

## Assoc. Prof. HALİL İBRAHİM AKYILDIZ

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: A-7660-2018

ScopusID: 55453036900

Yoksis Researcher ID: 257121

### Education Information

Doctorate, North Carolina State University, Material Science And Engineering, United States Of America 2011 - 2015

Doctorate, North Carolina State University, Fiber Ve Polimer Bilimi, United States Of America 2011 - 2015

Postgraduate, North Carolina State University {North Carolina}, Tekstil Mühendisliği, United States Of America 2009 - 2011

Undergraduate, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, Tekstil Mühendisliği Bölümü, Turkey 2003 - 2007

### Dissertations

Doctorate, Formation of organic-inorganic hybrid materials by sequential vapor infiltration, North Carolina State University, College of Textiles / College of Engineering, Department of Textile Engineering Chemistry and Science / Materials Science and Engineering, 2015

Postgraduate, Effect of styrene sulfonic acid on solubility of poly (acrylic acid-co-styrene-co-styrene sulfonic acid), North Carolina State University, College of Textiles, Department of Textile Engineering Chemistry and Science, 2011

### Research Areas

Textile Materials, Polymeric Materials, Plating, Nanomaterials

### Academic Titles / Tasks

Associate Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, TEKSTİL MÜHENDİSLİĞİ, 2023 - Continues

Assistant Professor, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, TEKSTİL MÜHENDİSLİĞİ, 2017 - 2023

Research Assistant, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, TEKSTİL MÜHENDİSLİĞİ, 2016 - 2017

Expert, North Carolina State University, College Of Textiles, Textile Engineering Chemistry And Science, 2015 - 2016

Research Assistant, North Carolina State University, College Of Textiles, Textile Engineering Chemistry And Science, 2009 - 2015

## Academic and Administrative Experience

Deputy Head of Department, Bursa Uludağ University, MÜHENDİSLİK FAKÜLTESİ, TEKSTİL MÜHENDİSLİĞİ, 2019 - 2022  
Deputy Director of the Center, Bursa Uludağ University, U.Ü.Malzeme Bilimleri Uygulama ve Araştırma Merkezi (MUAM), 2018 - 2019

## Courses

Nanomalzeme Uygulamaları ve Karakterizasyonu, Doctorate, 2023 - 2024  
INTRODUCTION TO MATERIALS SCIENCE, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
Malzeme Biliminde İleri Kavramlar, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
Polimer Fiziği, Doctorate, 2023 - 2024, 2022 - 2023, 2019 - 2020, 2018 - 2019  
Malzemelerin Yüze ve Arayüzeyleri, Doctorate, 2023 - 2024  
POLİMER KİMYASI, Postgraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019  
LİF OLUŞTURAN POLİMERLERİN YAPI VE ÖZELLİKLERİ, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018  
Advanced Materials and Textile Applications, Undergraduate, 2021 - 2022  
Thin Film Deposition Technologies, Doctorate, 2021 - 2022, 2019 - 2020  
AKILLI TEKSTİLLER, Undergraduate, 2019 - 2020, 2018 - 2019  
Technical English II, Undergraduate, 2018 - 2019  
Basic Physics I, Undergraduate, 2018 - 2019, 2017 - 2018  
TECHNICAL ENGLISH I, Undergraduate, 2018 - 2019  
Basic Physics II, Undergraduate, 2016 - 2017

## Advising Theses

Akyıldız H. İ., Investigation Of The Thermal And Electrical Conductivities By Coating Metal Nanoparticles On Fabric Materials With Photodeposition Method, Postgraduate, B.SÖZEN(Student), 2024  
Akyıldız H. İ., PRODUCTION AND CHARACTERIZATION OF FLEXIBLE AEROGEL STRUCTURES PROVIDING HIGH HEAT INSULATION, Doctorate, A.TAV(Student), 2024  
Akyıldız H. İ., EFFECT OF WETTABILITY AND ELECTRONIC PROPERTIES ON PHOTOCATALYTIC PERFORMANCE OF ZNO ATOMIC LAYER DEPOSITION FILMS FORMED ON FABRIC STRUCTURES, Postgraduate, A.BÜŞRA(Student), 2023  
Akyıldız H. İ., Atomik katman biriktirme (ALD) ile cam kumaş yüzeyinde oluşturulan Al katkılı metal oksit ince filmlerin fotokatalitik aktivitesi, Postgraduate, S.ÖZKAN(Student), 2022  
Akyıldız H. İ., Antibakteriyel uygulamalar için pamuk kumaşlarda atomik katman biriktirme ile ag nanoparçacıkların fotodepozisyonu, Postgraduate, B.YILMAZ(Student), 2022  
Akyıldız H. İ., Moleküler katman biriktirme (MLD) yöntemiyle organik - inorganik hibrit alukon ince filmlerin oluşumu, Postgraduate, N.NUR(Student), 2022  
Akyıldız H. İ., Metal oksit ald filmlerin fotokatalitik aktivitelerinin incelenmesi, Postgraduate, S.ISLAM(Student), 2021  
Akyıldız H. İ., Investigation of antibacterial activity of ALD coated polyamide fabrics, Postgraduate, S.DİLER(Student), 2021  
Akyıldız H. İ., Production of self cleaning fabrics via photocatalytic effect, Postgraduate, Z.BATUR(Student), 2019

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

1. **Effect of optical and electronic structure on the photocatalytic activity of Al doped ZnO ALD thin films on glass fibers**

Gulec S., Arat A. B., Islam S., AKYILDIZ H. İ.

Journal of Photochemistry and Photobiology A: Chemistry, vol.457, 2024 (SCI-Expanded)

- II. **A mechanistic approach to determine the relationship between film structure, electronic properties, and photocatalytic activity of ALD ZnO thin films on glass fibers**  
Arat A. B., Akyıldız H. İ.  
JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, vol.35, pp.1-13, 2024 (SCI-Expanded)
- III. **A machine learning approach for the estimation of photocatalytic activity of ALD ZnO thin films on fabric substrates**  
AKYILDIZ H. İ., YİĞİT E., Arat A. B., Islam S.  
Journal of Photochemistry and Photobiology A: Chemistry, vol.448, 2024 (SCI-Expanded)
- IV. **Formation and thermo-physical properties of aerogel ceramic blanket composites synthesized via scalable atmospheric pressure process with methyltrimethoxysilane precursor**  
Tav A., Oz Y., AKYILDIZ H. İ.  
JOURNAL OF POROUS MATERIALS, vol.31, no.1, pp.317-334, 2024 (SCI-Expanded)
- V. **Antibacterial performance of the PVDF membranes doped with Ag photodeposited TiO<sub>2</sub> particles**  
Batitute V., Diler Inan S., Sozen B., Saltik Can S., AKYILDIZ H. İ.  
JOURNAL OF POLYMER RESEARCH, vol.31, no.2, 2024 (SCI-Expanded)
- VI. **Antibacterial Activity of Photodeposited Ag Nanoparticles on Cotton Fibers Enabled by Atomic Layer Deposition**  
Akyıldız H. İ., Yilmaz B. A., Diler S.  
FIBERS AND POLYMERS, vol.23, no.10, pp.2769-2779, 2022 (SCI-Expanded)
- VII. **Atomic layer deposition of TiO<sub>2</sub> thin films on glass fibers for enhanced photocatalytic activity**  
Islam S., Akyıldız H. İ.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.33, no.22, pp.18002-18013, 2022 (SCI-Expanded)
- VIII. **Immobilization of ZnO thin films onto fibrous glass substrates via atomic layer deposition and investigation of photocatalytic activity**  
Islam S., AKYILDIZ H. İ.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.32, no.22, pp.27027-27043, 2021 (SCI-Expanded)
- IX. **Evaluation of TiO<sub>2</sub> and ZnO atomic layer deposition coated polyamide 66 fabrics for photocatalytic activity and antibacterial applications**  
AKYILDIZ H. İ., Diler S., Islam S.  
JOURNAL OF VACUUM SCIENCE & TECHNOLOGY A, vol.39, no.2, 2021 (SCI-Expanded)
- X. **Modifying the morphology and properties of aligned CNT foams through secondary CNT growth**  
Faraji S., Stano K., Akyıldız H. İ., Yildiz O., Jur J. S., Bradford P. D.  
NANOTECHNOLOGY, vol.29, no.29, 2018 (SCI-Expanded)
- XI. **Strong and resilient alumina nanotube and CNT/alumina hybrid foams with tuneable elastic properties**  
Stano K. L., Faraji S., Yildiz O., Akyıldız H. İ., Bradford P. D., Jur J. S.  
RSC ADVANCES, vol.7, no.45, pp.27923-27931, 2017 (SCI-Expanded)
- XII. **Photoluminescence Mechanism and Photocatalytic Activity of Organic-Inorganic Hybrid Materials Formed by Sequential Vapor Infiltration**  
Akyıldız H. İ., Stano K. L., Roberts A. T., Everitt H. O., Jur J. S.  
LANGMUIR, vol.32, no.17, pp.4289-4296, 2016 (SCI-Expanded)
- XIII. **Ultralight Interconnected Metal Oxide Nanotube Networks**  
Stano K. L., Faraji S., Hodges R., Yildiz O., Wells B., Akyıldız H. İ., Zhao J., Jur J., Bradford P. D.  
SMALL, vol.12, no.18, pp.2432-2438, 2016 (SCI-Expanded)
- XIV. **Depth Profiling Trimethylaluminum-Modified PET Fibers by Nanoscale Infrared Spectroscopy**  
Marcott C., Lo M., Dillon E., AKYILDIZ H. İ., Jur J. S.  
AMERICAN LABORATORY, vol.47, no.2, pp.12-14, 2015 (SCI-Expanded)

- XV. **Organometallic exposure dependence on organic-inorganic hybrid material formation in polyethylene terephthalate and polyamide 6 polymer fibers**  
Akyıldız H. İ., Jur J. S.  
JOURNAL OF VACUUM SCIENCE & TECHNOLOGY A, vol.33, no.2, 2015 (SCI-Expanded)
- XVI. **Atmospheric pressure synthesis of photoluminescent hybrid materials by sequential organometallic vapor infiltration into polyethylene terephthalate fibers**  
Akyıldız H. İ., Mousa M. B. M., Jur J. S.  
JOURNAL OF APPLIED PHYSICS, vol.117, no.4, 2015 (SCI-Expanded)
- XVII. **Formation of novel photoluminescent hybrid materials by sequential vapor infiltration into polyethylene terephthalate fibers**  
Akyıldız H. İ., Lo M., Dillon E., Roberts A. T., Everitt H. O., Jur J. S.  
JOURNAL OF MATERIALS RESEARCH, vol.29, no.23, pp.2817-2826, 2014 (SCI-Expanded)
- XVIII. **Improving water solubility of poly(acrylic acid-co-styrene) copolymers by adding styrene sulfonic acid as a termonomer**  
Akyıldız H. İ., Michielsen S.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.129, no.4, pp.2208-2215, 2013 (SCI-Expanded)
- XIX. **Influence of Subsurface Hybrid Material Growth on the Mechanical Properties of Atomic Layer Deposited Thin Films on Polymers**  
Sun Y., Padbury R. P., Akyıldız H. İ., Goertz M. P., Palmer J. A., Jur J. S.  
CHEMICAL VAPOR DEPOSITION, vol.19, pp.134-141, 2013 (SCI-Expanded)
- XX. **Temperature and Exposure Dependence of Hybrid Organic-Inorganic Layer Formation by Sequential Vapor Infiltration into Polymer Fibers**  
Akyıldız H. İ., Padbury R. P., Parsons G. N., Jur J. S.  
LANGMUIR, vol.28, no.44, pp.15697-15704, 2012 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Thermal and Mechanical Properties of Sol-Gel Silica Coated Fabrics**  
Tav A., Öz Y., Akyıldız H. İ.  
Avrupa Bilim ve Teknoloji Dergisi, no.31, pp.309-319, 2021 (Peer-Reviewed Journal)
- II. **Effect of the TiO<sub>2</sub> Concentration on the Photocatalytic Self-Cleaning Properties of Polyethylene Terephthalate Fibers**  
Batur Z., AKYILDIZ H. İ.  
JOURNAL OF POLYTECHNIC-POLITEKNIK DERGISI, vol.24, no.1, pp.121-129, 2021 (ESCI)
- III. **Poliyeten Teraftalat (PET) Liflerde Katkılanan TiO<sub>2</sub> Konsantrasyonunun Fotokatalitik Kendini Temizleme Özelliklerine Etkisi**  
Batur Z., Akyıldız H. İ.  
Journal of Polytechnic, no.0, 2020 (ESCI)

## Refereed Congress / Symposium Publications in Proceedings

- I. **High Surface Area Photocatalytic ZnO Films via Molecular Layer Deposition**  
AKYILDIZ H. İ.  
The 2024 Spring Meeting of the European Materials Research Society (E-MRS), Strasbourg, France, 27 - 31 May 2024
- II. **Production of conductive glass fabrics via Ag Np photodeposition onto ZnO ALD coated fibers**  
SÖZEN B., AKYILDIZ H. İ.  
14th International Fiber and Polymer Research Symposium, Bursa, Turkey, 24 May 2024
- III. **Photodeposition of Ag Nanoparticles on Fibrous Substrates Enabled by ALD ZnO Thin Films**

Sözen B., Öz Y., Akyıldız H. İ.

17th NANOSCIENCE AND NANOTECHNOLOGY CONFERENCE, İzmir, Turkey, 27 - 29 August 2023, pp.43

- IV. **Utilization of Textile Substrate Materials Towards Photocatalytic Applications via Atomic Layer Deposition**  
AKYILDIZ H. İ., Islam S., Özkan S.  
9th International Conference on Materials Science and Nanotechnology For Next Generation, Ankara, Turkey, 22 - 23 September 2022
- V. **The Effect of Film Thickness on Photocatalytic Activity of the ALD ZnO Films Deposited on Glass Fibers**  
AKYILDIZ H. İ., Öznar A. B.  
16th NANOSCIENCE & NANOTECHNOLOGY CONFERENCE, Ankara, Turkey, 5 - 08 September 2022
- VI. **Tavlama Sıcaklığının Cam Liflerinin Yüzeyinde ALD Al:ZnO İnce Filmlerin Fotokatalitik Etkinliği Üzerine Etkisi**  
Özkan S., AKYILDIZ H. İ.  
10. Uluslararası Lif ve Polimer Araştırmaları Sempozyumu, İstanbul, Turkey, 13 - 14 May 2022
- VII. **Atomik Katman Biriktirme (ALD) Yöntemi ile Oluşturulan Al:ZnO İnce Filmlerin Elektronik ve Fotokatalitik Özelliklerinin İncelenmesi**  
Öznar A. B., Özkan S., AKYILDIZ H. İ.  
9. Uluslararası Lif ve Polimer Araştırmaları Sempozyumu, Uşak, Turkey, 19 - 20 November 2021
- VIII. **Effect of Film Composition and Structure on the Photocatalytic Activity of Metal Oxide Atomic Layer Deposition Thin Film**  
AKYILDIZ H. İ., Islam S., Özkan S.  
American Vacuum Society 67th International Symposium & Exhibition, Charlotte, North Carolina, United States Of America, 25 - 28 October 2021
- IX. **Surface Modification of Silica Aerogel Blankets Using Trimethylsilyl Chloride (TMCS) as Silanization Agent**  
Tav A., ÖZ Y., AKYILDIZ H. İ.  
8. Uluslararası Lif ve Polimer Araştırmaları Sempozyumu, Eskişehir, Turkey, 18 - 19 June 2021
- X. **Infiltration Dynamics of Reactive ALD Precursor Exposure to Polymers**  
AKYILDIZ H. İ., Jur J. S.  
12th International Conference on Atomic Layer Deposition, Dresden, Germany, 15 June 2012
- XI. **Photocatalytic Activities of ALD TiO<sub>2</sub> and ZnO Thin Films on Glass Fabrics**  
Islam S., AKYILDIZ H. İ.  
6. Uluslararası Lif ve Polimer Araştırmaları Sempozyumu, Bursa, Turkey, 24 - 25 January 2020
- XII. **Photocatalytic Antibacterial Activity of ALD Thin Films on Fibrous Materials**  
AKYILDIZ H. İ., Diler S.  
American Vacuum Society 66th International Symposium and Exhibition, Columbus, Ohio, United States Of America, 20 - 25 October 2019
- XIII. **Hydrogels in Food Packaging Applications**  
Korkmaz E., AKYILDIZ H. İ., Çavuş S.  
5th International Agriculture Congress, 21 August 2019
- XIV. **Atomik Katman Biriktirme (ALD) İle Kaplanan Naylon Kumaşların Antibakteriyel Etkinliği**  
Sümeyye D., AKYILDIZ H. İ.  
5. Uluslararası Lif ve Polimer Araştırmaları Sempozyumu, 03 May 2019
- XV. **Eriyikten Çekim TiO<sub>2</sub> Katkılı Polyester İpliklerin Kendi Kendini Temizleme Aktivitesinin İncelenmesi**  
Batur Z., AKYILDIZ H. İ.  
5. Uluslararası Lif ve Polimer Araştırmaları Sempozyumu, 03 May 2019
- XVI. **Caustic Soda Treatment of Electrospun Cellulose Acetate Nanofibers**  
AYKUT Y., AKYILDIZ H. İ., Uslu O.  
16TH INTERNATIONAL THE RECENT PROGRESS SYMPOSIUM ON TEXTILE TECHNOLOGY AND CHEMISTRY, Bursa, Turkey, 4 - 06 May 2017

- XVII. Polimer Malzemelerin Buhar Emdirme Yöntemi ile Modifikasyonu Neticesinde Organik-İnorganik Melez Malzemeler Elde Edilmesi**  
AKYILDIZ H. İ.  
2. Lif ve Polimer Araştırmaları Sempozyumu, 27 April 2017
- XVIII. Pyrolysis of Organic Inorganic Hybrid Materials Formed by Sequential Organometallic Vapor Infiltration**  
AKYILDIZ H. İ., Bradford P., Jur J.  
63rd American Vacuum Society International Symposium, Nashville, TN, United States Of America, 6 - 11 November 2016
- XIX. Advanced Layering System and Design for the Increased Thermal Protection of Wildland Fire Shelters Performance of Protective Clothing and Equipment**  
Nagavalli A., Hummel A., AKYILDIZ H. İ., Morton Aslanis J., Barker R.  
ASTM International Committee F23 on Personal Protective Clothing and Equipment, San-Antonio, Northern Mariana Islands, 28 - 29 January 2016, vol.1593, pp.102-116
- XX. Advanced Layering System and Design for the Increased Thermal Protection of Wildland Fire Shelters**  
Nagavalli A., Hummel A., AKYILDIZ H. İ., Morton-Aslanis J., Barker R.  
10th Symposium on Performance of Protective Clothing and Equipment: Risk Reduction through Research and Testing, San-Antonio, Northern Mariana Islands, 28 - 29 January 2016, vol.1593, pp.102-116
- XXI. Formation of Organic-Inorganic Hybrid Materials within Polymer Fibers by Sequential Organometallic Vapor Infiltration**  
AKYILDIZ H. İ., Jur J. S.  
The Fiber Society Fall 2015 Meeting, 28 October 2015
- XXII. Optical Enhancement of Polyethylene Terephthalate Films Modified by Organometallic Vapor Infiltration**  
AKYILDIZ H. İ., Simmons G., Everitt H., Jur J. S.  
American Vacuum Society 62nd International Symposium Exhibition, 18 October 2015
- XXIII. Organic-Inorganic Hybrid Materials Formed by ALD Organometallic Infiltration into Polymers**  
Jur J. S., AKYILDIZ H. İ.  
The Electrochemical Society 228th Meeting, 13 October 2015
- XXIV. Modification of Optical Properties of Polyethylene Terephthalate by Sequential Organometallic Vapor Infiltration**  
AKYILDIZ H. İ., Parsons G., Jur J. S.  
NC State University 10th Annual Graduate Student Research Symposium, Raleigh, NC, United States Of America, 25 March 2015
- XXV. Patterned Photoreduction of Metal Atoms on Polymeric Substrates for Flexible Electronic Applications**  
AKYILDIZ H. İ., Halbur J., Roberts A., Everitt H., Jur J. S.  
American Vacuum Society 61st International Symposium Exhibition, 09 November 2014
- XXVI. Depth profiling of trimethylaluminum modified PET fibers with nanoscale infrared spectroscopy and imaging techniques**  
Lo M., AKYILDIZ H. İ., Dillon E., Marcott C., Roberts A., Everitt H., Jur J. S.  
Fiber Society Fall 2014 Conference, 22 October 2014
- XXVII. Optical Tuning of Poly(ethylene terephthalate) by Organometallic Vapor Infiltration**  
AKYILDIZ H. İ., Roberts A., Everitt H., Jur J. S.  
248th American Chemical Society National Meeting, 15 August 2014
- XXVIII. ALD For Flexible Electronics: Reactive Behavior of Organometallic Vapors on Polymers**  
AKYILDIZ H. İ., Jur J. S.  
Center for Dielectrics and Piezoelectrics Spring Meeting, State College, PA, United States Of America, 15 May 2014
- XXIX. Process Property Relationships of Synthetic Polymers Exposed to Organometallic Vapors**  
Jur J. S., Padbury R., AKYILDIZ H. İ., Halbur J.

AATCC International Conference, 15 April 2014

- XXX. **Nucleation and Passivation of Al<sub>2</sub>O<sub>3</sub> and TiO<sub>2</sub> Thin Films Formed by Atomic Layer Deposition on Polymeric Substrates**  
AKYILDIZ H. İ., Sun Y., Jur J. S.  
American Ceramics Society Electronic Materials and Applications Conference, 24 January 2014
- XXXI. **Passivation of Polymer Films for Flexible Electronics by Atomic Layer Deposition**  
AKYILDIZ H. İ., Jur J. S.  
Center for Dielectrics and Piezoelectrics Fall Meeting, Raleigh, NC, United States Of America, 20 November 2013
- XXXII. **Formation of Novel Organic-Inorganic Hybrid Materials by Sequential Vapor Infiltration**  
AKYILDIZ H. İ., Halbur J., Stano K. L., Jur J. S.  
American Chemical Society North Carolina Sectional Meeting, Raleigh, NC, United States Of America, 15 November 2013
- XXXIII. **Organic-inorganic Hybrid Materials Formation into Polyesters during Sequential Vapor Infiltration**  
AKYILDIZ H. İ., Jur J. S.  
13th International Conference on Atomic Layer Deposition 2013, San Diego, CA, United States Of America, 28 - 31 July 2013
- XXXIV. **Vapor Phase Modification of Polymers**  
AKYILDIZ H. İ., Halbur J., Sun Y., Jur J. S.  
Center for Dielectrics and Piezoelectrics Spring Meeting, State College, PA, United States Of America, 15 May 2013
- XXXV. **Organic-Inorganic Hybrid Growth Mechanisms on Polymers by Sequential Vapor Infiltration**  
AKYILDIZ H. İ., Parsons G., Jur J. S.  
NC State University 8th Annual Graduate Student Research Symposium, Raleigh, NC, United States Of America, 15 March 2013
- XXXVI. **Quartz Crystal Microgravimetry Analysis of Organometallic Precursor Exposure to Polymers**  
Padbury R., AKYILDIZ H. İ., Jur J. S.  
64th Southeastern Regional Meeting of the American Chemical Society, Raleigh, NC, United States Of America, 15 November 2012
- XXXVII. **Investigation of Hybrid Film Formation Mechanism via Sequential Vapor Infiltration**  
AKYILDIZ H. İ., Jur J. S.  
64th Southeastern Regional Meeting of the American Chemical Society, Raleigh, NC, United States Of America, 15 November 2012
- XXXVIII. **Organic-Inorganic Hybrid Structure Formation via Sequential Vapor Infiltration**  
AKYILDIZ H. İ., Yokus M., Padbury R., Jur J. S.  
American Vacuum Society 59th International Symposium Exhibition, 29 October 2012
- XXXIX. **Modifying Dielectric Properties of Polymeric Materials via Sequential Vapor Infiltration**  
AKYILDIZ H. İ., Yokus M. A., Jur J. S.  
Centers for Dielectric Studies Spring Meeting, Raleigh, NC, United States Of America, 15 May 2012
- XL. **Nucleation and Growth Mechanism of Al<sub>2</sub>O<sub>3</sub> Thin Films Formed by Atomic Layer Deposition and Sequential Vapor Infiltration**  
AKYILDIZ H. İ., Mousa M., Parsons G., Jur J. S.  
13th MRS/ASM/AVS/AREMS Joint Symposium at NCSU, Raleigh, NC, United States Of America, 15 November 2011
- XLI. **Flexible Behavior of Atomic Layer Deposited Al<sub>2</sub>O<sub>3</sub> on Polymers**  
Sun Y., AKYILDIZ H. İ., Palmer J., Goertz M., Jur J. S.  
American Chemical Society North Carolina Sectional Meeting, Raleigh, NC, United States Of America, 15 September 2011
- XLII. **Understanding Atomic Layer Deposition Mechanism on Polymers and Textiles**  
AKYILDIZ H. İ., Mousa M., Parsons G., Jur J. S.  
American Chemical Society North Carolina Sectional Meeting, Raleigh, NC, United States Of America, 15 September 2011
- XLIII. **Solar Water Purification System**  
AKYILDIZ H. İ., Cai F., Chen J., Michielsen S.

## Supported Projects

AKYILDIZ H. İ., YİĞİT E., AYDEMİR U., HAYBER Ş. E., DEMİRTAŞ M., Project Supported by Higher Education Institutions, Dikey Hizalanmış Karbon Nanotüp Kompozit Yapıların Üretilerek Elektronik ve Optik Uygulamalarda Kullanımının İncelenmesi, 2024 - Continues

AYDEMİR U., PEKSÖZ A., AKYILDIZ H. İ., TEMEL Ş. G., AKAY S. K., KARABÖRKLÜ Ö., DEMİRTAŞ M., KAPLAN H. K., ŞAFAK HACİİSMAİLOĞLU M., HAYBER Ş. E., et al., Project Supported by Higher Education Institutions, İki Boyutlu Grafen ve Metal Kalkojen Tabanlı Mikro-Nano Sistemlerin Geliştirilmesi ve Uygulamaları, 2024 - Continues

AKYILDIZ H. İ., YAĞMUR M. D., DİLER İNAN S., Project Supported by Higher Education Institutions, Tekstil Yüzeylerinde MetalMetal OksitNanoparçacık Katılanmış İnce Filmlerin Fotokatalitik Etkinliklerinin ve Elektrokimyasal Özelliklerinin Belirlenmesi, 2023 - Continues

AKYILDIZ H. İ., TAV A., Project Supported by Higher Education Institutions, Yüksek Isı Yalıtımı Sağlayan Esnek Aerojel Yapıların Üretilmesi ve Karakterizasyonu, 2021 - 2024

YİĞİT E., AKYILDIZ H. İ., Project Supported by Higher Education Institutions, Çok Katmanlı Radar Soğurucu Tekstil Malzemelerin İnce Film Kaplama Yöntemleriyle Üretimi, 2021 - 2024

Akyıldız H. İ., TAGEM Tarımsal Araştırmalar ve Politikalar Genel Müdürlüğü Projesi, Polimer Esaslı Gıda Ambalaj Filmlerinin Atomik Katman Biriktirme (ALD) Yöntemiyle Bariyer (Geçirgenlik) Özelliklerinin İyileştirilmesi, 2021 - 2023

Akyıldız H. İ., TUBİTAK Project, Gözenekli Metal Oksit Fotokatalizör Filmlerin Moleküler Katman Biriktirme Yöntemiyle Elde edilmesi ve Etkinliklerinin Belirlenmesi, 2019 - 2023

Akyıldız H. İ., TUBİTAK Project, Tekstil Atık Sularındaki Toksik Boya Eliminasyonu Amacıyla Atomik Katman Biriktirme Yöntemiyle İnce Filmlerin Geliştirilmesi ve Etkinliğinin Belirlenmesi, 2018 - 2022

Akyıldız H. İ., Project Supported by Higher Education Institutions, Atomik Katman Biriktirme Yöntemi ile Tekstil Liflerinin Yüzeyinde Antibakteriyel Özelliğe Sahip Nano Metal Oksit Filmlerin Oluşturulması, 2018 - 2022

AKYILDIZ H. İ., Project Supported by Higher Education Institutions, Tekstil Atık Sularındaki Toksik Boya Eliminasyonu Amacıyla Atomik Katman Biriktirme Yöntemiyle İnce Filmlerin Geliştirilmesi ve Etkinliğinin Belirlenmesi Adlı TÜBİTAK Projesinin Desteklenmesi, 2019 - 2021

## Memberships / Tasks in Scientific Organizations

American Vacuum Society, Member, 2014 - Continues, United States Of America

## Scientific Refereeing

JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, SCI Journal, August 2022

JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, SCI Journal, July 2022

JOURNAL OF MATERIALS SCIENCE: MATERIALS IN ELECTRONICS, SCI Journal, May 2022

JOURNAL OF MATERIALS SCIENCE, SCI Journal, October 2021

AIP ADVANCES, SCI Journal, September 2021

Materials Chemistry And Physics, SCI Journal, June 2021

JOURNAL OF MATERIALS RESEARCH, SCI Journal, May 2021

JOURNAL OF MATERIALS RESEARCH, SCI Journal, March 2021

JOURNAL OF MATERIALS RESEARCH, SCI Journal, January 2021

ACS APPLIED MATERIALS & INTERFACES, SCI Journal, September 2020

AIP ADVANCES, SCI Journal, July 2020

JOURNAL OF MATERIALS RESEARCH, SCI Journal, May 2020

JOURNAL OF MATERIALS SCIENCE, SCI Journal, February 2020

MATERIALS CHEMISTRY AND PHYSICS, SCI Journal, December 2018  
JOURNAL OF MATERIALS RESEARCH, SCI Journal, July 2018  
AIP ADVANCES, SCI Journal, May 2018  
MATERIALS CHEMISTRY AND PHYSICS, SCI Journal, May 2018  
AIP ADVANCES, SCI Journal, May 2018  
MATERIALS CHEMISTRY AND PHYSICS, SCI Journal, March 2018  
AIP ADVANCES, SCI Journal, January 2018

### **Scientific Consultations**

Sibernetik Mak. Oto. Ar-Ge Merkezi, Project Consultancy, Bursa Uludağ University, Mühendislik Fakültesi, Tekstil Mühendisliği, Turkey, 2021 - 2023

### **Metrics**

Publication: 66  
Citation (WoS): 250  
Citation (Scopus): 268  
H-Index (WoS): 10  
H-Index (Scopus): 10

### **Scholarships**

146 Sayılı Kanun ile Yurt Dışı Eğitim Bursu, Ministry of Education, 2008 - 2015

### **Non Academic Experience**

İSKO Dokuma İşletmeleri A.Ş.