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Education Information

Doctorate, Technische Universitaet Wien, Polimer Kimyası, Austria 1978 - 1981

Undergraduate, Istanbul University, Mühendislik Fakültesi, Kimya Mühendisliği Bölümü, Turkey 1972 - 1977

Foreign Languages

German

English

Research Areas

Basic Sciences, Chemistry, Physical Chemistry, Polymers and Their Applications, New Technologies in Polymer Chemistry, Polymeric Materials, Medical Applications of Polymers

Academic Titles / Tasks

Professor, Istanbul Technical University, Fen-Edebiyat Fakültesi, Kimya Bölümü, 1998 - Continues

Professor, Kocaeli University, Fen-Edebiyat Fakültesi, Kimya Bölümü, 1995 - 1998

Associate Professor, Eastern Mediterranean University, Fen-Edebiyat, Kimya, 1990 - 1992

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Cryogenic formation-structure-property relationships of poly(2-acrylamido-2-methyl-1-propanesulfonic acid) cryogels**
Su E., Okay O.
POLYMER, vol.178, 2019 (SCI-Expanded)
- II. **Single-, Double-, and Triple-Network Macroporous Rubbers as a Passive Sampler**
Yetiskin B., Türeyn O. E., Yılmaz A., Yakan S. D., Okay O., Okay O.

ACS APPLIED MATERIALS & INTERFACES, vol.11, no.31, pp.28317-28326, 2019 (SCI-Expanded)

- III. **Cryogel composites based on hyaluronic acid and halloysite nanotubes as scaffold for tissue engineering**
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- IV. **A Self-Healing and Highly Stretchable Polyelectrolyte Hydrogel via Cooperative Hydrogen Bonding as a Superabsorbent Polymer**
Su E., Yurtsever M., Okay O.
MACROMOLECULES, vol.52, no.9, pp.3257-3267, 2019 (SCI-Expanded)
- V. **Structure-property relationships of novel phosphonate-functionalized networks and gels of poly(beta-amino esters)**
Altuncu S., Duman F. D., Gulyuz U., Acar H. Y., Okay O., AVCI SEMİZ D.
EUROPEAN POLYMER JOURNAL, vol.113, pp.155-164, 2019 (SCI-Expanded)
- VI. **Mechanically robust and stretchable silk/hyaluronic acid hydrogels**
Tavşanlı B., Okay O.
CARBOHYDRATE POLYMERS, vol.208, pp.413-420, 2019 (SCI-Expanded)
- VII. **Semicrystalline physical hydrogels with shape-memory and self-healing properties**
Okay O.
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- VIII. **High-strength and self-recoverable silk fibroin cryogels with anisotropic swelling and mechanical properties**
Yetiskin B., Okay O.
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.122, pp.1279-1289, 2019 (SCI-Expanded)
- IX. **Monitoring the Instant Creation of a New Fluorescent Signal for Evaluation of DNA Conformation Based on Intercalation Complex**
Uzumcu A. T., Güney O., Okay O.
JOURNAL OF FLUORESCENCE, vol.28, pp.1325-1332, 2018 (SCI-Expanded)
- X. **Toughness improvement and anisotropy in semicrystalline physical hydrogels**
BİLİCİ C., Karaarslan D., İDE S., Okay O.
POLYMER, vol.151, pp.208-217, 2018 (SCI-Expanded)
- XI. **Bisphosphonic Acid-Functionalized Cross-Linkers to Tailor Hydrogel Properties for Biomedical Applications**
Güven M. N., Altuncu M. S., Bal T., Oran D. C., Gulyuz U., Kizilel S., Okay O., Avci D.
ACS OMEGA, vol.3, no.8, pp.8638-8647, 2018 (SCI-Expanded)
- XII. **Interfacing Soft and Hard Materials with Triple-Shape-Memory and Self-Healing Functions**
ARGUN A., GULYUZ U., Okay O.
MACROMOLECULES, vol.51, no.7, pp.2437-2446, 2018 (SCI-Expanded)
- XIII. **Highly Stretchable DNA/Clay Hydrogels with Self-Healing Ability**
Uzumcu A. T., Güney O., Okay O.
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- XIV. **Hybrid cross-linked poly(2-acrylamido-2-methyl-1-propanesulfonic acid) hydrogels with tunable viscoelastic, mechanical and self-healing properties**
Su E., Okay O.
REACTIVE & FUNCTIONAL POLYMERS, vol.123, pp.70-79, 2018 (SCI-Expanded)
- XV. **Cryogelation within cryogels: Silk fibroin scaffolds with single-, double- and triple-network structures**
YETISKIN B., AKİNCİ C., Okay O.
POLYMER, vol.128, pp.47-56, 2017 (SCI-Expanded)
- XVI. **Mechanically strong hyaluronic acid hydrogels with an interpenetrating network structure**
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European Polymer Journal, vol.94, pp.185-195, 2017 (SCI-Expanded)

- XVII. **Yielding Behavior of Tough Semicrystalline Hydrogels**
BILICI C., İDE S., Okay O.
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- XVIII. **High-strength silk fibroin scaffolds with anisotropic mechanical properties**
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POLYMER, vol.112, pp.61-70, 2017 (SCI-Expanded)
- XIX. **Polyampholyte hydrogels formed via electrostatic and hydrophobic interactions**
Su E., Okay O.
EUROPEAN POLYMER JOURNAL, vol.88, pp.191-204, 2017 (SCI-Expanded)
- XX. **Reversibility of strain stiffening in silk fibroin gels**
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- XXI. **Preparation and fracture process of high strength hyaluronic acid hydrogels cross-linked by ethylene glycol diglycidyl ether**
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- XXII. **Melt-Processable Shape-Memory Hydrogels with Self-Healing Ability of High Mechanical Strength**
BILICI C., CAN V., NOCHEL U., BEHL M., LENDLEIN A., Okay O.
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- XXIII. **Nanocomposite DNA hydrogels with temperature sensitivity**
Uzumcu A. T., Güney O., Okay O.
POLYMER, vol.100, pp.169-178, 2016 (SCI-Expanded)
- XXIV. **High-strength semi-crystalline hydrogels with self-healing and shape memory functions**
Kurt B., GULYUZ U., Demir D., Okay O.
EUROPEAN POLYMER JOURNAL, vol.81, pp.12-23, 2016 (SCI-Expanded)
- XXV. **Nanostructural Evolution and Self-Healing Mechanism of Micellar Hydrogels**
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- XXVI. **Self-healing poly(N-isopropylacrylamide) hydrogels**
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- XXVII. **Preparation and physical properties of hyaluronic acid-based cryogels**
Strom A., Larsson A., Okay O.
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- XXVIII. **Mechanically strong triple network hydrogels based on hyaluronan and poly(N,N-dimethylacrylamide)**
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- XXIX. **Self-Healing Hydrogels Formed via Hydrophobic Interactions**
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- XXX. **Self-Healing Poly(acrylic acid) Hydrogels with Shape Memory Behavior of High Mechanical Strength**
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- XXXII. **Nonionic Double and Triple Network Hydrogels of High Mechanical Strength**
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- XXXIII. **Porous rubber cryogels: effect of the gel preparation temperature**
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- XXXIV. **Surfactant-induced healing of tough hydrogels formed via hydrophobic interactions**
ARGUN A., ALGI M. P., TUNCABOYLU D. C., Okay O.
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- XXXV. **Synthesis and Structure-Property Relationships of Cryogels**
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TUNCABOYLU D. C., ARGUN A., ALGI M. P., Okay O.
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- XXXIX. **Swelling behavior of physical and chemical DNA hydrogels**
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JOURNAL OF APPLIED POLYMER SCIENCE, vol.128, no.5, pp.3330-3337, 2013 (SCI-Expanded)
- XL. **Tough interpenetrating Pluronic F127/polyacrylic acid hydrogels**
BASKAN T., TUNCABOYLU D. C., Okay O.
POLYMER, vol.54, no.12, pp.2979-2987, 2013 (SCI-Expanded)
- XLI. **Shape Memory Hydrogels via Mice liar Copolymerization of Acrylic Acid and n-Octadecyl Acrylate in Aqueous Media**
BILICI C., Okay O.
MACROMOLECULES, vol.46, no.8, pp.3125-3131, 2013 (SCI-Expanded)
- XLII. **Ethidium bromide binding to DNA cryogels**
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- XLIII. **Macroporous Silk Fibroin Cryogels**
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- XLIV. **Self-healing polyacrylic acid hydrogels**
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- XLV. **Self-healing hydrogels formed in catanionic surfactant solutions**
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- XLVII. **Diepoxide-Triggered Conformational Transition of Silk Fibroin: Formation of Hydrogels**
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- XLVIII. **Dynamics and Large Strain Behavior of Self-Healing Hydrogels with and without Surfactants**
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- XLIX. Macroporous, responsive DNA cryogel beads**
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- L. Tough and Self-Healing Hydrogels Formed via Hydrophobic Interactions**
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- LI. DNA Hydrogels: New Functional Soft Materials**
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- LII. Solution Cross-Linked Natural Rubber (NR)/Clay Aerogel Composites**
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- LIV. Self-Oscillating pH-Responsive Cryogels as Possible Candidates of Soft Materials for Generating Mechanical Energy**
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- LV. Macroporous rubber gels as reusable sorbents for the removal of oil from surface waters**
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- LVI. Hierarchically Macroporous Cryogels of Polyisobutylene and Silica Nanoparticles**
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- LVII. Rheological Behavior of Polymer-Clay Nanocomposite Hydrogels: Effect of Nanoscale Interactions**
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- LIX. Design of high-toughness polyacrylamide hydrogels by hydrophobic modification**
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- LX. Formation of Hydrogels by Simultaneous Denaturation and Cross-Linking of DNA**
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- LXI. Collapse of Acrylamide-Based Polyampholyte Hydrogels in Water**
DOGU S., KILIC M., Okay O.
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- LXII. Preparation and characterization of single-hole macroporous organogel particles of high toughness and superfast responsivity**
TUNCABOYLU D. C., Okay O.
EUROPEAN POLYMER JOURNAL, vol.45, no.7, pp.2033-2042, 2009 (SCI-Expanded)
- LXIII. Evaluation of Butyl Rubber as Sorbent Material for the Removal of Oil and Polycyclic Aromatic Hydrocarbons from Seawater**
CEYLAN D., DOGU S., Karacik B., Yakan S. D., Okay O., Okay O.
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- LXIV. Macroporous hydrogel beads of high toughness and superfast responsivity**
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- LXV. **Rheological Behavior of Responsive DNA Hydrogels**
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- LXVI. **Homogeneous Poly(acrylamide) Hydrogels Made by Large Size, Flexible Dimethacrylate Cross-Linkers**
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- LXIX. **Equilibrium swelling behavior and elastic properties of polymer-clay nanocomposite hydrogels**
Abdurrahmanoglu S., CAN V., Okay O.
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- LXX. **Preparation of macroporous poly(acrylamide) hydrogels in DMSO/water mixture at subzero temperatures**
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- LXXI. **Preparation of homogeneous hydrogels by controlling the crosslinker reactivity and availability**
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- LXXVIII. **Freezing as a path to build macroporous structures: Superfast responsive polyacrylamide hydrogels**
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- LXXIX. **Network development in mixed step-chain growth thiol-vinyl photopolymerizations**
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- LXXXIII. **Effect of initial monomer concentration on the equilibrium swelling and elasticity of hydrogels**
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- LXXXV. **Swelling-deswelling kinetics of ionic poly(acrylamide) hydrogels and cryogels**
 CEYLAN D., OZMEN M., Okay O.
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Supported Projects

Okay O., Bilici Ç., Project Supported by Higher Education Institutions, Şekil hafızalı ve kendini onaran semikristalin hidrojeller, 2017 - 2019

Okay O., Su E., Project Supported by Higher Education Institutions, Anizotropik mekanik özelliklere sahip, biyoyumlu ipek fibroin ve hyaluronik asit iskeletleri üretimi, 2016 - 2019

Okay O., Çeliker T., Project Supported by Higher Education Institutions, İPEK FİBROİN/POLİDİMETİLAKRİLAMİD ESASLI YARI İÇİÇE GEÇMİŞ (semi-IPN) HİDROJELLERİN SENTEZİ VE KARAKTERİZASYONU, 2017 - 2018

Okay O., Project Supported by Higher Education Institutions, Üstün mekanik özelliklere sahip sıcaklığa duyarlı DNA hidrojellerin sentezi karakterizasyonu ve uygulamaları, 2016 - 2018

Okay O., Project Supported by Higher Education Institutions, Mekanik Dayanımı Yüksek İpek Fibroin Kriyojellerinin Üretimi, 2015 - 2018

Okay O., Project Supported by Higher Education Institutions, Çift Ağ yapılı İpek Fibroin Kriyojellerinin Sentezi ve Karakterizasyonu, 2015 - 2018

Okay O., Project Supported by Higher Education Institutions, İyonik Grup İçermeyen Çift Ağ Yapılı Poliakrilamid Hidrojellerin Karakterizasyonu, 2013 - 2018

Okay O., Project Supported by Higher Education Institutions, Tiol-en Fotopolimerizasyonu mekanizması ve çapraz bağlı polimerik malzelerin sentezi, 2004 - 2018

Okay O., Project Supported by Higher Education Institutions, Kendi Kendini Onaran Akıllı Hidrojellerin Sentezi ve Mekanik Özellikleri, 2014 - 2015

Okay O., Project Supported by Higher Education Institutions, Makrogözenekli İpek Fibroin İskeletlerinin Sentezi ve Karakterizasyonu, 2013 - 2015

Okay O., Project Supported by Higher Education Institutions, iyonik Grup İçermeyen Üç Ağ Yapılı Poliakrilamid Hidrojellerinin Karakterizasyonu, 2013 - 2015

Okay O., Project Supported by Higher Education Institutions, Kristalin Bölgeler İçeren Hidrojellerin Sentezi Ve Karakterizasyonu, 2013 - 2014

Okay O., Project Supported by Higher Education Institutions, Yüksek Dayanıklı Hidrofobik Modifiye Poliakrimalid Jellerinin Sentezi, 2011 - 2013

Okay O., Project Supported by Higher Education Institutions, Butil Kauçuk Esaslı Organojeller :Hazırlama Koşullarının Etkisi, 2008 - 2013

Okay O., Project Supported by Higher Education Institutions, Sıcaklık ve pH'ya Duyarlı PAAc/F127 İçice Geçmiş Ağyapların Sentezi ve Kontrollü İlaç Salım Sistemlerinde Kullanılması, 2012 - 2012

Okay O., Project Supported by Higher Education Institutions, İpek Fibroin Jellerin Mekanik Özelliklerinin İncelenmesi, 2011 - 2012

Okay O., Project Supported by Higher Education Institutions, Hidrofibik Etkileşimlerle Oluşan Tersinir Hidrojellerin Ayrışması ve Tekrar Oluşumu, 2011 - 2012

Okay O., Project Supported by Higher Education Institutions, Makrogözenekli DNA Jellerinin Sentezi, 2011 - 2011

Okay O., Project Supported by Higher Education Institutions, Makrogözenekli Kauçuk Organojel sentezi ve Petrol döküntülerinin Deniz Sularından Uzaklaştırılmasında Kullanımı, 2011 - 2011

Okay O., Project Supported by Higher Education Institutions, Miseller Polimerizasyonu ile Hidrojel Sentezi, 2010 - 2011

Okay O., Project Supported by Higher Education Institutions, BUTİL KAÜÇUK-SİLİFKA ESASLI NANOKOMPOZİT JELLERİN SENTEZİ, KARAKTERİZASYONU VE PETROL SORBENTİ OLARAK KULLANILMASI, 2009 - 2011

Okay O., Project Supported by Higher Education Institutions, Donmuş Monomer Çözeltilerden Makroporlu Hidrojellerin Sentezi ve Karakterizasyonu, 2008 - 2010

Okay O., Project Supported by Higher Education Institutions, Hızlı Yanıt Veren Butil Kauçuk Esaslı Organojeller, 2008 - 2008

Okay O., Project Supported by Higher Education Institutions, Akrilamid Laponite Nanokompozit Hidrojellerin Sentezi ve Karakterizasyonu, 2008 - 2008

Okay O., Project Supported by Higher Education Institutions, Statik Işık Saçınımı Tekniği ile Poliakrilamid Jellerinde İnhomojenitenin İncelenmesi, 2004 - 2007

Okay O., Project Supported by Higher Education Institutions, Hızlı Cevap Verebilen (fast-responsive) Poli(N-isopropilakrilamid) Esaslı Hidrojellerin Sentezi ve Karakterizasyonu, 2004 - 2007

Okay O., Project Supported by Higher Education Institutions, Poliakrilik Asid Hidrojellerinin Sentez Şartlarının İnhomojenitelerine Etkisinin İncelenmesi, 2003 - 2007

Okay O., Project Supported by Higher Education Institutions, Kuvvetli Polielektrolit Hidrojellerin Şişme Davranışlarının İnhomojenitelerine Olan Etkisinin İncelenmesi, 2003 - 2007

Okay O., Project Supported by Higher Education Institutions, Akrilamit Esaslı Süperabsorban Hidrojellerinin Sentezi Ve Sentez Şartları -Yapıları - Özellikleri, 1998 - 2005

Okay O., Project Supported by Higher Education Institutions, Sıcaklığa Duyarlı Poli Esaslı Hidrojenlerin Sentezi ve Karakterizasyonu, 2001 - 2004

Okay O., Project Supported by Higher Education Institutions, Akrilamit Esaslı Katyonik ve Anyonik Jellerin Polimer Çözeltilerinde Şişme Davranışları, 2001 - 2004

Okay O., Project Supported by Higher Education Institutions, Poli Ağyapı Liner Polimer-Solvent Sistemlerinin Termodinamik Analizi, 2001 - 2004

Activities in Scientific Journals

Advances in Polymer Science, Committee Member, 2013 - Continues

Turkish Journal of Chemistry, Committee Member, 2007 - Continues

Memberships / Tasks in Scientific Organizations

TÜBA, Member, 2006 - Continues

Scientific Refereeing

Reactive and Functional Polymers, SCI Journal, January 2017

Colloid and Interface Science, SCI Journal, January 2017

European Polymer Journal, SCI Journal, January 2017

Macromolecules, SCI Journal, January 2017

ACS Applied Materials and Interfaces , SCI Journal, January 2017

Biomacromolecules, SCI Journal, January 2017

Macromolecular Rapid Communications, SCI Journal, January 2017

Advances in Polymer Science, SCI Journal, January 2017

Polymer, SCI Journal, January 2017

Journal of Applied Polymer Science, SCI Journal, January 2017

Metrics

Publication: 236

Citation (WoS): 8234

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H-Index (Scopus): 48

Congress and Symposium Activities

6. Fiziksel Kimya Kongresi, Invited Speaker, Zonguldak, Turkey, 2017

6. Fiziksel Kimya Kongresi, Attendee, Zonguldak, Turkey, 2017

6. Ulusal Polimer Bilim ve Teknoloji Kongresi,, Invited Speaker, Ankara, Turkey, 2016

6. Ulusal Polimer Bilim ve Teknoloji Kongresi, Attendee, Ankara, Turkey, 2016

28.Ulusal Kimya Kongresi, Attendee, Mersin, Turkey, 2016

28.Ulusal Kimya Kongresi, Invited Speaker, Mersin, Turkey, 2016

World Polymer Congress, Attendee, İstanbul, Turkey, 2016

World Polymer Congress, Invited Speaker, İstanbul, Turkey, 2016

Multifunctional Biomaterials for Medicine, Invited Speaker, Berlin, Germany, 2015

27. Ulusal Kimya Kongresi, Attendee, Çanakkale, Turkey, 2015

27. Ulusal Kimya Kongresi, Invited Speaker, Çanakkale, Turkey, 2015

International Biomedical Engineering Congress,, Attendee, Girne, Cyprus (Kktc), 2015

International Biomedical Engineering Congress, Invited Speaker, Girne, Cyprus (Kktc), 2015

248th ACS National Meeting, Attendee, United States Of America, 2014

248th ACS National Meeting, Invited Speaker, California, United States Of America, 2014

Non Academic Experience

Helmholtz Zentrum Berlin

Technische Universitaet Dresden, Institut fur Physikalische Chemie

Technische Universitaet Clausthal, Institut fur Physikalische Chemie

University of Colorado, Boulder, Department of Chemical and Biological Engineering

Stuttgart Üniversitesi, Teknik Kimya Enstitüsü

TÜBİTAK Marmara Araştırma Merkezi, Temel Bilimler Kimya Bölümü

TÜBİTAK Marmara Araştırma Merkezi, Temel Bilimler Kimya Bölümü

TÜBİTAK Marmara Araştırma Merkezi, Kimya ve Kimya Mühendisliği Bölümleri

Stuttgart Üniversitesi, Teknik Kimya Enstitüsü

Technische Universitaet Wien, Avusturya