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**Dept. of Environmental Engineering**  
**Marmara University**  
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**Fields of Interest:**

Mathematical modeling and computer applications in chemical & environmental engineering; water and wastewater treatment technologies; deep-bed filtration; liquid-solid fluidization; applied hydraulics; porous media hydraulics.

**Education:**

BS: Chemical Engineering, Boğaziçi University, Istanbul, 1984

MS: Chemical Engineering, Syracuse University, USA, 1986

MS: Mathematics, Syracuse University, USA, 1989

Ph.D.: Chemical Engineering, Syracuse University, USA, 1990

**Experience:**

2018- ... : Vice Rector at Marmara University

2017- ... : Dean of Engineering at Marmara University

2011- 2018 : Professor and Department Head

2004 -2011 : Professor and Assistant Dept. Head

1998 -2004 : Associate Professor and Assistant Dept. Head  
Dept. of Environmental Engineering, Marmara University

1993 -1998 : Assistant Professor and Assistant Dept. Head  
Dept. of Environmental Engineering, Marmara University

1990 -1993 : Polymer Scientist and Scientific Programmer  
Biosym Technologies, San Diego, USA

1984 -1990 : Graduate Assistant & Graduate Fellow  
Dept. of Chemical Engineering & Materials Science  
Syracuse University, New York, USA

## Selected International Publications

1. S.Y. Hunce, E. Soyer, Ö. Akgiray (2019). Use of filterability index in granular filtration: effect of filter medium type, size and shape. *Water Supply* 19 (2): 382-391. doi: 10.2166/ws.2018.083.
2. S.Y. Hunce, E. Soyer, Ö. Akgiray (2018). On the Backwash Expansion of Graded Filter Media. *Powder Technology*, 333, 262-268. <https://doi.org/10.1016/j.powtec.2018.04.032>
3. E. Soyer, S.Y. Hunce, Ö. Akgiray (2017). Characterization of apricot stone shells as a rapid filter medium. *Desalination and Water Treatment*. 93, 318-323. doi: 10.5004/dwt.2017.20823.
4. S.Y.Hunce, E.Soyer, Ö.Akgiray (2016). Characterization of granular materials with internal pores for hydraulic calculations involving fixed and fluidized Beds. *Industrial and Engineering Chemistry Research*.
5. E Erdim, Ö. Akgiray, İ Demir (2015). A revisit of pressure drop-flow rate correlations for packed beds of spheres. *Powder Technology* 283, 488–504.
6. M. Eyvaz, Ö. Akgiray, E. Yüksel (2013). An experimental investigation on the hydraulic behavior of declining rate filtration. *Desalination and Water Treatment* 51, 6137–6147.
7. E. Soyer, Ö. Akgiray, N. Ö. Eldem, A. M. Saatçı (2013). On the use of crushed recycled glass instead of silica sand in dual-media filters. *Clean – Soil, Air, Water* 41 (4), 325–33.
8. E. Soyer, Ö. Akgiray, N. Ö. Eldem, A. M. Saatçı (2010). On the use of crushed recycled glass as a filter medium and comparison with silica sand. *Clean – Soil, Air, Water* 38 (10), 927–935.
9. E. Soyer and Ö. Akgiray (2009). A New Simple Equation for the Prediction of Filter Expansion During Backwashing. *Journal of Water Supply: Research and Technology-Aqua* 58 (5): 336-345.
- 10.Ö. Akgiray and E. Soyer (2006). An Evaluation of Expansion Equations for Fluidized Solid-Liquid Systems. *Journal of Water Supply: Research and Technology-Aqua*, 55 (7-8): 517-526.
- 11.Ö. Akgiray (2006). Reply to the discussion by W. H. Hager on “Explicit solutions of the Manning Equation for Partially Filled Circular Pipes.” *Canadian J. of Civil Engg*, 33:351-352.
- 12.Ö. Akgiray (2006). Reply to the discussion by T. S. W. Wong on “Explicit solutions of the Manning Equation for Partially Filled Circular Pipes.” *Canadian J. of Civil Engg*, 33:353-354.
- 13.Ö. Akgiray (2005). “Explicit solutions of the Manning Equation for Partially Filled Circular Pipes.” *Canadian J. of Civil Engg*, 32:490-499.
- 14.Ö. Akgiray, E. Soyer, and E. Yüksel (2004). “Prediction of Filter Expansion During Backwashing.” *Water Science & Technology: Water Supply*. Vol:4, No:5-6, pp.131-138.

- 15.N. Eldem, Ö. Akgiray, İ. Öztürk, E. Soyer, B. Çallı (2004). "Ammonia and pH inhibition in anaerobic treatment of wastewaters, Part II: Model development." *J. Environ. Sci. Health, Part A*. Vol.A39, No.9.
- 16.N. Eldem, İ. Öztürk, E. Soyer, B. Çallı, Ö. Akgiray (2004), "Ammonia and pH inhibition in anaerobic treatment of wastewaters, Part I: Experimental." *J. Environ. Sci. Health, Part A*. Vol.A39, No.9.
- 17.Ö. Akgiray (2004). "Simple Formulae for Velocity, Depth of Flow, and Slope Calculations in Partially Filled Circular Pipes." *Environmental Engineering Science*, 21(3).
- 18.E. Yüksel, Ö. Akgiray, and E. Soyer (2003). "Direct Filtration with Preozonation for Small Water Treatment Systems." *Water Science & Technology*, Vol:48, Issue:11-12.
- 19.S. Aksoğan, A. Baştürk, E. Yüksel, and Ö. Akgiray (2003). "The Use of Crushed Shells of Apricot Stones as the Upper layer in Dual Media Filters." *Water Science & Technology*, Vol:48, Issue:11-12.
- 20.E. Yüksel, Ö. Akgiray, A. Saatçı, H. Sarıkaya, İ. Koyuncu (2002). "Effect of Ozone Injection Location on Filter Performance in Direct Filtration," *Water Science and Technology*, Vol:46, Issue:9.
- 21.Ö. Akgiray and A. M. Saatçı (2001). "A New Look at Filter Backwash Hydraulics," *Water Science and Technology: Water Supply*, Vol:1, Issue:2, pp.65-72.
- 22.Ö. Akgiray and A. M. Saatçı (1998). "A Critical Look At Declining Rate Filtration Design," *Water Science and Technology*, Vol:38, Issue:6, pp.89-96.
- 23.Ö. Akgiray and A. M. Saatçı (1998). "An Algorithm for Bank Operation of Declining Rate Filters," *Water Research*, Vol:32, Issue: 7, pp. 2095-2105.
- 24.B. E. Eichinger and Ö. Akgiray (1994). "Computer Simulation of Polymer Network Formation," *Computer Simulation of Polymers*, ISBN 0-582-08374-5, E.A.Colbourne (Ed.), Longman, Harlow. Chapter 9.
- 25.Ö. Akgiray (1993). "Computer Simulation of the Formation of Polymer Networks," *Die Makromolekulare Chemie, Macromolecular Symposia*, Vol.76, 211-218.