

# *Yin TONG*

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Automatic Control

School of Information Science and Technology

Southwest Jiaotong University, Chengdu, China

## *Positions*

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- *Assistant Professor*, Automatic Control, Southwest Jiaotong University, July, 2017 – Current

## *Education*

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- *Ph.D. in Electro-Mechanical Engineering* August, 2012 – June, 2017  
Xidian University, China  
Advisor: Prof. Zhiwu LI
- *Ph.D. in Electronic and Computer Engineering* March, 2015 – June, 2017  
University of Cagliari, Italy (Co-tutorship)  
Advisors: Prof. Alessandro GIUA  
Dissertation: Observation Structures and Opacity Problems in Discrete Event Systems
- *B.S. in Automation* August, 2008 – June, 2012  
Xidian University, China  
Advisor: Prof. Zhiwu LI  
Dissertation: Performance Evaluation of Automated Manufacturing Systems Modeled by Petri Nets

## *Language Skills*

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- Mandarin: mother tongue
- English: fluent  
College English Test Band 6  
Public English Test System: Level 5 (Highest level)
- Italian: basic level  
Principianti Assoluti Level (A1) (60 hours) at Centro Linguistico D'Ateneo at the University of Cagliari; Principianti Assoluti Level (A2) (40 hours) at Centro Linguistico D'Ateneo at the University of Cagliari.

## *Research Interests*

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- Discrete event systems
- Petri nets
- Fault diagnosis
- State estimation
- Supervisory control
- Opacity

## *Professional Services*

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- **Local Organizing Committee Member** for the 18th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'13).
- **Publication Chair** of the IEEE 13th International Workshop on Discrete Event Systems (WODES'16).
- **Manuscript Reviewer**

Automatica;  
IEEE Transactions on Automatic Control;  
Discrete Event Dynamic Systems: Theory and Applications;  
Information Sciences;  
IEEE Transactions on Control Systems Technology;  
IEEE Transactions on System Man Cybernetics-Systems;  
Mathematical Problems in Engineering;  
IEEE Conference on Decision and Control;  
American Control Conference;  
International Workshop on Discrete Event Systems;  
International Conference on Automation Science and Engineering;  
International Workshop on Discrete Event Systems;  
Conference on Control and Fault-Tolerant Systems;

### ***Research Projects Participated***

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- Design of Behavioral Controller in Petri Nets. National Natural Science of Foundation of China, Grant No. 61703321.
- Supervision and Reconfiguration of Discrete Event Systems. National Natural Science of Foundation of China, Grant No. 61472295.
- Optimal Design of Petri Net Supervisors by Nonpure Net Structures. National Natural Science of Foundation of China, Grant No. 61603285.

### ***Visiting Researcher Experience***

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- Department of Electrical and Electronic Engineering, Jan. 2015 – Dec. 2015  
University of Cagliari, Italy
- Department of Electrical and Electronic Engineering, May 2014 – Aug. 2014  
University of Cagliari, Italy
- Department of Electrical and Electronic Engineering, Jul. 2013 – Sept. 2013  
University of Cagliari, Italy

### ***Publications***

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- **Papers on journals**

[J1] **Yin Tong**, Zhiwu Li, and Alessandro Giua, “On the Equivalence of Observation Structures for Petri Net Generators”, *IEEE Transactions on Automatic Control*, 61(9):2448–2462, Sept 2016.

[J2] **Yin Tong**, Zhiwu Li, Carla Seatzu, and Alessandro Giua, “Verification of State-Based Opacity in Petri Nets”, *IEEE Transactions on Automatic Control*, 62(6): 2823-2837, Jun. 2017.

[J3] **Yin Tong**, Zhiwu Li, Carla Seatzu, and Alessandro Giua, “Decidability of Opacity Problems in Labeled Petri Nets”, *Automatica*, 80: 48-53, Jun. 2017.

[J4] **Yin Tong**, Zhiwu Li, Carla Seatzu, and Alessandro Giua, “Current-State Opacity

Enforcement in Discrete Event Systems Under Incomparable Observations”, *Discrete Event Dynamic Systems: Theory and Application (to appear)*, 28(2): 161-182, Jun. 2018. (On-line available: <https://link.springer.com/article/10.1007/s10626-017-0264-7>)

- [J5] Ziyue Ma, **Yin Tong**, Zhiwu Li, and Alessandro Giua, “Basis Marking Representation of Petri Net Reachability Spaces and Its Application to the Reachability Problem”, *IEEE Transactions on Automatic Control*, 62(3): 1078-1093, Mar. 2016.
- [J6] Ziyue Ma and **Yin Tong**, “Supervisor Synthesis in Petri Nets Based on Basis Marking Graphs”, *Journal of Xidian University*, 43(6):68-73, 2016. (in Chinese).
- **Papers on conference proceedings**
- [C1] **Yin Tong**, Zhiwu Li, and Alesandro Giua, “General Observation Structures for Petri Nets”, in Proceedings of the *18th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA'13)*, Cagliari, Italy, Sept. 2013.
- [C2] **Yin Tong**, Zhiwu Li, and Alessandro Giua, “Observation Equivalence of Petri Net Generators”, in Proceedings of the *12th IFAC - IEEE International Workshop on Discrete Event Systems (WODES'14)*, pp. 338-343, Cachan, France, May 2014.
- [C3] **Yin Tong**, Zhiwu Li, Carla Seatzu, and Alessandro Giua, “Verification of Current-State Opacity Using Petri Nets”, in Proceedings of the *2015 American Control Conference (ACC'15)*, pp. 1935-1940, Chicago, USA, Jul. 2015.
- [C4] **Yin Tong**, Zhiwu Li, Carla Seatzu, and Alessandro Giua, “Verification of Initial-State Opacity in Petri Nets”, in Proceedings of the *2015 IEEE International Conference on Decision and Control (CDC'15)*, pp. 344-349, Osaka, Japan, Dec. 2015.
- [C5] **Yin Tong**, Ziyue Ma, Zhiwu Li, Carla Seatzu, and Alessandro Giua, “Supervisory Enforcement of Current-State Opacity with Uncomparable Observations”, in proceedings of the *13th IEEE International Workshop on Discrete Event Systems (WODES'16)*, pp. 313-318, Xi'an, China, May 2016.
- [C6] **Yin Tong**, Ziyue Ma, Zhiwu Li, Carla Seatzu, and Alessandro Giua, “Verification of Language-Based Opacity in Petri Nets Using Verifier”, in Proceedings of the *2016 American Control Conference (ACC'16)*, pp. 757-763, Boston, USA, Jul. 2016.
- [C7] Siqi Liu, **Yin Tong**, Carla Seatzu, and Alessandro Giua, “PetriBaR: A MATLAB Toolbox for Petri”, accepted by the *14th IEEE International Workshop on Discrete Event Systems (WODES'18)*, Sorrento Coast, Italy, May 2018.
- [C8] Ziyue Ma, **Yin Tong**, Zhiwu Li, Alessandro Giua, "Marking Estimation in Labelled Petri nets by the Representative Marking Graph", the IFAC 2017 World Congress (IFAC), pp. 11175-11181, Toulous, France, July, 2017.

### ***Bibliographic indices***

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- Google Scholar: 13 products, Citations: 120, h-index: 6.
- ResearchGate: 14 products, Citations: 100, RG Score: 12.34