

## Res. Asst. Ahmet Gültekin

### Personal Information

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### Biography

Dr. Ahmet Gültekin received his mechanical engineering bachelor's degree from Uludağ University in 2010, and then he received his MSc and Ph.D. degrees from ITU Energy Institute in 2014 and 2021, respectively. He joined Nuclear Engineering and Management Department, Tokyo University as a visiting researcher in 2019-2020. He was awarded a one year scholarship to carry on his doctoral study at Tokyo University by TUBITAK (The Scientific and Technological Research Council of Turkey). His research experience is focused on Ground Source Heat Pumps (GSHP), spray cooling and droplet dynamics, Particle Image Velocimetry (PIV), quantitative image analysis and Computational Fluid Dynamics (CFD). He has published several articles in prestigious journals and international conference papers in his field; these publications have been cited more than 130 times.

### Education Information

Doctorate, Istanbul Technical University, Enerji Enstitüsü, Turkey 2014 - 2021

Postgraduate, Istanbul Technical University, Enerji Enstitüsü, Turkey 2011 - 2014

Undergraduate, Bursa Uludağ University, Mühendislik Fakültesi, Makina Mühendisliği, Turkey 2005 - 2010

### Foreign Languages

English, C2 Mastery

German, A2 Elementary

Japanese, A1 Beginner

### Dissertations

Doctorate, Experimental and numerical investigation of single and multiple droplet interactions with high-temperature surfaces, Istanbul Technical University, Enerji Enstitüsü, 2021

Postgraduate, Experimental and computational investigation of the effect of distance between boreholes on performance in Ground Source Heat Pump Systems, Istanbul Technical University, Enerji Enstitüsü, 2014

### Research Areas

Mechanical Engineering, Energy, Fluid Mechanics, Renewable Energy Systems, Energy storage technologies, Thermodynamics, Heat and Mass Transfer, Heating, Refrigerating and Air Conditioning, Computational fluid dynamics, Thermal Systems, Engineering and Technology

## Academic Titles / Tasks

Research Assistant, Istanbul Technical University, Enerji Enstitüsü, Yenilenebilir Enerji , 2012 - 2021

Research Assistant, Tokyo University, Faculty of Engineering , Nuclear Engineering and Management, 2019 - 2020

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Simultaneous multiple droplet impact and their interactions on a heated surface**  
Gültekin A., Erkan N., Ozdemir E., Çolak Ü., Suzuki S.  
EXPERIMENTAL THERMAL AND FLUID SCIENCE, vol.120, 2021 (Journal Indexed in SCI)
- II. **PIV measurement inside single and double droplet interaction on a solid surface**  
Gültekin A., Erkan N., Çolak Ü., Suzuki S.  
EXPERIMENTS IN FLUIDS, vol.61, no.10, 2020 (Journal Indexed in SCI)
- III. **Effects of arrangement geometry and number of boreholes on thermal interaction coefficient of multi-borehole heat exchangers**  
Gültekin A., Aydın M., Sisman A.  
APPLIED ENERGY, vol.237, pp.163-170, 2019 (Journal Indexed in SCI)
- IV. **Thermal performance analysis of multiple borehole heat exchangers**  
Gültekin A., Aydın M., Sisman A.  
ENERGY CONVERSION AND MANAGEMENT, vol.122, pp.544-551, 2016 (Journal Indexed in SCI)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Interaction phenomena of simultaneous multiple droplet on a heated surface**  
GÜLTEKİN A., Erkan N., Özdemir E., ÇOLAK Ü.  
The 12th Joint Symposium on Nuclear Science and Technology, 1 - 04 December 2019
- II. **Numerical Investigation of a Single Droplet Impact onto Hot Surface by VOF Method at High Weber Numbers**  
ALLAF M., GÜLTEKİN A., ÇOLAK Ü.  
International Conference for Nuclear Energy in New Europe, Portoroz, Slovenia, 10 - 13 September 2018
- III. **Optimum waiting duration between Thermal Response Tests in borehole heat exchangers**  
AYDIN M., GÜLTEKİN A.  
14th International Conference on Energy Storage, 25 - 28 April 2018
- IV. **Modeling of Horizontal Ground Heat Pump for Greenhouse Heating**  
AYDIN M., GÜLTEKİN A.  
2017 COMSOL Conference, Rotterdam, Netherlands, 18 - 20 October 2017
- V. **The effects of test temperature and duration on the results of constant temperature thermal response test**  
aydın m., GÜLTEKİN A., ŞİŞMAN H. O. A.  
12nd IEA Heat Pump Conference, 15 - 18 May 2017
- VI. **An investigation on thermal interaction coefficient for multiple borehole heat exchangers**  
GÜLTEKİN A., aydın m., ŞİŞMAN H. O. A.  
12nd IEA Heat Pump Conference, 15 - 18 May 2017
- VII. **Thermal Performance Investigation of Borehole Heat Exchangers for a Commercial Building In Istanbul**  
GÜLTEKİN A.  
ENTECH 'xx16 / IV. International Energy Technologies Conference, İstanbul, Turkey, 15 - 16 December 2016
- VIII. **An Experimental Performance Comparison between Different Shallow Ground Heat Exchangers**  
AYDIN M., ŞİŞMAN H. O. A. , GÜLTEKİN A., DEHGHAN B.  
World Geothermal Congress, 19 - 25 April 2015
- IX. **Determination of Optimal Distance Between Boreholes**

GÜLTEKİN A., AYDIN M., ŞİŞMAN H. O. A.

Thirty-Ninth Workshop on Geothermal Reservoir Engineering, 24 - 26 February 2014, pp.1092-1100

- X. **Long Term Performance Prediction of a Borehole and Determination of Optimal Thermal Response Test Duration**  
AYDIN M., ŞİŞMAN H. O. A. , GÜLTEKİN A.  
THIRTY NINTH WORKSHOP GEOTHERMAL RESERVOIR ENGINEERING, 24 - 26 February 2014, pp.1072-1083
- XI. **Experimental measurement and long term predictions of a multi U tube borehole performance for ground source heat pumps**  
AYDIN M., ŞİŞMAN H. O. A. , GÜLTEKİN A., DİNÇER Ş., ERDOĞAN C.  
11th IEA Heat Pump Conference, 12 May - 16 February 2014
- XII. **An experimental investigation of the effects of some design and operational parameters on heat transfer rate per unit borehole length**  
GÜLTEKİN A., AYDIN M., ŞİŞMAN H. O. A. , DİNÇER S., ERDOĞAN C.  
11th IEA Heat Pump Conference, 12 May - 16 February 2014
- XIII. **Toprak Kaynaklı Isı Pompalarında Isıl Cevap Testi ve Kuyu Performansının Analitik Öngörüsü**  
AYDIN M., ŞİŞMAN H. O. A. , DİNÇER Ş., ERDOĞAN C., GÜLTEKİN A.  
TESKON, İzmir, Turkey, 17 April 2013

## Scientific Refereeing

ENERGY CONVERSION AND MANAGEMENT, Journal Indexed in SCI-E, June 2017

APPLIED THERMAL ENGINEERING, Journal Indexed in SCI-E, June 2017

## Scientific Research / Working Group Memberships

Yeni Enerji Teknolojileri Araştırma Grubu, Istanbul Technical University, Turkey,

<http://enerji.itu.edu.tr/arastirma/arastirma-gruplari/yeni-enerji-teknolojileri-arastirma-grubu>, 2012 - Continues

## Citations

Total Citations (WOS):62

h-index (WOS):3

## Scholarships

TUBITAK/2214-A , TUBITAK, 2019 - 2020

JASSO Student Exchange Support Program , Official Institutions of Foreign Countries, 2017 - 2017

Ministry of Education, Culture, Sports, Science and Technology, Japan (MEXT), Official Institutions of Foreign Countries, 2017 - 2017

BSUN Joint Master Degree Study Program on the Management of Renewable Energy Sources – ARGOS , European Commission, 2013 - 2013

BSUN Joint Master Degree Study Program on the Management of Renewable Energy Sources – ARGOS , European Commission, 2012 - 2012