Papers/Topics for Project

MARS Fall 2022 – Multiagent Robotic Systems

	Paper Title	Authors	Venue	Main Topic
1.	Fault-Tolerant Rendezvous of Multirobot Systems	H. Park and S. A. Hutchinson	IEEE Transactions on Robotics	Resilient Control
2.	Secure distributed observers for a class of linear time invariant systems in the presence of Byzantine adversaries	A. Mitra and S. Sundaram	IEEE Conference on Decision and Control,	Resilient Estimation
3.	Formations for resilient robot teams	L Guerrero-Bonilla, A Prorok, V Kumar	IEEE Robotics and Automation Letters	Resilient Network Design
4.	Resilient distributed vector Consensus using centerpoint	W. Abbas, M. Shabbir, J. Li and X. Koutsoukos	Automatica (Elsevier)	Resilient Consensus
5.	Improving network connectivity and robustness using trusted nodes with application to resilient consensus	W. Abbas, A. Laszka and X. Koustoukos	IEEE Transactions on Control of Network Systems	Resilience and robustness
6.	Diffusion strategies for adaptation and learning over networks	A. H. Sayed, S.-Y. Tu, J. Chen, X. Zhao, Z. J. Towfic	IEEE Signal Processing Magazine, 2013	Learning in Networks
7.	Zero forcing sets and controllability of dynamical systems defined on graphs	N. Monshizadeh, S. Zhang and M. K. Camlibel	IEEE Transactions on Automatic Control	Network Controllabilty
8.	On the Trade-off Between Controllability and Robustness in Networks of Diffusively Coupled Agents	W. Abbas, M. Shabbir, Y. Yazicioglu and A. Akber	IEEE Transactions on Control of Network Systems	Network Controllability trade-offs
9.	Dilations and degeneracy in network controllability	L. Chung, D. Ruths and J. Ruths	Scientific Reports	Network Controllabilty
10.	Data-driven minimum-energy controls for linear systems	G. Baggio, V. Kateva, and F. Pasqualetti	IEEE Control System Letters	Data-driven Control

11.	RoboGrammar: graph grammar for terrain-optimized robot design	A. Zhao, M. Konakovic-Lukovic, J. Hughes, A. Spielberg, D. Rus, and W. Matusik	ACM Transactions on Graphics	Graph grammar
	FURTHER TOPICS			
1.	Generalization of connectivity maintenance conditions for consensus dynamics			
2.	Testing r-robustness in graphs by efficient sampling approach			
3.	Centrality Measures in Networks			
4.	Art Gallery problem and graph coloring			
5.	Simulated annealing algorithm with an application			
6.	k-connectivity in graphs and Mengers Theorem			
7.	Combinatorial group testing (and localization)			
8.	Community detection in graphs			
9.	Domination/ Connected domination in graphs			
Any other interesting topic				