

# HAKAN KAYGUSUZ

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## EDUCATION

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<b>Dr. rer. nat., Chemistry</b> Technische Universität Berlin, Germany.	April 2014 - June 2017
<b>Ph.D., Chemistry</b> Istanbul Technical University, Turkey.	
<b>M.Sc., Chemistry</b> Istanbul Technical University, Turkey.	September 2008 - February 2011
<b>B.Sc., Physics Engineering</b> Istanbul Technical University, Turkey.	September 2005 - June 2009
<b>B.Sc., Chemistry</b> Istanbul Technical University, Turkey.	September 2004 - June 2008

## EXPERIENCE

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<b>Altınbaş University</b> Assistant Professor of Chemistry and Physics Vice Dean, School of Engineering and Natural Sciences (March 2018-present) Group Leader, Engineering Sciences Research Group (September 2018-present)	October 2017 - present
<b>Kadir Has University</b> Instructor at School of Engineering and Natural Sciences	March 2017 - June 2017
<b>Technische Universität Berlin</b> Researcher at Stranski Laboratory for Theoretical and Physical Chemistry	May 2014 - May 2017
<b>Istanbul Technical University</b> Research Assistant at Department of Chemistry	February 2010 - February 2017

## SKILLS AND INTERESTS

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<b>Interests</b>	Physical chemistry, materials science, biopolymers, chemometrics, statistics
<b>Characterization</b>	XRD, XRR, AFM, ellipsometry, mechanical tester, GC, HPLC, CE Raman, FT-IR, UV-VIS and fluorescence spectrometers; potentiometric methods
<b>Synthesis</b>	Single inorganic crystal growth, sol-gel, layer-by-layer deposition, nanofabrication, reactions in high temperatures, wet chemistry methods
<b>Programming</b>	C, R
<b>Membership</b>	Deutsche Physikalische Gesellschaft (Member 2015-),
<b>Languages</b>	Turkish, English, German, Mongolian

## AWARDS & SCHOLARSHIP

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<i>Magna cum laude</i> , TU Berlin	2017
Best poster presentation award, NTCA-2016 Conference	2016
Joint Doctoral Scholarship, TUBITAK	2014
First student in ITU history to complete Physics & Chemistry double major	2009

## EDITORIAL DUTIES

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**Editor**, Aurum Journal of Engineering Systems and Architecture 2018-present

**Reviewer**: *African Journal of Environmental Science and Technology, Applied Surface Science, Food Chemistry, IEEE Access, International Journal of Environmental Science and Technology, Journal of the Brazilian Chemical Society, Journal of Drug Delivery Science and Technology, Journal of the Science of Food and Agriculture, Journal of the Turkish Chemical Society A, Polymer Bulletin, Reactive and Functional Polymers, Separation Science and Technology*

## TEACHING

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### at Altınbaş University

CHEM123-KIM101 General Chemistry, FIZ101 Physics I, ME519 Biomaterials Fall 2018-19

CHEM123-KIM123 General Chemistry, FIZ102 Physics II Spring 2017-18

CHEM123-KIM101 General Chemistry Fall 2017-18

Organizing *Yetenek Akademisi* Mathematics & Science program with Vega Schools (2017-present)

Organizing national engineering student competitions (2018-present)

### at Kadir Has University

BIO205 Organic Chemistry Lab, PH132 Physics II Lab Spring 2016-17

### at Istanbul Technical University

KIM101 General Chemistry Lab, KIM206L-KIM221 Analytical Chemistry Lab, 2010-2017  
KIM222 Instrumental Analytical Methods Lab, KIM321 Physical Chemistry Lab,  
KIM432E Organic Structure Analysis

## PUBLICATIONS

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### SCI articles

- 18 N. Kahya, S. Bener, H. Kaygusuz, G.A. Evingür, F.B. Erim, Adsorptive removal kinetics of anionic dye onto chitosan films doped with graphene oxide: An in situ fluorescence monitoring; *Chemical Engineering Communications*, **2018**, 205(7), 881-887.
- 17 N. Kahya, H. Kaygusuz, F.B. Erim, Aqueous Removal of Sodium Dodecyl Benzene Sulfonate (SDBS) by Chitosan Films; *Journal of Polymers and the Environment*, **2018**, 26(5), 2166-2172.
- 16 G. Balkız, E. Pingo, N. Kahya, H. Kaygusuz, F.B. Erim, Graphene oxide/alginate quasi-cryogels for removal of methylene blue; *Water, Air, & Soil Pollution*, **2018**, 229, 131.
- 15 H. Kaygusuz, E. Torlak, G.A. Evingür, İ. Özen, R. von Klitzing, F.B. Erim, Antimicrobial cerium ion-chitosan crosslinked alginate biopolymer films: A novel and potential wound dressing; *International Journal of Biological Macromolecules*, **2017**, 105, 1161-1165.
- 14 T. El Boukhari, H. Kaygusuz, G. Bilir, F.B. Erim, G. Özen, Microstructural and optical properties of SiO<sub>2</sub> glasses doped with ZnSe Quantum Dots and Nd<sup>3+</sup> Ions; *Physica B: Condensed Matter*, **2017**, 509, 41-45.
- 13 H. Kaygusuz, S. Micciulla, F.B. Erim, R. von Klitzing, Effect of anionic surfactant on alginate-chitosan polyelectrolyte multilayer thickness; *Journal of Polymer Science Part B: Polymer Physics*, **2017**, 55, 1798-1803.
- 12 Z. Kalaycıoğlu, H. Kaygusuz, S. Döker, S. Kolaylı, F.B. Erim, Characterization of Turkish honeybee pollens by principal component analysis based on their individual organic acids, sugars, minerals, and antioxidant activities; *LWT – Food Science and Technology*, **2017**, 84, 402-408.

- 11 H. Kaygusuz, G.A. Evingür, Ö. Pekcan, R. von Klitzing, F.B. Erim, Surfactant and Metal Ion Effects on the Mechanical Properties of Alginate Hydrogels; *International Journal of Biological Macromolecules*, **2016**, 92, 220-224.
- 10 G. Uyar, H. Kaygusuz, F.B. Erim, Methylene blue removal by alginate-clay quasi-cryogel beads; *Reactive and Functional Polymers*, **2016**, 106, 1-7.
- 9 H. Kaygusuz, F. Tezcan, F.B. Erim, O. Yildiz, H. Sahin, Z. Can, S. Kolayli, Characterization of Anatolian honeys based on minerals, bioactive components and principal component analysis; *LWT – Food Science and Technology*, **2016**, 68, 273-279.
- 8 H. Kaygusuz, S. Uzaşçı, F.B. Erim, Removal of Fluoride from Aqueous Solution Using Aluminum Alginate Beads; *CLEAN – Soil, Air, Water*, **2015**, 43, 724-730.
- 7 H. Kaygusuz, M. Uysal, V. Adımcılar, F.B. Erim, Natural alginate biopolymer montmorillonite clay composites for vitamin B2 delivery; *Journal of Bioactive and Compatible Polymers*, **2015**, 30, 48-56.
- 6 H. Kaygusuz, M.H. Çoşkunırmak, N. Kahya, F.B. Erim, Aluminum Alginate-Montmorillonite Composite Beads for Defluoridation of Water; *Water, Air, & Soil Pollution*, **2015**, 226, 2257.
- 5 G.A. Evingür, H. Kaygusuz, F.B. Erim, Ö. Pekcan, Gelation of PAAm-PVP composites: A fluorescence study; *International Journal of Modern Physics B*, **2014**, 28, 1450122.
- 4 G.A. Evingür, H. Kaygusuz, F.B. Erim, Ö. Pekcan, Effect of Calcium Ion Concentration on Small Molecule Desorption from Alginate Beads; *Journal of Macromolecular Science, Part B*, **2014**, 53, 1157-1167.
- 3 H. Kaygusuz, G. Bilir, F. Tezcan, F.B. Erim, G. Özen, Biopolymer-assisted synthesis of yttrium oxide nanoparticles, *Particuology*, **2014**, 14, 19-23.
- 2 H. Kaygusuz, F.B. Erim, Ö. Pekcan, G.A. Evingür, Cation Effect on Slow Release from Alginate Beads: A Fluorescence Study; *Journal of Fluorescence*, **2014**, 24, 161-167.
- 1 H. Kaygusuz, F.B. Erim, Alginate/BSA/montmorillonite composites with enhanced protein entrapment and controlled release efficiency; *Reactive and Functional Polymers*, **2013**, 73, 1420-1425.

#### Other articles

- 1 H. Kaygusuz, Türkiye'ye Özgü Bitki ve Gıda Örneklerinin Temel Bileşenler Analiziyle Sınıflandırılması; *Aurum Journal of Engineering Systems and Architecture*, **2018**, accepted.

#### Book chapter

- 1 G. Özen, H. Kaygusuz, M.L. Öveçoğlu: Formation and transformation of the molecular units in tellurium based oxide glasses, *Frontier Developments in Optics and Spectroscopy*, **2007**, ed. B. di Bartolo and O. Forte, ISBN 978-1-936036-00-4

#### Dissertation

- H. Kaygusuz, Layered and composite biopolymers: mechanical, physical and antimicrobial properties, Technische Universität Berlin, **2017**.

## PRESENTATIONS

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#### Conference Abstracts – International

Most recent 3 are shown. Full list is available upon request.

- H. Kaygusuz, F.B. Erim, Biopolymer-assisted synthesis of cerium oxide nanoparticles, International Porous and Powder Materials Symposium and Exhibition 2017, 09.2017
- P. Hashemi, G. Gezek, H. Kaygusuz, F. Tezcan, F.B. Erim, Sensitive micronutrient analysis in spices and monofloral honeys by capillary electrophoresis coupled with LIF detector, ISC 2016 31st International Symposium on Chromatography, 09.2016

- N. Kahya, G.A. Evingür, S. Bener, H. Kaygusuz, F.B. Erim, Optical Properties and Characterization of Graphene Oxide Chitosan Composites through Tensile Testing TGA FTIR Analysis, Trends in Nanotechnology 2016, 09.2016

### **Conference Abstracts – National (Turkey)**

Most recent 3 are shown. Full list is available upon request.

- H. Kaygusuz, F.B. Erim, Seryum oksit nanoparçacıklarının yeşil eldesi, 21. Sıvıhal Fiziği Sempozyumu, 12.2017
- N. Kahya, H. Kaygusuz, G.A. Evingür, F.B. Erim, Kinetic Study of Dye Adsorption on Graphene Oxide Chitosan Composite Films, 28. Ulusal Kimya Kongresi, 08.2016
- N. Kahya, H. Kaygusuz, G.A. Evingür, F.B. Erim, Kitosan Filmlerin Boyar Madde Adsorpsiyon Kinetiğine İyonik Çapraz Bağlayıcı Türü ve Seçilen Bir Katkı Maddesinin Etkileri, 23. İstatistiksel Fizik Günleri, 06.2016

### **OTHER ACTIVITIES**

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- Club member of İstanbulspor (2014-present)
- Secretary-general of İstanbulspor Supporters Association (2017-present)
- Founding member of ITU Chemistry Society (2005-2008)
- Free courses for high school students on science, engineering, higher education and history of science.