

國立東華大學教師個人基本資料表

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最高學歷/起迄：國立交通大學資訊科學所博士班(1998-2002)

現職/起迄：

花蓮教育大學資訊科學系副教授/2006.08 – 2008.08

東華大學資訊科學系副教授/2008.08 – 2009.02

東華大學資訊科學系教授/2009.02 – 至今

到任年月份(東華)：2006.08(花大)

專長： 1.連結網路
2.容錯計算
3.點對點網路
4.嵌入式系統

蔡正雄

Chang-Hsiung Tsai



■研究 2008 - 2015

一、期刊論文：

A、具匿名審查制度之期刊」

1. **Chang-Hsiung Tsai*** `` The pessimistic diagnosability of alternating group graphs under the PMC model,” *Information Processing Letters*, vol. 115, pp.151-154, 2015. **SCI, EI**
2. Chia-Jui Lai and **Chang-Hsiung Tsai***, “A linear algorithm for embedding of cycles in crossed cubes with edge-pancyclic”, *Journal of Information Science and Engineering*, vol. 31, pp. 1347-1355, 2015. **SCI, EI.**
3. Meng-Jou Chien, Jheng-Cheng Chen, **Chang-Hsiung Tsai***, “Maximum induced subgraph of an augmented cube”, *International Journal of Computer, Electrical, Automation, Control and Information Engineering*, Vol. 8, No. 5, pp. 125-139, pp.752-755, 2014. Supported by NSC 102-2115-M-259 -006 -. **EI.**
4. Chia-Jui Lai and **Chang-Hsiung Tsai***, “A systematic approach for embedding of Hamiltonian cycles through a prescribed edge in locally twisted cubes”, *Information Sciences*, vol.289, pp. 1-7, 2014. **SCI, EI.**
5. Jheng-Cheng Chen, Chia-Jui Lai, **Chang-Hsiung Tsai***, “A three-round adaptive diagnostic algorithm in a distributed system modeled by dual-cubes”, *International Journal of Foundations of Computer Science*, Vol. 25, No. 02, pp. 125-139, 2014. Supported by NSC 101-2115-M-259-006. **SCI, EI.**
6. **Chang-Hsiung Tsai***, Jheng-Cheng Chen, “Fault isolation and identification in general biswapped networks under the PMC diagnostic model”, *Theoretical Computer Science*, vol.501, pp.62-71, 2013. Supported by NSC 101-2115-M-259-006. **SCI, EI. [IF2012:0.489][cited:2]**

7. Jheng-Cheng Chen, Chia-Jui Lai, **Chang-Hsiung Tsai***, Pao-Lien Lai, "A lower bound on the number of Hamiltonian cycles through a prescribed edge in a crossed cube", *Applied Mathematics and Computation*, vol.219, no.19, pp.9885-9892, 2013. Supported by NSC 98-2115-M-259-002-MY2. **SCI, EI. [IF2012:1.349][cited:3]**
8. Pao-Lien Lai*, Ming-Yi Chiu, **Chang-Hsiung Tsai**, "Three Round Adaptive Diagnosis in Hierarchical Multiprocessor Systems", *IEEE Transactions on Reliability*, vol.62, no.3, pp.608-617, 2013. Supported by NSC 101-2115-M-259-007. **SCI, EI. [IF2012:2.293]**
9. **Chang-Hsiung Tsai***, "A quick pessimistic diagnosis algorithm for hypercube-like multiprocessor systems under the PMC model," *IEEE Trans. On Computers*, vol.62, no.2, pp.259-267, 2013, Supported by NSC 100-2115-M-259-008-. **SCI, EI. [IF2012:1.379] [citation: 17]**
10. Tseng-Kui Li, **Chang-Hsiung Tsai***, Hong-Chun Hsu, "A Fast Fault-Identification Algorithm for Bijective Connection Graphs Using the PMC Model," *Information Sciences*, vol. 187, pp. 291-297. Supported by NSC 100-2115-M-259-008-, 2012 **SCI, EI. [IF2012:3.642][citation:15]**
11. Tseng-Kui Li, Chia-Jui Lai, **Chang-Hsiung Tsai***, "A novel algorithm to embed a multi-dimensional torus into a locally twisted cubes," *Theoretical Computer Science* vol. 412, pp. 2418-2424, 2011. Supported by NSC 98-2115-M-259-002-MY2. **SCI, EI. [IF2012:0.489][citation:6]**
12. Jheng-Cheng Chen, **Chang-Hsiung Tsai***, "Conditional edge-fault-tolerant Hamiltonicity of dual-cubes," *Information Sciences*, vol. 181, pp. 620-627, 2011, Supported by NSC-97-2115-M-259-005,. **SCI, EI. [IF2012:3.642][citation:15]**
13. Yu-Yu Lu, Pao-Lien Lai, Chang-Hsiung Tsai and Hong-Chun Hsu, "On the Panconnected Property of Hierarchical Crossed Cube", *International Journal of Electronics Electrical and Communication Engineering*, vol.3, no.2, pp.103-112, 2011. **EI**, [citation:2]
14. Chia-Jui Lai, **Chang-Hsiung Tsai***, Hong-Chun Hsu, T.K. Li "A dynamic programming algorithm for simulation of a multi-dimensional torus in a crossed cube," *Information Sciences*, vol. 180. pp. 5090-5100, 2010, Supported by NSC 98-2115-M-259-002-MY2, **SCI, EI. [IF2012:3.642][citation:10]**
15. Pao-Lien Lai*, Hong-Chun Hsu, **Chang-Hsiung Tsai**, Iain A. Stewart, "A class of hierarchical graphs as topologies for interconnection networks," *Theoretical Computer Science*, vol. 411, pp. 2912-2924, 2010. **SCI, EI. [IF2012:0.489][citation:21]**
16. Pao-Lien*, **Chang-Hsiung Tsai**, "Embedding of tori and grids into twisted cubes," *Theoretical Computer Science*, vol. 411, pp. 3763-3773, 2010, Supported by NSC97-2221-E-259-020, NSC 98-2115-M-259-002-MY2. **SCI, EI. [IF2012:0.489][citation:21]**
17. Pao-Lien Lai*, **Chang-Hsiung Tsai**, Hong-Chun Hsu, "Embedding Geodesic and Balanced Cycles into Hypercubes," *Wseas Transactions on Mathematics*, vol. 8, pp. 341-350, 2009, Supported by NSC 97-2115-M-026-001,

EL.[citation:2]

18. **Chang-Hsiung Tsai*** ``Fault-free cycles passing through prescribed path in hypercubes with faulty edges,” *Applied Mathematics Letters*, vol. 22, pp.852-855, 2009, Supported by NSC 97-2115-M-026-001, **SCI,EL. [IF2012:1.151] [citation:16]**
19. Chia-Jui Lai and **Chang-Hsiung Tsai*** ``On embedding cycles into faulty dual-cubes,” *Information Processing Letters*, vol. 109, pp.147-150, 2008, Supported by NSC 97-2115-M-026-001, **SCI, EL. [IF:0.774] [cited:9]**
20. Chia-Jui Lai and **Chang-Hsiung Tsai*** ``Embedding a family of meshes into Twisted cubes,” *Information Processing Letters*, vol. 108, pp.326-330, 2008, **SCI, EL. [IF:0.774] [cited: 25]**
21. **Chang-Hsiung Tsai***, ``Embedding of meshes in Mobius cubes,” *Theoretical Computer Science*, vol. 401, pp.181-190, 2008, Supported by NSC 97-2115-M-026-001, **SCI,EL. [IF:1.085] [cited: 33]**
22. **Chang-Hsiung Tsai*** and Tseng-Kui Li, ``Two construction schemes for Hamiltonian 1-node-hamiltonian graphs,” *Mathematical and Computer Modelling*, vol. 48, pp. 656-661, 2008, **SCI,EL. [IF:1.166] [cited:3]**
23. **Chang-Hsiung Tsai***, ``Fault-tolerant Cycles Embedding of hypercubes with mixed link and node failures,” *Applied Mathematics Letters*, vol. 21, pp. 855-860, 2008, Supported by NSC95-2221-E-026-002, **SCI,EL. [IF:1.155] [cited: 16]**

二、研討會論文：

1. Chia-Jui Lai, Chang-Hsiung Tsai, “A linear algorithm for embedding of cycles in crossed cubes,” FSKD 2012: 2057-2060
2. Pao-Lien Lai, Hong-Chun Hsu, **Chang-Hsiung Tsai**, “A Systematic Algorithm for Embedding Hamiltonian Cycle in Hierarchical Crossed Cubes,” CSE 2011: 358-365
3. Jheng-Cheng Chen, Chia-Jui Lai, **Chang-Hsiung Tsai**, “An Adaptive Diagnostic Algorithm for a Distributed System Modeled by Dual-cubes”, CSE 2011: 366-370
4. Jheng-Cheng Chen, Chia-Jui Lai, **Chang-Hsiung Tsai**, “Optimal adaptive parallel diagnosis for a distributed system modeled by dual-cubes”, FSKD 2011: 1989-1993
5. Yen-Neng Peng, Pao-Lien Lai, **Chang-Hsiung Tsai**, Hong-Chun Hsu, “The Existence of Two Mutually Independent Hamiltonian Cycles in Hypercube-Like Graphs,” IEEE International Symposium on Parallel and Distributed Processing with Applications, ISPA 2010, Taipei, Taiwan, 6-9 September 2010. ISBN 978-1-4244-8095-1 , pp. 24-28.
6. Chih-Min Chien, Jheng-Cheng Chen, Pao-Lien Lai, **Chang-Hsiung Tsai**, Hong-Chun Hsu, ``The two-equal-disjoint path cover problem of the hierarchical crossed cube,” *Proceedings of the 27th Workshop on Combinatorial Mathematics and Computation Theory*, pp. 124-133, 2010.

7. Shang-Wun Huang, Pao-Lien Lai, **Chang-Hsiung Tsai**, Hong-Chun Hsu, ``Fault Hamiltonicity of hierarchical restricted HL-graphs," *Proceedings of the 27th Workshop on Combinatorial Mathematics and Computation Theory*, pp. 196-206, 2010.
8. **Chang-Hsiung Tsai**, Chia-Jui Lai, Jheng-Cheng Chen, ``A systematic approach for embedding distinct Hamiltonian cycles with a prescribed edge in locally twisted cubes," *Proceedings of 2010 2nd International Conference on Computer Engineering and Technology (ICCET 2010)*, pp.v2-105-v2-109, 2010.
9. **Chang-Hsiung Tsai**, Jheng-Cheng Chen, Chia-Jui Lai, ``A systematic approach for finding Hamiltonian cycles with a prescribed edge in crossed cubes," *World Academy of Science, Engineering and Technology (ICPDCS 2010)*, v.64, pp.485-489, 2010.
10. Hong-Chun Hsu, Pao-Lien Lai, **Chang-Hsiung Tsai**, Tseng-Kuei Li, ``Efficient Algorithms for Embedding Cycles in Augmented Cubes," *Proceedings of the 2009 10th International Symposium on Pervasive Systems, Algorithms, and Networks (ISPAN 2009)*, pp. 596-600, 2009.
11. **Chang-Hsiung Tsai**, Pao-Lien Lai, Hong-Chun Hsu, ``Embed Geodesic Cycles into Mobius Cubes", *Proceedings of the 2009 Pacific-Asia Conference on Circuits, Communications and System (PACCS 2009)*, pp. 3-6, 2009.
12. Pao-Lien Lai, **Chang-Hsiung Tsai**, Hong-Chun Hsu, ``Geodesic and Balanced Bipancyclicity of Hypercubes," *The 8th WSEAS International Conference on APPLIED COMPUTER SCIENCES and APPLIED COMPUTATION SCIENCE*, pp.44-49, HangZhou, China, 2009.
13. Yu-Yu Lu, Hsuan-Han Chang, Pao-Lien Lai, **Chang-Hsiung Tsai**, Hong-Chun Hsu, ``On the Panconnected Property of Hierarchical Crossed Cubes," *Proceedings of the 26th Workshop on Combinatorial Mathematics and Computation Theory*, pp. 74-82, 2009.
14. Hong-Chun Hsu, **Chang-Hsiung Tsai**, Cheng-Hsien, Guei-Jhuang Wu, Shin-Hao Liu, and Pao-Lien Lai, ``Hierarchical Crossed Cube: A New Interconnection Topology," *Proceedings of the 25th workshop on combinatorial mathematics and computation theory*, pp. 70-79, 2008.
15. **Chang-Hsiung Tsai**, Jheng-Cheng Chen, Pao-Lien Lai, and Hong-Chun Hsu, ``Optimal geodesic cycles embedding of mobius cubes," *Proceedings of the 25th workshop on combinatorial mathematics and computation theory*, pp. 269-275, 2008 .
16. **Chang-Hsiung Tsai**, Jheng-Cheng Chen, and Yung-Chun Lai, "Optimal meshes embedding of Mobius cubes", *Proceedings of the 7th WSEAS Int. Conf. on APPLIED COMPUTER and APPLIED COMPUTATIONAL SCIENCE (ACACOS '08)*, pp. 99-105, 2008.
17. **Chang-Hsiung Tsai**, Jheng-Cheng Chen, Hong-Chun Hsu, and Pao-Lien Lai, ``On the Geodesic Pancyclicity of Mobius cubes," *Proceedings of the 2007 National Computer Symposium*, pp. 811-821, 2007.
18. **Chang-Hsiung Tsai** and Jing-Kai Liao, ``Balanced bipancyclicity of

hypercubes,” *Proceedings of the 24th workshop on combinatorial mathematics and computation theory*, pp. 74-79, 2007.

19. **Chang-Hsiung Tsai** and Cha-Ron Yu, “Embedding various even cycles in a hypercube with node failures,” *Proceedings of the 24th workshop on combinatorial mathematics and computation theory*, pp. 229-234, 2007.
20. **Chang-Hsiung Tsai** and Yung-Chun, “On conditional edge-fault-tolerant cycles embedding of hypercubes,” *Proceedings of the 24th workshop on combinatorial mathematics and computation theory*, pp. 235-240, 2007.

五年內之研究計畫 (2011.8~2016.7):

起迄年月	研究計畫名稱	主持人/共同主持人	計畫經費	補助單位
2015/08-2016/07	連結網路在波長分波多工光纖網路上最佳嵌入之研究 104-2221-E-259-005-	主持人	671,000	科技部
2014/08-2015/07	多種連結網路在連結型波長分波多工光纖網路上路由與波長設定演算法設計 103-2221-E-259-025-	主持人	727,000	科技部
2013/08-2014/07	圖形中基於點編碼識別故障點的研究 102-2115-M-259-006-	主持人	344,000	科技部
2012/08-2013/07	正規圖形網路中一步和適性的悲觀診斷演算法設計 101-2115-M-259-006-	主持人	659,000	國科會
2011/08-2012/07	PMC 模式下發展連結網路故障快速識別演算法 100-2115-M-259-008-	主持人	732,000	國科會



■ 教學

三年內開授課程：

學年度	課程名稱(必/選)	學分數	選修人數
101(上)	連結網路專題	3	12
101(上)	資料結構	3	102
101(上)	引導研究	1	3
101(上)	論文研究(碩班)	2	3
101(上)	論文研究(博班)	1	2
101(下)	正規語言與自動機	3	80
101(下)	作業系統工程	3	41
101(下)	引導研究	1	3
101(下)	論文研究(碩班)	2	3
101(下)	論文研究(博班)	1	2
102(上)	資料結構	3	98
102(上)	資料結構實驗	3	53

102(上)	引導研究	1	3
102(上)	論文研究(碩班)	2	3
102(上)	論文研究(博班)	1	2
102(下)	正規語言與自動機	3	78
102(下)	正規語言與自動機(國際班)	3	3
102(下)	引導研究	1	3
102(下)	論文研究(碩班)	2	3
102(下)	論文研究(博班)	1	2
103(上)	資料結構	3	73
103(上)	資料結構實驗	3	55
103(上)	引導研究	1	3
103(上)	論文研究(碩班)	2	3
103(上)	論文研究(博班)	1	2
103(下)	正規語言與自動機	3	67
103(下)	作業系統工程(碩班)	3	15
103(下)	引導研究	1	3
103(下)	論文研究(碩班)	2	3
103(下)	論文研究(博班)	1	2



■三年內指導研究生狀況教學

學年度	碩士班人數	博士班人數
101	6	2
102	6	2
103	6	2



■服務

校內校、院、系(所、科及中心)各級公共事務參與：

年月	校/院/系級	項目
101/08-	系級	教評委員
101/08-	系級	所務委員
101/08-	系級	學術交流與產學合作委員
101/08-	系級	資源規劃委員
101/08-	院級	教評委員
101/08-	院級	院務委員
101/08-	院級	空間規劃與安全衛生委員
101/08-	校級	校務發展委員
101/08-	校級	學生申訴委員
101/08-	校級	校務委員
102/08-	系級	教評委員

102/08-	系級	所務委員
102/08-	系級	學術交流與產學合作委員
102/08-	系級	資源規劃委員
102/08-	院級	教評委員
102/08-	院級	院務委員
102/08-	院級	空間規劃與安全衛生委員
102/08-	校級	校務發展委員
102/08-	校級	學生申訴委員
102/08-	校級	校務委員
103/08-	系級	所務委員
103/08-	系級	學術交流與產學合作委員
103/08-	系級	資源規劃委員
103/08-	系級	教評委員
103/08-	院級	教評委員
103/08-	院級	院務委員
103/08-	校級	校務發展委員
103/08-	校級	校務委員

專業學術服務工作項目：

年月	校內/校外	項目
2011	校外	國科會學門審查委員
2012	校外	國科會學門審查委員
2013	校外	國科會學門審查委員
2012	校外	ICS2012 Workshop on Algorithms, Bioinformatics, and Computation 議程副主席
2013	校外	2013 組合數學與計算理論研討會議 議程主席
2013	校外	NCS2013 計算理論與演算法 議程副主席
2014	校外	ICS 2014 Workshop on Algorithms, Bioinformatics, and Computation 議程委員



■教學與研究獎勵 (2007.8~2012.7)