

## Assoc. Prof. FATMA SARF

### Personal Information

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### International Researcher IDs

ORCID: 0000-0002-4445-4800

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### Education Information

Doctorate, Canakkale Onsekiz Mart University, Fen Bilimleri Enstitüsü, Fizik, Turkey 2009 - 2016

Postgraduate, Selcuk University, Institute Of Science, Fizik, Turkey 2007 - 2009

Undergraduate, Selcuk University, Faculty Of Education, Fizik Öğretmenliği, Turkey 2000 - 2005

### Foreign Languages

English, B2 Upper Intermediate

### Certificates, Courses and Trainings

Education Management and Planning, Biyofotonik ve Biyomems Çalıştayı, İstanbul Şehir Üniversitesi, 2014

Education Management and Planning, GRM-2014, İYTE, 2014

Education Management and Planning, Fizik Odaklı Araştırma Projesi Hazırlama Eğitimi, TÜBİTAK-Süleyman Demirel Üniversitesi, 2014

Education Management and Planning, Workshop on ESR Spectroscopy, ILTEK, Selçuk University, 2013

Education Management and Planning, Workshop on Applied Dosimetry and OSL/ESR Dating, Ankara University, Institute of Nuclear Sciences, 2013

Education Management and Planning, Conference on Raman and Luminescence Spectroscopy in the Earth Sciences (SHORT COURSE), University of Wien, Institute of Mineralogy and Crystallography, 2013

Education Management and Planning, JANA 2006 WORKSHOP, Dokuz Eylül University Science Faculty Physics Department Tınaztepe Buca/İZMİR, 2012

Education Management and Planning, Physics of Fundamental Effects in Condensed Matter Physics : Theory & Experiment, Institute of Theoretical and Applied Physics (ITAP), 2010

### Dissertations

Doctorate, Sensör Uygulamaları İçin Metal Oksit İnce Filmlere Metal ve/veya Karbon Nanotüp Modifikasyonu ile Nanokompozitlerin Eldesi, Canakkale Onsekiz Mart University, Fen Bilimleri Enstitüsü, Fizik, 2016

## Research Areas

Metallurgical and Materials Engineering, Material science and engineering, Composites, Material Characterization, Nanomaterials, Interdisciplinary Physics and Related Science and Technology Areas, Materials Science, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Surfaces, Interfaces, Thin Films and Nanosystems, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Optical Properties, Spectroscopy of Matter, Natural Sciences

## Academic Titles / Tasks

Associate Professor, Canakkale Onsekiz Mart University, Çan Meslek Yüksekokulu, Yönetim Ve Organizasyon, 2023 - Continues

Assistant Professor, Canakkale Onsekiz Mart University, Çan Meslek Yüksekokulu, Yönetim Ve Organizasyon, 2020 - 2023

Research Assistant PhD, Canakkale Onsekiz Mart University, Fen Fakültesi, Fizik, 2016 - 2020

Research Assistant, Canakkale Onsekiz Mart University, Fen Fakültesi, Fizik, 2009 - 2016

## Academic and Administrative Experience

Canakkale Onsekiz Mart University, Çan Myo, Yönetim Ve Organizasyon, 2020 - Continues

## Courses

Fuel Cell Technology, Postgraduate, 2022 - 2023

Enerji Storage Technologies, Postgraduate, 2022 - 2023

Energy Distribution Systems, Associate Degree, 2020 - 2021

Material Information, Associate Degree, 2020 - 2021

Energy Efficiency, Associate Degree, 2019 - 2020

Energy Information I, Associate Degree, 2020 - 2021

Biomaterials, Associate Degree, 2019 - 2020

Enerji Information II, Associate Degree, 2019 - 2020

Medical Informatics, Associate Degree, 2019 - 2020

Direct Current Circuit Analysis, Associate Degree, 2020 - 2021

Energy Storage, Associate Degree, 2020 - 2021

Measuring Instruments and Measurement Techniques, Associate Degree, 2020 - 2021

alternative and sustainable energy sources, Associate Degree, 2019 - 2020

Conventional Energy Sources and Products, Associate Degree, 2020 - 2021

Fizik I, Undergraduate, 2018 - 2019

## Advising Theses

Yakar E., Sarf F., W03 Fimlerin Mikroyapısal Kusur ve Optik Özelliklerinin İncelenmesi, Postgraduate, O.Emre(Student), 2022

## Jury Memberships

Doctoral Examination, Doctoral Examination, Balıkesir Üniversitesi, October, 2023

Post Graduate, Post Graduate, Balıkesir Üniversitesi, January, 2023

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

- I. **Surface Dynamics and Electrochemical Examination of Co<sub>3</sub>O<sub>4</sub> Films by Iron Doping (accepted)**  
Yakar E., Sarf F., Bayırlı M., Ilgaz A.  
SURFACE TOPOGRAPHY: METROLOGY AND PROPERTIES, vol.12, pp.35025-35038, 2024 (SCI-Expanded)
- II. **Varying electrical and dielectric properties of Ni:SnO<sub>2</sub> films by MWCNTs and GNPs coating**  
Sarf F., Karaduman I., Ajjaq A., Yakar E., Çağırtekin A. O., Acar S.  
Physica Scripta, vol.97, no.2, pp.25805-25815, 2022 (SCI-Expanded)
- III. **Impurity Defect Induced Ferromagnetism Investigation of SiO<sub>2</sub>-Supported NiO Particles**  
Sarf F.  
Journal Of The Mexican Chemical Society, vol.66, pp.34-41, 2022 (SCI-Expanded)
- IV. **Investigation of H<sub>2</sub>S gas sensing performance of Ni:WO<sub>3</sub> films at room temperature: nickel precursor effect**  
Karaduman Er I., Sarf F., Yakar E.  
JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, vol.33, pp.3397-3410, 2022 (SCI-Expanded)
- V. **Substrate critical effect on the structural and H<sub>2</sub> Gas sensing characteristics of solution-processed Zn<sub>0.075</sub>Cu<sub>0.025</sub>O films**  
SARF F., Er I. K., YAKAR E., ACAR S.  
MATERIALS RESEARCH EXPRESS, vol.8, no.12, 2021 (SCI-Expanded)
- VI. **Defect Emission Energy and Particle Size Effects in Fe:ZnO Nanospheres Used in Li-ion Batteries as Anode**  
Sarf F., Kızıl H.  
Journal Of Electronic Materials, vol.10, pp.111, 2021 (SCI-Expanded)
- VII. **Effect of Cd dopant on structural, optical and CO<sub>2</sub> gas sensing properties of ZnO thin film sensors fabricated by chemical bath deposition method**  
Altun B., Karaduman Er I., Çağırtekin A. O., Ajjaq A., Sarf F., Acar S.  
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, pp.687, 2021 (SCI-Expanded)
- VIII. **Influence of isovalent Cd doping concentration and temperature on electric and dielectric properties of ZnO films**  
Altun B., Ajjaq A., Çağırtekin A. O., Karaduman Er I., Sarf F., Acar S.  
CERAMICS INTERNATIONAL, pp.1-16, 2021 (SCI-Expanded)
- IX. **The role of rare-earth metal (Y, Ru and Cs)-doped ZnO thin films in NH<sub>3</sub> gas sensing performances at room temperature**  
SARF F., Er I. K., YAKAR E., ACAR S.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.31, no.13, pp.10084-10095, 2020 (SCI-Expanded)
- X. **Enhancing the Co gas sensing properties of ZnO thin films with the decoration of MWCNTs**  
Ozutok F., Er I. K., Acar S., Demiri S.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.30, no.1, pp.259-265, 2019 (SCI-Expanded)
- XI. **Influence of Different Aluminum Sources on the NH<sub>3</sub> Gas-Sensing Properties of ZnO Thin Films**  
Ozutok F., Karaduman I., Demiri S., ACAR S.  
JOURNAL OF ELECTRONIC MATERIALS, vol.47, no.5, pp.2648-2657, 2018 (SCI-Expanded)
- XII. **NANOFLOWER-LIKE ZnO FILMS PREPARED BY MODIFIED CHEMICAL BATH DEPOSITION: SYNTHESIS, OPTICAL PROPERTIES AND NO<sub>2</sub> GAS SENSING MECHANISM**  
Ozutok F., Demiri S.  
DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES, vol.12, no.2, pp.309-317, 2017 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Optical and Electrical Characterization of Crystallized M:WO<sub>3</sub> (Cu, Fe, Ni) Films in Acidic Medium**

Yakar E., Karaduman Er I., Sarf F.

Journal of advanced research in natural and applied sciences (Online), vol.11, no.111, pp.1-10, 2024 (Peer-Reviewed Journal)

**II. Comparison of NiM<sub>2</sub>O<sub>4</sub> (M:Fe,Mn) nanofibers as anode for li-ion batteries**

Sarf F., Eroğlu Ö., Kızıl H.

MATERIALS TODAY : PROCEEDINGS, vol.93, no.1, pp.75-78, 2023 (Peer-Reviewed Journal)

**III. Tuning Optical and Electrical Properties of Ultra-Fast Prepared Nanoflower Mg:ZnO Films by MWCNTs Coating**

Karaduman Er I., Sarf F., Yakar E.

Bilge International Journal of Science and Technology Research, vol.6, no.2, pp.83-90, 2022 (Peer-Reviewed Journal)

**IV. Investigation of Potassium Doping Effect on the Structural Properties of Ag:ZnO Films**

Sarf F., Yakar E.

Afyon Kocatepe Üniversitesi Fen ve Mühendislik Bilimleri Dergisi, vol.22, no.1, pp.214-221, 2022 (Peer-Reviewed Journal)

**V. INFLUENCE OF SULFUR CONCENTRATIONS ON THE OPTICAL PROPERTIES OF ZnS FILMS ONTO ZnO SEED LAYER SYNTHESIZED BY CHEMICAL BATH DEPOSITION**

ÖZÜTOK F., YAKAR E.

zhurnal prikladnoi spektroskopii, vol.85, no.3, pp.1-6, 2018 (Peer-Reviewed Journal)

## **Books & Book Chapters**

**I. Thin Films - Growth, Characterization and Electrochemical Applications**

Sarf F. (Editor), Yakar E. (Editor), Karaduman Er I. (Editor)

IntechOpen, London, 2024

**II. Metal Oxide Gas Sensors by Nanostructures**

Sarf F.

in: Gas Sensors, Dr. Sher Bahadar Khan, Dr. Abdullah M. Asiri and Dr. Kalsoom Akhtar, Editor, Intech Open

Horizons Publishing Company, London, pp.1-18, 2020

## **Refereed Congress / Symposium Publications in Proceedings**

**I. The Sulfuric Acid Etching Effect of Fly Ash/SiO<sub>2</sub> as Anode for Li-ion Batteries**

Yilmaz N., Sarf F., Biçer E., Yakar E.

6 th International Conference on Nanomaterials Science and Mechanical Engineering, Aveiro, Portugal, 9 - 12 July 2024, pp.82-83

**II. SILAR DEPOSITED Sm: ZnO THIN FILM FOR NH<sub>3</sub> GAS SENSORS AT ROOM TEMPERATURE**

Tekin S., Sarf F., Karaduman Er I., Acar S.

12th International Scientific Research and Innovation Congress , Almati, Kazakhstan, 3 - 04 March 2024, pp.111-1111

**III. WETTING BEHAVIOR OF TiO<sub>2</sub> COATING ON MWCNTs DECORATED ITO SURFACES**

YAKAR E., SARF F.

12th INTERNATIONAL CONGRESS ON ENGINEERING, ARCHITECTURE AND DESIGN, İstanbul, Turkey, 23 - 25 December 2023, pp.447-456

**IV. AgO and K:AgO Nanoparticles Obtained By CO-Precipitation Process From Chemical Wastes**

Sarf F.

9th INTERNATIONAL MARMARA SCIENCES CONGRESS, Kocaeli, Turkey, 9 - 10 December 2022, pp.295-297

**V. A Correlation Between Oxygen Vacancies and Elemental Analysis in Single and Binary Transition Metal Oxide Structures**

Sarf F., Yakar E.

Advances in Functional Materials Conference AAAFM-UCLA August,18-20, 2021, California, United States Of America, 18 - 20 August 2021

- VI. **INVESTIGATION OF GAS DETECTION CHARACTERISTICS OF Cd ADDITIVE ZnO SAMPLES**  
Altun B., Ajjaq A., Çağırtekin A. O., Karaduman Er I., Sarf F., Acar S.  
INTERNATIONAL "BAŞKENT" CONGRESS ON PHYSICAL, SOCIAL AND HEALTH SCIENCES, Ankara, Turkey, 16 July 2021, pp.111
- VII. **Optical Properties of Precipitated TiO<sub>2</sub> /ZnO Nanocomposites**  
Sarf F.  
5. Uluslararası Uygulamalı Bilimler Kongresi, Diyarbakır, Turkey, 26 - 27 December 2020, pp.149-153
- VIII. **OPTICAL PROPERTIES of TiO<sub>2</sub>/SnO<sub>2</sub> NANOCOMPOSITES DEPENDING on [Ti/Sn] MOLAR RATIO**  
Sarf F.  
5. Uluslararası Marmara Fen Bilimleri Kongresi, Kocaeli, Turkey, 4 - 05 December 2020, pp.565-569
- IX. **CO-PRECIPIATION AND CHARACTERIZATION OF Zn DOPED CDO NANOPARTICLES**  
YAKAR E., ÖZÜTOK F.  
VI. INTERNATIONAL CONGRESS ON MATHEMATICS, ENGINEERING NATURAL HEALTH SCIENCES, Adana, Turkey, 8 - 10 March 2019, pp.368-377
- X. **Electrochromic NiO Thin Films Prepared by Spin Coating**  
Ozutok F., Demiri S., Ozbek E.  
32nd International Physics Congress of Turkish-Physical-Society (TPS), Bodrum, Turkey, 6 - 09 September 2016, vol.1815
- XI. **Growth, Electrical, and Optical Study of ZnS:Mn Thin Films**  
SARF F., Ertürk K., BİLGİN V.  
APMAS, Antalya, Turkey, 12 - 15 May 2011, vol.121, no.1, pp.221-223
- XII. **Study of Ultrasonically Sprayed ZnO Films: Thermal Annealing Effect**  
SARF F., DEMİRSELÇUK B., Sarıca E., BİLGİN V.  
APMAS, Antalya, Turkey, 12 - 15 May 2011, vol.121, no.1, pp.53-55

## Supported Projects

Sarf F., Acar S., Karaduman Er I., Yakar E., Project Supported by Higher Education Institutions, Investigation of the Effect of Frequency Measurement Temperature and Substrate on the Dielectric Properties of MAPbI<sub>3</sub> Thin Films, 2024 - 2025

Sarf F., Yılmaz N., Project Supported by Higher Education Institutions, Kömür Uçucu Kül Türevi Nanokompozitlerin Sürdürülebilir Li-iyon Pili Anotları Olarak İncelenmesi, 2024 - 2025

Sarf F., Yakar E., Project Supported by Higher Education Institutions, The Effect of Annealing Process on Hall Effect Measurements of Fe<sub>3</sub>O<sub>4</sub> Thin Films, 2023 - 2024

Sarf F., Project Supported by Higher Education Institutions, NiM<sub>2</sub>O<sub>4</sub> (M:Mn,Co) Gözenekli Nanofiberlerinin Anot Malzemesi Olarak Li-iyon Pillerinde İncelenmesi, 2021 - 2022

YAKAR E., SARF F., Project Supported by Higher Education Institutions, Li-İyon Pilleri için NiFe<sub>2</sub>O<sub>4</sub> Gözenekli Nanofiberlerinin Yüksek Kapasiteli Anot Malzemesi Olarak Sentezlenmesi ve Karakterizasyonu, 2019 - 2022

SARF F., KIZIL H., Project Supported by Higher Education Institutions, Lityum İyon Pilleri için ÇDKNT/Fe-ZnO Nanokompozit Anot Malzemesi Üretimi ve Karakterizasyonu, 2018 - 2020

YAKAR E., ÖZÜTOK F., Project Supported by Higher Education Institutions, Mikroyapıda ZnFe<sub>2</sub>O<sub>4</sub> Filmlerinin Kompleks Etmene Bağlı Olarak Değişen Optiksel ve Elektriksel Özelliklerinin İncelenmesi, 2017 - 2018

SARF F., Project Supported by Higher Education Institutions, Zn(O,OH,S) İnce Filmlerinin Elektriksel Özelliklerinin Optimize Edilerek Güneş Gözellerinde Tampon Tabaka Olarak Kullanımının Araştırılması, 2017 - 2017

SARF F., Project Supported by Higher Education Institutions, Kimyasal Banyolama Tekniği ile Üretilen Zn(O,S) İnce Filmlerinin Güneş Gözellerinde Tampon Tabaka Olarak Kullanımının İncelenmesi, 2016 - 2017

DEMİRİ S., ÖZÜTOK F., Project Supported by Higher Education Institutions, Sensör Uygulamaları için Metal Oksit İnce Filmlere Metal veya Karbon Nanotüp Modifikasyonu ile Nanokompozitlerin Eldesi, 2015 - 2016

BİLGİN V., SARICA E., ÖZÜTOK F., DEMİRSELÇUK B., Project Supported by Higher Education Institutions, Fotovoltaik uygulamalar için ITO ve n-ZnO ince filmlerin üretimi ve tavlama işlemi ile karakteristiklerinin iyileştirilmesi, 2010 - 2012

## Activities in Scientific Journals

journal of modern nanotechnology, Scientific Committee Membership, 2021 - Continues

## Scientific Refereeing

JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, Journal Indexed in ESCI, September 2024

Cyclodextrins for Chemosensing, Scientific / Professional Book Published by Renowned Publishing Houses, September 2024

Project Supported by Higher Education Institutions, BAP Research Project, Sivas Science And Technology University, Turkey, July 2024

Journal of the Turkish Chemical Society, Section A: Chemistry, National Scientific Refreed Journal, April 2024

Project Supported by Higher Education Institutions, BAP Research Project, Balıkesir University, Turkey, April 2024

CHEMICAL PAPERS, Journal Indexed in SCI-E, February 2024

Materials Letters: X, Journal Indexed in SCI-E, November 2023

CHEMICAL PAPERS, Journal Indexed in SCI-E, August 2023

MATERIALS LETTERS, Journal Indexed in SCI-E, August 2023

MATERIALS LETTERS, Journal Indexed in SCI-E, July 2023

CHEMICAL PAPERS, Journal Indexed in SCI-E, June 2023

MATERIALS LETTERS, Journal Indexed in SCI-E, April 2023

Materials Letters: X, Other Indexed Journal, March 2023

Materials Letters: X, Other Indexed Journal, February 2023

MATERIALS LETTERS, SCI Journal, December 2022

Journal of Modern Industry and Manufacturing, Other journals, November 2022

Bilecik Şeyh Edebali Üniversitesi Fen Bilimleri Dergisi, National Scientific Refreed Journal, November 2022

MATERIALS LETTERS, SCI Journal, August 2022

Advancement in Science and Technology Research, Journal Indexed in ESCI, August 2022

MATERIALS LETTERS, SCI Journal, June 2022

Material Science Research India, Other Indexed Journal, April 2022

Asian Research Journal of Current Science, Other journals, March 2022

MATERIALS LETTERS, SCI Journal, March 2022

Journal of Applied Chemical Science International , Other Indexed Journal, March 2022

CHEMICAL PAPERS, SCI Journal, February 2022

EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, Journal Indexed in SCI-E, December 2021

CHEMICAL PAPERS, SCI Journal, October 2021

CHEMICAL PAPERS, SCI Journal, September 2021

CHEMICAL PAPERS, SCI Journal, September 2021

Journal of Pharmaceutical Research International, Journal Indexed in ESCI, September 2021

Material Science Research India, Other Indexed Journal, August 2021

CHEMICAL PAPERS, SCI Journal, August 2021

Journal of Pharmaceutical Research International, Journal Indexed in ESCI, July 2021

Asian Journal of Applied Chemistry Research, Other Indexed Journal, June 2021

APPLIED COMPOSITE MATERIALS, SCI Journal, April 2021

CHEMICAL PAPERS, SCI Journal, February 2021

Acta Materialia Turcica, Other Journals, February 2021

CHEMICAL PAPERS, SCI Journal, November 2020

JOURNAL OF COMPOSITE MATERIALS, SCI Journal, November 2020  
Chemical Papers, SCI Journal, July 2020  
Politeknik Dergisi, National Scientific Refreed Journal, May 2020  
Project Supported by Higher Education Institutions, May 2020  
Journal of Materials Science and Metallurgy , Other journals, September 2019  
Material Science Research India, Other journals, August 2019  
Material Science Research India, Other journals, July 2019  
Material Science Research India, Other Indexed Journal, April 2019  
Material Science Research India, Other Indexed Journal, March 2019  
Sensors & Actuators: B. Chemical, SCI Journal, November 2018

## **Tasks In Event Organizations**

Sarf F., 9th International Conference on Mechanical Structures and Smart Materials (ICMSSM2024), Scientific Congress, China, Haziran 2024  
Sarf F., 3rd Workshop on Mat.Sci. Modelling Eng. and App. in Vibration Engineering, Workshop Organization, Turkey, Nisan 2024  
Sarf F., 10.th international vocational school symposium, Scientific Congress, Eskişehir, Turkey, Ekim 2022

## **Metrics**

Publication: 50  
Citation (WoS): 65  
Citation (Scopus): 75  
H-Index (WoS): 6  
H-Index (Scopus): 5

## **Congress and Symposium Activities**

6th International Conference on Nanomaterials Science and Mechanical Engineering, Attendee, Aveiro, Portugal, 2024  
Global Research on Multidisciplinary Sciences, Session Moderator, Ankara, Turkey, 2023  
9th INTERNATIONAL MARMARA SCIENCES CONGRESS, Session Moderator, Kocaeli, Turkey, 2022  
AAF2021@UCLA, Invited Speaker, California, United States Of America, 2021

## **Scholarships**

MEB-CIMO İikili İşbirliđi Doktora Düzeyinde Araştırma Bursu, Official Institutions of Foreign Countries, 2015 - 2016

## **Awards**

SARF F., Genç Girişimci Yarışması, Celal Bayar Üniversitesi, May 2014

## **Non Academic Experience**

Aalto Üniversitesi