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EDUCATION

- **Ph.D., Dept. of Mechanical Engineering and Mechanics, Drexel University, 2005**

Thesis Title: Burning and Sooting Behavior of Ethanol Droplet Combustion under Microgravity Conditions

- **M.S., Dept. of Mechanical Engineering, Middle East Technical University, Ankara, Turkey, 1998.**

Thesis Title: Determination of the Size of the Air Pollution across Turkey Created by Vehicles in the Land Transport Sector

- **B.S., Dept. of Mechanical Engineering, Middle East Technical University, Ankara, Turkey, 1996.**

PROFESSIONAL EXPERIENCE

- **Tenure Track Faculty** at Mechanical Engineering Department of Middle East Technical University, Ankara, Turkey, September 2006- present
- **Post-Doctoral Research Associate, University of Maryland,** Department of Mechanical Engineering, February 2005- September 2006

Designing and building a small scale reactor to generate nanoparticles from which new composite materials may be formed and from which specialized toxicological studies will be conducted.

- **Post-Doctoral Research Associate, National Institute of Standards and Technology,** February 2005- September 2006

Conducting specialized experiments to understand the growth rate of carbon based nanoparticles.

- **Graduate Research and Teaching Assistant, Drexel University,** Department of Mechanical Engineering and Mechanics October 2000- January 2005

Conducted innovative and unique research to determine the influence of sooting and radiation on microgravity droplet combustion. Results provided important insights on the influence of pressure, oxygen indices, and inert variation on the effective control

of sooting behavior of practical biomass-derived fuels. Performed microgravity droplet combustion research at NASA-Glenn Research Center in Cleveland, OH. In support of this work, performed experiments in the 2.2 second droptower and logged parabolas in NASA's reduced gravity KC-135 aircraft. Performed microgravity experiments at JAMIC (Japan Microgravity Center) 10 sec. drop tower in Hokkaido, Japan.

- **Guest Researcher, Argonne National Laboratory**, Argonne, IL, Summer 2002. Performed research on Diesel soot morphology. Soot sampled from diesel exhaust were analyzed using TEM and Raman Spectroscopy to study the effects of engine operating conditions on morphology, micro structure and fractal geometry of light-duty Diesel engine particulates.
- **Graduate Research and Teaching Assistant, Middle East Technical University (METU)**, Ankara, Turkey, 1996- 2000.

Performed research in the Internal Combustion Engine Laboratory. Performed exhaust gas measurements from Diesel and SI engines according to the European Union Standards. Assisted “Internal Combustion Engine Fundamentals”, “Internal Combustion Engine Design” and “Engineering Systems Laboratory” courses.

PUBLICATIONS

Journal Publications:

1. Zhu, J., Lee, K.O, **Yozgatligil, A.**, Choi, M.Y., (2005) “Effects of Engine Operating Conditions on Morphology, Micro Structure and Fractal Geometry of Light-Duty Diesel Engine Particulates”, Proceedings of Combustion Institute, Volume 30, Issue 2, January 2005, Pages 2781-2789.
2. **Yozgatligil, A.**, Park, S.H., Choi, M.Y., Kazakov, A., Dryer, F.L., (2004), “Burning and Sooting Behavior of Ethanol Droplet Combustion under Microgravity Conditions”, Combustion Science and Technology, Volume 176, Issue 11, Pages 1985-1999.
3. Manzello, S.L, **Yozgatligil, A.**, Choi, M.Y., (2004), “Sootshell Formation in Microgravity Droplet Combustion”, International Journal of Heat and Mass Transfer, Volume 47, Issue 24, November 2004, Pages 5381-5385.
4. Urban, B.D., Ernst, L.F., Kroenlein, K., Kazakov, A., Dryer, F.L., **Yozgatligil, A.**, Shor, L., Choi, M.Y., Manzello, S.L., Lee, K.O., and Dobashi, R., (2004), “Sooting Behavior of Ethanol Droplet Combustion at Elevated Pressures under Microgravity Conditions”, International Journal of Microgravity Science and Technology, 15 (3): 12-18.
5. **Yozgatligil, A.**, Park, S.H., Choi, M.Y., Kazakov, A., Dryer, F.L., (2007), “The Influence of Oxygen Concentration on the Sooting Behavior of Ethanol Droplet

Flames in Microgravity Conditions”, Proceedings of Combustion Institute, Volume 31, Issue 2, January 2007, Pages 2165-2173.

6. Manzello, S.L, Lenhert, D.B., **Yozgatligil, A.**, Donovan, M.T., Mulholland, G.W., Zachariah, M.R., and Tsang, W. (2007) “Soot Particle Size Distributions in a Well Stirred Reactor / Plug Flow Reactor”, Proceedings of Combustion Institute, Volume 31, Issue 1, January 2007, Pages 675-683
7. S.H. Park, Seuk-Chun Choi, M.Y. Choi and **A. Yozgatligil** “New observations of Isolated Ethanol Droplet Flames in Microgravity Conditions”, Combustion Science and Technology, 2007, **accepted**.

Conferences and Proceedings

8. Manzello, S.L, Lenhert, D.B., Donovan, M.T., Mulholland, G.W., **Yozgatligil, A.**, Zachariah, M.R., Measurement of Soot Particle Size Distributions from a Well Stirred Reactor-Plug Flow Reactor, AAAR Annual Conference, October 17-21, 2005, Austin TX.
9. Lenhert, D.B., Manzello, S.L., **Yozgatligil, A.**, Zachariah, M.R., Measurement of Soot Particle Size Distributions from a Well Stirred Reactor-Plug Flow Reactor, Eastern States Section of the Combustion Institute, Fall 2005 Technical Meeting - University of Central Florida
10. Marco Mehl, Alberto Cuoci, Tiziano Faravelli, Eliseo Ranzi, Andrei Kazakov, Frederick L. Dryer, **Ahmet Yozgatligil**, Seul-Hyun Park, Mun Young Choi, “Combustion of Ethanol Fuel Droplets in Microgravity Conditions”, Proceedings of 20th ILASS – European Meeting, Orleans, France. July, 2005.
11. **Yozgatligil, A.**, Park, S.H., Choi, M.Y., Kazakov, A., Dryer, F.L., “Burning and Sooting Behavior of Ethanol Droplet Combustion under Microgravity Conditions”, Work In Progress Poster Presentation at the 30th Symposium (Int’l) on Combustion, Chicago, IL, July 2004.
12. **Yozgatligil, A.**, Park, S.H., Choi, M.Y., “The Effect of Inert Substitution on Ethanol Droplet Combustion in Microgravity”, 4th Joint Meeting of the U.S. Sections of the Combustion Institute, The Combustion Institute, Drexel University, Philadelphia, PA, March 20-23 (2005).
13. **Yozgatligil, A.**, Choi, M.Y., Manzello, S.L., (2003), “Sootshell formation in microgravity droplet combustion”, Proceedings of the 4th Asia-Pacific Conference on Combustion.
14. **Yozgatligil, A.**, Pfau, D., Choi, M.Y., Kazakov, A., Dryer, F.L., (2003), “Measurement of Burning and Sooting Behavior of Ethanol Droplets under Microgravity Conditions”, Proceedings of the Third Joint Meeting of the U.S. Sections of the Combustion Institute.

15. Lee, K.O., Zhu, J., Ciatti, S., **Yozgatligil, A.**, Choi, M.Y., (2003) “Size, Graphitic Structures and Fractal Geometry of Light-Duty Diesel Engine Particulates”, SAE Fall Powertrain and Fluid Systems Conference & Exhibitions, SAE Paper 03FFL-243, SAE Fall Powertrain & Fluid Systems Conference, October 27-29, 2003, Pittsburgh, PA, USA
16. **Yozgatligil, A.**, Choi, M.Y., Kazakov, A., Dryer, F.L., Manzello, S.L., Dobashi, R., (2003), “Ethanol Droplet Combustion at Elevated Pressures and Enhanced Oxygen Concentrations”, AIAA-2003-1147, 41st Aerospace Sciences Meeting and Exhibit, Reno, Nevada, Jan. 6-9, 2003.
17. **Yozgatligil, A.**, Choi, M.Y., Dryer, F.L., Kazakov, A., Dobashi, R., (2003), “Experiments and Model Development for the Investigation of Sooting and Radiation Effects in Microgravity Droplet Combustion”, Proceedings of 7th International Workshop on Microgravity Combustion and Chemically Reacting Systems.
18. Choi, M.Y., **Yozgatligil, A.**, Kazakov, A., Dryer, F.L., Ferkul, P., (2001) “Sooting and Radiation Effects in Microgravity Droplet combustion”, AIAA-2001-5045 Conference and Exhibit on International Space Station Utilization - 2001, Cape Canaveral, FL, Oct. 15-18, 2001
19. Urban, B.D., Ernst, L.F., Kroenlein, K., Kazakov, A., Dryer, F.L., **Yozgatligil, A.**, Shor, L., Choi, M.Y., Manzello, S.M., Lee, K.O., and Dobashi, R., (2001), “Initial Observations of Soot Formation During Ethanol Droplet Combustion at Elevated Pressures”, Proceedings of the Second Joint Meeting of the U.S. Sections of the Combustion Institute.
20. Choi, M.Y., **Yozgatligil, A.**, Dryer, F.L., Kazakov, A., Dobashi, R., (2001), “Experiments and Model Development for the Investigation of Sooting and Radiation Effects in Microgravity Droplet Combustion”, Proceedings of 6th International Microgravity Combustion Workshop.
21. **Yozgatligil, A.**, Bayka A. D., (2000), “Statistical Modeling and Analysis of Emission Behavior of Vehicles in Turkey”, Proceedings of the IASTED International Conference - Applied Simulation and Modeling.

HONORS AND AWARDS

- George Hill, Jr. Endowed Fellowship for Academic Achievement, 2004
- Lee Smith Fellowship for Int'l Travel, 2003
- Best Poster Award – Drexel University Research Day, 2001.
- Honorable Mention- Drexel University Research Day, 2004
- Honorable Mention- Drexel University Research Day, 2003.

- Listed in 1995, 1996 President's Honors Roll, Mechanical Engineering Department, Middle East Technical University

DIAGNOSTIC SKILLS

- Light extinction, two-wavelength pyrometry, tomographic inversion, thin filament pyrometry, radiation measurements, DMA
- Soot sampling, transmission electron microscopy, Raman spectroscopy
- Soot aerosol property (physical and fractal) measurements
- Non-subjective Image Processing

PROGRAMMING AND COMPUTER EXPERIENCE

- **Programming Languages:** FORTRAN, Pascal, Delphi.
- **Computing Environments:** MS Windows, MS DOS.
- **Other:** AutoCAD, AutoCAD-LSP, MATHCAD, MS Office Applications, Matrox Inspector Image Processing Software, Internet technologies.

AFFILIATIONS

- ASME
- Combustion Institute
- AIAA

REFERENCES

Available upon request