

CURRICULUM VITAE

FIRAT AKAR

Adress : Istanbul Tecnical University Fluids Group,
Engines and Vehicles Building, Ayazaga,
34469, Istanbul

Date of birth : 11 Sept 1989
Place of birth : Istanbul,
Turkey
Marital Status : Single

Tel : (+90) 507 225 3015 (Mobile)
(+90) 212 285 3986 (Lab)

Email : akarf@itu.edu.tr
www.akis.itu.edu.tr

ACADEMIC AND EDUCATIONAL QUALIFICATIONS

Ph.D., 2015-present
Istanbul Tecnical University (Turkey)
Energy Science & Technology

M.Sc., 2015
Istanbul Tecnical University (Turkey)
Energy Science & Technology
Period: two and a half years in between 2012-2015

B.Sc., 2012
Yildiz Technical University (Turkey)
Mechanical Engineering Department, Energy Program
Period: five years in between 2007-2012 (including a year in prep. school of English)
Degree of *Honor Student*

WORK EXPERIENCE

September 2012-Present	Resaercher and Project Assistant	ITU Fluids Group
July 2011-October 2011	Trainee	Ambarlı Natural Gas Combined Cycle Power Plant.
August 2010-October 2010	Trainee	Gökçe Burners and Heat Inc.

PROJECTS

- Modelling of Reaction and Injection Molding of Polyurethane Foam in Refrigerators (2012-2014). Sponsored by Ministry of Industry and ARCELIIK Inc., contract number 01213.STZ.2012-1.

- Simulation of Reactive Flows in Nitriding Furnaces (2010-2013, Participated in 2012). Sponsored by Robert BOSCH San. Tic.
- Assembly and Design of an Internal Combustion Engine. (Sept 2010-Jan 2011) Machine Design 1 project at Yildiz Technical University.
- Thermodynamical Analysis of an Internal Combustion Engine with MATLAB. (Feb 2011- June 2011). Machine Design 2 project at Yildiz Technical University.
- Design of the Heavy Duty Vehicles Pneumatics Braking Systems. (Sept 2011-Jan 2012). Machine Design 3 project at Yildiz Technical University.

THESES

- Energy Efficiency in Industry and Designing a Recuperative Air Preheater for a Steel Factory 2012, B.Sc. thesis, Mechanical Engineering Dept., Yildiz Technical University, supervised by Asst. Prof. Suleyman Hakan SEVILGEN.
- Designing a New Refrigerator Cabinet Based on Optimization of the Insulation Material Injection Process 2014, M.Sc. thesis, Energy Institute, Istanbul Technical University, supervised by Prof. Dr. I. Bedii OZDEMIR.

SKILLS

Computer : Ansys Fluent, Icem CFD, Ansys Meshing, Ansys Design Manager, SolidWorks, Fortran, Matlab, Microsoft Office Programs, Linux, Tecplot, C programming.

Language : English (Fluent), Turkish (Native)

PUBLICATIONS

- OZDEMIR, I. B. & AKAR, F. 2015 The response of nitriding chemistry to different initial gas compositions, *Journal of Materials Engineering and Performance*, **24**, 3002-3007.
- OZDEMIR, I. B. & AKAR, F. 2015 Local dynamics of chemical kinetics at different phases of nitriding process, *Journal of Materials Engineering and Performance*, **24**, 2984-2989.
- OZDEMIR, I. B. & AKAR, F. 2015 The effect of flow orientation on nitriding process, *Vacuum*, **116**, 104-109.
- OZDEMIR, I. B. & AKAR, F. 2015 Parameter optimization of nitriding process using chemical kinetics, submitted to "HTM- Journal of Heat Treatment and Materials".

CONFERENCE

- OZDEMIR, I. B. & AKAR, F. & LIPPMANN, N. 2014 Simulation of Flow and Reactions in a Nitriding Furnace, 5th Bodycote-AGA In-Depth Heat Treatment Seminar, 20-21 May 2014, Stockholm.

RESEARCH INTEREST

- Reactive Multiphase Flows
- Combustion
- Turbomachinery
- Surface Chemistry

- Fluid Mechanics
- Computational and Modelling Aspects of Turbulent Flows
- Aerodynamics
- Thermodynamics
- CFD analysis on the Solidification Processes