

EMRE DEMİRKAYA, M.Sc.

Egitim mahallesi • Ertugrulgazi sokak • No: 10/4 • Balcova/IZMIR/TURKEY

Telephone: +90 531 613 1913

E-Mail: emredemirkaya@iyte.edu.tr • demirkayaemre@gmail.com

CURRICULUM VITAE

Date of Birth: July 29, 1988

Place of Birth: Izmir / Turkey

EDUCATION

- 09/2015 - Present **Doctor of Philosophy (Chemical Engineering)**, Izmir Institute of Technology
- » Course phase
- 09/2011 - 09/2015 **Master of Science (Chemical Engineering)**, Izmir Institute of Technology
- » **Study emphases:**
 - Overcoming a problem of Direct Methanol Fuel Cells (military purposes)
 - Analysis of the reaction products (methanol oxidation reaction)
 - Instrumental analysis operations
 - » **Thesis Title:** Catalytic Methanol Combustion
Advisor: Assoc. Prof. Dr. Erol ŞEKER
 - » **Scientific Prep-Class courses:**
 - Reaction Engineering & Reactor Design, Thermodynamics I & II, Fluid Dynamics, Heat and Mass Transfer, Material and Energy Balance B.S. Chemical Engineering courses were taken as essential
 - » **Optional courses:**
 - Engineering Design and Economics, Separation Processes, Differential Equations B.S. Chemical Engineering courses were taken to improve my engineering knowledge and vision
 - » **CGPA:** 3.36/4.00
- 09/2007 - 06/2011 **Bachelor of Science (Chemistry)**, Ege University
- » **Study emphases:** Chemistry Fundamentals, Industrial Chemistry, Applied Chemistry
 - » **Thesis Title:** Conversion of Wastewater Sludge's to Useful Products by Pyrolysis
- 09/2002 - 06/2006 **High School Degree (in Science)**, Cengiz Topel High School (English-weighted)
- » Advanced Courses in English and Science

PROFESSIONAL EXPERIENCE

- 01/2013 - Present **Teaching/Administrative Experience**, Izmir Institute of Technology
- » Teaching Assistantship of the courses:
 - Chemical Kinetics and Reactor Design (2016 Spring)
 - Thermodynamics I (2013 Spring, 2015 Fall)
 - Materials Science and Engineering (2013 Fall)
 - Chemical Engineering Lab I (2014 Spring, 2015 Spring)
 - Chemical Engineering Lab II (2014 Fall)

- » Participated in averagely six exams per term as a proctor
- » Responsible person in pre-application and opening days to promote Chemical Engineering Department

Research Experience, Izmir Institute of Technology

- » Techniques used and improved: Sol-gel method catalyst synthesis, impregnation method and dip-coating technique
- » initiated Chemical Vapor Deposition (iCVD) method learned, participated in some experiments on self-cleaning and super-hydrophobic polymeric thin film production
- » Methanol oxidation on Pt catalyst and biodiesel production were the main research areas
- » Analysis techniques used and developed: GC-TCD, GC-MS and XRD
- » *Exemplified experiments* and *supervised* practicals for undergraduate students on their *thesis* and *projects*, military and private high school students on their *projects*

06 - 07/2010

Intern, Izmir Food Control Laboratory Directorate

- » Laboratories involved: Chemical Analysis Lab., Organic Farming Residue Analysis Lab., Additive Analysis Lab., Biotoxin Lab., Mineral Lab.
- » Familiarized with lots of analysis instruments (GC, GC-MS, LC-MS-MS, HPLC, ICP-MS, etc.) and improved operation ability

CONFERENCES/PRESENTATIONS

- October 2014 » “Biogasoline Production from Glycerol over Single Step Sol-Gel Made Mixed Oxides: Effect of Acid Strength and Acid Type on Product Distribution”, 2nd International Congress on Energy Efficiency and Related Materials, Oludeniz, Mugla, Turkey
- September 2013 » “The Photocatalytic Activity of Ceria Doped Titania Catalysts in Methylene Blue Degradation and Glycerol Reforming”, 1st International Porous Powder Materials Symposium & Exhibition, Cesme, Izmir, Turkey

PROJECTS (as a supervisor for practicals in laboratory)

- 2014 - 2015 » Catalytic Self-Cleaning Glasses for Preventing Soot Formation on Fireplace Glass Protectors (senior undergraduate students' thesis project)
- 2014 - 2015 » Catalytic Self-Cleaning Glass Surfaces for Ovens (senior undergraduate students' thesis project)
- 2014 - 2015 » UV-VIS performance of spinach and leaf cabbage chlorophylls sensitized solar cells based on TiO₂ (Ozel Ege High School Project – presented in TUBITAK high school students research projects Competition / 4th DOESEF encouragement award in energy category)
- 2013 - 2014 » Catalytic Self-Cleaning Metal Surfaces for Ovens (senior undergraduate students' thesis project)
- 2013 - 2014 » Evaluation of Long-Term Stability of Antimicrobial Polymeric Membranes for Water Treatment (*for only catalyst preparation* - senior undergraduate students' thesis project)
- 2013 - 2014 » Preparation of Antibacterial Polyacrylonitrile Based Ultrafiltration Membranes for Waste Water Treatment (*for only catalyst preparation* - senior undergraduate students' thesis project)

PROJECTS

- 2013 - 2014 » Preliminary Design of Biodiesel Production Plant (4-Membered Group Project)
- 2010 » TUBITAK 2209-A Funded
Project: Conversion of Wastewater Sludge's to Useful Products by Pyrolysis

OTHER SKILLS

- Engineering Software* » **Proficient user** on Polymath
Upper-Intermediate user on ASPEN Plus & MATLAB
- Software* » **Proficient user** on Windows, Microsoft Office Suite, Cloud Computing, Internet, Android
Intermediate user on Adobe Photoshop, Dreamweaver, Flash & Fireworks
- Hardware* » **Proficient** on troubleshooting of PC hardware problems
- Driver License » B Class
- Language* » Turkish: Native Language
English: Advanced
German: Upper Beginner (Self Learning)

INTERESTS

- IT* » Love to follow the news, new technologies, software products and applications
- Economics* » Membership of the Forbes Turkey magazine and following news on economy
- Sports* » Able to make individual workout and diet programs
» Playing basketball and table-tennis, following NBA
- Books » Love to read entrepreneurship, crime-mystery, history of economics and personal development books

MEMBERSHIPS

- since 2007 » The Chemists Society

REFERENCES

Prof. Erol SEKER (M.Sc. Supervisor)
Department of Chemical Engineering
Izmir Institute of Technology
Urla, Izmir, Turkey – 35430
Room No: 147
Tel: +90 232 750 6646
E-mail: erolseker@iyte.edu.tr

Prof. Mustafa DEMİRCIOĞLU
Department of Chemical Engineering
Ege University
Bornova, Izmir, Turkey - 35100
Room No: 106
Tel: +90 232 311 1831
E-mail: mustafa.demircioglu@ege.edu.tr
E-mail: md.che.tr@gmail.com