.sciscape.org>)

2007 President of the Taiwanese Graduate Student Association of Univ. California - Davis.

2006 Vice president of the Taiwanese Graduate Student Association of Univ. California - Davis.

1999~2000 President of the Overseas Chinese Student Association (NTHU)

1998 Head of Life Science Class 01 (NTHU)