

# Curriculum Vitae

April 18, 2008

## Hsuan-Cheng Huang (黃宣誠)

Assistant Professor  
Institute of Bioinformatics  
National Yang-Ming University  
155, Sec. 2, Li-Nong St., Taipei 112, Taiwan  
Email: [hsuancheng@ym.edu.tw](mailto:hsuancheng@ym.edu.tw).

Birth: Oct. 31, 1970  
Citizenship: Taiwan, R.O.C.  
Married with 1 child  
Tel: +886-2-2826-7357  
Fax: +886-2-2820-2508  
URL: <http://hchuang.info/>

**Research Area:** Bioinformatics, Systems Biology, Computational Biology, Network Biology

## Professional Experience:

2004/8 – present Assistant Professor,  
Institute of Biomedical Informatics, National Yang-Ming University  
(Institute of Bioinformatics, 2004 – 2007)

2006/8 – present Core Faculty, Bioinformatics Program,  
Taiwan International Graduate Program (TIGP)

2007/4 – present Board Member & Executive Supervisor,  
Bioinformatics and Systems Biology Society Taiwan

2007/8 – 2008/2 Visiting Scholar, University of California, Los Angeles, USA

2006/7 – 2006/8 Visiting Scholar, Nara Institute of Science and Technology, Japan

2003/11 – 2004/7 Research Fellow & Director of Bioinformatics, Inpac Inc., Taiwan  
- Visiting Scientist at Inst. of Biological Chemistry, Academia Sinica

2002/11 – 2003/10 NSC Distinguished Postdoctoral Scholar,  
Department of Physics, National Taiwan University

1998/8 – 2002/10 Postdoc, Department of Physics, National Taiwan University

1997/7 – 2001/8 Visiting Scientist, KEK, Japan

1992 – 1998 Graduate Research Assistant,  
Department of Physics, National Taiwan University  
- Stationed in KEK, Japan (1996/10 ~ 1997/12)

1991 – 1995 Research Assistant (part-time),  
Institute of Biological Chemistry, Academia Sinica

## Education:

1994 – 1998 **Ph.D.**, Physics, National Taiwan University  
Dissertation: *Search for T-Violating Muon Polarization in  $K^+ \rightarrow \gamma\mu^+\nu_\mu$  Decay*

1992 – 1994 **M.A.**, Physics, National Taiwan University  
Master Thesis: *Effect of  $SU(2)$ -Singlet Charge-2/3 Quark on Top Quark Properties*

1988 – 1992 **B.A.**, Department of Physics, National Taiwan University

1985 – 1988 Hsinchu Senior High School  
*Talented Student Program in Biology at Academia Sinica*

## Honors and Awards:

- 2007 NSC Wu Ta-You Memorial Award (吳大猷先生紀念獎)
- 2007 National Yang-Ming University Academic Excellence Award
- 2002 NSC Distinguished Postdoctoral Fellowship (10 awarded in all research areas)
- Poster Awards, Mawudu Autumn School, Taiwan Society of Biochemistry and Molecular Biology, Taiwan, October, 2007. (with students Chi-Chin Chang, Shin-Yi Chang, Chia-Wei Hsu)

- Poster Award, the XXII Joint Annual Conference of Biomedical Sciences, Taiwan, March, 2007. (with student Cheng-Pao Chen)
- First Prize and Second Prize of poster competition, Fourth Asia Pacific Bioinformatics Conference, Taiwan, February, 2006. (with students Yue-Yang Bow, Jen-Yun Chang, Cheng-Han Ou)
- Second Prize of student poster competition, Bioinformatics in Taiwan 2004, Taiwan, September, 2004. (with student Jia-Je Li)
- Top 10 Prize of student poster competition, the Third International Proteomics Conference, Taiwan, May, 2004. (with student Jia-Je Li)
- Best Poster Award, the Fourth International Conference on B Physics and CP Violation, Japan, February, 2001.
- Prize for Outstanding Performance, National Mathematics Contest, Taiwan, R.O.C., 1987.

### **Synergistic Activities:**

- **Journal Reviewer:**

*Bioinformatics, IEEE Transactions on Fuzzy Systems, International Journal of Data Mining and Bioinformatics, Computer Methods and Programs in Biomedicine, The Python Papers*

- Program Committee member:

- Chair & Organizer, The Second ABREN Virtual Workshop on Bioinformatics, July 2007
- 2006 International Workshop on Medical and Bioinformatics (ICS2006), December 4 – 6, 2006, Taipei, Taiwan
- The 7th International Conference on Systems Biology (ICSB2006), October 9 – 13, 2006, Yokohama, Japan (the largest annual conference in systems biology)
- 2006 Workshop on Pattern Recognition in Bioinformatics (PRIB'06), August 20, 2006, Hong Kong, China

- Reviewer for the following conferences

- Symposium and Workshop of Bioinformatics in Taiwan 2006 (BIT2006), Taichung, Taiwan, September, 2006
- The Third Asia-Pacific Bioinformatics Conference (APBC2005), January, 2005, Singapore

- Other conference planning and administration

- Co-organizer, 2007 Systems Biology and Bioinformatics Symposium and Workshop (SBBS07), Taipei, Taiwan, March 27 – 29, 2007
- Session Chair, The Second Taiwan-Japan Bilateral Symposium on Bioinformatics, Tainan, Taiwan, November 7 – 9, 2006
- Session Chair, The Fifth Emerging Information Technology Conference (EITC2006), Dallas, Texas, August 10–12, 2006
- Committee, Asian Bioinformatics Research and Education Network (ABREN), 2006 – 2007
- Organizer, Mini-Workshop on Microbial Systems Biology, National Yang-Ming University, March 16 – 17, 2006
- Organization Committee, The Fourth Asia Pacific Bioinformatics Conference (APBC2006), February, 13-16, 2006, Taipei, Taiwan

- Session Chair, International Symposium on Grid Computing 2005 (ISGC2005), Taipei, Taiwan, April 25 – 29, 2005
- Co-organizer, 2005 Systems Biology and Bioinformatics Symposium and Workshop (SBBS05), Taipei, Taiwan, March 29 – 31, 2005
- Organization Committee, Bioinformatics in Taiwan 2004 (BIT2004), Taipei, Taiwan, September 9-11, 2004
- Guide Committee, Bioinformatics and Systems Biology Education Center, MOE Advanced Biotechnology Education Program, 2005 – 2009

- **Invited Talks**

- **International:**

1. “Essential Core in Protein Interaction Network”, The 16th Korea Genome Organization Conference, Seoul, Korea, September 13 – 14, 2007
2. “Network biology of essential genes”, Department of Bioscience and Bioinformatics, Kyushu Institute of Technology, Iizuka, Japan, January 30, 2007
3. “Network characteristics of essential genes in *E. coli*”, The 7th International Conference of Korean Society for Bioinformatics (BIOINFO 2006), Pohang, Korea, September 14 – 16, 2006
4. “Identification of RNA-Binding Protein Residues Using Machine Learning Approaches”, Graduate School of Biological Sciences, Nara Institute of Science and Technology, Nara, Japan, August 25, 2006
5. “Topological Similarity of Protein Interaction Network and its Correlation with Gene Expression Profiles”, The Fifth Emerging Information Technology Conference (EITC2006), Dallas, Texas, August 10 – 12, 2006
6. “Systems Biology: Modeling of Biological Network”, The First Virtual Training Workshop on Bioinformatics, May – June, 2006 (an online course)
7. “Elucidating the Essentiality of Essential Genes”, The First Japan-Taiwan Bilateral Symposium on Bioinformatics, Tokyo, Japan, March 13 – 15, 2006
8. “Systems Biology Study of a Novel Compound on Cancer Cells”, First K.I.T. Bioinformatics Symposium, Iizuka, Japan, December 9 – 11, 2004
9. “Baryonic B Decays”, 2003 International Europhysics Conference on High Energy Physics, Aachen, Germany, July 17 – 23, 2003
10. “Performance of a Small Angle BGO Calorimeter at Belle”, The 10th International Conference on Calorimetry in High Energy Physics, Pasadena, USA, March 25 – 29, 2002
11. “Rare B Decays at Belle”, XXXVIIth Rencontres de Moriond — Electroweak Interactions and Unified Theories, Les Arcs, France, March 9 – 16, 2002
12. “Non-CP Physics Results from Belle”, 2001 Aspen Winter Conference on Particle Physics, Aspen, Colorado, January 9 – 17, 2001

*Domestic:*

1. “MicroRNA-Regulated Protein Interaction Network”, The First Japan-Taiwan Young Researchers Conference on Computational and Systems Biology, Hsinchu, Taiwan, March 9 – 11, 2008
2. “Network Biology of Essential Genes”, Department of Chemical Engineering, National Taiwan University, May 23, 2007
3. “Predicting Essential Genes Based on Network and Sequence Analysis”, 2nd Workshop on Systems Biology and Bioinformatics, National Central University, April 14 – 15, 2007
4. “Network Biology of Essential Genes”, Institute of Zoology, National Taiwan University, March, 19, 2007
5. “Network Biology of Essential Genes”, Biophysics and Soft-Matter Days 2007, Kenting, Taiwan, January 26 – 28, 2007
6. “Network Biology of Essential Genes in *E. coli*”, 2007 Protein-Protein Interaction and Network Biology Workshop, Taipei, Taiwan, January 22, 2007
7. “Network Biology of Essential Genes”, Institute of Systems Biology and Bioinformatics, National Central University, December 28, 2006
8. “Topological Similarity of Protein Interaction Network”, The Second Taiwan-Japan Bilateral Symposium on Bioinformatics, Tainan, Taiwan, November 7 – 9, 2006
9. “Network Biology of Essential Genes”, Institute of Physics, Academia Sinica, October 27, 2006
10. “Reconstruction of Gene Network and its Applications”, Symposium for Systems Biology Virtual Laboratory and Genomics Approach to Chinese Medicine and Core Technology Training Course (III), Taipei Medical University, October 20 – 21, 2006
11. “Network characteristics of essential genes in *E. coli*”, 11th Symposium on Recent Advances in Biophysics, Taipei, Taiwan, May 24 – 26, 2006
12. “Systems Biology — A New Way of Doing Biology”, Department of Physics, National Dong-Hua University, May 8, 2006
13. “Network Biology of Essential Genes in *E. coli*”, Institute of Information Science, Academia Sinica, April 6, 2006
14. “Identification of RNA-Binding Protein Residues Using Machine Learning Approaches”, Second Taiwan-India Functional Genomics Symposium, Taipei, Taiwan, March 3 – 4, 2006
15. “Systems Biology: Modeling of Biological Network”, The Fourth Asia Pacific Bioinformatics Conference (APBC2006), February, 13-16, 2006, Taipei, Taiwan (a tutorial lecture)
16. “Systems Biology — A New Way of Doing Biology”, Department of Physics, Chung-Yuan Christian University, November 28, 2005
17. “Elucidating the Essentiality of Essential Genes”, NCTS Symposium on Network Biology, Hsin-Chu, Taiwan, November 11, 2005
18. “Identification of RNA-Binding Protein Residues Using Machine Learning Approaches”, Symposium and Workshop of Bioinformatics in Taiwan 2005 (BIT2005), Tainan, Taiwan, September 9 – 10, 2005
19. “Identification of RNA-Binding Protein Residues Using Machine Learning Approaches”, The Fifth Emerging Information Technology Conference (EITC2005), Taipei, Taiwan, August 15 – 16, 2005

20. “Systems Biology Study of a Novel Drug — cyclic RGD in Breast Cancer Cell MCF-7”, Institute of Biochemistry, National Chung-Hsing University, April 22, 2005
21. “Systems Biology Study of a Novel Drug on Cancer Cells”, Institute of Information Science, Academia Sinica, March 10, 2005
22. “A New Way of Doing Biology”, 2005 Bioinformatics Symposium, National Taiwan University, January 18, 2005
23. “Proteome Analysis”, Sixth Bioinformatics Workshop, National Chung-Cheng University, November 12, 2004
24. “Bioinformatics Applications in Systems Biology”, Department of Computer Science and Information Engineering, National Taiwan University, April 16, 2004
25. “Proteomics Study of Cyclic RGD in Breast Cancer Cell Using Bioinformatics Techniques”, Proteomics Symposium, National Central University, March 5, 2004
26. “Systems Biology Study of a Novel Drug — cyclic RGD in Breast Cancer Cell MCF-7”, Institute of Bioinformatics, National Yang-Ming University, February 18, 2004
27. “Three-body Hadronic B decays”, Third International Workshop on B Physics and CP Violation, Taipei, Taiwan, September 29 – October 1, 2003
28. “Observation of  $B \rightarrow \phi\phi K$ ”, Department of Physics, National Taiwan University, March 10, 2003
29. “Discovery of Novel B Decays”, Department of Physics, National Tsing-Hua University, February 25, 2003
30. “Belle Experiment — Symmetry Breaking of Elementary Particles”, Department of Physics, National Taiwan University, October 11, 2002
31. “Belle Experiment — Symmetry Breaking of Elementary Particles”, Department of Physics, Chung-Yuan Christian University, October 7, 2002
32. “Rare B decays at Belle”, Second International Workshop on B Physics and CP Violation, Taipei, Taiwan, June 7 – 9, 2002
33. “Rare B Meson Decays at Belle”, Department of Physics, National Tsing-Hua University, April 22, 2002
34. “Color-suppressed  $B^0 \rightarrow D^0 h^0$  at Belle”, Department of Physics, National Taiwan University, September 28, 2001

- **Teaching Experience**

- Principles in Bioinformatics (Fall 2005, Spring & Fall 2006, Spring 2007)
- Systems Biology (Summer 2005, Fall 2005, Fall 2006, Spring 2007, Spring 2008)
- Advanced Systems Biology (Spring 2006)
- Network Biology (Fall 2006)
- Microarray Data Analysis (Spring 2007)
- Bioinformatics Programming (Spring 2005)
- Programming (Fall 2004)

- **Memberships:**

Bioinformatics and Systems Biology Society Taiwan (Bioinformatics Society Taiwan, ~ 2006), Taiwan Proteomics Society, ROC Institute of Information & Computing Machinery, Physical Society of ROC