

CONTACT INFORMATION	Yıldız Technical University, Department of Mathematical Engineering, 34220, Esenler, İstanbul, Türkiye	☎ (TR): +90 (533) 477 58 69 ✉: gokhan.goksu@yildiz.edu.tr ❨: gokhangoksu.github.io
RESEARCH INTERESTS	Dynamical systems with a particular emphasis to switched systems and time-delay systems Robust stability with a particular emphasis to “input-to-state stability” related properties	
PROFESSIONAL EXPERIENCE		
	Department of Mathematical Engineering Yıldız Technical University	
	• Associate Professor	July 2024 till now
	• Associate Chair	April 2024 till now
	• Application Unit Lecturer	February 2022 till July 2024
	Intelligent Transportation Systems Research Laboratory Istanbul Technical University	
	• Postdoctoral Scholar	May 2020 till December 2021
	Laboratoire des Signaux et Systèmes (L2S) CentraleSupélec - Université Paris-Saclay	
	• Scientific Visitor	February 2019 till April 2020
	NBC Defence Corps, Konya, Türkiye Turkish Armed Forces	
	• Compulsory Military Training	February 2016 till July 2016
	Department of Mathematical Engineering, Istanbul Technical University	
	• Research Assistant	December 2013 till January 2020
	Non-Academic Experience as Data Scientist	July 2011 till December 2013
EDUCATION	Istanbul Technical University (ITU) , İstanbul, Türkiye	
	Ph.D., Mathematical Engineering, January 2020	
	M.Sc., Transportation Engineering, July 2013	
	B.Sc., Mathematical Engineering (Major), June 2011	
	• <i>Honor List</i>	
	• Physics Engineering (Minor), June 2015	
	• Erasmus Exchange Student at University of Stuttgart, Summer 2010	
JOURNAL PAPERS (INT'L)	<ol style="list-style-type: none"> 1. Göksu, G. (2026) “Exponential Stability of Switched Nonlinear Time-Delay Systems Combining Lyapunov–Krasovskii, Halanay and Razumikhin Approaches”, <i>Automatica</i>, 185, 112788. 2. Göksu, G. (2024) “Input-to-State Exponential Stability of Switched Nonlinear Time-Delay Systems Having Stable/Unstable Subsystems”, <i>Systems&Control Letters</i>, 184, 105724. 3. Hamidoğlu, A. and Göksu, G. (2023) “ϵ-Controllability/ϵ-Observability of Linear Switched Sampled-Data Systems with the Non-Equidistant Time Schedule”, <i>ISA Transactions</i>, 139, 167-178. 	

4. Göksu, G. and Chaillet, A. (2022) “Integral Input-to-State Stable Time-Delay Systems in Cascade”, *Automatica*, 139, 110175.
5. Chaillet, A., Göksu, G. and Pepe, P. (2022). “Lyapunov-Krasovskii Characterizations of Integral Input-to-State Stability of Delay Systems with Non-Strict Dissipation Rates”, *IEEE Transactions on Automatic Control*, 67(7), 3259-3272.
6. Silgu, M. A., Erdağı, İ. G., Göksu, G. and Çelikoğlu, H. B. (2022). “Combined Control of Freeway Traffic Involving Cooperative Adaptive Cruise Controlled and Human Driven Vehicles Using Feedback Control Through SUMO”, *IEEE Transactions on Intelligent Transportation Systems*, 23(8), 11011-11025.
7. Göksu, G. and Başer, U. (2021). “Finite-Time Stability for Switched Linear Systems by Jordan Decomposition”, *Applied Mathematics and Computation*, 395, 125853.
8. Göksu, G. and Başer, U. (2019). “Observer-Based H_∞ Finite-Time Control for Switched Linear Systems with Interval Time-Delay”, *Transactions of the Institute of Measurement and Control*, 41(5), 1348-1360.

BOOK CHAPTERS

1. Göksu, G. (2024) “Constrained Switching of Exponentially Stable Time-Delay Systems: Perspectives and Open Questions”, *Analysis and Applied Mathematics, In Trends in Mathematics* (Editors: Ashyralyev, A., Ruzhansky, M. and Sadybekov, M.A.), 6, 231-239. Birkhäuser, Cham.

CONFERENCE
PUBLICATIONS
(SELECTED)

1. Doğukan, S. N. and Göksu, G. “Sonsuz Boyutlu Optimizasyon Problemleri için Regülarizasyon Yöntemi”, *24th National Mathematics Symposium*, Akdeniz University, Antalya, Türkiye, 01.09.2025-04.09.2025. [Abstract Submission]
2. Gürler, M., Göksu, G. and Chaillet A. “Lyapunov-Krasovskii Conditions for Strong Integral Input-To-State Stable in Time-Delay Systems”, *19th IFAC Workshop on Time Delay Systems*, Gif-sur-Yvette, France, 30.06.2025-02.07.2025. [Extended Abstract Submission]
3. Moreschini, A., Göksu, G. and Parisini T. “Fréchet Discrete Gradient and Hessian Operators on Infinite-Dimensional Spaces”, *7th IFAC Conference on Analysis and Control of Nonlinear Dynamics and Chaos*, London, UK, 05.06.2024-07.06.2024 (IFAC-PapersOnLine 58 (5), 78-83). [Full Paper Submission]
4. Kara, Ö. and Göksu, G.. “Bozucu Girdisi Altında Bir Uçağın Dayanıklı Kontrolü”, *24th Automatic Control National Congress 2023 (TOK 2023)*, İstanbul Technical University, İstanbul, Türkiye, 14.09.2023-16.09.2023. [Full Paper Submission]
5. Göksu, G., Chaillet, A. and Pepe, P. “Zaman Gecikmeli Sistemlerin İntegral Girdiden Duruma Kararlılığının Lyapunov-Krasovskii Karakterizasyonları”, *34th National Mathematics Symposium*, Dokuz Eylül University, İzmir, Türkiye, 31.08.2022-03.09.2022. [Abstract Submission]
6. Göksu, G. and Mahmudov, E. N. “Time Optimal Control Problem for Second Order LTI Systems”, *8th International Conference on Control and Optimization with Industrial Applications (COIA 2022)*, Baku, Azerbaijan, 24.08.2022-26.08.2022. [Extended Abstract Submission]
7. Silgu, M. A., Erdağı, İ. G., Akti, S., Hulagu, S., Akova, H., Göksu, G. and Çelikoğlu H. B. “A Methodology to Consider Explicitly Emissions in Dynamic User Equilibrium Assignment”, *18th International Conference on Computer Aided Systems Theory (EUROCAST 2022)*, Las Palmas de Gran Canaria, Canary Islands, Spain, 20.02.2022-25.02.2022. [Extended Abstract Submission]

8. **Göksu, G.**, Silgu, M. A., Erdağı, İ. G. and Çelikoğlu H. B. “Integral Input-to-State Stability of Traffic Flow with Variable Speed Limit”, 16th IFAC Symposium on Control in Transportation Systems, Lille, France, 08.06.2021-10.06.2021 (IFAC-PapersOnLine 54 (2), 31-36). [Full Paper Submission]
9. Silgu, M. A., Erdağı, İ. G., **Göksu, G.** and Çelikoğlu H. B. “ H_∞ State Feedback Controller for ODE Model of Traffic Flow”, 16th IFAC Symposium on Control in Transportation Systems, Lille, France, 08.06.2021-10.06.2021 (IFAC-PapersOnLine 54 (2), 19-24). [Full Paper Submission]
10. **Göksu, G.** and Chaillet, A. “Analysis of Integral Input-to-State Stable Time-Delay Systems in Cascade”, 21st IFAC World Congress, Berlin, Germany, 11.07.2020-17.07.2020 (IFAC-PapersOnLine, 53(2), 6404-6409). [Full Paper Submission]
11. **Göksu, G.** and Başer, U. “Finite Time Control for Switched Linear Systems with Interval Time Delay”, 14th IFAC Workshop on Time Delay Systems, Pesti Vigadó, Budapest, Hungary, 26.06.2018-30.06.2018 (IFAC-PapersOnLine, 51(14), 130-135). [Full Paper Submission]

ORGANIZATION OF
SCIENTIFIC
EVENTS

- Organizer of “Istanbul Nonlinear Dynamics & Integrability Workshop”, Prof. Dr. Şevket Erk Conference Hall, Davutpaşa Campus, Yıldız Technical University, İstanbul, Türkiye, 31.10.2025.
- Co-organizer of the invited session “Stability and stabilization of nonlinear time-delay systems” with Antoine Chaillet and Epiphane Loko, 19th IFAC Workshop on Time Delay Systems (TDS), Gif-sur-Yvette, France, 30.06.2025-02.07.2025.

PROJECTS,
GRANTS AND
FELLOWSHIPS

- Co-Principal Investigator of the 2509-TÜBİTAK-French Ministry of Foreign Affairs Bilateral Cooperation Project “Characterizations of Input-to-State Stability Related Properties for Time-Delay Systems” with Prof. Antoine Chaillet (French Side Co-Principal Investigator)
 - Period: 15 May 2024-15 November 2025
 - Covers travel, scholarship and dissemination expenses
 - Turkish Side Budget: 660190 TRY (\approx 13450 EUR)
 - French Side Budget: 5500 EUR
- TÜBİTAK Research Fellowship 2214-A (01 July 2019-31 December 2019).
- French Embassy/CampusFrance Research Fellowship (01 May 2019-31 June 2019).
- TÜBİTAK Travel Grant 2224-A (July 2018, August 2022, June 2024).
- Istanbul Technical University Travel Grant (July 2014).

GRADUATE
STUDENTS

Mertcan Gürler, M.Sc. Student, *July 2025*

- Thesis Title: “Güçlü İntegral Girdiden Duruma Kararlı Zaman Gecikmeli Sistemler için Lyapunov-Krasovskii Teoremleri”

Birce Serenay Orhan, M.Sc. Student, *December 2025*

- Thesis Title: “Lyapunov-Krasovskii Theorem for Output-to-State Stable Time-Delay Systems”

Sude Naz Doğukan, M.Sc. Student, *Ongoing*

- Thesis Title: “Sonsuz Boyutlu Kötü Tanımlı Varyasyonel Problemlerin Regülarizasyonu”

- **Journals:** Automatica, IEEE Transactions on Automatic Control, Systems & Control Letters, International Journal of Control, Asian Journal of Control, Nonlinear Analysis: Hybrid Systems, IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Fuzzy Systems, IEEE Intelligent Transportation Systems Magazine, IEEE/CAA Journal of Automatica Sinica, IEEE Access, International Journal of Control, Trans-portion Research: Part C, Transactions of the Institute of Measurement and Control, Journal of Optimization Theory and Applications, Expert Systems with Applications, Advances in Continuous and Discrete Models: Theory and Applications, ISA Transactions, International Journal of Robust and Nonlinear Control, Mathematics of Control, Signals, and Systems, Zeitschrift für angewandte Mathematik und Physik, International Journal of Bifur-cation and Chaos, The European Physical Journal Special Topics
- **Conferences:** IFAC World Congress, IEEE Conference on Decision and Control (CDC), European Control Conference (ECC), Automatic Control National Congress (TOK), IEEE International Intelligent Transportation Systems Conference (ITSC), IEEE Intelligent Vehicles Symposium (IV), IFAC Workshop on Time Delay Systems (TDS)
- **Research Project:** Deutsche Forschungsgemeinschaft (German Research Foundation) Research Grant

1. “Recent Results on Input-to-State Stability Framework for Time-Delay Systems”, Istanbul Integrability and Stringy Topics Initiative Seminars, Department of Physics, Boğaziçi University, İstanbul, Türkiye, 19.12.2025.
2. “Recent Results on Input-to-State Stability Framework for Time-Delay Systems”, Department of Mathematics, Koç University, İstanbul, Türkiye, 20.11.2025.
3. “Zaman Gecikmeli Sistemler için Girdiden Duruma Kararlılığı İlişkin Özellikler Üzerine Yeni Sonuçlar”, Department of Mathematical Engineering, Gebze Technical University, Kocaeli, Türkiye, 21.03.2025.
4. “Zaman Gecikmeli Sistemler için Girdiden Duruma Kararlılığı İlişkin Özellikler Üzerine Yeni Sonuçlar”, Department of Mathematical Engineering, İstanbul Technical University, İstanbul, Türkiye, 12.03.2025.
5. “Integral Input-to-State Stability of Time-Delay Systems: Recent Results and Open Questions”, Bahçeşehir University, İstanbul, Türkiye, 09.05.2023.
6. “Input-to-State Stability of Time-Delay Systems”, Department of Mathematics, Galatasaray University, İstanbul, Türkiye, 03.02.2021.
7. “Zaman Gecikmeli Sistemlerin Girdiden Duruma Kararlılığı”, Department of Mathematics, İstanbul Technical University, İstanbul, Türkiye, 13.01.2021.
8. “Zaman Gecikmeli ve Anahtarlamalı Doğrusal Sistemlerin Gözlemci Tabanlı Sonlu Zaman Sınırlılığı Üzerine”, Department of Mathematics, Mimar Sinan Fine Arts University, İstanbul, Türkiye, 19.10.2017.
9. “Zaman Gecikmeli ve Anahtarlamalı Doğrusal Sistemlerin Gözlemci Tabanlı Sonlu Zaman Sınırlılığı Üzerine”, Department of Mathematics, İstanbul Technical University, İstanbul, Türkiye, 20.10.2017.

**TEACHING
EXPERIENCE**

Yıldız Technical University Courses

- MTM 3502 - Partial Differential Equations
- MTM 3691 - Linear Programming Theory
- MTM 4501 - Operations Research
- MTM 4502 - Optimization Techniques
- MTM 5135 - Nonlinear Dynamical Systems (Graduate)

National Defense University - Turkish Air Force Academy

- TEM 210 - Numerical Methods

**LANGUAGE
SKILLS**

German

- Deutsches Sprachdiplom Stufe II
(German Language Diploma-CEFR Level C1)
Look for Common European Framework of Reference for Languages (CEFR).

March 2006

English

- e-YDS
Score: 87.5/100

June 2021

French, Italian

- Self-assessment: Limited