

# Prof. HALİL İBRAHİM ÜNAL

## Personal Information

**Mobile Phone:** [+90 532 625 9489](tel:+905326259489)

**Office Phone:** [+90 0312 202 1123](tel:+903122021123)

**Fax Phone:** [+90 0312 202 1279](tel:+903122021279)

**Email:** [hiunal@gazi.edu.tr](mailto:hiunal@gazi.edu.tr)

**Other Email:** [h.i.unal@gmail.com](mailto:h.i.unal@gmail.com)

**Web:** <https://avesis.gazi.edu.tr/hiunal>

**Address:** Gazi Üniversitesi, Fen Fakültesi, Kimya Bölümü, 96500, Ankara, Türkiye

## Education Information

Doctorate, Manchester Institute of Science and Technology, Polymer Science And Technology, England 1989 - 1993

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), Turkey 1985 - 1988

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Kimya Bölümü, Turkey 1978 - 1984

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Synthesis characterization and colloidal properties of block copolymers, Manchester Institute of Science and Technology, Polymer Science And Technology, 1993

Postgraduate, Dihalofenilen oksit polimerlerinin sentezi ve karakterizasyonu, Gazi University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), 1988

## Research Areas

Natural Sciences

## Academic and Administrative Experience

Gazi University, Fen Fakültesi, Kimya Bölümü, 2012 - 2015

Gazi University, Fen Fakültesi, Kimya Bölümü, 2012 - 2013

Fakülte Yönetim Kurulu Üyesi, Gazi University, Fen Fakültesi, Kimya, 2009 - 2013

Fakülte Kurulu Üyesi, Gazi University, Fen Fakültesi, Kimya, 2002 - 2009

## Courses

Malzeme Bilimi, Undergraduate, 2016 - 2017

Polimerik Malzeme Karakterizasyonu I, Doctorate, 2016 - 2017

Genel Kimya, Undergraduate, 2016 - 2017  
Araştırma projesi, Undergraduate, 2016 - 2017  
Endüstriyel Kimya, Undergraduate, 2016 - 2017  
Fizikokimyada Seçilmiş Araştırma Konuları, Undergraduate, 2016 - 2017  
İleri Polimer Kimyası, Doctorate, 2016 - 2017

## Advising Theses

ÜNAL H. İ. , İletken dolgulu şekil hafızalı poliüretanhazırlama ve karakterizasyonu, Postgraduate, L.URANBEY(Student), 2019

ÜNAL H. İ. , Diatomitin dielektrik, elektrokinetik ve viskoelastik özelliklerinin araştırılması, Postgraduate, C.ÖZDEMİR(Student), 2019

ÜNAL H. İ. , Poli (tiyofen-3-boronik asit)'in elektrokinetik, dielektrik, elektroeolojik ve endüstriyel titreşim sönümlenme uygulamalarının araştırılması, Doctorate, Ö.YUNUS(Student), 2015

ÜNAL H. İ. , Investigation of electrokinetic, dielectric, electrorheologic And industrial vibration damping applications of Poly(thiophene-3-boronic acid), Ö.Yunus(Student), 2015

ÜNAL H. İ. , Colloidal and electrorheological characterizations of core/shell structured hybrid nanocomposite with different geometries obtained from self assembled surface modified TiO<sub>2</sub>/conducting polymer, Doctorate, Ö.EROL(Student), 2014

ÜNAL H. İ. , Synthesis, characterization, electrokinetics and electrorheological properties of spherical TiO<sub>2</sub>/polypyrrole core/shell hybrid nanocomposites, Postgraduate, Ş.ÇABUK(Student), 2014

ÜNAL H. İ. , Synthesis, characterization and electrorheological properties of nanocube-TiO<sub>2</sub>/poly(3-octylthiophene) hybrid nanocomposites, Postgraduate, E.SEVER(Student), 2014

ÜNAL H. İ. , Investigation of synthesis, characterization, dielectric, electrokinetic and electrorheological properties of poly(3-aminophenylboronic acid), Postgraduate, Ş.ÖZKAN(Student), 2014

ÜNAL H. İ. , Synthesis, characterization and electrorheological properties of polyindole/TiO<sub>2</sub> hybrid nanocomposites, Postgraduate, B.ŞAHAN(Student), 2011

ÜNAL H. İ. , Synthesis, characterization and electrorheological properties of polyindene/colemanite composite, Ç.Berrak(Student), 2011

ÜNAL H. İ. , Poliinden/kolemanit kompozit sentezi, karakterizasyonu ve elektroeolojik özelliklerinin incelenmesi, Postgraduate, B.ÇETİN(Student), 2011

ÜNAL H. İ. , POLİİNDEN/MONTMORİLLONİT NANOKOMPOZİTLERİN SENTEZİ, KARAKTERİZASYONU VE ELEKTROREOLOJİK ÖZELLİKLERİNİN ARAŞTIRILMASI, S.GÜZEL(Student), 2010

ÜNAL H. İ. , Investigation of colloidal, electrorheological and creep properties of poly(vinyl chloride)/polyindole composites, Postgraduate, K.KOYUNCU(Student), 2010

ÜNAL H. İ. , Poliinden/montmorillonit nanokompozitlerin sentezi, karakterizasyonu ve elektroeolojik özelliklerinin araştırılması, Postgraduate, S.GÜZEL(Student), 2010

ÜNAL H. İ. , Politiyofen/boraks kompozitin sentezi, karakterizasyonu ve elektroeolojik özelliklerinin araştırılması, Postgraduate, Ö.YUNUS(Student), 2010

ÜNAL H. İ. , Poliindol/montmorillonit nanokompozit sentezi, karakterizasyonu ve elektroeolojik özelliklerinin araştırılması, Postgraduate, Ö.EROL(Student), 2008

ÜNAL H. İ. , SYNTHESIS, CHARACTERIZATION AND ELECTORHEOLOGICAL PROPERTIES OF POLYINDOLE/MONTMORILLONITE NANOCOMPOSITE, Ö.EROL(Student), 2008

ÜNAL H. İ. , Poliindol/poli(vinil asetat) kompozitlerin elektroeolojik özelliklerinin araştırılması, Postgraduate, K.ÖZ(Student), 2007

ÜNAL H. İ. , INVESTIGATION OF ELECTORHEOLOGICAL PROPERTIES OF POLYINDOLE/POLY(VINYL ACETATE) COMPOSITES, K.ÖZ(Student), 2007

ÜNAL H. İ. , Poliinden/kalsiyum karbonat kompozitlerinin sentezi, karakterizasyonu ve elektroeolojik özelliklerinin incelenmesi, Postgraduate, Ş.SARIKAYA(Student), 2007

ÜNAL H. İ. , INVESTIGATION OF ELECTORHEOLOGICAL PROPERTIES OF POLY(OXYMETHYLENE)/POLYTHIOPHENE

COMPOSITES, M.EYRİK(Student), 2007

ÜNAL H. İ. , SYNTHESIS, CHARACTERIZATION AND ELECTORRHEOLOGICAL PROPERTIES POLYINDENE/CALCIUM CARBONATE COMPOSITES, Ş.SARIKAYA(Student), 2007

ÜNAL H. İ. , Poliinden/kaolin iletken kompozitlerinin sentezi, karakterizasyonu ve elektoreolojik özelliklerinin incelenmesi, Postgraduate, Ç.ERİŞTİ(Student), 2006

ÜNAL H. İ. , Bazı polianilin türevlerinin elektoreolojik özelliklerinin araştırılması, Postgraduate, B.GERÇEK(Student), 2006

ÜNAL H. İ. , Poliindol ve poliindol/kaolin kompozitinin sentezi, karakterizasyon ve elektoreolojik özelliklerinin incelenmesi, Postgraduate, Y.ARSLAN(Student), 2005

ÜNAL H. İ. , Poli(2-hidroksi etil metakrilat)'in sentezi, karakterizasyonu ve elektoreolojik özelliklerinin incelenmesi, Postgraduate, O.AĞIRBAŞ(Student), 2004

ÜNAL H. İ. , Bazı kopolimerlerin elektoreolojik özelliklerinin incelenmesi ve endüstriyel uygulanabilirliğinin araştırılması, Doctorate, H.YILMAZ(Student), 2003

ÜNAL H. İ. , "Seramik endüstrisinde kullanılan çeşitli polimerik bağlayıcı besleme stoklarının hazırlanması ve reolojik özelliklerinin incelenmesi", Postgraduate, A.KOÇER(Student), 2001

ÜNAL H. İ. , Bazı polimerik sistemlerin oluşturduğu süspansiyonların elektoreolojik özelliklerin incelenmesi, Doctorate, M.YAVUZ(Student), 2000

ÜNAL H. İ. , Polipirol'ün sentezi, karakterizasyonu ve elektoreolojik özelliklerinin incelenmesi, Postgraduate, D.ŞAHİN(Student), 1999

ÜNAL H. İ. , Poli (etilen tereftalat) liflere azobisizobutironitril başlatıcı kullanılarak n-vinilimidazol aşılınması, Postgraduate, C.İNEGÖLLÜ(Student), 1999

ÜNAL H. İ. , Poli (2-akrilamido 2-metil propan sülfonik asit)'in sentezi, karakterizasyonu ve elektoreolojik özelliklerinin incelenmesi, Postgraduate, H.YILMAZ(Student), 1999

ÜNAL H. İ. , Poli (etilen teratlatat) filmler üzerine azobisizobütironitril başlatıcı kullanılarak akrilmitin aşılınması, Postgraduate, M.RASTAMLOU(Student), 1996

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Investigation of vibration damping properties of electroactive polyanthracene/silicone oil dispersions**  
ÇALIŞ İSMETOĞLU G., ÜNAL H. İ.  
Journal of Intelligent Material Systems and Structures, 2021 (Journal Indexed in SCI Expanded)
- II. **One-Pot Preparation of Electroactive Shape Memory Polyurethane/Carbon Black Blend**  
Uranbey L., ÜNAL H. İ. , ÇALIŞ İSMETOĞLU G., Gumus O. Y. , Katmer S., KARATAŞ Ç.  
JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, 2021 (Journal Indexed in SCI)
- III. **Effect of surfactant on the dielectric and electrorheological properties of zinc borate/silicone oil dispersions**  
Gumus O. Y. , ÜNAL H. İ.  
INTERNATIONAL JOURNAL OF MINERALS METALLURGY AND MATERIALS, vol.26, no.12, pp.1523-1530, 2019 (Journal Indexed in SCI)
- IV. **Electrorheological, Viscoelastic, and Creep-Recovery Behaviors of Covalently Bonded Nanocube-TiO<sub>2</sub>/Poly(3-octylthiophene) Colloidal Dispersions**  
Sever E., ÜNAL H. İ.  
POLYMER COMPOSITES, vol.39, no.2, pp.351-359, 2018 (Journal Indexed in SCI)
- V. **Colloidal and viscoelastic properties of expanded perlite dispersions**  
Cabuk M., Yesil T. A. , YAVUZ M., ÜNAL H. İ.  
JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES, vol.29, no.1, pp.32-40, 2018 (Journal Indexed in SCI)
- VI. **TEMPO-treated CNF Composites: Pulp and Matrix Effect**  
POYRAZ B., TOZLUOĞLU A., CANDAN Z., DEMİR A., YAVUZ M., BÜYÜKSARI Ü., ÜNAL H. İ. , Fidan H., Saka R. C.

FIBERS AND POLYMERS, vol.19, no.1, pp.195-204, 2018 (Journal Indexed in SCI)

- VII. **Enhanced electrokinetic properties and antimicrobial activities of biodegradable chitosan/organo-bentonite composites**

Cabuk M., ALAN Y., ÜNAL H. İ.

CARBOHYDRATE POLYMERS, vol.161, pp.71-81, 2017 (Journal Indexed in SCI)

- VIII. **Electrokinetic, electrorheological and viscoelastic properties of Polythiophene-graft-Chitosan copolymer particles**

Cabuk M., YAVUZ M., ÜNAL H. İ.

COLLOIDS AND SURFACES A-PHYSCOCHEMICAL AND ENGINEERING ASPECTS, vol.510, pp.231-238, 2016 (Journal Indexed in SCI)

- IX. **Synergistic Effects of Surfactant on Dielectric and Electrorheological Properties of Boronic Acid Derivative Polymer Dispersions**

Ozkan S., Gumus O. Y., ÜNAL H. İ.

MACROMOLECULAR CHEMISTRY AND PHYSICS, vol.217, no.24, pp.2736-2743, 2016 (Journal Indexed in SCI)

- X. **A Comparative Study on Electrokinetic Properties of Boronic Acid Derivative Polymers in Aqueous and Nonaqueous Media**

Gumus O. Y., Ozkan S., ÜNAL H. İ.

MACROMOLECULAR CHEMISTRY AND PHYSICS, vol.217, no.12, pp.1411-1421, 2016 (Journal Indexed in SCI)

- XI. **Enhanced dielectric and electrorheological properties of needle-like TiO<sub>2</sub>/polyrhodanine core/shell hybrid nanostructure**

Ozkan S., ÜNAL H. İ.

JOURNAL OF APPLIED POLYMER SCIENCE, vol.133, no.13, 2016 (Journal Indexed in SCI)

- XII. **Colloidal properties of surface functionalized nanocube-TiO<sub>2</sub>/poly(3-octylthiophene) core/shell conducting nanocomposite**

Sever E., ÜNAL H. İ.

APPLIED SURFACE SCIENCE, vol.355, pp.1028-1036, 2015 (Journal Indexed in SCI)

- XIII. **Enhanced electrokinetic, dielectric and electrorheological properties of covalently bonded nanosphere-TiO<sub>2</sub>/polypyrrole nanocomposite**

Cabuk S., ÜNAL H. İ.

REACTIVE & FUNCTIONAL POLYMERS, vol.95, pp.1-11, 2015 (Journal Indexed in SCI)

- XIV. **Colloidal, electrorheological, and viscoelastic properties of polypyrrole-graft-chitosan biodegradable copolymer**

Cabuk M., YAVUZ M., ÜNAL H. İ.

JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES, vol.26, no.14, pp.1799-1810, 2015 (Journal Indexed in SCI)

- XV. **Electrokinetic and Antibacterial Properties of Needle Like-TiO<sub>2</sub>/Polyrhodanine Core/Shell Hybrid Nanostructures**

Ozkan S., ÜNAL H. İ., Yilmaz E., Suludere Z.

JOURNAL OF APPLIED POLYMER SCIENCE, vol.132, no.9, 2015 (Journal Indexed in SCI)

- XVI. **Synthesis, Characterization, and Enhanced Antibacterial Activity of Chitosan-Based Biodegradable Conducting Graft Copolymers**

Cabuk M., YAVUZ M., ÜNAL H. İ., ALAN Y.

POLYMER COMPOSITES, vol.36, no.3, pp.497-509, 2015 (Journal Indexed in SCI)

- XVII. **Core/shell-structured, covalently bonded TiO<sub>2</sub>/poly(3,4-ethylenedioxythiophene) dispersions and their electrorheological response: the effect of anisotropy**

EROL Ö., Unal H. İ.

RSC ADVANCES, vol.5, no.125, pp.103159-103171, 2015 (Journal Indexed in SCI)

- XVIII. **Synthesis, characterization and antimicrobial activity of biodegradable conducting polypyrrole-graft-chitosan copolymer**

Cabuk M., ALAN Y., YAVUZ M., ÜNAL H. İ.

APPLIED SURFACE SCIENCE, vol.318, pp.168-175, 2014 (Journal Indexed in SCI)

- XIX. **Electrokinetic properties of biodegradable conducting polyaniline-graft-chitosan copolymer in aqueous and non-aqueous media**  
Cabuk M., YAVUZ M., ÜNAL H. İ.  
COLLOIDS AND SURFACES A-PHYSCOCHEMICAL AND ENGINEERING ASPECTS, vol.460, pp.494-501, 2014  
(Journal Indexed in SCI)
- XX. **Effect of surfactant on electrokinetic properties of polyindole/TiO<sub>2</sub>-conducting nanocomposites in aqueous and nonaqueous media**  
ÜNAL H. İ. , Sahan B., EROL Ö.  
COLLOID AND POLYMER SCIENCE, vol.292, no.2, pp.499-509, 2014 (Journal Indexed in SCI)
- XXI. **Quaternized-poly(N-vinylimidazole)/montmorillonite nanocomposite: Synthesis, characterization and electrokinetic properties**  
ÜNAL H. İ. , EROL Ö., Gumus O. Y.  
COLLOIDS AND SURFACES A-PHYSCOCHEMICAL AND ENGINEERING ASPECTS, vol.442, pp.132-138, 2014  
(Journal Indexed in SCI)
- XXII. **Assembly of Non-Aqueous Colloidal Dispersions under External Electric Field**  
ÜNAL H. İ. , EROL Ö., ERSÖZ M.  
COLLOID AND INTERFACE CHEMISTRY FOR NANOTECHNOLOGY, vol.4, pp.167-175, 2014 (Journal Indexed in SCI)
- XXIII. **Synthesis, characterization and electrorheological properties of biodegradable chitosan/bentonite composites**  
Cabuk M., Yavuz M., Unal H. İ. , EROL Ö.  
CLAY MINERALS, vol.48, no.1, pp.129-141, 2013 (Journal Indexed in SCI)
- XXIV. **Effect of surface properties on the electrorheological response of hematite/silicone oil dispersions**  
EROL Ö., Ramos-Tejada M. d. M. , ÜNAL H. İ. , Delgado A. V.  
JOURNAL OF COLLOID AND INTERFACE SCIENCE, vol.392, pp.75-82, 2013 (Journal Indexed in SCI)
- XXV. **The negative and positive electrorheological behavior and vibration damping characteristics of colemanite and polyindene/colemanite conducting composite**  
Cetin B., Unal H. İ. , EROL Ö.  
SMART MATERIALS AND STRUCTURES, vol.21, no.12, 2012 (Journal Indexed in SCI)
- XXVI. **Electrokinetic and electrorheological properties of poly(vinyl chloride)/polyindole conducting composites**  
Koyuncu K., Ünal H. İ. , Gumus O. Y. , Erol Ö., Sarı B., Ergin T.  
POLYMERS FOR ADVANCED TECHNOLOGIES, vol.23, no.11, pp.1464-1472, 2012 (Journal Indexed in SCI)
- XXVII. **Synthesis and electrorheological properties of polyaniline/silicon dioxide composites**  
Yilmaz H., ZENGİN H., ÜNAL H. İ.  
JOURNAL OF MATERIALS SCIENCE, vol.47, no.13, pp.5276-5286, 2012 (Journal Indexed in SCI)
- XXVIII. **Polyindene/organo-montmorillonite conducting nanocomposites. II. electrorheological properties**  
Guzel S., EROL Ö., ÜNAL H. İ.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.124, no.6, pp.4935-4944, 2012 (Journal Indexed in SCI)
- XXIX. **SYNTHESIS, CHARACTERIZATION, AND ELECTROKINETIC PROPERTIES OF POLYINDENE/COLEMANITE CONDUCTING COMPOSITE**  
Cetin B., ÜNAL H. İ. , EROL Ö.  
CLAYS AND CLAY MINERALS, vol.60, no.3, pp.300-314, 2012 (Journal Indexed in SCI)
- XXX. **Electrorheological properties of polyaniline/K-feldspar conducting composite**  
EROL Ö., Karakısla M., ÜNAL H. İ. , SAÇAK M.  
JOURNAL OF COMPOSITE MATERIALS, vol.46, no.11, pp.1295-1304, 2012 (Journal Indexed in SCI)
- XXXI. **Investigation of electrokinetic and electrorheological properties of polyindole prepared in the presence of a surfactant**  
ÜNAL H. İ. , Sahan B., EROL Ö.  
MATERIALS CHEMISTRY AND PHYSICS, vol.134, no.1, pp.382-391, 2012 (Journal Indexed in SCI)
- XXXII. **Polyindene/organo-montmorillonite conducting nanocomposites. I. Synthesis, characterization, and electrokinetic properties**

- Guzel S., ÜNAL H. İ. , EROL Ö., SARI B.  
 JOURNAL OF APPLIED POLYMER SCIENCE, vol.123, no.5, pp.2911-2922, 2012 (Journal Indexed in SCI)
- XXXIII. **Electrorheology and creep-recovery behavior of conducting polythiophene/poly(oxymethylene)-blend suspensions**  
 EROL Ö., ÜNAL H. İ. , SARI B.  
 CHINESE JOURNAL OF POLYMER SCIENCE, vol.30, no.1, pp.16-25, 2012 (Journal Indexed in SCI)
- XXXIV. **Synthesis and Characterization of Novel Poly(dimethylsiloxane)/Polyindole Composites**  
 Urkmez G., SARI B., ÜNAL H. İ.  
 JOURNAL OF APPLIED POLYMER SCIENCE, vol.121, no.3, pp.1600-1609, 2011 (Journal Indexed in SCI)
- XXXV. **Polythiophene/Borax Conducting Composite II: Electrorheology and Industrial Applications**  
 Gumus O. Y. , EROL Ö., ÜNAL H. İ.  
 POLYMER COMPOSITES, vol.32, no.5, pp.756-765, 2011 (Journal Indexed in SCI)
- XXXVI. **Investigation of the Moldability Parameters of PEG Based Steatite Feedstocks by Powder Injection Molding**  
 Erguney S., Karatas C., Unal H. İ. , Saritas S.  
 INTERNATIONAL POLYMER PROCESSING, vol.26, no.2, pp.143-149, 2011 (Journal Indexed in SCI)
- XXXVII. **Electrical and Dielectric Characteristics of Al/Polyindole Schottky Barrier Diodes. II. Frequency Dependence**  
 Yeriskin S. A. , ÜNAL H. İ. , SARI B.  
 JOURNAL OF APPLIED POLYMER SCIENCE, vol.120, no.1, pp.390-396, 2011 (Journal Indexed in SCI)
- XXXVIII. **Synthesis, Characterization, and Colloidal Properties of Polythiophene/Borax Conducting Composite**  
 Gumus O. Y. , ÜNAL H. İ. , EROL Ö., SARI B.  
 POLYMER COMPOSITES, vol.32, no.3, pp.418-426, 2011 (Journal Indexed in SCI)
- XXXIX. **Preparation of Novel Polyindene/Polyoxymethylene Blends and Investigation of Their Properties**  
 Cabuk T. Z. , SARI B., ÜNAL H. İ.  
 JOURNAL OF APPLIED POLYMER SCIENCE, vol.117, no.6, pp.3659-3664, 2010 (Journal Indexed in SCI)
- XL. **Preparation of Conducting Poly(vinyl chloride)/Polyindole Composites and Freestanding Films via Chemical Polymerization**  
 Taylan N. B. , SARI B., ÜNAL H. İ.  
 JOURNAL OF POLYMER SCIENCE PART B-POLYMER PHYSICS, vol.48, no.12, pp.1290-1298, 2010 (Journal Indexed in SCI)
- XLI. **Synthesis, Electrorheology, and Creep Behaviors of In Situ Intercalated Polyindole/Organo-Montmorillonite Conducting Nanocomposite**  
 EROL Ö., ÜNAL H. İ. , SARI B.  
 POLYMER COMPOSITES, vol.31, no.3, pp.471-481, 2010 (Journal Indexed in SCI)
- XLII. **Electrorheological behavior of biodegradable modified corn starch/corn oil suspensions**  
 YAVUZ M., TILKI T., Karabacak C., EROL Ö., ÜNAL H. İ. , Uluturk M., Cabuk M.  
 CARBOHYDRATE POLYMERS, vol.79, no.2, pp.318-324, 2010 (Journal Indexed in SCI)
- XLIII. **Synthesis, electrorheology and creep behavior of polyindole/polyethylene composites**  
 SARI B., Yavas N., Makulogullari M., EROL Ö., ÜNAL H. İ.  
 REACTIVE & FUNCTIONAL POLYMERS, vol.69, no.11, pp.808-815, 2009 (Journal Indexed in SCI)
- XLIV. **Investigation of Electrorheological Properties and Creep Behavior of Poly(oxymethylene)/Polythiophene Composites**  
 Eyrik M., YAVUZ M., ÜNAL H. İ. , SARI B.  
 POLYMER COMPOSITES, vol.30, no.9, pp.1345-1352, 2009 (Journal Indexed in SCI)
- XLV. **Electrical Characteristics of Al/Polyindole Schottky Barrier Diodes. I. Temperature Dependence**  
 Altindal Ş., SARI B., ÜNAL H. İ. , Yavas N.  
 JOURNAL OF APPLIED POLYMER SCIENCE, vol.113, no.5, pp.2955-2961, 2009 (Journal Indexed in SCI)
- XLVI. **A Novel Copolymer: Starch-g-Polyvinylpyrrolidone**  
 Kahya S., Sanli O., ÜNAL H. İ. , ÇAMURLU P.  
 STARCH-STARKE, vol.61, no.5, pp.267-274, 2009 (Journal Indexed in SCI)

- XLVII. **Synthesis, Characterization, and Electrorheological Properties of Polyindene/Calcium Carbonate Composites**  
Sarıkaya S., YAVUZ M., Yılmaz H., ÜNAL H. İ. , SARI B.  
POLYMER COMPOSITES, vol.30, no.5, pp.583-590, 2009 (Journal Indexed in SCI)
- XLVIII. **Conducting Composites and Blends of Polythiophene and Polyoxymethylene**  
Ozgun A., SARI B., Uygun A., ÜNAL H. İ. , Cakanyildirim C.  
INTERNATIONAL JOURNAL OF POLYMER ANALYSIS AND CHARACTERIZATION, vol.14, no.6, pp.469-480, 2009 (Journal Indexed in SCI)
- XLIX. **Electrorheological properties and creep behavior of polyindole/poly(vinyl acetate) composite suspensions**  
Oz K., YAVUZ M., Yılmaz H., Unal H. İ. , SARI B.  
JOURNAL OF MATERIALS SCIENCE, vol.43, no.4, pp.1451-1459, 2008 (Journal Indexed in SCI)
- L. **Synthesis and characterization of polyindole/poly(vinyl acetate) conducting composites**  
Eraldemir O., SARI B., Gok A., ÜNAL H. İ.  
JOURNAL OF MACROMOLECULAR SCIENCE PART A-PURE AND APPLIED CHEMISTRY, vol.45, no.3, pp.205-211, 2008 (Journal Indexed in SCI)
- LI. **Electrorheological properties of polyaniline/red mud composite**  
YAVUZ M., Gok A. U. , Sen S., ÜNAL H. İ.  
INTERNATIONAL JOURNAL OF POLYMER ANALYSIS AND CHARACTERIZATION, vol.13, no.1, pp.9-24, 2008 (Journal Indexed in SCI)
- LII. **Synthesis, characterization and electrorheological properties of polyindene/kaolinite composites**  
Eristi C., Yavuz M., Yılmaz H., Sari B., Unal H. İ.  
JOURNAL OF MACROMOLECULAR SCIENCE PART A-PURE AND APPLIED CHEMISTRY, vol.44, pp.759-767, 2007 (Journal Indexed in SCI)
- LIII. **Electrorheological properties of kaolinite, polyindole, and polyindole/kaolinite composite suspensions**  
Arslan Y., Unal H. İ. , Yılmaz H., Sari B.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.104, no.5, pp.3484-3493, 2007 (Journal Indexed in SCI)
- LIV. **Comparison of electrorheological properties of some polyaniline derivatives**  
Gercek B., Yavuz M., Yılmaz H., Sari B., Unal H. İ.  
COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS, vol.299, pp.124-132, 2007 (Journal Indexed in SCI)
- LV. **Synthesis, characterization and electrorheological properties of poly(o-toluidine)/Zn conducting composites**  
Yılmaz H., Unal H. İ. , Sari B.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.103, no.2, pp.1058-1065, 2007 (Journal Indexed in SCI)
- LVI. **End-chain and mid-chain functional macrophotoinitiators of poly(epsilon-caprolactone) and their molar mass effects on strong electrorheological response**  
Yılmaz H., Degirmenci M., Yılmaz U., Unal H. İ.  
POLYMER JOURNAL, vol.39, no.1, pp.24-33, 2007 (Journal Indexed in SCI)
- LVII. **Poly(Li-2-hydroxyethyl methacrylate)-co-poly(4-vinyl pyridine): Molar mass effects on strong electrorheological response**  
Yılmaz H., Unal H. İ.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.101, no.2, pp.1065-1074, 2006 (Journal Indexed in SCI)
- LVIII. **Preparation of electrorheological active ionomers from poly(2-hydroxyethyl methacrylate)-co-poly(4-vinyl pyridine)**  
Yılmaz H., Unal H. İ.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.99, no.6, pp.3540-3548, 2006 (Journal Indexed in SCI)
- LIX. **Electrorheological properties of poly(Li-2-hydroxyethyl methacrylate) suspensions**  
Unal H. İ. , Agirbas O., Yılmaz H.  
COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS, vol.274, pp.77-84, 2006 (Journal

Indexed in SCI)

- LX. **Electrorheological properties of PMMA-b-PSt copolymer suspensions**  
Yilmaz H., Degirmenci M., Unal H. İ.  
JOURNAL OF COLLOID AND INTERFACE SCIENCE, vol.293, no.2, pp.489-495, 2006 (Journal Indexed in SCI)
- LXI. **An investigation of electrorheological properties of calcium carbonate suspensions in silicone oil**  
Yilmaz H., Unal H. İ. , Yavuz M.  
COLLOID JOURNAL, vol.67, no.2, pp.236-241, 2005 (Journal Indexed in SCI)
- LXII. **Electrorheological properties of suspensions prepared from poly (Li-tert-butyl methacrylate) ionomer**  
Yavuz M., Unal H. İ.  
TURKISH JOURNAL OF CHEMISTRY, vol.28, no.5, pp.587-601, 2004 (Journal Indexed in SCI)
- LXIII. **Kinetics of swelling assisted grafting of 4-vinyl pyridine onto poly(ethylene terephthalate) fibers using a benzoyl peroxide initiator**  
Arslan M., Yigitoglu M., Sanli O., Unal H. İ.  
POLYMER BULLETIN, vol.51, no.3, pp.237-244, 2003 (Journal Indexed in SCI)
- LXIV. **Electrorheological properties of poly(lithium-2-acrylamido2-methyl propane sulfonic acid) suspensions**  
Unal H. İ. , Yilmaz H.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.86, no.5, pp.1106-1112, 2002 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **Colloidal and Electrorheological Properties of Conducting Polyani line/ Bentonite Composite in Silicone Oil Medium**  
ÇABUK M., Yeşil T. A. , YAVUZ M., ÜNAL H. İ.  
Current Smart Materials, vol.2, no.1, pp.1-8, 2017 (Refereed Journals of Other Institutions)
- II. **Diyatomit ve Diyatmitt Poliakrilonitril Kompozitlerinden Hazırlanan Süspansiyonların Elektroeolojik Özelliklerinin İncelenmesi**  
ARIK H., ÜNAL H. İ. , YAVUZ M., YILMAZ H.  
Gazi Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.16, no.3, pp.473-482, 2003 (Other Refereed National Journals)
- III. **Electrorheological properties of suspensions prepared from diatomite and diatomite poly acrilonitrile composites**  
YILMAZ H., ÜNAL H. İ. , YAVUZ M., ARIK H.  
GAZI UNIVERSITY JOURNAL OF SCIENCE, vol.16, no.3, pp.473-482, 2003 (Other Refereed National Journals)
- IV. **Adsorption behaviour of copper II ion from aqueous solution on 4 vinyl pyridine grafted poly ethylene terephthalate fibers**  
YİĞİTOĞLU M., ARSLAN M., ŞANLI O., ÜNAL H. İ.  
HACETTEPE JOURNAL OF BIOLOGY AND CHEMISTRY, vol.31, pp.133, 2002 (Other Refereed National Journals)
- V. **Investigation of electrorheological properties of sepiolite suspensions**  
ÜNAL H. İ. , YAVUZ M., YILMAZ H.  
JOURNAL OF INSTITUTE OF SCIENCE AND TECHNOLOGY GAZI UNIVERSITY, vol.14, no.3, pp.999-1009, 2001 (Other Refereed National Journals)
- VI. **Electrorheological Fluids**  
ÜNAL H. İ.  
GAZI UNIVERSITY FACULTY OF ARCHITECT AND ENGINEERING JOURNAL, vol.9, no.2, pp.69, 1994 (Other Refereed National Journals)

## Books & Book Chapters



- I. **Gazlar**  
TÜMTÜRK H., MENZEK A., TUNÇELİ A., AKTAN E., SEVİN DÜZ F., ÜNAL H. İ. , YEKELER H., KIRAN İ., AKSU M. L. , PULAT M., et al.  
in: Genel Kimya Öğrenciler İçin Problem Çözümleri, Recai İnam, Serpil Aksoy, Editor, Palme Yayıncılık, Ankara, pp.109-149, 2015
- II. **Assembly of non-aqueous colloidal dispersions under external electric field**  
ÜNAL H. İ. , EROL Ö.  
in: Colloid and Interface Chemistry For Nanotechnology, Peter Kralchevsky, Reinhard Miller, Francesca Ravera, Editor, CRC Press, New York, pp.167-175, 2014
- III. **Assembly of Non-Aqueous Colloidal Dispersions under External Electric Field**  
Ünal H. I. , Erol Ö., Ersöz M.  
in: Colloid and Interface Chemistry for Nanotechnology, Peter Kralchevsky, Reinhard Miller, Francesca Ravera, Editor, CRC, New York , Florida, pp.167-176, 2014

### Refereed Congress / Symposium Publications in Proceedings

- I. **Effect of Defibrillation on Electric Field Response of Sepiolite**  
EROL Ö., ÜNAL H. İ.  
The Porous and Powder Materials Symposium and Exhibitions, Muğla, Turkey, 9 - 11 October 2019
- II. **Şekil Hafızalı Poliüretan Hazırlanması ve Yapısal, Termal ve Morfolojik Karakterizasyonu**  
Uranbey L., GÜMÜŞ Ö. Y. , KATMER Ş., ÇALIŞ G., KARATAŞ Ç., ÜNAL H. İ.  
31. Ulusal Kimya Kongresi, İstanbul, Turkey, 10 - 13 September 2019
- III. **Poliüretan/Karbon Siyahı Blendin Mekanik ve Reolojik Karakterizasyonu ve Şekil Hafıza Özelliklerinin Araştırılması**  
Uranbey L., GÜMÜŞ Ö. Y. , KATMER Ş., ÇALIŞ G., KARATAŞ Ç., ÜNAL H. İ.  
31. Ulusal Kimya Kongresi, İstanbul, Turkey, 10 - 13 September 2019
- IV. **A Comprehensive Study on Electrokinetic Properties of Diatomite Aqueous Suspensions**  
ÖZDEMİR C., GÜMÜŞ Ö. Y. , ÜNAL H. İ.  
3rd International Symposium on Innovative Approaches in Scientific Studies, Ankara, Turkey, 19 - 21 April 2019
- V. **Çinkoborat/Poli(dimetilsiloksan) Dispersiyon Sisteminin Elektrokinetik, Dielektrik ve Elektroeolojik Özelliklerinin İncelenmesi**  
ÇALIŞ G., Aydemir Z., GÜMÜŞ Ö. Y. , ÜNAL H. İ.  
Uluslararası katılımlı VII. Polimer Bilim ve Teknoloji Kongresi, Eskişehir, Turkey, 9 - 12 September 2018, pp.255
- VI. **Yeşil Kimya İlkelerinin polimer üretim teknolojilerine uygulanması ve sürdürülebilir kalkınma**  
ÜNAL H. İ.  
VII uluslararası katılımlı polimer bilim ve teknoloji kongresi, Eskişehir, Turkey, 9 - 12 September 2018, pp.17
- VII. **Enhanced electrokinetic properties and antimicrobial activities of biodegradable chitosan/organo-bentonite composites**  
ÇABUK M., ALAN Y., ÜNAL H. İ.  
3rd International porous powder materials symposium and exhibition, İzmir, Turkey, 12 - 15 September 2017, pp.71
- VIII. **Kurşun geçirmez yelek üretiminde kullanılan aramid kumaşın iplik sürtünme özelliklerine dilatant malzemelerin etkisinin araştırılması**  
Şenyılmaz H. K. , Uslan İ., ÜNAL H. İ. , DEMİR T.  
Aselsan 2. Malzeme Teknolojileri Çalıştayı, Ankara, Turkey, 7 - 08 November 2016, pp.56
- IX. **Poli tiyofen 3 boronik asit in Sulu ve Susuz Ortamlarda Elektrokinetik Özelliklerinin Araştırılması**  
GÜMÜŞ Ö. Y. , ÜNAL H. İ.  
VI. ulusal polimer bilim ve teknolojisi kongresi, Ankara, Turkey, 4 - 07 September 2016, pp.62
- X. **Electrorheological properties of biodegradable chitosan expanded perlite composites**  
ÇABUK M., YAVUZ M., ÜNAL H. İ.

28. ulusal kimya kongresi, Ankara, Turkey, 15 - 21 August 2016, pp.174
- XI. **Investigation of efficiency of I protect the environment with green chemistry entitled Tübitak 4004 nature and science schools project**  
ÇABUK M., Uçar Çabuk F., Ogelman H. G. , ÜNAL H. İ.  
28. ulusal kimya kongresi, Ankara, Turkey, 15 - 21 August 2016, pp.129
- XII. **Electrokinetic and Viscoelastic Properties of Expanded Perlite Dispersions**  
ÇABUK M., YAVUZ M., ÜNAL H. İ. , Yeşil T. A.  
The 15th international conference on electrorheological fluids and magnetorheological suspensions, Ankara, Turkey, 4 - 08 July 2016, pp.49
- XIII. **SYNTHESIS CHARACTERISATION AND ELECTORHEOLOGICAL PROPERTIES OF SCHIFF BASE MODIFIED CHITOSAN AND ITS COPPER COMPLEX**  
Kayapa F., GÜMÜŞ Ö. Y. , KARİPCİN F., ÜNAL H. İ.  
International conference on material science and technology in Capparocia, 6 - 08 April 2016, pp.232
- XIV. **Organoboronik Asit Malzemelerden Hazırlanan Akıllı Sıvıların Endüstriyel Titreşim Sönümleme Özellikleri ve Akıllı Sıvıların Stabilizasyon Uygulamalarında Kullanımı**  
ÜNAL H. İ.  
ASELSAN MACUNKÖY MALZEME TOPLANTISI, Turkey, 02 November 2015
- XV. **Organobor nanokompozit malzemelerden hazırlanan akıllı sıvıların endüstriyel titreşim sönümleme özellikleri**  
GÜMÜŞ Ö. Y. , ÖZKAN Ş., ÜNAL H. İ.  
ASELSAN 1. Malzeme Teknolojileri Çalıştayı, Ankara, Turkey, 14 - 15 September 2015
- XVI. **Electrokinetic and Dielectric Properties of Poly 3 aminophenylboronic acid in Aqueous and Non aqueous Media**  
ÖZKAN Ş., GÜMÜŞ Ö. Y. , ÜNAL H. İ.  
29th Conference of the European Colloid and Interface Society, Bordeaux, France, 6 - 09 September 2015
- XVII. **Colloidal Viscoelastic and Antibacterial Properties of Polythiophene graft Chitosan Copolymer Particles**  
ÇABUK M., ÜNAL H. İ.  
29th Conference of the European Colloid and Interface Society, Bordeaux, France, 6 - 09 September 2015
- XVIII. **How our drinking water is purified**  
ÜNAL H. İ.  
Healthy Water Kongress, Erzurum, Turkey, 20 - 22 May 2015
- XIX. **Akıllı Nanokompozit Akışkanlar**  
ÜNAL H. İ.  
TUSAŞ NANOTEKNOLOJİNİN HAVACILIK VE UZAY UYGULAMALARI ÇALIŞTAYI, Ankara, Turkey, 11 March 2015
- XX. **Electrorheological response of polyindene/colemanite conducting composite**  
Unal H. İ. , Cetin B., EROL Ö.  
13th International Conference on Electrorheological Fluids and Magnetorheological Suspensions (ERMR), Ankara, Turkey, 2 - 06 July 2012, vol.412
- XXI. **Titanium dioxide (TiO2) genotoxicity in human lymphocytes assessed by the alkaline comet assay**  
DEMİRTAŞ KORKMAZ F., ÜNAL F., SULUDERE Z., EROL Ö., ÜNAL H. İ. , YÜZBAŞIOĞLU D., TANER G.  
Nanobilim ve Nanoteknoloji Konferansı (NanoTR6), İzmir, Turkey, 15 - 18 June 2010

## Citations

Total Citations (WOS):1020

h-index (WOS):20

## **Non Academic Experience**

TUBITAK, Diđer (Kurumlar,hastaneler Vb.)

TUBITAK, Diđer (Kurumlar,hastaneler Vb.)

Ministry, Diđer (Kurumlar,hastaneler Vb.)