

# Curriculum Vitae

## Basic Information:

**Name:** GONG, Tao (龚涛)  
**Birth date:** 1977/09/16  
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Department of Linguistics  
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## University Educations

- **2007/12/06: Ph.D., Language Engineering Laboratory, Chinese University of Hong Kong, Hong Kong.**  
*Thesis: Language Evolution from a Simulation Perspective: On the Coevolution of Compositionality and Regularity*
- **2003/03/30: M.Phil, School of Informatics and Engineering, Tianjin University, Tianjin, China.**  
*Thesis: The Research of New Efficient Motion Estimation Algorithms*
- **2000/06/26: B.A., School of Informatics and Engineering, Tianjin University, Tianjin, China.**  
*Thesis: Design of Single-Route Cardiogram Sample & Analyzing Instrument*

## Research Interests

- **Evolutionary Linguistics, Cognitive Sciences, Psychology, Neuroscience;**
- **Computational Simulation, Artificial Intelligence, Complex Adaptive Systems;**

## Working Experiences

- **2010/09—now:** Research Scholar in the Society of the Scholars in the Humanities, Department of Linguistics, University of Hong Kong, Hong Kong.
- **2009/09—2010/02:** British Academy of Sciences Visiting Fellow, School of Philosophy, Psychology and Language Sciences, University of Edinburgh, Edinburgh, UK.
- **2008/09—2009/08; 2010/03—2010/08; 2011/05—2011/06:** Alexander von Humboldt Postdoctoral Fellow, Department of Linguistics, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.
- **2007/11—2008/08:** Postdoctoral Fellow (supported by the EU EC Agents project), Department of Physics, Sapienza University of Rome, Rome, Italy.

## Teaching Experiences

- **2011—2012:** Lecturer of *Language Evolution* (LIN2057), University of Hong Kong, Hong Kong;
- **2010—2011:** Co-Lecturer of *Language, Thought and Culture* (LIN1003) and *Current Issues in Linguistics* (LIN6029), University of Hong Kong, Hong Kong;
- **2010—2011:** Lecturer of *Language Evolution* (LIN6030), University of Hong Kong, Hong Kong;
- **2010/07:** Invited Lecturer of the China Linguistics Summer Institute (CLSI2010), Nankai University, Tianjin, China;
- **2009:** Guest Lecturer of *Simulating Language* (P03401) and *Origins and Evolution of Language* (P01593), University of Edinburgh, Edinburgh, UK;
- **2004—2007:** Teaching Assistant of *Foundation Circuit Theory* (ELE1110A) and *Professional Engineering Practice* (ELE2860A/B), Chinese University of Hong Kong, Hong Kong;

## Certificates & Awards

- **Program Committee:** *Evolang9: The International Conference on Language Evolution*. Kyoto, Japan (2012/03);
- **Program Committee:** *ECAL'11 Satellite Workshop: Alife Approaches to Artificial Language Evolution*. Paris, France (2011/08);
- **Editorial Review Board:** *International Journal of Signs and Semiotic Systems (IJSSS)* (since 2011);
- **External Examiner:** French Research Agency (ANR) (since 2011);
- **External Examiner:** National Science Foundation of USA (NSF) (since 2011);
- **External Examiner:** European Research Council (ERC) (since 2010);
- **Invited Reviewers:** *Journal of Chinese Linguistics, Communications in Computational Physics, International Journal of Swarm Intelligence Research, Physica A*;
- **Certificate of Teaching Assistance (2005/01):** issued by the Chinese University of Hong Kong;
- **Associate of Behavioral and Brain Sciences:** started from 2004;
- **The 3rd Prize of the National Undergraduate Students Electronic Design Competition (2003/10);**
- **Certificate of Mid-level Programmer (1998/10):** issued by the Ministry of Information Industry, China;

## Research Activities

- **2010/06:** Attend *the Summer Institute in Cognitive Sciences 2010: The Origins of Language*, held by the Cognitive Sciences Institute, University of Quebec at Montreal, Montreal, Canada;
- **2009/02:** Attend *the 3rd International School of Design of Collective Intelligence (DECOI 2009)*, held by Lorentz Center: International Centers for Workshops in the Sciences, Leiden, The Netherlands;
- **2007/07:** Attend *the International Summer Atelier: Modeling Language Evolution with Computational Construction Grammar* (Erice 2007), held by Ettore Majorana Foundation and Center for Scientific Culture, Erice, Italy;
- **2004/07:** Attend *the Complex System Summer School (CSSS 2004)*, held by Santa Fe Institute, Qingdao, China;

## Research Projects

- **2011/09—2014/08:** Co-Investigator: *Hong Kong GRF Project: The Complexity of Isolating Languages*;
- **2010/01—2012/12:** Co-Investigator: *Chinese Philosophy & Social Science Project: Chinese Dialects Geographical Information Database (09JZD0007)*.
- **2007/11—2008/08:** Participate: *European ECAGents project (IST-FET-1940)*;
- **2007—2008:** Participate: *Hong Kong RGC Project: Language Evolution (2160327)*;
- **2001/06—2003/06:** Participate: *Tianjin NSF Project: Motion Estimation and Compensation*;
- **2000/02—2001/12:** Participate: *Chinese NSF Project: Image De-noising and Edge Detection*;
- **1999/12—2000/09:** Participate: *Tianjin NSF Project: Residential Area Alarming System*;

## Lists of Publications

### Monographs:

1. **Gong, T.** (2009). *Computational simulation in evolutionary linguistics: A study on language emergence* (Frontiers in Linguistics, Monograph IV). Taipei: Institute of Linguistics, Academia Sinica.

### Book chapters:

1. Minett, J. W. & **Gong, T.** (2010). Exploring linguistic ambiguity from a simulation perspective. In: Pan, W-Y. & Shen, Z-W. (Eds.), *The Joy of Research II: A Festschrift in Honor of Prof. William S-Y. Wang on His Seventy-fifth Birthday* (pp., 244–264). Shanghai, China: Shanghai Education Press.

### Journal articles:

1. **Gong, T.**, Tamariz, M., & Jaeger, G. Identifying selective pressures on linguistic diffusion. *Evolution and Human*

*Behavior*. Submitted (SCI, Impact Factor 3.594).

2. **Gong, T.** Exploring the Effect of Power-law Social Popularities on Language Evolution. *Artificial Life*. Accepted (SCI, Impact Factor 1.960).
3. **Gong, T.**, Baronchelli, A., Puglisi, A., & Loreto, V. Exploring the Roles of Complex Networks in Linguistic Categorization. *Artificial Life*. In press (SCI, Impact Factor 1.960).
4. **Gong, T.** & Wang, Q. (2011). Review: Fitch, W. Tecumseh. 2010. The Evolution of Language. Cambridge: Cambridge University Press. *Language Dynamics and Change*, 1(1). In press.
5. **Gong, T.** (2011). Simulating the coevolution of compositionality and word order regularity. *Interaction Studies*, 12(1): 63–106 (SSCI, Impact Factor 0.776).
6. **Gong, T.**, Yang, R., Zhang, C, & Ansaldo, U. (2010). Review of the summer institute in cognitive sciences 2010: The origins of language. *Biolinguistics*, 4(4): 385–402.
7. Peng, G., Zheng, H-Y., **Gong, T.**, Yang, R-X., Kong, J-P., & Wang, W. S-Y. (2010). The influence of language experience on categorical perception of pitch contours. *Journal of Phonetics*, 38: 616–624. (SSCI, Impact Factor 1.525).
8. **Gong, T.** (2010). Exploring the roles of horizontal, vertical, and oblique transmissions in language evolution. *Adaptive Behavior*, 18(3–4): 356–376. (SSCI, Impact Factor 1.911).
9. Baronchelli, A., **Gong, T.**, Puglisi, A., & Loreto, V. (2010). Modeling the emergence of universality in color naming patterns. *Proceedings of the National Academy of Sciences*, 107(6): 2403–2407. (SCI, Impact Factor 9.432).
10. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2010). A simulation study exploring the role of cultural transmission in language evolution. *Connection Science*, 22(1): 69–85. (SCI, Impact Factor 0.806)
11. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2009). A simulation study on word order bias. *Interaction Studies*, 10(1): 51–76. (SSCI, Impact Factor 0.776)
12. **Gong, T.**, Puglisi, A., Loreto, V., & Wang, W. S-Y. (2008). Conventionalization of linguistic knowledge under communicative constraints. *Biological Theory: Integrating Development, Evolution, and Cognition*, 3(2): 154–163.
13. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2008). Exploring social structure effect on language evolution based on a computational model. *Connection Science*, 20(2–3): 135–153. (SCI, Impact Factor 0.806)
14. Ke, J-Y., **Gong, T.**, & Wang, W. S-Y. (2008). Language change and social networks. *Communications in Computational Physics*, 3(4): 935–949. (SCI, Impact Factor 2.077)
15. Wang, W. S-Y. & **Gong, T.** (2005). Categorization in artificial agents: Guidance on empirical research? -- Commentary on Luc Steels and Tony Belpaeme, Coordinating perceptually grounded categories through language. *Behavioral and Brain Sciences*, 28(4): 511–512. (SCI, Impact Factor 14.964)
16. **Gong, T.**, Ke, J-Y., Minett, J. W., Holland, J. H., & Wang, W. S-Y. (2005). Coevolution of lexicon and syntax from a simulation perspective. *Complexity*, 10(6): 50–62. (SCI, Impact Factor 0.948)
17. **Gong, T.** (2005). Linguistics from a computational perspective – review of Computational Linguistics and Beyond. *Language and Linguistics*, 6(3): 505–512. (SSCI and A&HCI)
18. **Gong, T.** & Wang, W. S-Y. (2005). Computational modeling on language emergence: A coevolution model of lexicon, syntax and social structure. *Language and Linguistics*, 6(1): 1–41. (SSCI and A&HCI)

#### Journal articles (in Chinese):

1. Wang, Q. & **Gong, T.** (2011). Minutes of Evolang8: The 8th international conference on language evolution. *Contemporary Linguistics*. In press. (Impact Factor 0.974)
2. Wang, Q. & **Gong, T.** (2011). Evolutionary Linguistics: Review The Evolution of Language by W. Tecumseh Fitch and the contemporary evolutionary linguistics research in China. *Journal of Chinese Linguistics*, 39(1): 266–276. (SSCI, Impact Factor 0.182)
3. Wang, Q. & **Gong, T.** (2008). Minutes of Evolang7: The 7th international conference on language evolution. *Modern Foreign Languages*, 31(4): 434–435. (Impact Factor 1.207)
4. **Gong, T.** & Ding, R-T. (2003). A modified Genetic Algorithm based Block Matching motion estimation method. *Signal Processing*, 19(3): 207–210. (Impact Factor 0.240)

5. **Gong, T.** & Ding, R-T. (2003). A Block Matching motion estimation algorithm based on Wavelet Transform. *Journal of Tianjin University*, 36(3): 320–324. (Impact Factor 0.152)
6. **Gong, T.** & Ding, R-T. (2002). A modified motion estimation algorithm - Pseudo-diamond Search method. *Journal of Image and Graphics*, 7(11): 1181–1186. (Impact Factor 0.758)

Conference Proceedings:

1. Tamariz, M., **Gong, T.**, & Jaeger, G. (2011). Investigating the effects of prestige on the diffusion of linguistic variants. *The 33rd Annual Conference of the Cognitive Science Society (CogSci 2011)*. Accepted.
2. **Gong, T.** (2010). The effect of social popularities on linguistic categorization. In: A. D. M. Smith, M. Schouwstra, B. de Boer, & K. Smith (eds.), *The Evolution of Language: Proceedings of the 8th International Conference (Evolang8)*, Singapore: World Scientific, pp. 160–167.
3. **Gong, T.** (2010). Exploring the roles of major forms of cultural transmission in language evolution. In: A. D. M. Smith, M. Schouwstra, B. de Boer, & K. Smith (eds.), *The Evolution of Language: Proceedings of the 8th International Conference (Evolang8)*, Singapore: World Scientific, pp. 168–175.
4. Baronchelli, A., **Gong, T.**, Puglisi, A., & Loreto, V. (2010). On the origin of universal categorization patterns: An *in-silica* experiment. In: A. D. M. Smith, M. Schouwstra, B. de Boer, & K. Smith (eds.), *The Evolution of Language: Proceedings of the 8th International Conference (Evolang8)*, Singapore: World Scientific, pp. 365–366. (abstract)
5. **Gong, T.**, Comrie, B., & Wang, W. S-Y. (2009). The necessity of computational simulation in evolutionary linguistics. *Ways to Protolanguage: The initial stages of the evolution of the language faculty*. Toruń, Poland. (abstract)
6. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2009). A framework triggering displacement in human language. *Ways to Protolanguage: The initial stages of the evolution of the language faculty*. Toruń, Poland. (abstract)
7. Brintrup, A., **Gong, T.**, Ligtvoet, A., Davis, C., van Willigen, W., & Robinson, E. (2009). Distributed control of emergence: Local and global anti-component strategies in particle swarms and ant colonies. *2009 Third IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2009)*. San Francisco, CA, pp. 216–222.
8. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2009). Coevolution of language and intentionality sharing. *Proceedings of 2009 IEEE Congress on Evolutionary Computation (CEC 2009)*, Trondheim, Norway, pp. 1530–1537.
9. **Gong, T.**, Puglisi, A., Loreto, V., & Wang, W. S-Y. (2008). Conventionalization of linguistic categories under simple communicative constraints. *Proceedings of 2008 IEEE Congress on Evolutionary Computation (CEC 2008)*, Hong Kong, pp. 1686–1693.
10. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2008). The role of cultural transmission in intention sharing. In: A. D. M. Smith, K. Smith, & R. Ferrer i Cancho (eds.), *The Evolution of Language: Proceedings of the 7th International Conference (EvoLang7)*, Singapore: World Scientific, pp. 131–138.
11. **Gong, T.** & Wang, W. S-Y. (2008). The role of the naming game in social structure. In: A. D. M. Smith, K. Smith, & R. Ferrer i Cancho (eds.), *The Evolution of Language: Proceedings of the 7th International Conference (EvoLang7)*, Singapore: World Scientific, pp. 139–146.
12. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2007). A simulative study of the roles of cultural transmission in language evolution. *Proceedings of 2007 IEEE Congress on Evolutionary Computation (CEC 2007)*, Singapore, pp. 843–850.
13. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2006). Language origin and the effects of individuals' popularity. *Proceedings of 2006 IEEE Congress on Evolutionary Computation (CEC 2006)*, Vancouver, Canada, pp. 3744–3751.
14. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2006). Computational simulation on the coevolution of compositionality and regularity. In: A. Cangelosi, A. D. M. Smith, & K. Smith (eds.), *The Evolution of Language: Proceedings of the 6th International Conference (Evolang6)*, Singapore: World Scientific, pp. 99–106.
15. Minett, J. W., **Gong, T.**, & Wang, W. S-Y. (2006). A language emergence model predicts word order bias. In: A. Cangelosi, A. D. M. Smith, & K. Smith (eds.), *The Evolution of Language: Proceedings of the 6th International Conference (Evolang6)*, Singapore: World Scientific, pp. 206–213.
16. Ke, J-Y., Coupé, C., & **Gong, T.** (2006). A little bit more, a lot better: Language emergence from quantitative to qualitative change. In: A. Cangelosi, A. D. M. Smith, & K. Smith (eds.), *The Evolution of Language: Proceedings of*

*the 6th International Conference (Evolang6)*, Singapore: World Scientific, pp. 419–420. (abstract)

17. **Gong, T.**, Minett, J. W., & Wang, W. S-Y. (2005). Computational exploration on language emergence and cultural dissemination. *Proceedings of 2005 IEEE Congress on Evolutionary Computation (CEC 2005)*, Edinburgh, UK, pp. 1629–1636.
18. **Gong, T.**, Zhang, Q., & Wu, H. (2005). Music evolution in a complex system of interacting agents. *Proceedings of 2005 IEEE Congress on Evolutionary Computation (CEC 2005)*, Edinburgh, UK, pp. 1111–1118.
19. **Gong, T.**, Ke, J-Y., Minett, J. W., & Wang, W. S-Y. (2004). A computational framework to simulate the coevolution of language and social structure. In: J. Pollack et al. (eds.), *Artificial Life IX: Proceedings of the Ninth International Conference on the Simulation and Synthesis of Living Systems (ALife9)*, Cambridge, MA: MIT Press, pp. 214–219.
20. **Gong, T.**, Ke, J., Minett, J. W., & Wang, W. S-Y. (2004). Language emergence: A self-organized model using indirect meaning transference. *The Evolution of Language: The 5th International Conference (Evolang5)*, Leipzig, Germany. (abstract)
21. Ke, J., **Gong, T.**, & Wang, W. S-Y. (2004). Language change and social networks. *The Evolution of Language: The 5th International Conference (Evolang5)*, Leipzig, Germany. (abstract)

#### Invited Talks:

1. Gong, T. (2011). Using computer simulation to study language evolution. School of Humanities, Zhejiang University. Apr. 2011.
2. Gong, T. (2011). Simulating language evolution – A case study on the word order bias. Department of Linguistics and Modern Languages, Chinese University of Hong Kong. Mar. 2011.
3. Gong, T. (2011). Computer simulation in linguistics research. Division of Speech and Hearing Sciences, University of Hong Kong. Mar. 2011.
4. Gong, T. (2010). Studying language change using the Price equation and Pólya urn simulation. Center for Chaos and Complex Networks, City University of Hong Kong. Dec. 2010.
5. Ansaldo, U. & Gong, T. (2010). The origins of language and the destiny of linguistics. Society of Scholars in the Humanities, University of Hong Kong. Oct. 2010.
6. Gong, T. (2010). Using the category game to study color categorization. Department of Linguistics, University of Tübingen, Tübingen, Germany. Jul. 2010.
7. Gong, T. (2010). Identifying selective pressures on language change. Department of Linguistics, University of Hong Kong. Mar. 2010.
8. Gong, T. (2009). A simulation model of the effect of social structure on language evolution. The Kickoff Meeting of Linguistic Networks, Bielefeld University, Germany. Jun. 2009.
9. Gong, T. (2008). Exploring language evolution using behavioral computational models. The IIAS Workshop on Language, Cognition and the Brain. Kyoto, Japan. Oct. 2008.
10. Gong, T. (2007). Language contact from a simulation perspective. Department of Chinese, Translation and Linguistics, City University of Hong Kong, Hong Kong. May. 2007.
11. Gong, T. (2007). Language evolution from a simulation perspective. The State Key Laboratory of Brain and Cognitive Sciences, Hong Kong University, Hong Kong. Feb. 2007.
12. Gong, T. (2005). Mutual influence of semantics and syntax during language emergence. Language Evolution and Computation Research Unit (LEC), University of Edinburgh, Edinburgh, UK. Sep. 2005.
13. Gong, T. (2005). Linguistic problems from simulation perspective. Oxford Center for Functional Magnetic Resonance Imaging of the Brain (FMRIB), Oxford University, Oxford, UK. Sep. 2005.
14. Gong, T. (2005). Simulation perspective on language emergence. Institute of Cognitive Science, Hunan University, Changsha, China. May 2005.
15. Gong, T., Ke, J., Minett, J. W., & Wang, W. S-Y. (2003). Language emergence: A self-organized model using indirect meaning transference based on interaction of multiply factors. Workshop on Exploratory Models of Language Acquisition, Santa Fe Institute, Santa Fe, NM, USA, Oct. 2003.