

Asst. Prof. NECİP BERKER ÜNER

Personal Information

Office Phone: [+90 312 210 2613](tel:+903122102613)

Email: nuner@metu.edu.tr

Web: <https://avesis.metu.edu.tr/necip>

Address: ODTÜ Kimya Mühendisliği Bölümü METU Chemical Engineering Department

International Researcher IDs

ScholarID: qCxdB2YAAAAJ

ORCID: 0000-0002-5719-6417

Publons / Web Of Science ResearcherID: AGR-2211-2022

ScopusID: 57194684340

Yoksis Researcher ID: 135966

Education Information

Doctorate, Washington University in St. Louis, School of Engineering, Energy, Environmental and Chemical Engineering, United States Of America 2015 - 2020

Postgraduate, Middle East Technical University, Faculty of Engineering, Department of Chemical Engineering, Turkey 2011 - 2014

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Chemical Engineering, Turkey 2007 - 2011

Foreign Languages

English, C2 Mastery

Research Areas

Chemical Engineering and Technology, Electrochemical Processes, Environmental Chemistry and Technology, Chemical Reaction Engineering, Process Control, Finite Element Methods, Heat and Mass Transfer, Computational fluid dynamics, Semiconductor and Superconductor Materials, Optical Properties, Nanomaterials, Electronic and magnetic devices, microelectronics, Materials Science, Physics of Plasmas, Electrical properties of electronic structures, interfaces, thin films and low-dimensional structures, Optical Properties, Spectroscopy of Matter

Academic Titles / Tasks

Research Assistant PhD, University of Illinois at Urbana-Champaign, The Grainger College of Engineering, Nuclear, Plasma and Radiological Engineering, 2020 - 2021

Courses

Mathematical Modeling in Chemical Engineering, Undergraduate, 2021 - 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Application of a Film Model to Mass Transfer and Chemical Reaction at a Plasma-Liquid Interface**
Peyres S. M., Wang J., Hollyfield D. W., Abuyazid N. H., Sankaran R. M., ÜNER N. B.
Journal of the Electrochemical Society, vol.171, no.11, 2024 (SCI-Expanded)
- II. **Charge decay in the spatial afterglow of plasmas and its impact on diffusion regimes**
Abuyazid N. H., ÜNER N. B., Peyres S. M., Mohan Sankaran R.
Nature Communications, vol.14, no.1, 2023 (SCI-Expanded)
- III. **Plasma Electrochemistry for Carbon-Carbon Bond Formation via Pinacol Coupling**
Wang J., ÜNER N. B., Dubowsky S. E., Confer M. P., Bhargava R., Sun Y., Zhou Y., Sankaran R. M., Moore J. S.
Journal of the American Chemical Society, vol.145, no.19, pp.10470-10474, 2023 (SCI-Expanded)
- IV. **Rate, Efficiency, and Mechanisms of Electrochemical Perfluorooctanoic Acid Degradation with Boron-Doped Diamond and Plasma Electrodes**
ÜNER N. B., Baldaguez Medina P., Dinari J. L., Su X., Sankaran R. M.
Langmuir : the ACS journal of surfaces and colloids, vol.38, no.29, pp.8975-8986, 2022 (SCI-Expanded)
- V. **Multiphase modeling of the DC plasma-water interface: application to hydrogen peroxide generation with experimental validation**
Keniley S., Uner N. B., Perez E., Sankaran R. M., Curreli D.
PLASMA SOURCES SCIENCE & TECHNOLOGY, vol.31, no.7, 2022 (SCI-Expanded)
- VI. **Superlocal chemical reaction equilibrium in low temperature plasma**
Uner N. B., Thimsen E.
AIChE JOURNAL, vol.66, no.6, 2020 (SCI-Expanded)
- VII. **Phase mixing in GaSb nanocrystals synthesized by nonequilibrium plasma aerotaxy**
Uner N. B., Thimsen E.
PLASMA PROCESSES AND POLYMERS, vol.17, no.5, 2020 (SCI-Expanded)
- VIII. **Nonequilibrium plasma aerotaxy of size controlled GaN nanocrystals**
Uner N. B., Thimsen E.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.53, no.9, 2020 (SCI-Expanded)
- IX. **Nonequilibrium Plasma Aerotaxy of InN Nanocrystals and Their Photonic Properties**
Uner N. B., Niedzwiedzki D. M., Thimsen E.
JOURNAL OF PHYSICAL CHEMISTRY C, vol.123, no.50, pp.30613-30622, 2019 (SCI-Expanded)
- X. **Accessing unconventional biofuels via reactions far from local equilibrium**
Gao Y., Uner N. B., Thimsen E., Foston M. B.
FUEL, vol.226, pp.472-478, 2018 (SCI-Expanded)
- XI. **Low temperature plasma as a means to transform nanoparticle atomic structure**
Uner N. B., Thimsen E.
PLASMA SOURCES SCIENCE & TECHNOLOGY, vol.27, no.7, 2018 (SCI-Expanded)
- XII. **In-Flight Size Focusing of Aerosols by a Low Temperature Plasma**
Uner N. B., Thimsen E.
JOURNAL OF PHYSICAL CHEMISTRY C, vol.121, no.23, pp.12936-12944, 2017 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

- I. **Analysis of a High-Pressure Reciprocating Compressor Piston's 2D Simulation Utilizing Computational Fluid Dynamics**
Turgut F., ŞİMŞEK A. B., ÜNER N. B., Erdogan B.
4th International Conference on Basic Sciences, Engineering and Technology, ICBASET 2024, Alanya, Turkey, 2 - 05

Metrics

Publication: 13

Citation (WoS): 60

Citation (Scopus): 61

H-Index (WoS): 4

H-Index (Scopus): 4