

Şanser Güz

Ph.D. Candidate

Tokyo, Japan | sanserguz@gmail.com | (+81) 090-2904-0102

EDUCATION

Doctor of Engineering, The University of Tokyo

Technology Management for Innovation

Minor in Science, Technology and Innovation Governance from UTokyo GraSPP & GSE

expected **2026**

Tokyo, Japan

Master of Science, Boğaziçi University

Industrial Engineering

2022

Istanbul, Turkey

Bachelor of Science, Boğaziçi University

Industrial Engineering

Minor in Film Studies from Department of Western Languages and Literatures

2020

Istanbul, Turkey

RESEARCH AREAS

Themes and topics: Socio-economic systems; Complex systems; Computational social sciences; Economics; Public policy; Complex adaptive systems; Energy transitions; Industrial Ecology; Circular economy; Dynamic decision-making.

Methodologies and approaches: Simulation; System dynamics; Agent-based modeling; Network science; Model integration; Coupling; Scenario analysis; Policy testing; Statistics; Forecasting.

ACADEMIC EMPLOYMENT

Research Assistant

The University of Tokyo

Graduate School of Engineering, Murakami Lab

2024 - ongoing

Research Associate (Remote)

Boğaziçi University

Institute of Environmental Sciences

2022 - 2024

Graduate Teaching Assistant, Lab Assistant

Boğaziçi University

Department of Industrial Engineering, Socio-economic System Dynamics Laboratory

2020 - 2022

Graduate Teaching Assistant, Research Assistant

Koç University

College of Administrative Sciences and Economics, KaranfilLab

2020 - 2022

PUBLICATIONS

Journal Articles

- Ş. Güz, I.Uygur, A.K. Saysel, N. Coptý, (under review), Dynamic coupling of hydrogeology and human decision-making for sustainable groundwater management in irrigated agricultural systems. Submitted to Journal of Hydrology: Regional Studies in June 2025.
- Ş. Güz, S. Murakami, (2025), A systematic literature review of simulation models for flows, markets, and sustainability of critical energy transition minerals. Resources, Conservation & Recycling Advances.
- O. İrsoy, Ş. Güz, N.B. Akan, and G. Yücel, (2021), Dynamic trade-offs in granulocyte colony-stimulating factor (G-CSF) administration during chemotherapy. System Dynamics Review, 36: 397-446.

Working Papers

1. **Ş. Güz**, G. Yücel, Ö. Karanfil, Public healthcare under structural-economic and demographic pressure: insights from a dynamic model. Book Chapter.

Conference Papers and Presentations

1. **Ş. Güz**, S. Murakami, (2025), An agent-based model of global mineral supply chains under energy transition pressure: towards integrated demand, supply, and impact assessment, ESSA Social Simulation Conference 2025, Delft, Netherlands.
2. **Ş. Güz**, I.Uygur, A.K. Saysel, N. Coptý, (2025), Bridging hydrogeology and human decision-making for sustainable groundwater management through a coupled simulation model, ESSA Social Simulation Conference 2025, Delft, Netherlands.
3. **Ş. Güz**, I.Uygur, A.K. Saysel, N. Coptý, (2025), Bridging hydrogeological dynamics and human decision-making for sustainable groundwater management in irrigated agricultural regions, The 2nd International Sociohydrology Conference, Tokyo, Japan.
4. **Ş. Güz**, S. Murakami, (2025), An agent-based model of supply chain dynamics for critical energy transition minerals, 12th International Conference on Industrial Ecology, Singapore.
5. **Ş. Güz**, S. Murakami, (2024), Critical minerals in energy transitions and approaches to modeling: a literature review, The 16th Biennial International Conference Ecobalance, Sendai, Japan.
6. **Ş. Güz**, I.Uygur, A.K. Saysel, N. Coptý, (2024), Coupling of system dynamics and hydrogeological Models for sustainable groundwater management for Konya Basin, Türkiye, Sustain Istanbul 2024, Turkey.
- Presented in Session VI: Governance and policy towards sustainable groundwater management
7. **Ş. Güz**, G. Yücel, Ö. Karanfil, (2022), Dynamic analysis of public health insurance programmes, Proceedings of the 40th International Conference of the System Dynamics Society, Frankfurt, Germany.
- Presented in Parallel session: Health Finance
- Awarded with Lupina Young Researchers Award – Honorable Mention
8. Ö. Karanfil, **Ş. Güz**, O. İrsoy, M. Hashemian, (2021), What is the stakeholder effect on clinical guideline formation process: an experimental study, Proceeding of the 39th International Conference of the System Dynamics Society, Chicago, IL.
- Presented in Parallel session: Clinical Care Improvement
9. Ö. Karanfil, **Ş. Güz**, O. İrsoy, M. Hashemian, (2021), Stakeholder effect in the formation of policy/practice guidelines: an experimental study for medical screening, Abstracts for the 40th Congress on Operations Research / Industrial Engineering, Istanbul, Turkey.
- Presented in Parallel session: System Dynamics Applications in Healthcare
10. **Ş. Güz**, O. İrsoy, N.B. Akan, G. Yücel, (2020), Managing chemotherapy-induced neutropenia using exogenous granulocyte colony-stimulating factor, Proceedings of the 38th International Conference of the System Dynamics Society, Bergen, Norway.
- Presented in Plenary session: Scientific Advances
- Awarded with Lupina Young Researchers Award – Honorable Mention

AWARDS and SCHOLARSHIPS

MEXT Research and Ph.D Scholarship

2022 - 2026

(2022 - 2023: Research Student Scholarship, 2023 - 2026: Ph.D. Scholarship)
Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT)
The University of Tokyo, Tokyo, Japan

Lupina Young Researchers Award Honorable Mention

2022

Lupina Foundation
2022 International System Dynamics Conference, Frankfurt, Germany

Lupina Young Researchers Award Honorable Mention Lupina Foundation 2020 International System Dynamics Conference, Bergen, Norway	2020
TUBITAK 2210-A National MSc/MA Scholarship The Scientific and Technological Research Council of Turkey (TUBITAK) Boğaziçi University, Istanbul, Turkey	2020 - 2022
JASSO Student Scholarship The Scientific and Technological Research Council of Turkey (JASSO) University of Tsukuba, Ibaraki, Japan	2017 - 2018

PROFESSIONAL AFFILIATIONS

International Society for Industrial Ecology	2025 - present
European Social Simulation Association	2025 - present
System Dynamics Society	2020 - 2022

TEACHING EXPERIENCE

GLBH 524: Systems Modeling for Health Policy Analysis Koç University, School of Medicine Graduate Teaching Assistant for Dr. Özge Karanfil	Spring 22, Fall 23
IE 533: Systems Theory Boğaziçi University, Department of Industrial Engineering Graduate Teaching Assistant for Dr. Gönenç Yücel	Spring 22
TECH 517: Strategic Systems Modeling Koç University, College of Administrative Sciences and Economics Graduate Teaching Assistant for Dr. Özge Karanfil and Dr. Mahdi Hashemian	Fall 21, Spring 22, Fall 22

RESEARCH EXPERIENCE

The University of Tokyo , Graduate School of Engineering Research Assistant since 2024, PI: Shinsuke Murakami Modeling and simulation of global Lithium supply chain with a focus on EU region to test the feasibility and potential impacts of European Commissions new lithium-ion battery regulation.	
Boğaziçi University , Institute of Environmental Sciences Research Associate in 2022 - 2024, PI: Ali Kerem Saysel, Nadim Coptu Development of a python-based coupling program for integrating system dynamics and MODFLOW based modules to provide a better representation of socio-ecological agricultural systems. Part of the InTheMED (Innovative and Sustainable Groundwater Management in the Mediterranean) research project supported by PRIMA.	
Koç University , College of Administrative Sciences and Economics Research Assistant in 2020 - 2022, PI: Özge Karanfil, Mahdi Hashemian Design and development of computer simulation aided human subject dynamic decision making (DDM) experiments for evaluation of stakeholder effect on formation of clinical practice guidelines (CPGs) in the context of prostate cancer screening. Project was supported by TUBITAK.	

PROFESSIONAL SKILLS

Software
STELLA, Vensim, NetLogo, MODFLOW, RStudio, ARENA.

Coding

Python, C, C++, CMPL, HTML, GAMS, SIMAN, LaTeX.

Languages

Turkish (Native), English (Fluent), Japanese (N2).

REFERENCES

Gönenç Yücel

Associate Professor and Department Vice-Chair
Faculty of Engineering, Boğaziçi University
gonenc.yucel@boun.edu.tr

Shinsuke Murakami

Professor
Graduate School of Engineering, The University of Tokyo
smurakam@tmi.t.u-tokyo.ac.jp

Ali Kerem Saysel

Professor
System Dynamics Group, University of Bergen
ali.saysel@uib.no

Özge Karanfil

Assistant Professor
College of Administrative Sciences and Economics, Koç University
okaranfil@ku.edu.tr

Last Updated: June 2025