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Professor of Chemical Engineering

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Language skills

Turkish: *Native*; **English:** *Advanced* [(TOEFL-IBT: 82 / 120 (2011), TOEIC: 710 / 900 (2006), YÖKDİL: 88,75/100 (2021)]; **Japanese:** *Intermediate* (Japanese Language Proficiency Test (JLPT): 308 / 400 (2010))

Educational Background

Post Doc. Nagoya University, Chemical Engineering Host: Prof. Dr. Motonobu GOTO	July-October 2014
Ph.D. Kumamoto University, Chemical Engineering Dissertation: “Electrolysis in Sub-critical Water for the Chemical Conversion of Various Organic Compounds” Advisor: Prof. Dr. Motonobu GOTO	March 2011
MSc Kumamoto University, Chemical Engineering Thesis: “Hydrothermal Electrolysis of Organic Compounds in Sub-critical Water” Advisor: Prof. Dr. Motonobu GOTO	March 2008
BSc Ege University Thesis: “Catalytic Wet Air Oxidation of Formic Acid” Advisor: Prof. Dr. Gonul GUNDUZ Graduated Faculty of Engineering Minored in Chemical Engineering	June 2006

Academic Appointments/Titles

Professor , Chemical Engineering Department of Chemical Engineering, Izmir Institute of Technology / Turkiye	2024
Associate Professor , Chemical Engineering Title awarded by Inter-University Council of the “Council of Higher Education of Turkey” as a result of Associate Professorship Title Exam, Department of Chemical Engineering, Izmir Institute of Technology / Turkiye	2018
Visiting Professor , Chemical Engineering Nagoya University, Japan	2014
Assistant Professor , Chemical Engineering Department of Chemical Engineering, Izmir Institute of Technology / Turkiye	2011

Highlights of Administrative Experience

Director, Geothermal Energy Research and Application Center (GEOCEN) (2019 to present)

Vice Chair, Department of Chemical Engineering (2013-2016)

Teaching experiences

Under Graduate Lectures:

CHE 220 Thermodynamics I (Credit: 3)

CHE 411 Chemical Engineering Lab III (Credit: 4)

CHE 302 Chemical Kinetics and Reactor Design (Credit: 4)

CHE 312 Separation Processes (Credit: 4)

CHE 420 Engineering Economics and Design (Credit: 4)

CHE 421 Engineering Design (Credit: 4)

CHE201 Material and Energy Balances in Engineering (Credit: 3)

CHE310 Chemical Engineering Lab I (Credit: 2)

Graduate Lectures:

CHE 553 Supercritical Fluid Technologies (Credit: 3)

CHE 542 Water and Waste Treatment (Credit: 3)

Supervising experience

Master students:

Saken Dadenov, Biotechnology (2013- 2015)

Gökalp Gözaydın, Chemical Engineering (2014- 2016)

Orkan Dal, Chemical Engineering (2017- 2019)

Duygu Şengün, Chemical Engineering (2016- 2018)

Çağlar Erşanlı, Chemical Engineering (2016- 2018)

Aycan Sapmaz, Chemical Engineering (2019- 2020)

Gülin Gümüşbulut, Chemical Engineering (2019- 2021)

Jackline Nampeera, Chemical Engineering (2020- 2022)

Taylan Can Köse, Chemical Engineering (2020- 2023)

Bekir Fırat Altınbaş, Chemical Engineering (2021- 2023)

Anıl Kahvecioğlu, Chemical Engineering (2021- 2023)

Bulutcem Öcal, Chemical Engineering (2021- 2023)

Onur İpek, Chemical Engineering (2023- continue)

Bahriyenur Arabacı, Chemical Engineering (2023- continue)

Melike Kübra Aslan, Chemical Engineering (2023- continue)

Sanem Reyhan Güzel, Chemical Engineering (2023- continue)

PhD Students:

Okan Akın, Chemical Engineering (2013-2017)

Ceren Orak, Chemical Engineering (2017- 2021)

Yaşar Kemal Receptoğlu, Chemical Engineering (2017-2023)

Post-Doctoral Researchers:

Ceren Orak, (2021- 2022)

Nasim Jalilnejad Falizi (2021-2023)

Membership in Scientific Organizations

American Chemical Society (ACS)
The Materials Research Society (MRS)
International Solvothermal & Hydrothermal Association (ISHA)
Chemical Engineering Society of Japan
American Institute of Chemical Engineers (AIChE)
Ege University Science and Technology Association

Other Scientific Activities

Organising Committee Member, 12th National Chemical Engineering Conference (UKMK2016), 23-26 August 2016, Wyndham Grand, İzmir, TURKEY

Organizing Committee Member, XIII. Ne Üretelim? Event and Project Competition, August 25, 2016, Wyndham Grand Hotel, İzmir, TURKEY

Organizing Committee Member, XII. Ne Üretelim? Event and Project Competition, September 11-12, 2014, Izmir Institute of Technology, Department of Chemical Engineering, İzmir, TURKEY

Scientific and Technical Advisory Committee Member, 1st National Laboratory Accreditation and Safety Symposium and Exhibition, 16-18 May 2013, Yıldız Teknik University Davut Pasa Campus, Istanbul, Turkey

Publications

Papers published in international periodicals covered by SCI

Recepoğlu, Y. K., Arar, Ö., **Yüksel, A.** (2024). Breakthrough Curve Analysis of Phosphorylated Hazelnut Shell Waste in Column Operation for Continuous Harvesting of Lithium from Water. *Journal of Chromatography A*, 1713, 464510, <https://doi.org/10.1016/j.chroma.2023.464510>

Öcal, B., & **Yüksel, A.** (2023). Liquefaction of Oak Wood Using Various Solvents for Bio-oil Production. *ACS Omega*, 8, 40944-40959. <https://doi.org/10.1021/acsomega.3c06419>

Altınbaş, B. F., & **Yüksel, A.** (2023). Synthesis of a novel cellulose-based adsorbent from olive tree pruning waste for removal of boron from aqueous solution. *Biomass Conversion and Biorefinery*, 0123456789. <https://doi.org/10.1007/s13399-023-04147-3>

Orak, C., Öcal, B., & **Yüksel, A.** (2023). Treatment of Sugar Industry Wastewater by Using Subcritical Water as a Reaction Media. *ChemistrySelect*, 8(1), e202203300. <https://doi.org/https://doi.org/10.1002/slct.202203300>

Altınbaş, B. F., Orak, C., Ökten, H. E., & **Yüksel, A.** (2022). Novel Hybrid Adsorption-Electrodialysis (AdED) System for Removal of Boron from Geothermal Brine. *ACS Omega*, 7(49), 45422–45431. <https://doi.org/10.1021/acsomega.2c06046>

Orak, C., & **Yüksel, A.** (2022b). Box–Behnken Design for Hydrogen Evolution from Sugar Industry Wastewater Using Solar-Driven Hybrid Catalysts. *ACS Omega*, 7(46), 42489–42498. <https://doi.org/10.1021/acsomega.2c05721>

Recepoğlu, Y. K., & **Yüksel, A.** (2022). Cross-Linked Phosphorylated Cellulose as a

- Potential Sorbent for Lithium Extraction from Water: Dynamic Column Studies and Modeling. *ACS Omega*, 7(43),38957–38968. <https://doi.org/10.1021/acsomega.2c04712>
- Mott, A., Baba, A., Hadi Mosleh, M., Ökten, H. E., Babaei, M., Gören, A. Y., Feng, C., Receptoğlu, Y. K., Uzelli, T., Uytun, H., Morata, D., **Yüksel, A.**, & Sedighi, M. (2022). Boron in geothermal energy: Sources, environmental impacts, and management in geothermal fluid. *Renewable and Sustainable Energy Reviews*, 167, 112825. <https://doi.org/10.1016/J.RSER.2022.112825>
- Nampeera, J., Receptoğlu, Y. K., & **Yüksel, A.** (2022). Valorization of olive tree pruning waste for potential utilization in lithium recovery from aqueous solutions. *Biomass Conversion and Biorefinery*. <https://doi.org/10.1007/s13399-022-02647-2>
- Orak, C., & **Yüksel, A.** (2022a). Comparison of photocatalytic performances of solar-driven hybrid catalysts for hydrogen energy evolution from 1,8-Diazabicyclo[5.4.0]undec-7-ene (DBU) solution. *International Journal of Hydrogen Energy*, 47(14), 8841–8857. <https://doi.org/https://doi.org/10.1016/j.ijhydene.2021.12.254>
- Orak, C., Sapmaz, A., & **Özşen, A. Y.** (2022). Selective catalytic hydrogenation of cellulose into sorbitol with Ru-based catalysts. *Turkish Journal of Chemistry*, 46(2), 434–445. <https://doi.org/10.55730/1300-0527.3318>
- Orak, C., & **Yüksel, A.** (2021b). Photocatalytic Hydrogen Energy Evolution from Sugar Beet Wastewater. *ChemistrySelect*, 6(43), 12266–12275. <https://doi.org/https://doi.org/10.1002/slct.202103342>
- Receptoğlu, Y. K., & **Yüksel, A.** (2021). Phosphorylated hazelnut shell waste for sustainable lithium recovery application as biosorbent. *Cellulose*, 28(15), 9837–9855. <https://doi.org/10.1007/s10570-021-04148-3>
- Orak, C., & **Yüksel, A.** (2021a). Graphene-supported LaFeO₃ for photocatalytic hydrogen energy production. *International Journal of Energy Research*, 45(9), 12898–12914. <https://doi.org/https://doi.org/10.1002/er.6620>
- Receptoğlu, Y. K., & **Yüksel, A.** (2021). Synthesis, Characterization and Adsorption Studies of Phosphorylated Cellulose for the Recovery of Lithium from Aqueous Solutions. *Cellulose Chemistry and Technology*, 55, 385–401.
- Orak, C., & **Yüksel Özşen, A.** (2020). Electrolytic Oxidation of 1,8-Diazabicyclo[5.4.0]undec-7-ene in Hot-Compressed Water on a Titanium Electrode. *Industrial & Engineering Chemistry Research*, 59(43), 19153–19161. <https://doi.org/10.1021/acs.iecr.0c02562>
- Yüksel Özşen, A.** (2020). Conversion of Biomass to Organic Acids by Liquefaction Reactions Under Subcritical Conditions. In *Frontiers in Chemistry* (Vol. 8). <https://www.frontiersin.org/articles/10.3389/fchem.2020.00024>
- Demirkaya, E., Dal, O., & **Yüksel, A.** (2019). Liquefaction of waste hazelnut shell by using sub- and supercritical solvents as a reaction medium. *The Journal of Supercritical Fluids*, 150, 11–20. <https://doi.org/https://doi.org/10.1016/j.supflu.2019.03.019>
- Ersanli, Ç., & **Özşen, A. Y.** (2019). Mineralization of olive mill wastewater under hydrothermal conditions. *Desalination and Water Treatment*, 147, 143–155. <https://doi.org/10.5004/dwt.2019.23758>
- Akin, O., & **Yüksel, A.** (2019). Novel hybrid process for the conversion of microcrystalline cellulose to value-added chemicals: part 3: detailed reaction pathway. *Cellulose*, 26(5), 2999–3008. <https://doi.org/10.1007/s10570-019-02291-6>

- Akin, O., & Yuksel, A. (2017). Novel hybrid process for the conversion of microcrystalline cellulose to value-added chemicals: part 2: effect of constant voltage on product selectivity. *Cellulose*, 24(11), 4729–4741. <https://doi.org/10.1007/s10570-017-1457-9>
- Gozaydin, G., & Yuksel, A. (2017). Valorization of hazelnut shell waste in hot compressed water. *Fuel Processing Technology*, 166, 96–106. <https://doi.org/10.1016/j.fuproc.2017.05.034>
- Akin, O., & Yuksel, A. (2016). Novel hybrid process for the conversion of microcrystalline cellulose to value-added chemicals: part 1: process optimization. *Cellulose*, 23(6), 3475–3493. <https://doi.org/10.1007/s10570-016-1054-3>
- Yuksel, A., Sasaki, M., & Goto, M. (2011b). Complete degradation of Orange G by electrolysis in sub-critical water. *Journal of Hazardous Materials*, 190(1), 1058–1062. <https://doi.org/https://doi.org/10.1016/j.jhazmat.2011.02.083>
- Yuksel, A., Sasaki, M., & Goto, M. (2011a). A new green technology: hydrothermal electrolysis for the treatment of biodiesel wastewater. *Research on Chemical Intermediates*, 37(2), 131–143. <https://doi.org/10.1007/s11164-011-0260-8>
- Yuksel, A., Sasaki, M., & Goto, M. (2011c). Electrolysis Reaction Pathway for Lactic Acid in Subcritical Water. *Industrial & Engineering Chemistry Research*, 50(2), 728–734. <https://doi.org/10.1021/ie101839r>
- Sasaki, M., Wahyudiono, Yuksel, A., & Goto, M. (2010). Applications of hydrothermal electrolysis for conversion of 1-butanol in wastewater treatment. *Fuel Processing Technology*, 91(9), 1125–1132.
- Yuksel, A., Koga, H., Sasaki, M., & Goto, M. (2010). Hydrothermal Electrolysis of Glycerol Using a Continuous Flow Reactor. *Industrial & Engineering Chemistry Research*, 49(4), 1520–1525. <https://doi.org/10.1021/ie9016418>
- Yuksel, A., Koga, H., Sasaki, M., & Goto, M. (2009). Electrolysis of glycerol in subcritical water. *Journal of Renewable and Sustainable Energy*, 1(3), 33112. <https://doi.org/10.1063/1.3156006>

Papers published in (inter)national periodicals covered by other indexes

- Recepoğlu, Y. K., Gümüşbulut, G., & Yuksel, A. (2023). A Comparative Assessment for Efficient Oleuropein Extraction from Olive Leaf (*Olea europaea* L. folium). *Turkish Journal of Engineering*, Volume 7 , Issue 2, pp. 116-124 Doi: 10.31127/tuje.1058500
- Dal, O., Şengün, D., & Yuksel, A. (2020). Ultrasound Assisted Extraction for the Recovery of Phenolic Compounds from Waste Hazelnut Shell. *Environmental Research & Technology*, Volume 3, Issue 3, pp. 135- 146 (doi:10.35208/ert.763459)
- Yuksel, A. (2016). Hydrothermal Treatment of Cellulose in Hot-Pressurized Water for the Production of Levulinic Acid. *Uludag University Journal of the Faculty of Engineering*. Volume 21, Issue 2, pp. 415- 434 (doi:10.17482/uumfd.278150)
- Yuksel, A. (2013). Hydrothermal Degradation of Congo Red in Hot Compressed Water and its Kinetics. *Journal of Chemical Engineering & Process Technology*. Volume 4, Issue 9, pp. 179- 188

Papers published in (inter)national conferences

- Orak C., Altınbaş B. F. & Özşen A. Y. (2023). Jeotermal Sulardan NMDG Fonskiyonel Grubu İçeren Selüloz Bazlı Adsorbent Varlığında Bor Giderimi. *UKMK-15 15. Ulusal Kimya Mühendisliği Kongresi*. September 4-7, 2023, Çanakkale, Türkiye
- Recepoğlu Y. K. & Özşen A. Y. (2022). Synthesis and Application of Cellulose-based Functionalized Adsorbent for the Recovery of Lithium from Aqueous Solutions. *IEX2020-A Vision for the Future*. September 8-10, 2022, Manuscript No: 3064023. Cambridge, UK
- Altınbaş B. F & Yüksel A. (2022). Development of Cellulose-Based Adsorbent for Boron Recovery from Water Resources. *The World Conference on Soil, Water, Energy and Air (EUWCSWEA2022)*. May 3-4, 2022, Porto, Portugal
- Gozaydin, G., & Yuksel, A. (2018). How to Add Value to Waste Hazelnut Shell by Using Subcritical Water as a Reaction Medium?. *12th International Symposium on Supercritical Fluids (ISSF2018)*. Antibes-Juan-Les-Pins- FRANCE, 22-25
- Ersanli, Ç., & Özşen, A. Y. (2018). Mineralization of Olive Mill Wastewater via Hydrothermal Degradation Reactions in Subcritical Water Medium. *International Water and Environment Congress*. Bursa-TURKEY
- Akin, O., & Yuksel, A. (2017). Conversion of Cellulose to High Value Platform Chemicals by Applying Direct Current in Hot-compressed Water. *16th European Meeting on Supercritical Fluids (EMSF 2017)*. Lisbon, PORTUGAL
- Gozaydin, G., & Yuksel, A. (2016). Hydrothermal Degradation of Various Biomasses into Value-Added Chemicals. *12th National Chemical Engineering Conference (UKMK2016)*, August 23-26, 2016, Wyndham Grand Hotel, İzmir, TURKEY
- Yuksel, A., & Akin, O. (2014). Acid-catalyzed Degradation of Biomass with Hydrothermal Electrolysis for the Production of Value-added Chemicals. *AMADEUS-4th International Solvothermal and Hydrothermal Association Conference*. Bordeaux, FRANCE
- Akin, O., & Yuksel, A. (2014). Software Simulation of Electrolysis Reaction of Biomass Under Hydrothermal Conditions. *AMADEUS-4th International Solvothermal and Hydrothermal Association Conference*. Bordeaux, FRANCE
- Yuksel, A. (2014). Acid-catalyzed Degradation of Biomass with Hydrothermal Electrolysis for the Production of Value-added Chemicals. *American Chemical Society (ACS) Meeting*, March 16-20, 2014, Manuscript No: 455, Dallas, Texas, USA
- Yuksel, A., Sasaki, M., & Goto, M. (2012). Electrolysis of Alcohols in High Temperature-High Pressure Water. *The Materials Research Society (MRS) Fall Meeting*, November 25-30, 2012, Manuscript No: C2.05 ,Boston, Massachusetts, USA
- Yuksel, A., Sasaki, M., & Goto, M. (2010). A New Environmentally Friendly Technique: Hydrothermal Electrolysis to Decompose Organic Contaminants”, *The 4th International Student Conference on Advanced Science and Technology (ICAST2010)*, May 25-26, 2010, Izmir, Turkey
- Yuksel, A., Sasaki, M., & Goto, M. (2010). Hydrothermal Degradation of Glycerol by Electrolysis in Sub-critical Water. *12th European Meeting on Supercritical Fluids*, May 9-12, (2010), ISBN: 978-2905267-72-6, Manuscript No: P-19, Graz, Austria

- Sasaki, M., Oshikawa, T., Koga, H., **Yuksel, A.**, Diono, W., & Goto, M. (2009). Reaction Pathway Analysis for Electrolysis of Alcohols and Sugars in Sub-Critical Water. *09AIChE Annual Meeting*, (2009). P-262 ISBN: 978-0-8169-1058-6, Nashville, TN, USA
- Diono, W., Kuroda, T., **Yuksel, A.**, Sasaki, M., & Goto, M. (2009). Hydrothermal Processes for Removal of Wastewater Containing Organic Pollutants. *The 6th International Symposium on Supercritical Fluid Technology* (Supergreen 2009), Sendai, JAPAN, Manuscript No: P2-319
- Yuksel, A.**, Sasaki, M., & Goto, M. (2009). Treatment of Biodiesel Wastewater by Electrolysis in Sub-critical Water. *The 6th International Symposium on Supercritical Fluid Technology* (Supergreen 2009). Sendai, JAPAN, Manuscript No: P2-311
- Yuksel, A.**, Koga, H., Sasaki, M., & Goto, M. (2009). Treatment of BDF Wastewater with Hydrothermal Electrolysis. *Proceedings of 9th International Symposium on Supercritical Fluids* (ISSF2009). Arcachon, FRANCE, Manuscript No: C33-CO90
- Goto, M., **Yuksel, A.**, Koga, H., & Sasaki, M. (2009). Hydrothermal Electrolysis of BDF Wastewater Containing Glycerol. *The 4th International Symposium on Material Cycling Engineering*, Osaka, JAPAN, Manuscript No: P-20
- Yuksel, A.**, Sasaki, M., & Goto, M. (2008). Electrolysis of Organic Compounds in Sub-critical Water. *Proceedings of the 21st International Symposium on Chemical Engineering*. Saga, JAPAN, Manuscript No: OC-13
- Goto, M., Koga, H., **Yuksel, A.**, Sasaki, M., & Kuwahara, Y. (2008). Electrochemical Reaction of Alcohols in Sub-Critical Water. *08AIChE Annual Meeting*, P-255 ISBN: 978-0-8169-1050-2, Philadelphia, USA
- Goto, M., **Yuksel, A.**, Koga, H., Hayashi, R., Diono, W., & Sasaki, M. (2008). Reaction of Organic Compounds by Hydrothermal Electrolysis in Subcritical Water. *The 3rd International Symposium on Material Cycling Engineering*, Osaka, JAPAN, Manuscript No: PS-1-13
- Yuksel, A.**, Diono, W., Sasaki, M., & Goto, M. (2007). Hydrothermal Electrolysis of Various Alcohols in Sub-critical Water. *The 5th International Symposium on Supercritical Fluid Technology* (Supergreen 2007). Seoul, KOREA, Manuscript No:P02-43
- Yuksel, A.**, Diono, W., Hayashi, R., Sasaki, M., & Goto, M. (2007). Electrical Treatment of Various Alcohols in Sub-critical Water for Understanding Electrochemical Reaction Behavior. *Proceedings of International Symposium on EcoTopia Science* (ISETS07). ISSN: 240711. Nagoya, JAPAN
- Yuksel, A.**, Diono, W., Sasaki, M., & Goto, M. (2007). Hydrothermal Electrolysis of Organic Contaminants. *07AIChE Annual Meeting*. P-246 ISBN: 978-08169-1022-9, Salt Lake City, Utah, USA

Papers presented international conferences

- Recepoğlu, Y.K, and **Yüksel Özşen, A.** (2023, 30 October-02 November). Utilization of Phosphorylated Hazelnut Shell Waste in a Column for Continuous Lithium Recovery from Water [Paper presentation]. *5th International Environmental Chemistry Congress*, Antalya Turkiye. Manuscript No: 3064023.
- Recepoğlu, Y.K, and **Yüksel Özşen, A.** (2022, September 8-10). Synthesis and Application of Cellulose-based Functionalized Adsorbent for the Recovery of Lithium from Aqueous

- Solutions [Paper presentation]. *IEX2020-A Vision for the Future*, Cambridge, UK. Manuscript No: 3064023.
- Altınbaş, B.F., and **Yüksel, A.** (2022, May 3-4). Development of Cellulose-Based Adsorbent for Boron Recovery from Water Resources [Paper presentation]. *The World Conference on Soil, Water, Energy and Air (EUWCSWEA2022)*. Porto, Portugal
- Recepoğlu, Y.K, and **Yüksel Özşen, A.** (2022, March 3-4). Development of Sustainable and Cost Effective Biosorbent from Hazelnut Shell Waste for Lithium Extraction from Water [Paper presentation]. *The 7th International Conference Ecological and Environmental Chemistry*. Chisinau, Republic of Moldova.
- Orak C. and **Yüksel A.** (January 28-29, 2022). Selective Catalytic Hydrogenation of Glucose into Sorbitol with Ru/SBA-15-SO₃ [Paper presentation]. *V-International European Conference on Interdisciplinary Scientific Research*, Valencia, Spain
- Orak C. and **Yüksel A.** (December 3-4, 2021). Hydrogen Production from Sugar Factory Wastewater Using Solar Light-Driven Hybrid Catalyst [Paper presentation]. *International World Energy Conference*, Kayseri, Turkey
- Demirkaya E., Dal O., **Yüksel A.** (April 08-11, 2019). Biomass Valorization for Bio-oil Production in Supercritical Fluids [Paper presentation]. *17th European Meeting on Supercritical Fluids (EMSF 2019)*, ITQUIMA Ciudad Real, SPAIN
- Yüksel A.** and Orak C. (March 31-April 04, 2019). Hydrogen Production from Sugar Beet Wastewater in the Presence of Perovskite Type Catalysts by Photocatalytic Oxidation [Paper presentation]. *257th American Chemical Society (ACS) National Meeting*, Orlando, Florida, USA, Manuscript No: 3064023.
- Yüksel A.** and Gözaydın G. (April 22-25, 2018). How to Add Value to Waste Hazelnut Shell by Using Subcritical Water as a Reaction Medium? [Paper presentation]. *12th International Symposium on Supercritical Fluids (ISSF2018)*, Antibes-Juan-Les-Pins- FRANCE
- Ersanlı Ç. and **Yüksel Özşen A.** (March 22-24, 2018). Mineralization of Olive Mill Wastewater via Hydrothermal Degradation Reactions in Subcritical Water Medium [Paper presentation]. *International Water and Environment Congress*, Bursa-TURKEY
- Yüksel A.** and Akin O. (April 25-28, 2017). Conversion of Cellulose to High Value Platform Chemicals by Applying Direct Current in Hot-compressed Water [Paper presentation]. *16th European Meeting on Supercritical Fluids (EMSF 2017)*, Lisbon, PORTUGAL
- Akin O. and **Yüksel A.** (September 30-October 03, 2015). Conversion of Microcrystalline Cellulose to Value-Added Chemicals in Hot Compressed Water” [Paper presentation]. *1st International Conference on Green Chemistry and Sustainable Technologies (GCSTI2015)*, Izmir, TURKEY
- Gözaydın G. and Yüksel A. (September 30-October 03, 2015). Liquefaction of Various Biomasses by Using Subcritical Water as a Reaction Media” [Paper presentation]. *1st International Conference on Green Chemistry and Sustainable Technologies (GCSTI2015)*, Izmir, TURKEY
- Yüksel A.** and Akin O. (October 26-29, 2014). Acid-catalyzed Degradation of Biomass with Hydrothermal Electrolysis for the Production of Value-added Chemicals [Paper presentation]. *AMADEUS-4th International Solvothermal and Hydrothermal Association Conference*, Bordeaux, FRANCE
- Akin O and **Yüksel A.** (October 26-29, 2014). Software Simulation of Electrolysis Reaction of Biomass Under Hydrothermal Conditions [Paper presentation]. *AMADEUS-4th International Solvothermal and Hydrothermal Association Conference*, Bordeaux, FRANCE
- Yüksel A.** (March 16-20, 2014). Acid-catalyzed Degradation of Biomass with Hydrothermal Electrolysis for the Production of Value-added Chemicals [Paper presentation]. *American Chemical Society (ACS) Meeting*, Dallas, Texas, USA, Manuscript No: 455.

- Yuksel A.** (January 7-9, 2013). Degradation of Azo-Dyes by Hydrothermal Electrolysis Technique [Paper presentation]. *The 6th International Perspective on Water Resources & The Environment*, İzmir, TURKEY
- Yuksel A., Sasaki M., Goto M.** (November 25-30, 2012). Electrolysis of Alcohols in High Temperature-High Pressure Water [Paper presentation]. *The Materials Research Society (MRS) Fall Meeting*, Boston, Massachusetts, USA
- Yuksel A., Sasaki M., Goto M.** (December 15-16, 2010). Electrolysis Reaction Mechanism for Glycerol in Sub-critical Water [Paper presentation]. *The 5th International Student Conference on Advanced Science and Technology (ICAST2010)*, Kumamoto, JAPAN
- Yuksel A., Sasaki M., Goto M.** (November 18-19, 2010). Electrolysis Reaction Pathway for Glycerol in Sub-critical Water [Paper presentation]. *SCEJ (The Society of Chemical Engineers in Japan)*, Nagasaki, JAPAN
- Oshikawa T., **Yuksel A.**, Hiromichi K., Sasaki M., Goto M. (September 06-08, 2010). Reaction Mechanism of Glycerol and Saccharides by Hydrothermal Electrolysis [Paper presentation]. *Society of Chemical Engineers, Japan The 42nd Autumn Meeting*, Kyoto, JAPAN
- Yuksel A., Sasaki M., Goto M.** (July 27-29, 2010). A New Green Technology: Hydrothermal Electrolysis for the Treatment of Biodiesel Wastewater [Paper presentation]. *The 2nd International Solvothermal and Hydrothermal Association Conference 2010 (ISHA2010)*, Beijing, CHINA
- Yuksel A., Sasaki M., Goto M.** (May 25-26, 2010). A New Environmentally Friendly Technique: Hydrothermal Electrolysis to Decompose Organic Contaminants [Paper presentation]. *The 4th International Student Conference on Advanced Science and Technology (ICAST2010)*, Izmir, TURKEY
- Yuksel A., Sasaki M., Goto M.** (May 9-12, 2010). Hydrothermal Degradation of Glycerol by Electrolysis in Sub-critical Water [Paper presentation]. *12th European Meeting on Supercritical Fluids*, Graz, AUSTRIA
- Sasaki M., **Yuksel A.**, Wahyudiono, Goto M. (March 8-9, 2010). Continuous Degradation of Model BDF Production Waste Using Hydrothermal Electrolysis [Paper presentation]. *The 5th International Symposium on Applications of Supercritical Fluids in Green Chemistry and Material Sciences*, TAIWAN
- Sasaki M., Oshikawa T., Koga H., **Yuksel A.**, Wahyu Diono, Goto M. (November 8-13, 2009). Reaction Pathway Analysis for Electrolysis of Alcohols and Sugars in Sub-Critical Water [Paper presentation]. *09AIChE Annual Meeting*, Nashville, TN, USA
- Yuksel A., Sasaki M., Goto M.** (October 30-31, 2009). Treatment of Biodiesel Wastewater with Hydrothermal Electrolysis [Paper presentation]. *SCEJ (The Society of Chemical Engineers, Japan) 2nd Three-Branch Joint Meeting*, Kitakyushu, JAPAN
- Wahyudiono, Kuroda T., **Yuksel A.**, Sasaki M., Goto M. (October 15-17, 2009). Hydrothermal Processes for Removal of Wastewater Containing Organic Pollutants [Paper presentation]. *The 6th International Symposium on Supercritical Fluid Technology (Supergreen 2009)*, Tohoku University, Sendai, JAPAN
- Yuksel A., Sasaki M., Goto M.** (October 15-17, 2009). Treatment of Biodiesel Wastewater by Electrolysis in Sub-critical Water [Paper presentation]. *The 6th International Symposium on Supercritical Fluid Technology (Supergreen 2009)*, Tohoku University, Sendai, JAPAN
- Yuksel A., Sasaki M., Goto M.** (September 27-October 1, 2009). Hydrothermal Electrolysis of BDF Wastewater by Batch and Flow Type Reactors [Paper presentation]. *2nd Hope Meeting "Art in Science"* (together with Nobel laureates), Hakone, Kanagawa Prefecture, JAPAN
- Yuksel A., Sasaki M., Goto M.** (September 13-16, 2009). Treatment of Model Biodiesel Wastewater by Autoclave Electrolysis in Sub-critical Water [Paper presentation]. *Kumamoto University Global COE Program "Global Initiative Center for Pulsed Power*

- Engineering” International COE Forum on Pulsed Power Engineering & Young Researcher Training Camp, Kumamoto, JAPAN
- Sasaki M., Oshikawa T., **Yuksel A.**, Koga H., Kuwahara Y., Goto M. (July 26-31, 2009). Electrolysis Reaction Pathways for Alcohols and Sugars in Sub-Critical Water [Paper presentation]. *International Conference on High Pressure Science and Technology (Joint AIRAPT-22 & HPCJ-50)*, Odaiba, Tokyo, JAPAN
- Yuksel A.**, Sasaki M., Goto M. (July 11, 2009). Treatment of Model Biodiesel Wastewater by Autoclave Electrolysis in Sub-critical Water [Paper presentation]. *46th Godo Conference*, Kitakyushu, JAPAN
- Yuksel A.**, Koga H., Sasaki M., Goto M. (May 18-20, 2009). Treatment of BDF Wastewater with Hydrothermal Electrolysis [Paper presentation]. *9th International Symposium on Supercritical Fluids (ISSF 2009)*, Arcachon, FRANCE
- Goto M., **Yuksel A.**, Koga H., Sasaki M. (March 10-11, 2009). Hydrothermal Electrolysis of BDF Wastewater Containing Glycerol [Paper presentation]. *The 4th International Symposium on Material Cycling Engineering*, Osaka, JAPAN
- Yuksel A.**, Sasaki M., Goto M. (March 9-10, 2009). Hydrothermal Electrolysis of BDF Wastewater by Batch and Flow Type Reactors [Paper presentation]. *Green & Sustainable Chemistry Network 2009 (GSCN)*, Tokyo, JAPAN
- Yuksel A.**, Sasaki M., Goto M. (December 6-8, 2008). Electrolysis of Organic Compounds in Sub-critical Water [Paper presentation]. *Japan-South Korea International Joint Symposium*, Saga, JAPAN
- Goto M., Koga H. **Yuksel A.**, Sasaki M., Kuwahara Y. (November 16-21, 2008). Electrochemical Reaction of Alcohols in Sub-Critical Water [Paper presentation]. *08AIChE Annual Meeting*, Philadelphia, USA
- Yuksel A.**, Koga H., Sasaki M., Goto M. (September 8-10, 2008). Hydrothermal Electrolysis of Various Alcohols in Sub-critical Water for Understanding Electrochemical Reaction Behavior [Paper presentation]. *International Solvothermal and Hydrothermal Association Conference 2008 (ISHA2008)*, Nottingham, UK
- Yuksel A.**, Koga H., Sasaki M., Goto M. (June 26-28, 2008). Hydrothermal Electrolysis of Organic Compounds in Sub-critical Water [Paper presentation]. *2nd International Symposium on Applications of Supercritical Fluids in Green Chemistry and Material Science*, Kumamoto, JAPAN
- Goto M., **Yuksel A.**, Koga H., Hayashi R., Wahyudiono, Sasaki M. (March 13-14, 2008). Reaction of Organic Compounds by Hydrothermal Electrolysis in Subcritical Water [Paper presentation]. *The 3rd International Symposium on Material Cycling Engineering*, Osaka, JAPAN
- Yuksel A.**, Wahyudiono, Sasaki M., Goto M. (November 28-30, 2007). Hydrothermal Electrolysis of Various Alcohols in Sub-critical Water [Paper presentation]. *The 5th International Symposium on Supercritical Fluid Technology (Supergreen 2007)*, Seoul National University, Seoul, SOUTH KOREA
- Yuksel A.**, Wahyudiono, Hayashi R., Sasaki M., Goto M. (November 23-25, 2007). Electrical Treatment of Various Alcohols in Sub-critical Water for Understanding Electrochemical Reaction Behavior [Paper presentation]. *International Symposium on Eco Topia Science 2007*, Nagoya, JAPAN
- Yuksel A.**, Wahyudiono, Sasaki M., Goto M. (November 4-9, 2007). Hydrothermal Electrolysis of Organic Contaminants [Paper presentation]. *07 AIChE Annual Meeting*, Salt Lake City, Utah, USA
- Yuksel A.**, Sasaki M., Goto M. (September 13-15, 2007). Hydrothermal Electrolysis of Organic Compounds [Paper presentation]. *Society of Chemical Engineers, Japan The 39th Autumn Meeting*, Sapporo, JAPAN

Yuksel A., Kuroda T. Hayashi R., Sasaki M., Goto M. (March 2-6, 2007). Hydrothermal Electrolysis of Organic Wastewater Contaminants [Paper presentation]. *1st International Symposium on Applications of Supercritical Fluids in Green Chemistry and Material Science*, Beijing, CHINA

Papers presented national conferences

Orak C., Altınbaş B. F. & **Özşen A. Y.** (2023). Jeotermal Sulardan NMDG Fonskiyonel Grubu İçeren Selüloz Bazlı Adsorbent Varlığında Bor Giderimi. *UKMK-15 15. Ulusal Kimya Mühendisliği Kongresi*. September 4-7, 2023, Çanakkale, Türkiye

Gözaydın, G. & **Yuksel Özşen, A.** (2016, August 23-26). Hydrothermal Degradation of Various Biomasses into Value-Added Chemicals [Paper presentation]. *12th National Chemical Engineering Conference (UKMK2016)*. İzmir, Türkiye.

Dukkancı, M., **Yuksel, A.**, Gunduz, G. (2006, September 5-8). Wet Air Oxidation of Formic Acid inside Wastewaters [Paper presentation]. *7th National Chemical Engineering Conference (UKMK-7)*. Eskisehir, Türkiye.

RESEARCH PROJECTS

Ongoing projects

‘Demir ve Bakır Katkılı Grafitik Karbon Nitrürün Atık Sulardan Hidrojen Üretimi için Kullanılması’ **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2023 (IYTE BAP 2023), Project No: 2023IYTE-1-0001 Turkey (01.06.2023-01.06.2024) (10.000 TL)

‘Separation and Recovery of Lithium from Geothermal Water with New Type Chitosan-Lithium Manganese Dioxide Composite Material’ **Principal Investigator**, Research University Support Programme 2022 (AÜDP), Project No: 2022IYTE-2-0009, Turkey (03.10.2022-03.10.2024) (350.000 TL)

‘IYTE Tümüleşik Araştırma Merkezleri’nin Test ve Analiz Altyapısının İyileştirilmesi’ **Researcher**, Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, Project No: 2022K12-186897 Turkey (23.12.2022-23.12.2024) (20.000.000 TL)

Completed Projects

“Biooil Extraction from Forest Wastes by Hydrothermal Liquefaction” **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2022 (IYTE BAP 2022), Project No: 2022IYTE-1-0011 Turkey (01.06.2022-01.06.2023) (6.000 TL)

“Evaluation of Oak Wood Waste for Biooil Extraction by Hydrothermal Liquefaction” **Principal Investigator**, The Scientific and Technological Research Council of Turkey, 2022 (TUBITAK 1002-B Short Term R&D Funding Program), Project No: 122M768, Turkey (15.08.2022-15.02.2023) (45.000 TL)

“Design of Adsorption-Electrodialysis (AdED) Hybrid Reactor System for the Treatment of Wastewater”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2021 (IYTE BAP 2021), Project No: 2021IYTE1-0009, Turkey (26.04.2021-26.10.2022) (30.000 TL)

“Synthesis of Biosorbents for Boron Removal”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2021 (IYTE BAP 2021), Project No: 2021IYTE1-0012, Turkey (30.04.2021-30.04.2022) (6.000 TL)

“İzmir İlindeki Jeotermal Kaynakların Potansiyeli, Kullanım Alanları, Ekonomik ve Çevresel Etkilerinin Belirlenmesi”, **Researcher**, İzmir Development Agency (İZKA), (05.02.2021-15.11.2021. 9 Months) (500.000 TL)

“Managing Boron in Geothermal Fluids for Sustainable Development of High Temperature Geothermal Energy Systems in Gediz Graben, Turkey (GeoGrab)”, **Principal Investigator**, 2551-The Scientific and Technological Research Council of Turkey (Tubitak)-British Council Joint Program, 2019, Project No: 119N310, Turkey (01.09.2020-01.09.2022) (849.476 TL)

“Phosphoryl-functionalized cellulose-based adsorbents for recovery of lithium from water resources: Synthesis, adsorption and kinetic studies”, **Principal Investigator**, The Scientific and Technological Research Council of Turkey, 2020 (TUBITAK 1001 R&D Funding Program), Project No: 219M219, Turkey (15.06.2020-15.06.2022) (569.460 TL)

“Treatment of Sucrose Containing Wastewater with Graphene-Supported Perovskite Type Catalysts”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2020 (IYTE BAP 2020), Project No: 2020IYTE0007, Turkey (01.05.2020-01.05.2021) (10.000 TL)

“Synthesis of Cellulose-based Lithium Selective Adsorbents and Utilization of them in Batch Adsorption Studies”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2019 (IYTE BAP 2019), Project No: 2019IYTE0178, Turkey (08.04.2019-08.04.2020) (8.000 TL)

“Selective Catalytic Hydrothermal Electrolysis of Cellulose into Sorbitol by a Bifunctional Catalyst”, **Principal Investigator**, The Scientific and Technological Research Council of Turkey, 2018 (TUBITAK 1002 Short Term R&D Funding Program), Project No: 217M931, Turkey (15.01.2018-15.01.2019) (29.360 TL)

“The Valorization of Sugar Beet Wastewater for Hydrogen Production by Photocatalytic Oxidation”, **Principal Investigator**, The Scientific and Technological Research Council of Turkey, 2018 (TUBITAK 3501 Career Development Program), Project No: 217M272, Turkey (15.01.2018-15.01.2020) (198.990 TL)

“Hydrogen Production from Sucrose Solution by Photocatalytic Oxidation”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2017 (IYTE BAP 2017), Project No: 2017IYTE42, Turkey (01.01.2018-30.12.2018) (3.000 TL)

“Selective Conversion of Hazelnut Shell to Value-added Chemicals in Subcritical Water”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2017 (IYTE BAP 2017), Project No: 2017IYTE55, Turkey (05.02.2018-05.02.2019) (3.000 TL)

“Production of Bio-oil from Olive Branches and Leaves by Sub- and Supercritical Ethanol”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2017 (IYTE BAP 2017), Project No: 2017IYTE56, Turkey (15.01.2018-15.01.2019) (2.000 TL)

“Development of Catalysts for Selective Production of Value-added Chemicals from Cellulose in Hot-pressurized Water”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2016 (IYTE BAP 2016), Project No: 2016IYTE42, Turkey (December 2016-December 2017)

“Conversion of Olive Pruning Wastes into High-value Chemicals in the Liquid Phase by Using Subcritical Water”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2015 (IYTE BAP 2015), Project No: 2015IYTE22, Turkey (June 2015-June 2016)

“Recovery of Bioactive Polyphenols by Hybrid Extraction Process with Supercritical Carbon Dioxide and Water”, **Principal Investigator**, The Scientific and Technological Research Council

of Turkey (TUBITAK-BIDEB-2219 Program), Project No: 1059B191400662, (July 08-October 04 2014) (7.500 USD)

“Synthesis of Biomass Sourced Value Added Chemicals by Hydrothermal Electrolysis Technique (HYDELTECH)”, **Principal Investigator**, Marie Curie Career Integration Grants 2012 (FP7-PEOPLE-2012-CIG), Project No: PCIG11-GA-2012-321741, (September 2012-September 2016) (100.000 Euro)

“Degradation of Azo-dyes in Sub-critical Water Reaction Medium”, **Principal Investigator**, Scientific Research Projects of Izmir Institute of Technology, 2012 (IYTE BAP 2012), Project No: 2012IYTE01, Turkey (September 2012-March 2014) (45.000 TL)

“Technology Development for High Efficiency Biomass Energy Conversions by Hydrothermal Electrolysis”, **Researcher**, NEDO (New Energy and Industrial Technology Development Organization), Japan (April 2006-March 2009). (23.000.000 Japanese Yen)

“Development of Effective Detoxification Technology of Persistent Organics in Wastewater by Hydrothermal Electrolysis”, **Researcher**, Ministry of Environment of Japan (April 2007-March 2009)

“Treatment of BDF Wastewater with Hydrothermal Electrolysis”, **Principal Investigator**, Global COE (Center of Excellence) Acceleration Research, Japan (May 2008-March 2009) (300.000 Japanese Yen)

“Biodiesel Wastewater (BDF) Treatment by Using Hydrothermal Electrolysis Technique”, **Principal Investigator**, Global COE Acceleration Research, Japan (May 2009-March 2010) (200.000 Japanese Yen)

“Treatment of Nitrogen Containing Wastewater by Hydrothermal Electrolysis Technique”, **Principal Investigator**, Global COE Acceleration Research, Japan (May 2010-March 2011) (250.000 Japanese Yen)

HONORS & AWARDS & SCHOLARSHIPS

Awards from institutions:

“IZTECH The Best Academician Award”, July 12, 2019, IZTECH, TURKEY

“Post Doctoral Fellowship Award” by The Scientific and Technological Research Council of Turkey (TUBITAK-BIDEB-2219 First Term Program), 2014.

“Academic Excellence (University President's) Award”, New Frontier Sciences, Kumamoto University, March 25, 2011, JAPAN

Invited Researcher by JSPS (Japan Society for the Promotion of Science) to attend a workshop called “3rd Hope Meeting” together with Nobel laureates, March 7-11, 2010, Tokyo, JAPAN

Grantee by JSPS as a young researcher to attend a workshop called “2nd Hope Meeting: Art in Science” together with Nobel laureates, September 27-October 1, 2009, Hakone, Kanagawa Prefecture, JAPAN

Japanese Government (Monbukagakusho:Mext) Scholarship for Ph.D. Course in Graduate School of Science and Technology, Kumamoto University, Japan (2008-2011)

Japanese Government (Monbukagakusho:Mext) Scholarship for M.Sc. Course in Graduate School of Science and Technology, Kumamoto University, Japan (2006-2008)

Best student graduation award (90.11/100) from Ege University, Chemical Engineering Department in 2005-2006 autumn semester and second best student graduation award from Faculty of Engineering in the same semester
Ege University Science and Technology Research Center Scholarship (EBİLTEM), Turkey (2005-2006)

Awards from international conferences:

“Best PhD Student Presentation Award” from SCEJ (The Society of Chemical Engineers, Japan) November 18-19, 2010, Nagasaki, Japan

“The Excellence Award” in oral presentation competition for students at the 2nd International Solvothermal & Hydrothermal Association Conference (ISHA2010), July 27-29, 2010, Beijing, CHINA

“Best Presentation Award” from 4st International Symposium on Material Cycling Engineering, March 10, 2009, Osaka, JAPAN

“Best Poster Award” from Supergreen 2007 the 5th International Symposium on Supercritical Fluid Technology, November 28-30, 2007, Seoul, Korea

“Best Presentation Award” from 1st International Symposium on Applications of Supercritical Fluids in Green Chemistry and Material Science, March 2-6, 2007, Beijing, China