

# ELIF AGARTAN

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## RESEARCH INTERESTS

CO<sub>2</sub> sequestration, heterogeneity effects on dissolution trapping and density-driven convective mixing, hydrogeology, groundwater flow and contaminant transport modeling, groundwater-surface water interactions and hydrology.

## EDUCATION

**Doctorate of Philosophy** Aug 2011 – Present  
PhD Student  
Center for Experimental Study of Environmental Subsurface Processes (CESEP)  
Department of Civil and Environmental Engineering,  
Colorado School of Mines (CSM), Golden, CO, USA  
Dissertation Subject: Heterogeneity effects on dissolution trapping  
Advisor: Prof. Dr. Tissa H. Illangasekare

**Doctorate of Philosophy** Sep 2010 – Jun 2011  
1 year – Course Work High Honor Student  
Department of Geological Engineering, Hydrogeology 4.00/4.00  
Middle East Technical University (METU), Ankara, Turkey

**Master of Science** Sep 2007 – Jun 2010  
Department of Geological Engineering, Hydrogeology High Honor Student  
Middle East Technical University (METU), Ankara, Turkey 3.86/4.00

Thesis Title: Assessment of Water Supply Impacts for a Mine Site in Western Turkey  
Advisor: Prof. Dr. Hasan Yazicigil

### Highlights:

(a) Determination of alternative water resources as surface water (low flow analyses carried out), groundwater (development of steady state groundwater flow model and determination of the location of alternative mine water supply wells) and reuse of waste water of Turgutlu town after treatment,

(b) Assessment of impacts associated with each resource,

(c) Selection of the most feasible alternative in the aspect of environmental and technical impacts.

## **Bachelor of Science**

Sep 2002 – Jun 2007

Department of Geological Engineering,  
Middle East Technical Univ. (METU), Ankara, Turkey

**Ranking: 1/30, (3.34/4.00)**

**Honor Student**

Senior Design Project: Remediation System Design for Anamur Plain

Advisor: Prof. Dr. Hasan Yazicigil

### Highlights:

- (a) Establishment of groundwater flow and contaminant transport model,
- (b) Determination of alternative remediation systems as source removal, source removal & flushing, pumping-treatment-injection system and subsurface barrier wall,
- (c) Assessment of impacts associated with each system,
- (d) Selection of the most feasible alternative in the aspect of environmental, technical and economic impacts.

## **EXPERIENCE**

Aug 2011 – Present **Graduate Research Assistant**

CESEP Laboratory

Department of Civil and Environmental Engineering

Colorado School of Mines (CSM)

Sep 2006

**Organization Committee Member**

4<sup>th</sup> Mediterranean Clay Meeting, METU, Ankara, Turkey

Aug 2006 - Sep2006 **Summer Internship**

General Directorate of Railways, Harbors and Airports Construction,  
Department of Research, Ankara, Turkey

- Laboratory applications of soil mechanics and concrete

Aug 2005 - Sep 2005 **Summer Internship**

Turkish Petroleum Corporation (TPAO),

Exploration Group - Trace Region, Ankara, Turkey

- Petroleum project applications;
  - Interpretation of seismic and columnar sections,
  - Preparation of structure, average velocity, and thickness maps,
  - Determination of the most feasible well location for the gas production in Trace Region,
- Reservoir geology applications

## **HONORS AND AWARDS**

**2007-2009** Graduate Study Scholarship from Scientific and Technological Research Council of Turkey (TUBITAK) (Turkish NSF) for Master of Science study at METU.

**July, 2007** Ranked 1<sup>st</sup> among all 30 graduates of the Bachelor's Degree in the Geological Engineering Department at METU 2006-2007 academic year.

**2003-2007** Awarded five times as High Honor student in undergraduate education.

**2006** Honorable Mansion Prize given by TMMOB (Turkish Chamber of Geological Engineers) in Summer Practice Report Competition (TPAO - Turkish Petroleum Corporation- Summer Practice Report).

## **PUBLICATIONS/ABSTRACTS (\* presenter)**

- **Agartan, E.\***, Illangasekare, T.H., Cihan, A., Birkholzer, J., Zhou, Q. and Trevisan, L., 2012, “Intermediate scale testing and modeling for improving fundamental understanding of heterogeneity effect on density-driven convective fingers and dissolution trapping in deep geologic formations”, Gordon Research Conference on Flow & Transport in Permeable Media, 25-29 June 2012, Les Diablerets, Switzerland (Poster Presentation).
- **Agartan, E.\***, Illangasekare, T.H., Cihan, A., Birkholzer, J., Zhou, Q. and Trevisan, L., 2012, “Intermediate scale testing and modeling for improving fundamental understanding of heterogeneity effect on density-driven convective fingers and dissolution trapping in deep geologic formations”, Gordon Research Seminar on Flow & Transport in Permeable Media, 23-24 June 2012, Les Diablerets, Switzerland (Poster Presentation).
- **Agartan, E.\***, Illangasekare, T.H., Cihan, A., Birkholzer, J., Zhou, Q. and Trevisan, L., 2012, “Intermediate scale testing and modeling for improving fundamental understanding of dissolution trapping in deep geological formations”, Conference for Earth and Environmental Research, 28-29 March 2012, Colorado School of Mines, CO, USA. (Poster Presentation).
- **Agartan, E.\***, Illangasekare, T.H., Cihan, A., Birkholzer, J., Zhou, Q. and Trevisan, L., 2012, “Intermediate scale testing and modeling for improving fundamental understanding of dissolution trapping in deep geological formations”, Hydrology Days, 21-23 March 2012, Colorado State University, CO, USA. (Poster Presentation).
- Trevisan, L.\*, **Agartan, E.**, Mori, H., Illangasekare, T., Cihan, A., Birkholzer, J. and Zhou, Q., 2012, “Experimental analysis of supercritical CO<sub>2</sub> migration at laboratory scale aimed to investigate capillary trapping”, Hydrology Days, 21-23 March 2012, Colorado State University, CO, USA. (Oral Presentation).
- **Agartan, E.\***, Illangasekare, T.H., Cihan, A., and Trevisan, L., 2012, “Intermediate scale testing and modeling for improving fundamental understanding of dissolution trapping in deep geological formations”, Carbon Capture and Storage Symposium, 24 January 2012, Colorado School of Mines, CO, USA. (Poster Presentation).
- Trevisan, L.\*, Illangasekare, T., Rodriguez, D., Sakaki, T., Cihan, A., Birkholzer, J., Zhou, Q., **Agartan, E.**, and Mori, H., 2011, “Experimental methods for the simulation of supercritical CO<sub>2</sub> injection at laboratory scale aimed to investigate capillary trapping”, American Geophysical Union Fall (AGU) Meeting, 5-9 December 2011, San Francisco, CA, USA (Poster Presentation).
- **Agartan, E.\*** and Yazicigil, H., 2011, “Assessment of Water Supply Impacts for a Mine Site in Western Turkey”, *Mine Water and the Environment Journal*, doi: 10.1007/s10230-011-0167-z.
- **Agartan, E.\*** and Yazicigil, H., 2011, “Assessment of Water Supply Impacts for a Mine Site in Western Turkey”, 64<sup>th</sup> Geological Congress of Turkey, 25-29 April 2011, Ankara, Turkey (Oral Presentation).
- **Agartan, E.\*** and Yazicigil, H., 2010, “Assessment of Groundwater Supply Impacts for a Mine Site in Western Turkey”, AGU Fall Meeting, 13-17 December 2010, San Francisco, CA, USA (Poster Presentation).
- **Agartan, E.\***, 2010, “Assessment of Water Supply Impacts for a Mine Site in Western Turkey”, M.Sc. Thesis, Middle East Technical University, Ankara, Turkey, 121 pages.

## **COMPUTER SKILLS**

- COMSOL
- Visual MODFLOW
- Processing MODFLOW
- Aquifer Simulation Model (ASM)
- Surfer 8
- Aquifer Test Pro 4.3
- Model Viewer
- MapInfo
- TNT Mips
- AutoCad
- Macromedia Freehand 10
- Global Mapper 9
- Grapher

## **MEMBERSHIPS**

- AGU since August 2010
- TMMOB (Turkish Chamber of Geological Engineers) student member since 2005

## **LANGUAGE**

**Turkish** : Native

**English** : Fluent

## **REFERENCES**

Available upon request