

Ying-Cheng Lai (as of October 16, 2018)

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Education: Ph.D. (1992), M.S. (1989), Physics (Nonlinear Dynamics), University of Maryland at College Park; M.S. (1985), B.S. (1982), Optical Engineering, Zhejiang University.

Positions: 2014-Present, ISS Endowed Professor of Electrical Engineering, ASU
2001-Present, Professor of Electrical Engineering, Affiliated Professor of Physics, ASU
2017 – Present, Visiting Professor of Physics, Shaanxi Normal University
2009-2017, Sixth Century Chair in Electrical Engineering, U. Aberdeen, UK
2001-2004, Professor of Mathematics, ASU
1999-2001, Associate Professor of Electrical Engineering and Mathematics, ASU
1998-1999 (1994-1998), Associate (Assistant) Professor of Physics and of Mathematics, U. of Kansas
1992-1994, Postdoc, Biomedical Engineering, Johns Hopkins University School of Medicine.

Honors: 2018 - Elected as Corresponding Fellow of Royal Society of Edinburgh – Foreign Member of the National Academy of Science and Letters of Scotland

2016 - Pentagon Vannevar Bush Faculty Fellow (one of the fifteen selected nationwide)

2008 - Outstanding Referee Award, the American Physical Society

1999 - Elected as a Fellow of the American Physical Society; Citation: *For his many contributions to the fundamentals of nonlinear dynamics and chaos*

1997 - White House Presidential Early Career Award for Scientists and Engineers (PECASE)

1997 - NSF Faculty Career Award.

Advisees: Postdocs: 14; Ph.D. dissertations supervised: 20; Master theses supervised: 20.

Research Areas: Nonlinear Dynamics and Chaos, Complex Networks, Quantum Transport, 2D Dirac Materials, Signal Processing, Computational Biology, and Statistical Physics.

Publications: As of October 2018, over 440 refereed-journal papers, over 19,500 citations, H-index: 67, i10-index: 320. Selected papers:

1. Y.-C. Lai, R. Blumel, E. Ott and C. Grebogi, "Quantum manifestations of chaotic scattering," *Physical Review Letters* **68**, 3491-3494 (1992).
2. Y.-C. Lai, C. Grebogi, J. A. Yorke, and S. C. Venkataramani, "Riddling bifurcation in chaotic dynamical systems," *Physical Review Letters* **77**, 55-58 (1996).
3. Y.-C. Lai, M. G. Frei, I. Osorio, and L. Huang, "Characterization of synchrony with applications to epileptic brain signals," *Physical Review Letters* **98**, 108102 (2007).
4. Z.-Z. Yuan, C. Zhao, Z.-R. Di, W.-X. Wang, and Y.-C. Lai, "Exact controllability of complex networks," *Nature Communications* **4**, 2447, 1-9 (2013).
5. M. Wu, R.-Q. Su, X.-H. Li, T. Ellis, Y.-C. Lai, and X. Wang, "Engineering of regulated stochastic cell fate determination," *Proceedings of the National Academy of Sciences (PNAS)* **110**, 10610-10615 (2013).
6. Z.-S. Shen, W.-X. Wang, Y. Fan, Z.-R. Di, and Y.-C. Lai, "Reconstructing propagation networks with natural diversity and identifying hidden source," *Nature Communications* **5**, 4323, 1-10 (2014).
7. L.-Z. Wang, R.-Q. Su, Z.-G. Huang, X. Wang, W.-X. Wang, C. Grebogi, and Y.-C. Lai, "A geometrical approach to control and controllability of nonlinear dynamical networks," *Nature Communications* **7**, 11323, 1-11 (2016).
8. X.-Y. Yan, W.-X. Wang, Z.-Y. Gao, and Y.-C. Lai, "Universal model of individual and population mobility on diverse spatial scales," *Nature Communications* **8**, 1639, 1-9 (2017).
9. J.-J. Jiang, Z.-G. Huang, W. Lin, T. P. Seager, C. Grebogi, A. Hastings, and Y.-C. Lai, "Predicting tipping points in mutualistic networks through dimension reduction," *PNAS* **115**, E639-E647 (2018).
10. H.-Y. Xu, G.-L. Wang, L. Huang, and Y.-C. Lai, "Chaos in Dirac electron optics: emergence of a relativistic quantum chimera," *Physical Review Letters* **120**, 124101 (2018).