

# Prof. RAŞİT AHISKA

## Personal Information

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## International Researcher IDs

ScholarID: XcVHxUgAAAAJ

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Yoksis Researcher ID: 1971

## Education Information

Doctorate, Bakü Devlet Üniversitesi, Fizik Fakültesi / Katıhal Fiziği Bölümü, Azerbaycan 1985 - 1990

Postgraduate, Azerbaycan Devlet Üniversitesi, Fizik Fakültesi / Katıhal Fiziği Bölümü, Azerbaycan 1979 - 1980

Undergraduate, Azerbaycan Devlet Üniversitesi, Fizik Fakültesi / Katıhal Fiziği Bölümü, Azerbaycan 1975 - 1980

## Foreign Languages

Russian, C1 Advanced

## Dissertations

Doctorate, Yarımagnetik yarıiletkenlerde Raman saçılma teorisi, Bakü Devlet Üniversitesi, Fizik Fakültesi / Katıhal Fiziği Bölümü, 1990

Postgraduate, Gpup teorisiyle katılarda iletkenlik tenzorlerin hesaplanması, Azerbaycan Devlet Üniversitesi, Fizik Fakültesi / Katıhal Fiziği Bölümü, 1980

## Research Areas

Equations of State, Phase Equilibria, and Phase Transitions

## Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Fizik, 2007 - Continues

## Courses

FİZİK 1, Undergraduate, 2017 - 2018, 2016 - 2017

ISI TRANSFER SİSTEMLERİ FİZİĞİ 2, Undergraduate, 2017 - 2018, 2016 - 2017

TERMOELEKTRİK FİZİĞİ 1, Undergraduate, 2017 - 2018, 2016 - 2017

ISI TRANSFER FİZİĞİ 2, Undergraduate, 2017 - 2018

ISI TRANSFER FİZİĞİ 1, Undergraduate, 2017 - 2018  
TERMOELEKTRİK MODÜL TEORİSİ VE DEVRELERİ, Postgraduate, 2017 - 2018, 2016 - 2017  
BULK VE NANO TERMOELEKTRİK MALZEMELER, Doctorate, 2017 - 2018  
TERMOELEKTRİK MODÜL TEORİSİ VE DEVRELERİ, Doctorate, 2017 - 2018  
BULK VE NANO TERMOELEKTRİK MALZEMELER, Postgraduate, 2017 - 2018, 2016 - 2017  
FİZİK 2, Undergraduate, 2017 - 2018, 2016 - 2017  
PATENT HAZIRLAMA TEKNİKLERİ, Undergraduate, 2017 - 2018, 2016 - 2017  
TERMOELEKTRİK FİZİĞİ 2, Undergraduate, 2017 - 2018, 2016 - 2017  
ISI TRANSFER SİSTEMLERİ FİZİĞİ 1, Undergraduate, 2017 - 2018, 2016 - 2017

## Advising Theses

AHISKA R., A data acquisition and test system for investigation of electrical, thermoelectric and heat parameters of thermoelectric generator, Doctorate, H.MAMUR(Student), 2013  
AHISKA R., Optimization of thermoelectric modules with the method of genetic algorithms, Doctorate, M.SALİMİ(Student), 2010  
AHISKA R., Bulanık mantık denetimli termoelektrik beyin soğutucusu, Doctorate, A.HAKAN(Student), 2009  
AHISKA R., Computer controlled thermoelectric performance analysis system, Doctorate, S.DİŞLİTAŞ(Student), 2009  
AHISKA R., Mikrodenetleyicili sıcaklık ve hız kontrollü termoelektrik yarıiletken üretim sistemi, Postgraduate, E.ÖKTEN(Student), 2007  
AHISKA R., Mikrodenetleyici kontrollü termohipoterm tıp cihazı tasarımı ve gerçekleştirilmesi, Doctorate, M.KAPIDERE(Student), 2005  
AHISKA R., Mikrodenetleyici kontrollü jeotermal termoelektrik jeneratör tasarımı ve uygulaması, Postgraduate, S.DİŞLİTAŞ(Student), 2002  
AHISKA R., Termoelektrik sistemleri analiz programı, Postgraduate, M.SALİMİ(Student), 2001  
AHISKA R., Veri tabanı arayüzü tasarımı ve veri erişim metodlarının incelenmesi ve uygulanması, Postgraduate, H.YAŞAR(Student), 2000

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

- I. **Smart thermoelectric waste heat generator: Design, simulation and cost analysis**  
Omer G., YAVUZ A. H., AHISKA R., Calisal K. E.  
SUSTAINABLE ENERGY TECHNOLOGIES AND ASSESSMENTS, vol.37, 2020 (SCI-Expanded)
- II. **Microcontroller-based test system for determining the P-N type and Seebeck coefficient of the thermoelectric semiconductors**  
Dislitas S., Omer G., Ahiska R.  
MEASUREMENT, pp.361-369, 2019 (SCI-Expanded)
- III. **Heat pipes thermoelectric solar collectors for energy applications**  
Omer G., YAVUZ A. H., AHISKA R.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.12, pp.8310-8313, 2017 (SCI-Expanded)
- IV. **Phase Content and Thermoelectric Properties of Optimized Thermoelectric Structures Based on the Ag-Pb-Sb-Te System**  
Horichok I., AHISKA R., Freik D., Nykyruy L., Mudry S., Matkivskiy O., Semko T.  
JOURNAL OF ELECTRONIC MATERIALS, vol.45, no.3, pp.1576-1583, 2016 (SCI-Expanded)
- V. **Development and application of a new power analysis system for testing of geothermal thermoelectric generators**  
AHISKA R., MAMUR H.  
INTERNATIONAL JOURNAL OF GREEN ENERGY, vol.13, no.7, pp.672-681, 2016 (SCI-Expanded)
- VI. **Determination of the parameters I-max, V-max and E-max of thermoelectric module using parabola**

**algorithm based on three discrete measurements**

DİŞLİTAŞ S., AHISKA R.

JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.31, no.4, pp.1063-1072, 2016 (SCI-Expanded)

- VII. **Application of a DC-DC boost converter with maximum power point tracking for low power thermoelectric generators**  
MAMUR H., AHISKA R.  
ENERGY CONVERSION AND MANAGEMENT, vol.97, pp.265-272, 2015 (SCI-Expanded)
- VIII. **Design and implementation of a new portable thermoelectric generator for low geothermal temperatures**  
AHISKA R., MAMUR H.  
IET RENEWABLE POWER GENERATION, vol.7, no.6, pp.700-706, 2013 (SCI-Expanded)
- IX. **A test system and supervisory control and data acquisition application with programmable logic controller for thermoelectric generators**  
AHISKA R., MAMUR H.  
ENERGY CONVERSION AND MANAGEMENT, vol.64, pp.15-22, 2012 (SCI-Expanded)
- X. **MODELLING AND EXPERIMENTAL STUDY OF THERMOELECTRIC MODULE AS GENERATOR**  
AHISKA R., MAMUR H., ULIŞ M.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.26, no.4, pp.889-896, 2011 (SCI-Expanded)
- XI. **A survey on application of quantitative methods on analysis of brain parameters changing with temperature**  
DEMİRHAN A., Kaymaz M., AHISKA R., GÜLER İ.  
Journal of Medical Systems, vol.34, no.6, pp.1059-1071, 2010 (SCI-Expanded)
- XII. **THE INFLUENCE OF THE DIFFERENT TEMPERATURE CONTROL SYSTEMS ON THE THERMOELECTRIC MEDICINE KIT'S PERFORMANCE**  
AHISKA R., FİDAN U., DİŞLİTAŞ S.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.23, no.2, pp.441-447, 2008 (SCI-Expanded)
- XIII. **A new microcontroller-based human brain hypothermia system**  
KAPİDERE M., AHISKA R., GÜLER İ.  
Journal of Medical Systems, vol.29, no.5, pp.501-512, 2005 (SCI-Expanded)
- XIV. **A new test method and system for the measurement of Z-parameter of standard peltier modules Standart Termoelektrik Modülün Z Parametresinin Ölçülmesi İçin Yeni Yöntem ve Yeni Sistem**  
Ahıska R., Cıylan B., Savaş Y., Güler İ.  
Journal of the Faculty of Engineering and Architecture of Gazi University, vol.19, no.4, pp.467-473, 2004 (SCI-Expanded)
- XV. **Design and testing of a microprocessor-controlled portable thermoelectric medical cooling kit**  
Güler N., Ahıska R.  
APPLIED THERMAL ENGINEERING, vol.22, no.11, pp.1271-1276, 2002 (SCI-Expanded)

## Articles Published in Other Journals

- I. **P-Tipi Bi<sub>2</sub>Te<sub>3</sub> Yarıiletkenlerin 291-373K Sıcaklık Aralığındaki Termoelektrik Karakterizasyonu**  
Ahıska R., Ömer G., Aydoğan A.  
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.12, no.2, pp.782-791, 2024 (Peer-Reviewed Journal)
- II. **Yeni Nesil Buz Makinesinin Termoelektrik Modülünün TEPASLA Araştırılması / Investigation of Thermoelectric Module of Next Generation Ice Machine with TEPAS**  
Ahıska R., Ömer G., Sayın B.

Gazi Üniversitesi Gazi University Fen Bilimleri Dergisi Journal of Science PART C: TASARIM VE TEKNOLOJİ, vol.11, no.4, pp.1270-1282, 2023 (Peer-Reviewed Journal)

- III. **The design of multi-functional probe for determining the P-N electrical conductivity type of thermoelectric semiconductors**  
DİŞLİTAŞ S., Yanmaz H., Omer G., AHISKA R.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSİTESİ MUHENDİSLİK BİLİMLERİ DERGİSİ, vol.25, no.2, pp.151-156, 2019 (ESCI)
- IV. **THE THERMOELECTRIC SOLAR PANELS**  
AHISKA R.  
Journal of Vasyl Stefanyk Precarpathian National University, vol.3, no.1, pp.9-14, 2016 (Peer-Reviewed Journal)
- V. **Standart termoelektrik modülün Z parametresinin ölçülmesi için yeni yöntem ve yeni sistem**  
AHISKA R., CİYLAN B., SAVAŞ Y., GÜLER İ.  
Journal Of The Faculty Of Engineering And Architecture Of Gazi University, vol.19, no.4, pp.467-473, 2004 (Scopus)
- VI. **Termoelektrik soğutucunun özelliklerinin araştırılması**  
AHISKA R., GÜLER İ., SAVAŞ Y.  
Politeknik Dergisi, vol.2, no.3, pp.89-94, 1999 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Termoelektrik Kriyo İğnetin Parametrelerinin Araştırılması**  
AHISKA R., ÖMER G., Bingöler N.  
5. ULUSLARASI ANTALYA BİLİMSEL ARAŞTIRMALAR VE YENİLİKÇİ ÇALIŞMALAR KONGRESİ, Ankara, Turkey, 26 July 2023
- II. **P-TİP BİZTE3 YARIİLETKENLERİN 291-373K SICAKLIK ARALIĞINDAKİ TERMOELEKTRİK PARAMETRELERİNİN ARAŞTIRILMASI**  
Ahıska R., Ömer G., Aydoğan A.  
5. ULUSLARASI ANTALYA BİLİMSEL ARAŞTIRMALAR VE YENİLİKÇİ ÇALIŞMALAR KONGRESİ, Ankara, Turkey, 26 - 28 July 2023
- III. **Termoelektrik Buz Makinesinin Parametrelerinin Araştırılması**  
AHISKA R., ÖMER G., Sayın B.  
5. ULUSLARASI ANTALYA BİLİMSEL ARAŞTIRMALAR VE YENİLİKÇİ ÇALIŞMALAR KONGRESİ, Ankara, Turkey, 26 July 2023
- IV. **TERMOELEKTRİK GÜVENLİK SİSTEMİ**  
Ahıska R.  
International Congress of Engineering and Natural Sciences, Ankara, Turkey, 7 - 09 May 2022, vol.1, no.1, pp.309-318
- V. **DESIGN OF THERMOELECTRIC SOLAR GENERATOR FOR PUMP**  
AHISKA R., YAVUZ A. H.  
5-th World Congress and Expo on Green Energy, Londrina, Brazil, 14 - 16 June 2018
- VI. **Load and No Load Tests of the Thermoelectric Brain Cooler Designed for Brain Hypothermia**  
YAVUZ A. H., AHISKA R.  
Proc. of The Fifth Intl. Conf. On Advances in Applied Science and Environmental Technology - ASET 2016, Bangkok, Thailand, 24 - 25 September 2016, vol.1
- VII. **Composite Thermoelectric Materials on the Base of PbTe with Ag and ZnO Nano inclusions**  
Nykyruy L., Freik D., AHISKA R., Matkivskiy O., Lishchynskiy I., Hryhoruk I.  
5th Polish Forum Smart Energy Conversion & Storage, 22 - 25 September 2015
- VIII. **Growth Processes Structure and Thermoelectric Properties in SnTe Based Vapor Phase Nanocondensates**  
AHISKA R., Freik D., Lishchynskyy I., Chavjak I.  
34th Annual International Conference on Thermoelectrics (ICT 2015) and 13th European Conference

onThermoelectrics (ECT 2015), 28 June - 02 July 2015

- IX. Doping Semiconductors on the Base of IV VI for Thermoelectric International Conference of Physics and Technology of Thin Films and Nanosystems**  
AHISKA R., Freik D., Chavjak I., Nykyruy u., Mazur M.  
International Conference on the Physics and Technology of Thin Films and Nanosystems ICPTTFN-XV, 11 - 16 May 2015
- X. Comparison Of Thermoelectric And Fotovoltaic Solar Panels**  
AHISKA R., Nykyruy L., AHISKA F.  
XVI International Forum on thermoelectricity, 18 - 22 May 2015
- XI. The influence of the surface on the thermoelectric properties of SnTe Bi thin films Science and Applications of Thin Films**  
AHISKA R., Nykyruy L., Chavjak I., Freik N.  
Science and Applications of Thin Films, Conference & Exhibition, 15 - 19 September 2014
- XII. Quantum size oscillations of thermoelectric characteristics in IV VI semiconductor nanostructures**  
AHISKA R., Nykyruy L., Freik D.  
Science and Applications of Thin Films, Conference & Exhibition, SATF 2014, 15 - 19 September 2014
- XIII. Processes of Structure Formation and Thermoelectric Properties of the Semiconductor Systems Pb Sn Sb Bi Te**  
Freik D., Nykyruy L., AHISKA R., Mezhylovska L.  
XII International Conference on Nanostructured Materials (NANO 2014, 13 - 18 July 2014)
- XIV. Thermoelectric Composites on the Base of PbTe with Nanoiclusions of Colloidal Ag**  
AHISKA R., Nykyruy, L., Freik D., Mezhylovska L., Horichok I., Khalavka Y., AHISKA K.  
International Conference on Thermoelectrics - ICT2014, 6 - 10 July 2014
- XV. Pb Sb Bi Te Thin Film Condensates for Thermoelectric Application International Conference on Thermoelectrics**  
Nykyruy L., Freik . D., Mezhylovska L., AHISKA R., Potyak V.  
International Conference on Thermoelectrics - ICT2014, 6 - 10 July 2014
- XVI. Thermoelectric Brain Cooler Helmet**  
AHISKA R., YAVUZ A. H.  
6th International Advanced Technologies Symposium (IATS'11), Elazığ, Turkey, 16 - 18 May 2011, vol.1, pp.120-123
- XVII. Termoelektrik modüller için mikrodnetleyici kontrollü test sistemi**  
CİYLAN B., SAVAŞ Y., AHISKA R.  
III. Uluslararası İleri Teknolojiler Sempozyumu, 5 - 06 May 2003

## Supported Projects

AHISKA R., Project Supported by Higher Education Institutions, Bilgisayar Kontrollü Termoelektrik Jeneratörün Üretimi İçin Elektronik Donanımın Ve Test Sisteminin Geliştirilmesi Ve Uygulaması, 2011 - 2014

AHISKA R., Project Supported by Higher Education Institutions, Termoelektrik Jeneratör, 2011 - 2014

AHISKA R., Industrial Thesis Project, Bilgisayar Kontrollü Termoelektrik Jeneratörünün Üretimi ve Uygulaması, 2011 - 2012

AHISKA R., Project Supported by Higher Education Institutions, Termoelektrik Yarı iletkenin Sıcaklık ve Hız Kontrollü Elde Etme Sistemi, 2006 - 2007

AHISKA R., Project Supported by Higher Education Institutions, İki Fazlı Termoelektrik CPU Soğutucusu, 2005 - 2006

AHISKA R., Project Supported by Higher Education Institutions, Sıcaklık Kontrollü Termoelektrik Minibar, 2004 - 2005

AHISKA R., Project Supported by Higher Education Institutions, Bilgisayar Kontrollü Jeotermal Termoelektrik Jeneratör, 2003 - 2004

AHISKA R., Project Supported by Higher Education Institutions, Mikrodnetleyici Sıcak Kontrollü Rat Tekmohipoterm Sistemi, 2002 - 2003

AHISKA R., Project Supported by Higher Education Institutions, Termohipoterm termoelektrik tıp cihazı, 2001 - 2002

AHISKA R., Project Supported by Higher Education Institutions, Termoelektrik tıp kiti, 2000 - 2001

## **Metrics**

Publication: 38

Citation (WoS): 240

Citation (Scopus): 317

H-Index (WoS): 9

H-Index (Scopus): 10

## **Non Academic Experience**

Gazi Üniversitesi Fen Fakültesi Fizik Bölümü

Gazi Üniv. Tek.Eğt. Fak

Azb. Akademi Fizik Ens.