





Jean-Baptiste Bouvier

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CURRENT POSITION	University of California Berkeley , Berkeley, CA, USA Postdoctoral Scholar, Department of Mechanical Engineering	2024
PREVIOUS POSITIONS	University of Illinois Urbana-Champaign , Urbana, IL, USA Postdoctoral Research Associate, Department of Aerospace Engineering	2023
	University of Illinois Urbana-Champaign , Urbana, IL, USA Research Assistant, Department of Aerospace Engineering	2019 – 2023
	PNNL (Pacific Northwest National Laboratory) , Richland, WA, USA PhD Intern in the Optimization & Control group, Optimization of resilient grid	2021
	CNES (French space agency) , Toulouse, France Intern in Flight Dynamics, Mission design of a satellite constellation	2019
	University of Illinois Urbana-Champaign , Urbana, IL, USA Research Assistant, Department of Aerospace Engineering	2017 – 2018
EDUCATION	University of Illinois Urbana-Champaign , Urbana, IL, USA Ph.D., Aerospace Engineering Thesis: <i>Guaranteed Resilience of Autonomous Systems to Partial Loss of Control Authority over their Actuators</i> Advisor: Prof. Melkior Ornik	2019 – 2023
	M.Sc., Aerospace Engineering Thesis: <i>Orbit Control for a Spacecraft around a Splitting Contact Binary Asteroid</i> Advisor: Prof. Koki Ho	2017 – 2018
	ISAE Supaéro , Toulouse, France M.Sc., Aerospace Engineering	2015 – 2017
	Lycée du Parc , Lyon, France Preparatory Classes in Mathematics, Physics and Engineering	2013 – 2015
JOURNAL PUBLICATIONS	[1] JB. Bouvier , H. Panag, R. Woollands, M. Ornik. Resilient trajectory tracking to partial loss of control authority over actuators with actuation delay. <i>Submitted to Journal of Guidance, Control, and Dynamics</i> . [2] JB. Bouvier , SP. Nandanoori, M. Ornik. Losing control of your linear network? Try resilience theory. <i>IEEE Transactions on Control of Network Systems</i> , 2024. [3] JB. Bouvier , K. Xu, M. Ornik. Quantitative resilience of generalized integrators. <i>IEEE Transactions on Automatic Control</i> , 68 (12), pp. 7591–7600, 2023. [4] JB. Bouvier , M. Ornik. Resilience of linear systems to partial loss of control authority. <i>Automatica</i> , 152, pp. 110985, 2023. [5] JB. Bouvier , M. Ornik. Designing resilient linear systems. <i>IEEE Transactions on Automatic Control</i> , 67 (9), pp. 4832–4837, 2022.	

- [6] **JB. Bouvier**, M. Ornik. The maximax minimax quotient theorem. *Journal of Optimization Theory and Applications*, 192, pp. 1084–1101, 2022.
- [7] TM. Silva, **JB. Bouvier**, K. Xu, M. Hirabayashi, K. Ho. Spacecraft trajectory tracking and parameter estimation around a splitting contact binary asteroid. *Acta Astronautica*, 171, pp. 280–289, 2020.
- [8] BB. Jagannatha, **JB. Bouvier**, K. Ho. Preliminary design of low-energy, low-thrust transfers to halo orbits using feedback control. *Journal of Guidance, Control and Dynamics*, 42 (2), pp. 260–271, 2019.

PEER-REVIEWED
CONFERENCE
PUBLICATIONS

- [9] M. Ornik, **JB. Bouvier**. Assured system-level resilience for guaranteed disaster response. *8th IEEE International Smart Cities Conference*, 2022.
- [10] **JB. Bouvier**, M. Ornik. Quantitative resilience of linear systems. *20th European Control Conference*, pp. 485–490, 2022.
- [11] **JB. Bouvier**, SP. Nandanoori, M. Ornik, S. Kundu. Distributed transient safety verification via robust control invariant sets: a microgrid application. *2022 American Control Conference*, pp. 2202–2207, 2022.
- [12] **JB. Bouvier**, K. Xu, M. Ornik. Quantitative resilience of linear driftless systems. *SIAM Conference on Control and its Applications*, pp. 32–39, 2021.
- [13] **JB. Bouvier**, M. Ornik. Resilient reachability for linear systems. *21st IFAC World Congress*, pp. 4409–4414, 2020.

OTHER
PUBLICATIONS

- [14] **JB. Bouvier**, H. Panag, R. Woollands, M. Ornik. Resilience of orbital inspections to partial loss of control authority of the chaser satellite. *2022 AAS/AIAA Astrodynamics Specialist Conference*.
- [15] **JB. Bouvier**, W. Zanga (supervised by S. Lizy-Destrez and B. Le Bihan). Strategies for space rendezvous on Lunar Distant Retrograde Orbits. *ISAE Supaéro*, 2017.

TEACHING
EXPERIENCE

University of Illinois Urbana-Champaign
AE 461: Structures and Control Lab
AE 352: Aerospace Dynamical Systems
AE 483: UAV Navigation and Control
Illinois Aerospace Institute Summer Camp

Spring 2022, Spring 2023
Fall 2019
Fall 2018
Summer 2018

RECENT HONORS

Mavis Future Faculty Fellowship
John V. Breakwell Student Award by the American Astronautical Society
Student Travel Award to the 2022 American Control Conference
EUCA Student Support Program for the 2022 European Control Conference
PNNL Outstanding Performance Award
Student Travel Award to the SIAM Conference CT21
Aerospace Outstanding Graduate Student Fellowship

2022-2023
Summer 2022
Summer 2022
Summer 2022
Fall 2021
Summer 2021
Spring 2020

REVIEWER

IEEE Open Journal of Control Systems (2024), MDPI Mathematics (2024), International Symposium on Multi-Robot and Multi-Agent Systems (2023), IEEE Conference on Decision and Control (2023, 2024), IEEE Transactions on Control Systems Technology (2023), American Control Conference (2023, 2024), IFAC World Congress (2020)

STUDENT	Jordan Kam, undergraduate student, University of California Berkeley (UCB)	2024
MENTORING	Kartik Nagpal, PhD student, University of Illinois Urbana-Champaign (UIUC), UCB	2023-2024
	Kanghyun Ryu, PhD student, UIUC, UCB	2023-2024
	Mentoring Matters at Illinois (2 days workshop)	2023
	Kathleen Xu, undergraduate student, UIUC	2019-2020
	Isabel Anderson, undergraduate student, UIUC	2018