

## Dr. Öğr. Üyesi AHMET ALPEREN GÜNAY

### Kişisel Bilgiler

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### Uluslararası Araştırmacı ID'leri

ScholarID: yCWm994AAAAJ

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Publons / Web Of Science ResearcherID: AAZ-3867-2021

ScopusID: 57196353874

Yoksis Araştırmacı ID: 332298

### Eğitim Bilgileri

Bütünleşik Doktora, University of Illinois at Urbana-Champaign, Faculty of Engineering, Mechanical Science and Engineering, Amerika Birleşik Devletleri 2016 - 2019

Yüksek Lisans, University of Illinois at Urbana-Champaign, Faculty of Engineering, Mechanical Science and Engineering, Amerika Birleşik Devletleri 2014 - 2016

Lisans, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, Türkiye 2009 - 2014

### Yabancı Diller

İngilizce, C2 Ustalık

Almanca, C1 İleri

Türkçe, C2 Ustalık

Japonca, B1 Orta

### Yaptığı Tezler

Doktora, Droplet Evaporation Dynamics on Surfaces, University of Illinois at Urbana-Champaign, Faculty of Engineering, Mechanical Science and Engineering, 2019

Yüksek Lisans, MODELING, FABRICATION AND OPTIMIZATION OF OPTICALLY TRANSPARENT – THERMALLY INSULATING SILICA AEROGELS FOR SOLAR THERMAL APPLICATIONS, University of Illinois at Urbana-Champaign, Faculty of Engineering, Mechanical Science and Engineering, 2016

### Araştırma Alanları

Enerji, Diğer Yenilenebilir Enerji Sistemleri, Enerji depolama teknolojileri, Güneş Enerjisi, İleri Enerji Teknolojileri, Isı ve Madde Transferi, Isıl Sistemler, Termik makineler, Yarıiletken ve Süperiletken Malzemeler, Optik Özellikler, Fiziksel Özellikler, Isıl İşlem, Malzeme Karakterizasyonu, Nanomalzemeler, Termal Özellikler

### Akademik Unvanlar / Görevler

Dr. Öğr. Üyesi, Orta Doğu Teknik Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2021 - Devam Ediyor  
Araştırmacı, Tokyo University, FACULTY OF ENGINEERING, MECHANICAL ENGINEERING, 2019 - 2021  
Araştırma Görevlisi, University of Illinois at Urbana-Champaign, Faculty of Engineering, Mechanical Science and Engineering, 2014 - 2019

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Photonic design for color compatible radiative cooling accelerated by materials informatics**  
Guo J., Ju S., Lee Y., GÜNAY A. A., Shiomi J.  
International Journal of Heat and Mass Transfer, cilt.195, 2022 (SCI-Expanded)
- II. **Enabling Renewable Energy Technologies in Harsh Climates with Ultra-Efficient Electro-Thermal Desnowing, Defrosting, and Deicing**  
Li L., Khodakarami S., Yan X., Fazle Rabbi K., GÜNAY A. A., Stillwell A., Miljkovic N.  
Advanced Functional Materials, cilt.32, 2022 (SCI-Expanded)
- III. **Metal-organic framework coated porous structures for enhanced thermoelectric performance**  
Günay A. A., Harish S., Fuchi M., Kinefuchi I., Lee Y., Shiomi J.  
Energy Conversion and Management, cilt.255, 2022 (SCI-Expanded)
- IV. **ANALYSIS AND OPTIMIZATION OF ACTIVATED CARBON COATED HEAT SINKS**  
GÜNAY A. A.  
ISI BİLİMİ VE TEKNİĞİ DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, cilt.42, sa.1, ss.65-74, 2022 (SCI-Expanded)
- V. **Droplet evaporation dynamics on microstructured biphilic, hydrophobic, and smooth surfaces**  
Gunay A. A., Kim M., Yan X., Miljkovic N., Sett S.  
EXPERIMENTS IN FLUIDS, cilt.62, sa.7, 2021 (SCI-Expanded)
- VI. **Modular Heat Sinks for Enhanced Thermal Management of Electronics**  
Hoque M. J., Gunay A. A., Stillwell A., Gurumukhi Y., Pilawa-Podgurski R. C. N., Miljkovic N.  
JOURNAL OF ELECTRONIC PACKAGING, cilt.143, sa.2, 2021 (SCI-Expanded)
- VII. **Gas-Phase Temperature Mapping of Evaporating Microdroplets**  
Mousa M. H., Gunay A. A., Orejon D., Khodakarami S., Nawaz K., Miljkovic N.  
ACS APPLIED MATERIALS & INTERFACES, cilt.13, sa.13, ss.15925-15938, 2021 (SCI-Expanded)
- VIII. **Droplet Evaporation Dynamics of Low Surface Tension Fluids Using the Steady Method**  
Gunay A. A., Gnadat M., Sett S., Vahabi H., Kota A. K., Miljkovic N.  
LANGMUIR, cilt.36, sa.46, ss.13860-13871, 2020 (SCI-Expanded)
- IX. **Cloaking Dynamics on Lubricant-Infused Surfaces**  
Gunay A. A., Sett S., Ge Q., Zhang T., Miljkovic N.  
ADVANCED MATERIALS INTERFACES, cilt.7, sa.19, 2020 (SCI-Expanded)
- X. **Transient pulse condensation**  
Sett S., Sokalski P., Mehta M., Rabbi K. F., Gunay A. A., Miljkovic N.  
APPLIED PHYSICS LETTERS, cilt.117, sa.9, 2020 (SCI-Expanded)
- XI. **Condensation frosting on meter-scale superhydrophobic and superhydrophilic heat exchangers**  
Boyina K. S., Mahvi A. J., Chavan S., Park D., Kumar K., Lira M., Yu Y., Gunay A. A., Wang X., Miljkovic N.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, cilt.145, 2019 (SCI-Expanded)
- XII. **Optically Transparent Thermally Insulating Silica Aerogels for Solar Thermal Insulation**  
Gunay A. A., Kim H., Nagarajan N., Lopez M., Kantharaj R., Alsaati A., Marconnet A., Lenert A., Miljkovic N.  
ACS APPLIED MATERIALS & INTERFACES, cilt.10, sa.15, ss.12603-12611, 2018 (SCI-Expanded)
- XIII. **Steady Method for the Analysis of Evaporation Dynamics**  
Gunay A. A., Sett S., Oh J., Miljkovic N.  
LANGMUIR, cilt.33, sa.43, ss.12007-12015, 2017 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

### **I. Droplet evaporation on functional surfaces**

GÜNAY A. A., Gnadt M., Sett S., Oh J., Miljkovic N.

Proceedings of the 16th International Heat Transfer Conference, IHTC 2018, ss.1285-1291, 2018 (Scopus)

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

### **I. 金属有機構造体への水の吸着・脱離を利用した熱電デバイスの大気側の自然冷却メカニズムの調査**

Sugamoto Y., Kito S., Günay A. A., Harish S., Lee Y., Shiomi J.

Annual Meeting of the Thermoelectrics Society of Japan, TSJ2021, Tokyo, Japonya, 23 - 25 Ağustos 2021, ss.1-2

### **II. 상변화 열전달 현상의 향상을 위한 계면 현상 가시화**

Oh J., Günay A. A., Sett S.

Korean Society of Mechanical Engineers Spring and Autumn Conference, Seoul, Güney Kore, 19 Ağustos 2021, ss.50-51

### **III. Effect of Stress-Strain Profile on Bulk Thermal Conductivity**

Günay A. A., Shiomi J.

American Physical Society, APS March Meeting 2021, Colorado, Amerika Birleşik Devletleri, 15 Mart 2021

### **IV. Cloaking on Lubricant Infused Surfaces**

Günay A. A.

ICARSES2020, Tamil Nadu, Hindistan, 05 Aralık 2020

### **V. Metal-Organic Framework Coated Thermal Fins for Improved Thermal Efficiency of Thermoelectric Device**

Günay A. A., Fuchi M., Lee Y., Shiomi J.

Annual Meeting of the Thermoelectrics Society of Japan, TSJ2020, Kitakyushu, Japonya, 28 - 30 Eylül 2020

### **VI. Gas Phase Temperature Mapping of Evaporating Water Microdroplets**

Mousa M., GÜNAY A. A., Orejon D., Miljkovic N.

International Mechanical Engineering Congress & Exposition, IMECE2019, Salt Lake City, UT, Amerika Birleşik Devletleri, 08 Kasım 2019

### **VII. Design of Ultra-Lightweight, Compact Thermal Management System for a 6.6 kW Electric Charger with Extreme Power Density**

Foulkes T., Gurumukhi Y., Popovic G., GÜNAY A. A., Bosch S., Liao Z., Chou D., Fernandez K., Pilawa-Podgurski R., Miljkovic N.

International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems, InterPACK2019, Anaheim, CA, Amerika Birleşik Devletleri, 7 - 09 Ekim 2019

### **VIII. Modular Heat Sinks for Enhanced Thermal Management of Electronics**

Hoque M. J., GÜNAY A. A., Stillwell A., Gurumukhi Y., Pilawa-Podgurski R., Miljkovic N.

International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems, InterPACK2019, Anaheim, CA, Amerika Birleşik Devletleri, 7 - 09 Ekim 2019

### **IX. Droplet evaporation on functional surfaces**

Alperen Günay A. A., Gnadt M., Sett S., Oh J., Miljkovic N.

16th International Heat Transfer Conference, IHTC 2018, Beijing, Çin, 10 - 15 Ağustos 2018, cilt.2018-August, ss.1285-1291

### **X. A Spatially-Steady Method to Study Droplet Evaporation Dynamics**

GÜNAY A. A., Sett S., Miljkovic N.

15th International Conference on Nanochannels, Microchannels, and Minichannels, Cambridge, Kanada, 27 - 31 Ağustos 2017

### **XI. Aerogel Solar Thermal Absorbers**

GÜNAY A. A., Nagarajan N., Lopez M., Lenert A., Miljkovic N.

15th International Conference on Nanochannels, Microchannels, and Minichannels, Cambridge, Kanada, 27 Ağustos

2017

**XII. Aerogel Solar Thermal Absorbers**

GÜNAY A. A., Nagarajan N., Lopez M., Lenert A., Miljkovic N.

15th International Conference on Nanochannels, Microchannels, and Minichannels, Cambridge, Kanada, 27 Ağustos 2017

**XIII. Optimized Silica Aerogel Solar Thermal Absorbers**

GÜNAY A. A., Nagarajan N., Atten M., Sotelo J., Miljkovic N.

ASME 2016 Summer Heat Transfer Conference, HT2016, Washington, Kiribati, 10 - 14 Temmuz 2016

## **Bilimsel Kuruluşlardaki Üyelikler / Görevler**

American Physical Society, Üye, 2020 - Devam Ediyor , Amerika Birleşik Devletleri

Thermoelectric Society of Japan, Üye, 2020 - Devam Ediyor , Japonya

American Society of Mechanical Engineers, Üye, 2015 - Devam Ediyor , Amerika Birleşik Devletleri

## **Bilimsel Hakemlikler**

IEEE I THERM Conference, Bildiri (Tam Metin), Mayıs 2018

ACS APPLIED MATERIALS & INTERFACES, SCI Kapsamındaki Dergi, Mart 2018

ASME 2017 Summer Heat Transfer Conference, Bildiri (Tam Metin), Mart 2017

ASME 2016 Summer Heat Transfer Conference, Bildiri (Tam Metin), Mart 2016

## **Metrikler**

Yayın: 27

Atf (WoS): 148

Atf (Scopus): 150

H-İndeks (WoS): 6

H-İndeks (Scopus): 6

## **Kongre ve Sempozyum Katılımı Faaliyetleri**

American Physical Society, APS March Meeting 2021, Panelist, Colorado, Amerika Birleşik Devletleri, 2021

Annual Meeting of the Thermoelectrics Society of Japan, TSJ2020, Panelist, Kitakyushu, Japonya, 2020

International Mechanical Engineering Congress & Exposition, IMECE2019, Katılımcı, Utah, Amerika Birleşik Devletleri, 2019

International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems, InterPACK2019, Katılımcı, California, Amerika Birleşik Devletleri, 2019

International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems, InterPACK2019, Katılımcı, California, Amerika Birleşik Devletleri, 2019

International Heat Transfer Conference, IHTC16, Panelist, Beijing, Çin, 2018

15th International Conference on Nanochannels, Microchannels, and Minichannels, ICNMM2017, Panelist, Massachusetts, Amerika Birleşik Devletleri, 2017

15th International Conference on Nanochannels, Microchannels, and Minichannels, ICNMM2017, Panelist, Massachusetts, Amerika Birleşik Devletleri, 2017

ASME Summer Heat Transfer Conference, HT2016, Panelist, District Of Columbia, Amerika Birleşik Devletleri, 2016