

Tommaso Menara

PHD CANDIDATE · UNIVERSITY OF CALIFORNIA RIVERSIDE

WCH 228, Bourns College of Engineering, 900 University Avenue, Riverside, CA, USA, 92521

☎ (+1) 949-607-8776 | ✉ tomenara@engr.ucr.edu | 🌐 tommasomenara.com | 📧 tommasomenara

Research Interest

- Systems and Network Neuroscience
- Synchronization in Networks of Oscillators
- Network Control Theory
- Structural Properties of Control Systems

Education

University of California Riverside

PHD IN MECHANICAL ENGINEERING

Riverside, CA, USA

2016 - present

University of Pisa

LAUREA MAGISTRALE (M.SC. EQUIVALENT) IN ROBOTICS AND AUTOMATION ENGINEERING

Pisa, Italy

2013 - 2016

University of Padova

LAUREA (B.SC. EQUIVALENT) IN MECHATRONICS ENGINEERING

Padova, Italy

2010 - 2013

Honors & Awards

- 2020 **Dissertation Year Program Award**, University of California Riverside
- 2019 **Winner, Best Student Paper Award**, American Control Conference
- 2017 **IEEE Student Travel Award**, American Control Conference
- 2016 **Dean's Distinguished Fellowship**, University of California Riverside

Riverside, USA

Philadelphia, USA

Seattle, USA

Riverside, USA

Publications

JOURNAL PAPERS

- (J4) *Conditions for Feedback Linearization of Network Systems*
T. Menara, G. Baggio, D.S. Bassett, F. Pasqualetti
IEEE Control Systems Letters, 2020, vol. 4, no. 3, pp. 578-583, Jul 2020
- (J3) *Stability Conditions for Cluster Synchronization in Networks of Heterogeneous Kuramoto Oscillators*
T. Menara, G. Baggio, D.S. Bassett, F. Pasqualetti
IEEE Transactions on Control of Network Systems, vol. 7, no. 1, pp. 302-314, Mar 2020
- (J2) *White Matter Network Architecture Guides Direct Electrical Stimulation Through Optimal State Transitions*
J. Stiso, A. N. Khambhati, **T. Menara**, A. E. Kahn, J. M. Stein, S. R. Das, R. Gorniak, J. Tracy, B. Litt, K. A. Davis, F. Pasqualetti, T. Lucas, D. S. Bassett
Cell Reports, vol. 28, no. 10, pp. 2554-2566, Sep 2019
- (J1) *Structural Controllability of Symmetric Networks*
T. Menara, D.S. Bassett, F. Pasqualetti
IEEE Transactions on Automatic Control, vol. 64, no. 9, pp. 3740-3747, Sep 2019

CONFERENCE PROCEEDINGS

- (C5) *A Framework to Control Functional Connectivity in the Human Brain*
T. Menara, G. Baggio, D.S. Bassett, F. Pasqualetti
Proceedings of the IEEE Conference on Decision and Control. Nice, France, December 2019, pp 4697-4704
- (C4) *Exact and Approximate Stability Conditions for Cluster Synchronization of Kuramoto Oscillators*
T. Menara, G. Baggio, D.S. Bassett, F. Pasqualetti
Proceedings of the American Control Conference. Philadelphia, USA, July 2019, pp 205-210 ***Best Student Paper Award***

(C3) *The Structured Controllability Radius of Symmetric (Brain) Networks*

T. Menara, V. Katewa, D.S. Bassett, F. Pasqualetti

Proceedings of the American Control Conference. Milwaukee, USA, June 2018, pp 2802-2807

(C2) *On the Number of Strongly Structurally Controllable Networks*

T. Menara, G. Bianchin, M. Innocenti, F. Pasqualetti

Proceedings of the American Control Conference. Seattle, USA, May 2017, pp 340-345

(C1) *Procoagulant control strategies for the human blood clotting process*

M. Laurino, **T. Menara**, A. Stella, M. Betta, A. Landi

Proceedings of the Annual Conference of the IEEE Engineering in Medicine and Biology Society. Milan, Italy, August 2015, pp 4439-4442

Presentations

2020 May **Talk**, Mechanical Engineering Symposium. University of California Riverside

UCR

2019 Sep **Talk**, Kokusaino meeting. Advanced Telecommunications Research Institute International

Kyoto, Japan

2019 May **Talk**, SoCal Control Workshop. University of Southern California

USC

2018 Nov **Poster**, Computational Neuroimaging and Neuroengineering Symposium. University of California Riverside

UCR

2018 Apr **Talk**, Mechanical Engineering Symposium. University of California Riverside

UCR

2016 Jun **Poster**, Workshop on Brain Dynamics and Neurocontrol Engineering. Washington University in St. Louis

WUSTL

Teaching

2019 Fall **ME121**, Teaching assistant for the class *Feedback Control*

UCR

Professional Service

• Referee/Reviewer

- Reviewer for journals: IEEE Transactions on Automatic Control (IEEE-TAC), IEEE Transactions on Control of Networked Systems (IEEE-TCNS), IEEE Control Systems Letters (IEEE L-CSS), IFAC Automatica, SIAM Journal on Control and Optimization (SICON). Elsevier European Journal of Control (EJCON). Springer Nonlinear Dynamics (NODY)
- Reviewer for conferences: IEEE Conference on Decision and Control (CDC), American Control Conference (ACC), European Control Conference (ECC), International Conference on Control, Decision and Information Technologies (CoDIT), Conference on Control Technologies (CCTA), IFAC World Congress

- **Member of Societies:** Institute of Electrical and Electronics Engineers (IEEE), IEEE Control Systems Society (CSS), IEEE Brain Community, IEEE Young Professionals, IEEE CSS Technical Committee on Healthcare and Medical Systems (TC-HCMS), Society for Industrial and Applied Mathematics (SIAM)

Experience

Graduate Student Association

HUB 203, 900 University Ave,

Riverside, CA, 92521, USA

UNIVERSITY OF CALIFORNIA RIVERSIDE

Sep 2017 - Present

- *Public Relations Officer* (2018-2020): Responsible of organizing campus-wide social events. Management of the budget for social events, memorabilia, and public lectures
- *International Student Affairs Officer* (2017-2018): Monitoring of campus issues and legislative developments that affect international graduate students. Member of the standing committee for international education of the academic senate
- *Mechanical Engineering Representative* (2016-2017): voting member and representative for the department of mechanical engineering in the general graduate student council

HUB Governing Board

900 University Ave, Riverside, CA,

92521, USA

UNIVERSITY OF CALIFORNIA RIVERSIDE

Sep 2018 - Present

- *Chair* (2019-2020) and *Vice-Chair* (2018/2019): Member of the student governing board that controls the Highlander Union and reports to the Vice Chancellor of Student Affairs. The board develops all facility operations and usage policies, approves all budgetary aspects, and provides comment on HUB Programming, initiatives, operations, etc.

- Project on dynamical data-driven models for the analysis of multi-site resting- state fMRI datasets and the appraisal of neurofeedback treatments

References

- **Dr. Fabio Pasqualetti**, Associate Professor
Department of Mechanical Engineering, University of California Riverside
☎ +1 (951) 827-2327 ✉ fabiopas@engr.ucr.edu 🏠 [homepage](#)
- **Dr. Danielle S. Bassett**, J. Peter Skirkanich Professor
Department of Bioengineering, University of Pennsylvania
☎ +1 (215) 746-1754 ✉ dsb@seas.upenn.edu 🏠 [homepage](#)
- **Dr. Aurelio Cortese**, Senior Researcher
Computational Neuroscience Laboratories, ATR Institute International
☎ +81 (0)774 95 1218 ✉ cortese@atr.jp 🏠 [homepage](#)