

# Prof. DİLEK ŞOLPAN ÖZBAY

## Personal Information

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## Education Information

Doctorate, Hacettepe University, Fen Fakültesi, Kimya, Turkey 1988 - 1993

Postgraduate, Hacettepe University, Mühendislik Fakültesi, Kimya, Turkey 1985 - 1988

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Kimya, Turkey 1980 - 1985

## Foreign Languages

English, B2 Upper Intermediate

## Research Areas

Chemistry, Physical Chemistry, Functional Polymers, nanocomposites, Characterization of Polymers, Polymeric Adsorbents, Polymeric Films, Polymeric Materials, Cellulose and its Derivatives, Spectroscopy, Textile Chemistry, Thermodynamics, Surface Chemistry, Natural Sciences

## Academic Titles / Tasks

Professor, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 2006 - Continues

Associate Professor, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 2000 - 2006

Assistant Professor, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 1996 - 2000

Research Assistant, Hacettepe University, Fen Fakültesi, Kimya Bölümü, 1985 - 1996

## Academic and Administrative Experience

Hacettepe Üniversitesi, Fen Fakültesi, Kimya Bölümü, 2016 - Continues

## Courses

KİM 798-32 ÖZEL KONULAR, Doctorate, 2016 - 2017

KİM 486-02 FİZİKOKİMYA LAB., Undergraduate, 2016 - 2017

KİM 153-03 GENEL KİMYA I, Undergraduate, 2016 - 2017

KİM 119-14 KİMYA LAB I, Undergraduate, 2016 - 2017

KİM 109-11 KİMYA I, Undergraduate, 2016 - 2017

KİM 119-04 KİMYA LAB I, Undergraduate, 2016 - 2017

KİM 600-32 SEMİNER, Postgraduate, 2016 - 2017  
KİM 110-11 KİMYA II, Undergraduate, 2016 - 2017  
KİM 365-01 TEKSTİL KİMYASI VE BOYALAR, Undergraduate, 2016 - 2017  
KİM 484-01 FİZİKOKİMYA IV, Undergraduate, 2016 - 2017  
KİM 119-18 KİMYA LAB I, Undergraduate, 2016 - 2017  
KİM 607-01 KİMYASAL KİNETİK, Postgraduate, 2016 - 2017  
KİM 483-02 FİZİKOKİMYA III, Undergraduate, 2016 - 2017  
KİM 674-01 RADYASYON KİMYASI, Postgraduate, 2016 - 2017  
KİM 698-32 ÖZEL KONULAR, Postgraduate, 2016 - 2017

## Advising Theses

ŞOLPAN ÖZBAY D., Sulu çözeltilerdeki endokrin bozucu kimyasalların UV/H<sub>2</sub>O<sub>2</sub>-ozon prosesleri ile uzaklaştırılması, Doctorate, M.MEHRNIA(Student), 2016  
ŞOLPAN ÖZBAY D., Radyasyonla aşılama ve modifikasyonla hazırlanan polietilen (PE) esaslı ambalaj filmlerinin antimikrobiyal özellikleri, Postgraduate, O.BAL(Student), 2016  
ŞOLPAN ÖZBAY D., Sulu çözeltilerdeki n-nitrozodifenilaminin gama-ışınları ile bozunması, Postgraduate, S.DEMİR(Student), 2016

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

- I. **Removal of carbaryl pesticide in aqueous solution by UV and UV/hydrogen peroxide processes**  
Ibrahim K. E. A., ŞOLPAN ÖZBAY D.  
INTERNATIONAL JOURNAL OF ENVIRONMENTAL ANALYTICAL CHEMISTRY, vol.102, no.14, pp.3271-3285, 2022 (SCI-Expanded)
- II. **Radiolytic degradation of carbaryl in aqueous solution by gamma-irradiation/H<sub>2</sub>O<sub>2</sub> process**  
ŞOLPAN ÖZBAY D., Ibrahim K. E. A., Elbashir A. A., Mehrnia M., Ahmed M. M. O., Guven O.  
APPLIED RADIATION AND ISOTOPES, vol.184, 2022 (SCI-Expanded)
- III. **Degradation of N-Nitrosodiethylamine in aqueous solution by gamma-irradiation**  
Mehrnia M., TORUN M., ŞOLPAN ÖZBAY D.  
ENVIRONMENTAL TECHNOLOGY, vol.42, no.26, pp.4201-4207, 2021 (SCI-Expanded)
- IV. **A study on Pb-210 and Po-210 levels in different tobacco types produced in Turkey and the estimation of the committed effective dose**  
Sahin M., ŞOLPAN ÖZBAY D.  
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.329, no.1, pp.45-50, 2021 (SCI-Expanded)
- V. **The effect of ozonation on the degradation of carbaryl in aqueous solution**  
ŞOLPAN ÖZBAY D., Ibrahim K. E. A., TORUN M., Mehrnia M.  
JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH PART B-PESTICIDES FOOD CONTAMINANTS AND AGRICULTURAL WASTES, vol.55, no.10, pp.929-939, 2020 (SCI-Expanded)
- VI. **Removal of carbofuran in aqueous solution by using UV-irradiation/ hydrogen peroxide**  
Ibrahim K. E. A., ŞOLPAN ÖZBAY D.  
JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING, vol.7, no.1, 2019 (SCI-Expanded)
- VII. **Synthesis of poly (acrylamide-co-aconitic acid) adsorbents by gamma-irradiation, characterization, adsorption studies and application for cationic dyes removal**  
Mehrnia M., Bal O., TORUN M., ŞOLPAN ÖZBAY D.  
JOURNAL OF MACROMOLECULAR SCIENCE PART A-PURE AND APPLIED CHEMISTRY, vol.56, no.1, pp.63-68, 2019 (SCI-Expanded)
- VIII. **Radiolytic degradation of carbofuran by using gamma and gamma/hydrogen peroxide processes**

Ibrahim K. E. A., Elbashir A. A., Ahmed M. M. O., ŞOLPAN ÖZBAY D.

RADIATION PHYSICS AND CHEMISTRY, vol.153, pp.251-257, 2018 (SCI-Expanded)

- IX. **Dimethyl phthalate (DMP) degradation in aqueous solution by gamma-irradiation/H<sub>2</sub>O<sub>2</sub>**  
ŞOLPAN ÖZBAY D., Mehrnia M.  
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.317, no.2, pp.841-851, 2018 (SCI-Expanded)
- X. **Analytical studies on degradation mechanism of herbicide 4-chlorophenoxyacetic acid in water by gamma/H<sub>2</sub>O<sub>2</sub> and gamma/ozone processes**  
TORUN M., ŞOLPAN ÖZBAY D.  
ENVIRONMENTAL TECHNOLOGY, vol.37, no.19, pp.2494-2507, 2016 (SCI-Expanded)
- XI. **The Removal of Cationic Dyes from Aqueous Solutions by Using Poly(N-Vinylpyrrolidone-co-Methacrylic Acid) Hydrogel Adsorbents: Effects of pH and Composition on Adsorption**  
TORUN M., ŞOLPAN ÖZBAY D.  
FIBERS AND POLYMERS, vol.16, no.4, pp.735-743, 2015 (SCI-Expanded)
- XII. **Full Factorial Design Approach to Hg(II) Adsorption onto Hydrogels**  
BİNGÖL D., SARAYDIN D., ŞOLPAN ÖZBAY D.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.40, no.1, pp.109-116, 2015 (SCI-Expanded)
- XIII. **Caffeine degradation in water by gamma irradiation, zonation and zonation/gamma irradiation**  
TORUN M., Abbasova D., ŞOLPAN ÖZBAY D., Guven O.  
NUKLEONIKA, vol.59, no.1, pp.25-35, 2014 (SCI-Expanded)
- XIV. **Analytical and Toxicological Studies of Decomposition of Insecticide Parathion after Gamma-Irradiation and Ozonation**  
Bojanowska-Czajka A., TORUN M., Kciuk G., Wachowicz M., ŞOLPAN ÖZBAY D., Guven O., Bobrowski K., Trojanowicz M.  
JOURNAL OF AOAC INTERNATIONAL, vol.95, no.5, pp.1378-1385, 2012 (SCI-Expanded)
- XV. **The removal of chlorinated organic herbicide in water by gamma-irradiation**  
ŞOLPAN ÖZBAY D., TORUN M.  
JOURNAL OF RADIOANALYTICAL AND NUCLEAR CHEMISTRY, vol.293, no.1, pp.21-38, 2012 (SCI-Expanded)
- XVI. **Treatment of Water Contaminated with Chlorinated Organic Herbicide 2,4-D by an Ozone/Gamma Process**  
TORUN M., ŞOLPAN ÖZBAY D., Guven O.  
OZONE-SCIENCE & ENGINEERING, vol.33, no.1, pp.50-65, 2011 (SCI-Expanded)
- XVII. **Comparison of pre-irradiation and mutual grafting of 2-chloroacrylonitrile on cellulose by gamma-irradiation**  
ŞOLPAN ÖZBAY D., TORUN M., Guven O.  
RADIATION PHYSICS AND CHEMISTRY, vol.79, no.3, pp.250-254, 2010 (SCI-Expanded)
- XVIII. **Radiation Synthesis of Poly(N-Vinylpyrrolidone-co-Methacrylic Acid) Hydrogels and Their Usability in Uranyl Ion Adsorption**  
ŞOLPAN ÖZBAY D., TORUN M.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.114, no.1, pp.543-550, 2009 (SCI-Expanded)
- XIX. **The usability of (sodium alginate/acrylamide) semi-interpenetrating polymer networks on removal of some textile dyes**  
ŞOLPAN ÖZBAY D., TORUN M., Gueven G.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.108, no.6, pp.3787-3795, 2008 (SCI-Expanded)
- XX. **Removal of cationic dyes by poly(acrylamide-co-acrylic acid) hydrogels in aqueous solutions**  
ŞOLPAN ÖZBAY D., Duran S., TORUN M.  
RADIATION PHYSICS AND CHEMISTRY, vol.77, no.4, pp.447-452, 2008 (SCI-Expanded)
- XXI. **Remediation of polluted waters and wastewater by radiation processing**  
Sampa M. H. O., Takacs E., Gehringer P., Rela P. R., Ramirez T., Amro H., Trojanowicz M., Botelho M. L., Han B., ŞOLPAN ÖZBAY D., et al.  
NUKLEONIKA, vol.52, no.4, pp.137-144, 2007 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Investigation of Degradation Mechanism for Dimethyl Phthalate (DMP) in Aqueous Solution by Using Analytical Methods**  
Mehrnia M., TORUN M., ŞOLPAN ÖZBAY D.  
ALKÜ Fen Bilimleri Dergisi, pp.125-141, 2019 (Peer-Reviewed Journal)
- II. **Removal of dissolved organic pollutants from water by gamma-irradiation based advanced oxidation processes**  
TORUN M., ŞOLPAN ÖZBAY D., GÜVEN O.  
Hacettepe Journal of Biology and Chemistry, vol.42, no.1, pp.115-127, 2014 (Peer-Reviewed Journal)
- III. **Application of ionizing radiation in decomposition of selected organic pollutants in waters**  
Trojawnicz M., BojanowskaCzajka A., Kciuk G., Bobrowski K., Gumiela M., Koc A., Jalecz Jawecki G., TORUN M., ŞOLPAN ÖZBAY D.  
European water, vol.39, pp.15-26, 2012 (Peer-Reviewed Journal)
- IV. **Adsorption of Some Dyes on Cationic Poly N N Dimethyl Amino Ethyl methacrylate Hydrogels**  
ŞOLPAN ÖZBAY D., ŞEN M., Kölge Z., TORUN M., Güven O.  
Hacettepe Journal of Biology and Chemistry, 2009 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Physicochemical Studies of Grafts Used in Periodontology Irradiated by Gamma and Microwave Radiation**  
Bargh S., SİLİNDİR GÜNAY M., ÖZER A. Y., PALASKA E., İDE S., ŞOLPAN ÖZBAY D.  
19th International Pharmaceutical Technology Symposium, Antalya, Turkey, 17 September 2018, pp.186-187
- II. **Degradation of Imipramine by gamma-irradiation**  
TORUN M., MEHRNIA M., ŞOLPAN ÖZBAY D.  
XI. International Conference on Nuclear Structure Properties, 12 - 14 September 2018
- III. **Investigation of degradation mechanism for dimethyl phthalate (DMP) in aqueous solution by using analytical methods**  
MEHRNIA M., TORUN M., ŞOLPAN ÖZBAY D.  
XI. International Conference on Nuclear Structure Properties, 12 - 14 September 2018
- IV. **Degradation of N-nitrosodiethylamine in aqueous solution by gamma-irradiation**  
ŞOLPAN ÖZBAY D., TORUN M., MEHRNIA M.  
XI. International Conference on Nuclear Structure Properties, 12 - 14 September 2018
- V. **Radiolytic degradation of carbaryl in aqueous solution by gamma-irradiation/H<sub>2</sub>O<sub>2</sub> process**  
İbrahim K., Elbashir A. A., MEHRNIA M., TORUN M., AHMED M., ŞOLPAN ÖZBAY D.  
XI. International Conference on Nuclear Structure Properties, 12 - 14 September 2018
- VI. **Antimicrobial properties of PE based packaging films prepared by radiation-induced grafting and modification**  
ŞOLPAN ÖZBAY D., BAL O., TORUN M., GÜVEN O.  
The 13th International Symposium on Ionizing Radiation Polymers, 26 - 31 August 2018
- VII. **Removal of Uranyl Ions from water by Sodium Alginate-Acrylamide Semi-Interpenetrating Networks**  
TORUN M., DEMİR S., ŞOLPAN ÖZBAY D.  
The 13th International Symposium on Ionizing Radiation Polymers, 26 - 31 August 2018
- VIII. **N NİTROZODİFENİLAMİNİN IŞINLAMA SONUCU OLUŞAN ARAÜRÜNLERİNDEN KROMATOĞRAFİK OLARAK AYRILMASI İÇİN YÖNTEM GELİŞTİRİLMESİ**  
Demir S., Mehrnia M., TORUN M., ŞOLPAN ÖZBAY D.  
XI. ULUSAL NÜKLEER BİLİMLER BİLİMLER TEKNOLOJİLERİ KONGRESİ, Turkey, 12 - 14 October 2016
- IX. **Endokrin Bozucu Kimyasalların Sulu Çözeltilerden Gama Işınları ile Uzaklaştırılması**  
Mehrnia M., Demir S., TORUN M., ŞOLPAN ÖZBAY D.

XI. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Turkey, 12 - 14 October 2016

**X. Optimum Conditions for Chromatographic Separation of N Nitrosodiphenylamine from its Intermediates**

Demir S., TORUN M., ŞOLPAN ÖZBAY D.

International Turkic World Conference on Chemical Sciences and Technologies, 27 October - 01 November 2015

**XI. Synthesis characterization and adsorption studies of cationic dye adsorbent**

Mehrnia M., Bal O., TORUN M., ŞOLPAN ÖZBAY D.

International Turkic World Conference on Chemical Sciences and Technologies, 27 - 01 October 2015

**XII. Removal of endocrine disrupting chemicals in aqueous Solutions by gamma irradiation**

Mehrnia M., Demir S., TORUN M., ŞOLPAN ÖZBAY D.

International Turkic World Conference on Chemical Sciences and Technologies, 27 - 01 October 2015

## Supported Projects

ŞOLPAN ÖZBAY D., Project Supported by Higher Education Institutions, Sudaki 2-Metil-4-Kloro-Fenoksiasetik Asit (MCPA) Herbisidin Gama-Işınlanmasıyla Bozunması, 2011 - Continues

ŞOLPAN ÖZBAY D., Other International Funding Programs, Application of radiation technology in development of advanced packaging materials for food products, 2013 - 2017

ŞOLPAN ÖZBAY D., DEMİR S., MEHRNİA M., Project Supported by Higher Education Institutions, Radyasyonla sentezlenen (Sodyum Aljinat/Akrilamid) Yarı İç İçe Girmiş Ağ Yapıları hazırlanması, karakterizasyonu ve bazı su kirleticilerinin tutulmasında kullanımı, 2015 - 2016

ŞOLPAN ÖZBAY D., Project Supported by Higher Education Institutions, Sulu çözeltilerdeki dimetil ftalatın UV/H<sub>2</sub>O<sub>2</sub>-ozon prosesleri ile uzaklaştırılması, 2013 - 2015

## Metrics

Publication: 38

Citation (WoS): 141

H-Index (WoS): 6

## Non Academic Experience

Hacettepe Üniversitesi