

# Curriculum Vitae

Name	<b>Chen, Ho-Lin</b>
Current position	<i>Postdoctoral researcher at Caltech Center for Mathematics of Information</i>
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## Research Interests

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**Algorithms – Controlling complicated collective behaviors using simple rules.**

## Publications

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1. H.-L. Chen, G. Mendoza, D. Soloveichik and Erik Winfree, "***Fault-Tolerance in Asynchronous Circuits With Applications to Chemical Reaction Networks***", in preparation.
2. P. Yin, H.-L. Chen, N. Dabby, P. Mullen, N. Pierce and Erik Winfree, "***Programming Active Molecular Self-Assembly***", in preparation.
3. H.-L. Chen, J. Marden and A. Wierman, "***On the Impact of Heterogeneity and Back-End Scheduling in Load Balancing Designs***", under submission.
4. H.-L. Chen, H. Jabbari and A. Condon "***An  $O(n^5)$  Algorithm for MFE Prediction of Kissing Hairpins and 4-Chains in Nucleic Acids***", to appear in Journal of Computational Biology.
5. H.-L. Chen, A. De and A. Goel, "***Towards Programmable Molecular Machines*** ", in preparation, abstract version appeared in the Proceedings the Fifth Annual Conference on Foundations of Nanoscience (FNANO), Snowbird, Utah, USA, 2008.
6. H.-L. Chen, T. Roughgarden and G. Valiant, "***Design Networks with Good Equilibria*** ", in the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA), San Francisco, CA, USA, 2008.
7. H.-L. Chen, A. Goel and C. Luhrs, "***Dimension augmentation and combinatorial criteria for efficient error-resistant DNA self-assembly***", in the Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA), San Francisco, CA, 2008.
8. H.-L. Chen, A. Goel, C. Luhrs and Erik Winfree, "***Self-Assembling Tile Systems that Heal from Small Fragments***", in Proceedings of the Thirteenth International Meeting on DNA Computing, Memphis, TN, USA, 2007.

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9. H.-L. Chen and T. Roughgarden, "*Network Design with Weighted Players*", in Proceedings of the Eighteenth ACM Symposium on Parallelism in Algorithms and Architectures, Cambridge, MA, USA, August 2006.
  10. Zoë Abrams, Ho-Lin Chen, Leonidas Guibas, Jie Liu, and Feng Zhao, "*Kinetically Stable Task Assignment for Networks of Microservers*", IEEE Information Processing for Sensor Networks (IPSN), 2006
  11. H.-L. Chen, A. Goel, R. Schulman and Erik Winfree, "*Error Correction for DNA Self-Assembly: Preventing Facet Nucleation*", in Proceedings of the Eleventh International Meeting on DNA Computing, London, Ontario, Canada, June 2005.
  12. H.-L. Chen and A. Goel, "*Error Free Self-Assembly Using Error Prone Tiles*", in Proceedings of the Tenth International Meeting on DNA Computing, Milan, Italy, June 2004.
  13. Z. Abrams and H.-L. Chen, "*The Simplified Partial Digest Problem: Hardness and a Probabilistic Analysis*", in Proceedings of the Fourth Annual RECOMB Satellite Meeting on DNA Sequencing Technologies and Computation, Stanford, CA, May, 2004.
  14. H.-L. Chen, Q. Cheng, A. Goel, M. Huang and P. Moisset de Espanés, "*Invadable Self-Assembly: Combining Robustness with Efficiency*", in the Proceedings of the Fifteenth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), New Orleans, LA, January 2004.
  15. H.-L. Chen, H.-I. Lu and H.-C. Yen, "*On Maximum Symmetric Subgraphs*", in the Proceedings of the 8th International Symposium on Graph Drawing (GD 2000), (LNCS 1984), Colonial Williamsburg, Virginia, USA, September 2000.
  16. H.-L. Chen and H.-C. Yen, "*Orthogonal and Straight-Line Drawings of Graphs with Succinct Representations*", in the Proceedings of the 7th International Symposium on Graph Drawing (GD 1999) (LNCS 1731), Stirin Castle, Czech, September 1999.

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## Education

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PhD [Sep 2002 – Sep 2007]	Dept. of <u>Computer Science</u> , Stanford University
Bachelor Degree [Oct 1996 – Jun 2000]	<b>Double Majors</b> , National Taiwan University, Taiwan; GPA = 3 . 94 – Dept. of <u>Electrical Engineering</u> ; – Dept. of <u>Mathematics</u> ;

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## Work Experience

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- Postdoctoral researcher  
[Oct 2007 – current] Center for Mathematics of Information, Caltech
- Teaching Assistant  
[Apr 2003 – Jun 2003] Course of Logic and Automated Reasoning, Dept. of Computer Science, Stanford University  
– Responsible for grading assigned homework and writing solutions
- Teaching Assistant  
[Jan 2003 – Mar 2003] Course of Artificial Intelligence, Dept. of Computer Science, Stanford University  
– Responsible for designing and grading homework  
– Responsible for leading review sessions

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## Honors and Awards

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- 2007 Best Student Paper Award, The Thirteenth International Meeting on DNA Computing.
- 1999 Research Creativity Award, National Science Council of the Republic of China
- 1999 - 2000 Undergraduate Student Research Fellowship, National Science Council of the Republic of China
- 1998 The Wu Chien-Shiung Science Award
- 1997 - 2000 Six times of Presidential Award, National Taiwan University
- 1997 - 1998 Scholarship presented by February 28th Memorial Foundation
- 1996 Third Prize, 27th International Physics Olympiad, Norway
- 1996 Silver Award, Asian Pacific Mathematics Olympiad
- 1996 First Prize, National Physics competition
- 1995 Silver Medal, 36th International Mathematical Olympiad, Canada
- 1995 Silver Award, Asian Pacific Mathematics Olympiad
- 1994 Silver Award, 35th International Mathematical Olympiad, Hong Kong
- 1994 Good Prize, National Science Fair, Senior High School Mathematics Group
- 1994 Bronze Award, Asian Pacific Mathematics Olympiad

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## Extracurricular Activities

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- 2002 - 2005 Member of Stanford Bridge Team  
- championship in two US collegiate events 2003 - 2004
- 1998 Coordinator in the 1998 International Mathematical Olympiad  
- Responsible for discussing scores with the representatives of all countries

- 1999 Member, EE Winter Science Camp Preparatory Group
  - Design electronic experiments for senior high school students
- 1996 - 2000 Member of NTUEE Bridge Team- Elected as the leader in 1997(one-year term)
  - 1st place in National Collegiate EE Cup, Apr. 1999
- 1994 Summer Residential Program for Verbally and Mathematically Gifted Students, Duke University