

## Asst. Prof. SEMA SEVİNÇ ŞENGÖR

### Personal Information

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### International Researcher IDs

ScholarID: PwU8SRUAAAAJ

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Publons / Web Of Science ResearcherID: J-1446-2018

ScopusID: 25923078900

Yoksis Researcher ID: 318440

### Education Information

Doctorate, University of California, Davis, United States Of America 2003 - 2007

Postgraduate, Middle East Technical University, Turkey 1999 - 2002

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Environmental Engineering, Turkey 1995 - 1999

### Certificates, Courses and Trainings

Environment and Sustainability, Academic Fall Course on Sustainable Environmental Systems, Middle East Technical University, 2022

### Research Areas

Environmental Engineering

### Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Environmental Engineering, 2020 - Continues

### Academic and Administrative Experience

Deputy Head of Department, Middle East Technical University, 2020 - Continues

### Published journal articles indexed by SCI, SSCI, and AHCI

- Colloidal transport of heavy metals in low-advective-velocity environmental systems: Reactive transport model on biogeochemical and hydrodynamic impacts**  
Şengör S. S., Ünlü K.

Vadose Zone Journal, vol.22, no.1, 2023 (SCI-Expanded)

- II. **A Review on Interpretable and Explainable Artificial Intelligence in Hydroclimatic Applications**  
Basagaoglu H., Chakraborty D., Do Lago C., Gutierrez L., ŞAHİNLİ M. A., Giacomoni M., Furl C., Mirchi A., Moriasi D., ŞENGÖR S. S.  
WATER, vol.14, no.8, 2022 (SCI-Expanded)
- III. **Bioleaching of metals from waste printed circuit boards using bacterial isolates native to abandoned gold mine**  
Kumar A., Saini H. S., Şengör S. S., Sani R. K., Kumar S.  
BioMetals, vol.34, no.5, pp.1043-1058, 2021 (SCI-Expanded)
- IV. **Microbially mediated kinetic sulfur isotope fractionation: reactive transport modeling benchmark**  
Cheng Y., Arora B., ŞENGÖR S. S., Druhan J. L., Wanner C., van Breukelen B. M., Steefel C.  
COMPUTATIONAL GEOSCIENCES, vol.25, no.4, pp.1379-1391, 2021 (SCI-Expanded)
- V. **Amendment for increased methane production rate in municipal solid waste landfill gas collection systems**  
Larson S. L., Martin W. A., ŞENGÖR S. S., Wade R., Altamimi F.  
SCIENCE OF THE TOTAL ENVIRONMENT, vol.772, 2021 (SCI-Expanded)
- VI. **Biogeochemical cycling of heavy metals in lake sediments: impact of multispecies diffusion and electrostatic effects**  
Li J., Sengor S. S.  
COMPUTATIONAL GEOSCIENCES, vol.24, no.4, pp.1463-1482, 2020 (SCI-Expanded)
- VII. **Single and joint effects of Zn and Cu to ATP pool and microbial recovery in continuous growth systems**  
Sengor S. S., Gikas P., Moberly J. G.  
JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, vol.94, no.3, pp.892-899, 2019 (SCI-Expanded)
- VIII. **Pressure-driven water flow through hydrophilic alumina nanomembranes**  
Koklu A., Li J., Sengor S. S., Beskok A.  
MICROFLUIDICS AND NANOFUIDICS, vol.21, no.7, 2017 (SCI-Expanded)
- IX. **Impact of different environmental conditions on the aggregation of biogenic U(IV) nanoparticles synthesized by Desulfovibrio alaskensis G20**  
Sengor S. S., Singh G., Dohnalkova A., Spycher N., Ginn T. R., Peyton B. M., Sani R. K.  
BIOMETALS, vol.29, no.6, pp.965-980, 2016 (SCI-Expanded)
- X. **Synthesis of graphene oxide/magnesium oxide nanocomposites with high-rate adsorption of methylene blue**  
Heidarizad M., Sengor S. S.  
JOURNAL OF MOLECULAR LIQUIDS, vol.224, pp.607-617, 2016 (SCI-Expanded)
- XI. **ZnO quantum dots-graphene composites: Formation mechanism and enhanced photocatalytic activity for degradation of methyl orange dye**  
Tayyebi A., Outokesh M., Tayyebi M., Shafikhani A., Sengoer S. S.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.663, pp.738-749, 2016 (SCI-Expanded)
- XII. **Benchmark reactive transport simulations of a column experiment in compacted bentonite with multispecies diffusion and explicit treatment of electrostatic effects**  
Alt-Epping P., Tournassat C., Rasouli P., Steefel C. I., Mayer K. U., Jenni A., Maeder U., Sengor S. S., Fernandez R.  
COMPUTATIONAL GEOSCIENCES, vol.19, no.3, pp.535-550, 2015 (SCI-Expanded)
- XIII. **A reactive transport benchmark on heavy metal cycling in lake sediments**  
Arora B., Sengoer S. S., Spycher N. F., Steefel C. I.  
COMPUTATIONAL GEOSCIENCES, vol.19, no.3, pp.613-633, 2015 (SCI-Expanded)
- XIV. **A uranium bioremediation reactive transport benchmark**  
Yabusaki S. B., Sengoer S. S., Fang Y.  
COMPUTATIONAL GEOSCIENCES, vol.19, no.3, pp.551-567, 2015 (SCI-Expanded)
- XV. **A reactive transport benchmark on modeling biogenic uraninite re-oxidation by Fe(III)-(hydr)oxides**

- Sengoer S. S., Mayer K. U., Greskowiak J., Wanner C., Su D., Prommer H.  
COMPUTATIONAL GEOSCIENCES, vol.19, no.3, pp.569-583, 2015 (SCI-Expanded)
- XVI. **The influence of single and combined effects of Zn, Cu and temperature on microbial growth**  
ŞENGÖR S. S., Gikas P.  
Global Nest Journal, vol.16, no.4, pp.699-706, 2014 (SCI-Expanded)
- XVII. **Reoxidation of Biogenic Reduced Uranium: A Challenge Toward Bioremediation**  
Singh G., Sengoer S. S., Bhalla A., Kumar S., De J., Stewart B., Spycher N., Ginn T. M., Peyton B. M., Sani R. K.  
CRITICAL REVIEWS IN ENVIRONMENTAL SCIENCE AND TECHNOLOGY, vol.44, no.4, pp.391-415, 2014 (SCI-Expanded)
- XVIII. **Anaerobic microbial growth near thermodynamic equilibrium as a function of ATP/ADP cycle: The effect of maintenance energy requirements**  
Sengoer S. S., Ginn T. R., Brugato C. J., Gikas P.  
BIOCHEMICAL ENGINEERING JOURNAL, vol.81, pp.65-72, 2013 (SCI-Expanded)
- XIX. **Modeling contaminant transport and remediation at an acrylonitrile spill site in Turkey**  
Sengor S. S., ÜNLÜ K.  
Journal of Contaminant Hydrology, vol.150, pp.77-92, 2013 (SCI-Expanded)
- XX. **Comparison of single and joint effects of Zn and Cu in continuous flow and batch reactors**  
Sengoer S. S., Gikas P., Moberly J. G., Peyton B. M., Ginn T. R.  
JOURNAL OF CHEMICAL TECHNOLOGY AND BIOTECHNOLOGY, vol.87, no.3, pp.374-380, 2012 (SCI-Expanded)
- XXI. **The effects of heavy metals and temperature on microbial growth and lag**  
Gikas P., ŞENGÖR S. S., Ginn T., Moberly J., Peyton B.  
Global Nest Journal, vol.11, no.3, pp.325-332, 2009 (SCI-Expanded)
- XXII. **INFLUENCE OF HEAVY METALS ON MICROBIAL GROWTH KINETICS INCLUDING LAG TIME: MATHEMATICAL MODELING AND EXPERIMENTAL VERIFICATION**  
Sengor S. S., Barua S., Gikas P., Ginn T. R., Peyton B., Sani R. K., Spycher N. F.  
ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY, vol.28, no.10, pp.2020-2029, 2009 (SCI-Expanded)
- XXIII. **Heavy Metal-Mineral Associations in Coeur d'Alene River Sediments: A Synchrotron-Based Analysis**  
Moberly J. G., Borch T., Sani R. K., Spycher N. F., Sengoer S. S., Ginn T. R., Peyton B. M.  
WATER AIR AND SOIL POLLUTION, vol.201, no.1-4, pp.195-208, 2009 (SCI-Expanded)
- XXIV. **Preface**  
Alt-Epping P., Al Bassam B., Blum A., Arnorrson S., Benaabidate L., Brantley S., Ayora C., Berner Z., Broers H., Bahaj T., et al.  
Water-Rock Interaction - Proceedings of the 12th International Symposium on Water-Rock Interaction, WRI-12, vol.1, 2007 (AHCI)

## Books & Book Chapters

- I. **Biogeochemical Interactions of Bioreduced Uranium Nanoparticles**  
ŞENGÖR S. S., Sani R. K.  
in: Microbial Interactions at Nanobiotechnology Interfaces: Molecular Mechanisms and Applications, Krishnaraj R. Navanietha, Sani Rajesh K., Editor, Wiley Online Library, Hoboken, pp.359-382, 2021
- II. **Characterization and Quantification of Mobile Bioreduced Uranium Phases**  
ŞENGÖR S. S., Sani R. K.  
in: Microbial Interactions at Nanobiotechnology Interfaces: Molecular Mechanisms and Applications, Krishnaraj R. Navanietha, Sani Rajesh K., Editor, Wiley Online Library, Hoboken, pp.383-393, 2021
- III. **Emerging Technologies in Environmental Bioremediation**  
Shah M. P. (Editor), Rodriguez-Couto S. (Editor), Şengör S. S. (Editor)  
Elsevier Science, Oxford/Amsterdam, Amsterdam, 2020

## Refereed Congress / Symposium Publications in Proceedings

- I. **Yeraltında Uranyumun Biyojeokimyasal Reaktif Taşınım Modellemesi**  
Gökçe S., Şengör S. S.  
11.Ulusal Kati Atık Yönetimi Kongresi (UKAY 2023), Ardahan, Turkey, 18 - 21 October 2023, pp.21-24
- II. **Reactive Transport Model on Biogeochemical Dynamics of Colloid Associated Heavy Metal Transport**  
Şengör S. S., Ünlü K.  
1st International Conference on Sustainable Chemical and Environmental Engineering (SUSTENG), Athens, Greece, 31 August - 04 September 2022, pp.287
- III. **Fate and Colloidal Transport of Heavy Metals in Benthic Lake Sediments**  
Şengör S. S., Ünlü K.  
9th International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE) and SECOTOX Conference, 5 - 09 June 2022, pp.1
- IV. **Colloid-facilitated Transport of Heavy Metals in Lake Sediments**  
Şengör S. S., Ünlü K.  
EGU General Assembly 2022, Vienna, Austria, 23 - 27 May 2022, pp.4924
- V. **Colloidal Transport of Heavy Metals in Natural Subsurface Sediments**  
Şengör S. S.  
EGU General Assembly 2021, Vienna, Austria, 19 - 30 April 2021, pp.11541
- VI. **Graphene oxide/magnesium oxide nanocomposite: A novel catalyst for ozonation of phenol from wastewater**  
Heidarizad M., ŞENGÖR S. S.  
17th World Environmental and Water Resources Congress 2017, California, United States Of America, 21 - 25 May 2017, pp.192-200
- VII. **Reductive dissolution and metal transport in Lake Coeur d'Alene sediments**  
ŞENGÖR S. S., Spycher N., Ginn T., Moberly J., Peyton B., Sani R.  
12th International Symposium on Water-Rock Interaction, WRI-12, Kunming, China, 31 July - 04 August 2007, vol.2, pp.895-899

## Other Publications

- I. **Colloidal Transport of Heavy Metals in Natural Subsurface Sediments**  
Şengör S. S.  
Presentation, pp.11541, 2021

## Supported Projects

ŞENGÖR S. S., Project Supported by Higher Education Institutions, Manyetit/İndirgenmiş Grafen Oksit ile Sudan Arsenik Arıtımı Sürecinde Nanokompozit Malzeme Karakterizasyonu, 2024 - Continues

ŞENGÖR S. S., ÜNLÜ K., ÇELEBİ S., Project Supported by Higher Education Institutions, Nanokompozit Malzeme Manyetit/İndirgenmiş Grafen Oksit İle Sudan Arsenik Arıtımı: Proses Kimyası ve Teknolojisi, Reaktif Taşınım Sistem Modellemesi, 2022 - Continues

ŞENGÖR S. S., TUBITAK Project, Manyetit/İndirgenmiş Grafen Oksit Nanokompoziti İle Sudan Arsenik Arıtımı: Sıfır Değerlikli Demirin Sürece Etkisi, Reaktif Tasınım Modellemesi, Sistem Tasarımı Ve Mühendislik Uygulamalarına Dair Değerlendirmeler, 2023 - 2025

ŞENGÖR S. S., TUBITAK Project, Nanoremediation and colloidal transport of heavy metals in natural subsurface, 2020 - 2023

## Activities in Scientific Journals

Energy Nexus, Special Issue Editor, 2022 - Continues

## Memberships / Tasks in Scientific Organizations

Sema Sevinc Sengor, Member, 2021 - 2023, Turkey

## Scientific Refereeing

APPLIED WATER SCIENCE, SCI Journal, November 2024

WATER (SWITZERLAND), SCI Journal, December 2023

WATER, AIR AND SOIL POLLUTION : AN INTERNATIONAL JOURNAL OF ENVIRONMENTAL POLLUTION, SCI Journal, December 2023

Horizon Europe Project, Horizon Europe Project, HORIZON-MSCA, Turkey, December 2023

Horizon Europe Project, Horizon Europe Project, HORIZON-MSCA, Turkey, December 2023

Horizon Europe Project, Horizon Europe Project, HORIZON-MSCA, Turkey, December 2023

Horizon Europe Project, Horizon Europe Project, HORIZON-MSCA, Turkey, December 2023

CRC Press, Scientific / Professional Book Published by Renowned Publishing Houses, November 2023

WATER (SWITZERLAND), SCI Journal, November 2023

NATURAL RESOURCES FORUM, SCI Journal, November 2023

ACS OMEGA, SCI Journal, October 2023

WATER, AIR AND SOIL POLLUTION : AN INTERNATIONAL JOURNAL OF ENVIRONMENTAL POLLUTION, SCI Journal, October 2023

COMPUTERS & GEOSCIENCES, SCI Journal, August 2023

TOXICS, SCI Journal, July 2023

WATER (SWITZERLAND), SCI Journal, June 2023

WATER (SWITZERLAND), SCI Journal, May 2023

COMPUTERS & GEOSCIENCES, SCI Journal, April 2023

WATER (SWITZERLAND), SCI Journal, February 2023

MATERIALS, SCI Journal, December 2022

COMPUTERS & GEOSCIENCES, SCI Journal, December 2022

JOURNAL OF ENVIRONMENTAL MANAGEMENT, SCI Journal, November 2022

WATER (SWITZERLAND), SCI Journal, November 2022

Project Supported by Other Private Institutions, Adana Organize Sanayi Bölgesi, Turkey, November 2022

MATERIALS, Journal Indexed in SSCI, June 2022

BIOCHEMICAL ENGINEERING JOURNAL, SCI Journal, June 2022

JOURNAL OF APPLIED MICROBIOLOGY, SCI Journal, June 2022

JOURNAL OF ENVIRONMENTAL MANAGEMENT, SCI Journal, June 2022

Project Supported by Public Organizations in Other Countries, METU, Turkey, June 2022

JOURNAL OF ENVIRONMENTAL MANAGEMENT, SCI Journal, May 2022

JOURNAL OF ENVIRONMENTAL MANAGEMENT, SCI Journal, May 2022

JOURNAL OF ENVIRONMENTAL MANAGEMENT, Journal Indexed in SSCI, April 2022

JOURNAL OF ENVIRONMENTAL MANAGEMENT, SCI Journal, February 2022

COMPUTERS & GEOSCIENCES, Journal Indexed in SSCI, December 2021

JOURNAL OF ENVIRONMENTAL MANAGEMENT, SCI Journal, December 2021

BIOCHEMICAL ENGINEERING JOURNAL, SCI Journal, December 2021

BIOCHEMICAL ENGINEERING JOURNAL, SCI Journal, October 2021

Phytonanotechnology, Scientific / Professional Book Published by Renowned Publishing Houses, September 2021

Recent Trends in Constructed Wetlands for Industrial Wastewater Treatment, Scientific / Professional Book Published by Renowned Publishing Houses, September 2021  
JOURNAL OF ENVIRONMENTAL MANAGEMENT, Journal Indexed in SSCI, July 2021  
Bio refinery of wastewater treatment: way to generate waste to value, Scientific / Professional Book Published by Renowned Publishing Houses, April 2021  
JOURNAL OF ENVIRONMENTAL MANAGEMENT, Journal Indexed in SSCI, April 2021  
COMPUTERS & GEOSCIENCES, Journal Indexed in SSCI, March 2021  
JOURNAL OF NANOSTRUCTURE IN CHEMISTRY, Journal Indexed in SSCI, March 2021  
BIOCHEMICAL ENGINEERING JOURNAL, SCI Journal, February 2021  
CANADIAN JOURNAL OF CHEMICAL ENGINEERING, SCI Journal, December 2020  
BIOCHEMICAL ENGINEERING JOURNAL, SCI Journal, December 2020  
Journal of Nanostructure in Chemistry, Journal Indexed in ESCI, December 2020  
An Integration of Phycoremediation Processes in Wastewater Treatment, Textbook Published by Renowned Publishing Houses, January 2020

### **Tasks In Event Organizations**

Şengör S. S., Academic Fall Course on Environmental Sustainability, Student Club and Community Activity, Muğla, Turkey, Eylül 2022  
Şengör S. S., 1st International Conference on Sustainable Chemical and Environmental Engineering (SUSTENG), Scientific Congress, Athens, Greece, Eylül 2022

### **Metrics**

Publication: 35  
Citation (WoS): 549  
Citation (Scopus): 618  
H-Index (WoS): 14  
H-Index (Scopus): 14

### **Congress and Symposium Activities**

IEEE International Conference on Bioinformatics and Biomedicine , Invited Speaker, İstanbul, Turkey, 2023  
11. Ulusal Katı Atık Yönetimi Kongresi, Attendee, Ardahan, Turkey, 2023  
EGU, Attendee, Vienna, Austria, 2022