

METIN MURADOGLU

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EDUCATION

CORNELL UNIVERSITY, Ithaca, NY, USA.

Ph.D. in Aerospace Engineering: January 2000.

Thesis Title: A Consistent Hybrid Finite-Volume/Particle Method for the PDF Equations of Turbulent Reactive Flows

M.S. Degree in Aerospace Engineering: January, 1997.

Thesis Title: Implicit Multigrid Solution of the Preconditioned Euler Equations

ISTANBUL TECHNICAL UNIVERSITY, Istanbul, Turkey

B.S. Degree in Aeronautical Engineering: July, 1992.

APPOINTMENTS

Sep. 2016-Present	Professor , Department of Mechanical Engineering, Koc University, Istanbul, Turkey.
Dec. 2007-Sep. 2016	Associate Professor , Department of Mechanical Engineering, Koc University, Istanbul, Turkey.
Sep. 2001-Dec. 2007	Assistant Professor , Department of Mechanical Engineering, Koc University, Istanbul, Turkey.
Feb. 2000-Aug. 2001	Postdoctoral Research Associate , Mechanical & Aero. Engineering, Cornell University, Ithaca, NY, USA.
Aug. 1998-Jan. 2000	Graduate Research Assistant , Mechanical & Aero. Engineering, Cornell University, Ithaca, NY, USA.
May 1998-Aug. 1998	DOE/AGTSR Industrial Intern , Rolls-Royce Engine Company, Indianapolis, IN, USA.
Aug. 1997-May 1998	Graduate Teaching Assistant , Mechanical & Aero. Engineering, Cornell University, Ithaca, NY, USA.
Jan. 1995-Aug. 1997	Graduate Research Assistant , Mechanical & Aero. Engineering, Cornell University, Ithaca, NY, USA.
July 1993-Aug. 1994	Graduate Research Assistant , Aeronautical Engineering, Istanbul Technical University, Istanbul, Turkey.

VISITING POSITIONS

Jun. 2019-Aug. 2019	Visiting Scientist , Department of Physical Intelligence, The Max Planck Institute for Intelligent Systems, Stuttgart, Germany.
Jul. 2017-Aug.2017	Visiting Professor , Department of Biomedical Engineering, The University of Michigan, Ann Arbor, MI, USA.
Jan. 2014-Jul. 2014	Visiting Professor , Department of Mech. & Aero. Engineering, Princeton University, Princeton, NJ, USA.
Jul. 2013-Jan.2014	Visiting Professor , Department of Mech. & Aero. Engineering, The University of Notre Dame, Notre Dame, IN, USA.
Jul. 2007-Aug. 2007	Visiting Scholar , School of Engineering & Applied Sciences, Harvard University, Cambridge, MA, USA.
Jul. 2006-Aug. 2006	Visiting Scholar , School of Engineering & Applied Sciences, Harvard University, Cambridge, MA, USA.

- Jul. 2005-Aug. 2005 **Visiting Scholar**, School of Engineering & Applied Sciences, Harvard University, Cambridge, MA, USA.
- Jul. 2004-Aug. 2004 **Visiting Scholar**, School of Engineering & Applied Sciences, Harvard University, Cambridge, MA, USA.

ACADEMIC SERVICE

- 2001-Present **Member of Summer Practice Committee**, Department of Mechanical Engineering, Koc University, Istanbul, Turkey.
- 2001-Present **Member of Double Major Committee**, Department of Mechanical Engineering, Koc University, Istanbul, Turkey.
- 2008-present **Member of Disciplinary Committee**, Koc University, Istanbul, Turkey.
- 2014-present **Advisor for the Koc University Chapter of ASME**, Koc University, Istanbul, Turkey.
- 2004-2013 **Exchange Program Coordinator**, College of Engineering, Koc University, Istanbul, Turkey.
- 2008-2013 **Member of Bolonga Coordination Committee**, College of Engineering, Koc University, Istanbul, Turkey.
- 2001-2006 **Member of Academic Board**, College of Engineering, Koc University, Istanbul, Turkey.
- 2001-2006 **Member of Graduate Admission Committee**, Department of Mechanical Engineering, Koc University, Istanbul, Turkey.

AWARDS AND HONORS

- Associate member of **Turkish Academy of Sciences (TUBA)** (2012-present)
- Encouragement award, **Scientific and Technical Research Council of Turkey (TUBITAK)** (2010)
- Mustafa Parlar research award, **Middle East Technical University**, Ankara, Turkey (2009)
- Distinguished young scientist award, **F. Akkaya Res. Fund for Sci. Activities (FABED)** (2009)
- Distinguished young scientist award, **Turkish Academy of Sciences (TUBA)** (2009)
- Travel awards by of NNIN, **Harvard University** (2006), **APS-DFD** (2005) and **IUTAM** (2004)
- Harvard University - Koc University exchange scholar fellowship, **Koc University** (2004)
- Jayesh Prize for outstanding student talk, MAE, **Cornell University** (1998)
- Clemson internship award, **DOE/AGTSR** (1998)
- Full scholarship by **Turkish Ministry of National Education** for graduate study in the US (1994)

PROFESSIONAL ACTIVITIES

- **Member of the Scientific Committee:** The International Conference on Computational Fluid Dynamics (ICCFD10), Barcelona (2018).
- **Member of the Scientific Committee:** The International Conference on Computational Fluid Dynamics (ICCFD9), Istanbul (2016).
- **Member of the International Program Committee:** The 10th Biennial ASME Conference on Engineering Systems Design and Analysis (ESDA2010), Istanbul (2010).
- **Member of Organizing Committee:** IUTAM Symposium on Recent Advances in Multiphase Flows: Numerical and Experimental, Istanbul (2007).
- **Member of Scientific Committee:** Ankara International Aerospace Conference (AIAC) (2006-2016).

- **Reviewer:** Journal of Computational Physics, Computers and Fluids, Journal of Fluid Mechanics, Physics of Fluids, Physical Review Fluids, International Journal of Multiphase Flows, Journal of Non-Newtonian Fluid Mechanics, Combustion and Flame, Combustion Theory and Modelling, Flow, Turbulence and Combustion, International Journal of Heat and Mass Transfer, Physical Review Letters, Physical Review E, European Journal of Mechanics-B/Fluids, Theoretical and Computational Fluid Dynamics, Langmuir, Journal of Colloid and Interface Science, Journal of Micromechanics and Microengineering, Microfluidics and Nanofluidics, Biomicrofluidics, The Journal of Supercritical Fluids, Colloids and Surfaces A: Physicochemical and Engineering Aspects, Journal of Industrial & Engineering Chemistry Research, Chemical Engineering & Processing: Process Intensification, Journal of Fluids and Structures, Journal of Physics A: Mathematical and General, Journal of Applied Mechanics-Transactions of ASME, Journal of Fluids Engineering-Transactions of ASME, Energy & Fuels, Computer Physics Communications, Mathematical Medicine and Biology: A Journal of the IMA, Turkish Journal of Mathematics, Applied Mathematics Letters.

RESEARCH INTERESTS

- **Multiphase Flows in Bio/Microfluid Systems:** Interface-resolved direct numerical simulations of multiphase flows. Friction drag in turbulent multiphase flows, Multiphase flows in micro/biofluidic systems. Fluid-biomembrane interactions. Effects of soluble and insoluble surfactants. Non-Newtonian (viscoelastic) effects on interfacial flows. Direct numerical simulation of evaporation/vaporization and burning of liquid droplet. Computational modeling of human respiratory system. Thermocapillary migration.
- **Turbulent Combustion:** Large Eddy Simulation/Probability Density Function (LES/PDF) and Reynolds Averaged Navier Stokes/Probability Density Function (RANS/PDF) modeling of turbulent reacting flows and turbulence-combustion interactions. Non-premixed and premixed turbulent flames. Spray combustion.
- **Computational Fluid Dynamics:** Hybrid finite-volume/particle-based Monte Carlo method for PDF equations of turbulent reacting flows, finite-volume (or finite-difference)/front-tracking method for computational modeling of interfacial flows, large eddy simulation (LES), immersed boundary method for simulations of multiphase flows in complex geometries, artificial compressibility method for solution of compressible flow equations at low Mach numbers, implicit finite-volume methods for computations of compressible flow with shock waves. High resolution schemes.

CITATIONS¹: ISI Web of Science: **1390** (**1453** including conferences); Google Scholar: **2300**.

H-Index¹: ISI Web of Science: 21; Google Scholar: 25.

JOURNAL PUBLICATIONS

1. *M. Muradoglu*, P. Jenny, S.B. Pope and D.A. Caughey, “A consistent hybrid finite-volume/particle method for the PDF equations of turbulent reactive flows”, **J. Comput. Phys.**, 154(2):342-371 (1999).
2. P. Jenny, S.B. Pope, *M. Muradoglu* and D.A. Caughey, “A hybrid algorithm for the joint PDF equations of turbulent reactive flows”, **J. Comput. Phys.**, 166(2):218-252 (2001).
3. P. Jenny, *M. Muradoglu*, K. Liu, S.B. Pope and D.A. Caughey, “PDF simulations of a bluff-body stabilized flow”, **J. Comput. Phys.**, 169(1):1-23 (2001).

¹As of May 3, 2021

4. *M. Muradoglu*, S.B. Pope and D.A. Caughey, “The hybrid method for the PDF equations of turbulent reactive flows: Consistency conditions and correction algorithms”, **J. Comput. Phys.**, 172(2):841-878 (2001).
5. *M. Muradoglu* and S.B. Pope, “Local time-stepping algorithm for solving probability density function turbulence model equations”, **AIAA Journal**, 40(9):1755-1763 (2002).
6. *M. Muradoglu*, K. Liu and S.B. Pope, “PDF modeling of a bluff-body stabilized turbulent flame”, **Combust. Flame**, 132:115-137 (2003).
7. *M. Muradoglu* and S. Gokaltun, “Implicit multigrid computations of buoyant drops through sinusoidal constrictions”, **J. Appl. Mech.-Transactions of the ASME**, 71(6):857-865 (2004).
8. *M. Muradoglu and H.A. Stone*, “Mixing in a drop moving through a serpentine channel: A computational study”, **Phys. Fluids**, 17(7), Art. No. 073305 (2005).
9. *M. Muradoglu* and A.D. Kayaalp, “An auxiliary grid method for computations of multiphase flows in complex geometries”, **J. Comput. Phys.**, 214(2):858-877 (2006).
10. S. Nas, *M. Muradoglu* and G. Tryggvason, “Pattern formation of drops in thermocapillary migration”, **Int. J. Heat Mass Trans.**, 49(13-14):2265-2276 (2006).
11. U. Olgac, A.D. Kayaalp and *M. Muradoglu*, “Buoyancy-driven motion and breakup of viscous drops in constricted capillaries”, **Int. J. Multiphase Flow**, 32(9):1055-1071 (2006).
12. *M. Muradoglu* and H.A. Stone, “Motion of large bubbles in curved channels”, **J. Fluid Mech.**, 570:455-466 (2007).
13. *M. Muradoglu*, Axel Günter and H.A. Stone, “A computational study of axial dispersion in segmented gas-liquid flow”, **Phys. Fluids**, 19(1), Art. No. 044706 (2007).
14. *M. Muradoglu* and G. Tryggvason, “A front-tracking method for computation of interfacial flows with soluble surfactants”, **J. Comput. Phys.**, 227(4):2238-2262 (2008).
15. S. Tasoglu, U. Demirci and *M. Muradoglu*, “The effect of soluble surfactant on the transient motion of a buoyancy-driven bubble”, **Phys. Fluids**, 20, Art. No. 040805, (2008). (**Featured the cover image of the April 2008 issue.**)
16. A. Kiraz, Y. Karadag and *M. Muradoglu*, “Large spectral tuning of a water/glycerol microdroplet by a focused laser: Characterization and modeling”, **Phys. Chem. Chem. Phys.**, 10(42):6446-6454 (2008).
17. A. Kiraz, Y. Karadag, S.C. Yorulmaz and *M. Muradoglu*, “Reversible photothermal tuning of a salty water microdroplet”, **Phys. Chem. Chem. Phys.**, 11(15):2597-2600 (2009). (**Highlighted inside the front cover of the journal.**)
18. S.C. Yorulmaz, M. Mestre, *M. Muradoglu*, B.E. Alaca and A. Kiraz, “Controlled observation of non-degenerate cavity modes in a microdroplet on a superhydrophobic surface”, **Optics Communications**, 282(14):3024-3027 (2009).
19. H. Dogan, S. Nas and *M. Muradoglu*, “Mixing of miscible liquids in gas-segmented serpentine channels”, **Int. J. Multiphase Flow**, 35:1149-1158 (2009).
20. *M. Muradoglu* and S. Tasoglu, “A front-tracking method for computational modeling of Impact and spreading of viscous droplets on solid walls”, **Comput. Fluids**, 39(4):615-625 (2010).
21. S. Tasoglu, G. Kaynak, U. Demirci, A.J. Szeri and *M. Muradoglu*, “Impact of a compound droplet on a flat surface: A model for single cell epitaxy”, **Phys. Fluids**, 22, Art. No. 082103 (2010).
22. *M. Muradoglu*, “Axial dispersion in segmented gas-liquid flow: Effects of channel curvature”, **Phys. Fluids**, 22, Art. No. 122106 (2010).

23. U. Olgac and *M. Muradoglu*, “Effects of surfactant on liquid film thickness in the Bretherton problem”, **Int. J. Multiphase Flow**, 48:58-70 (2013).
24. U. Olgac, D. Izbassarov and *M. Muradoglu*, “Direct numerical simulation of an oscillating droplet in partial contact with a substrate”, **Comput. Fluids**, 77:152-158 (2013).
25. U. Olgac and *M. Muradoglu*, “Computational modeling of unsteady surfactant-laden liquid plug propagation in neonatal airways”, **Phys. Fluids**, 25(7), Art. No. 071901 (2013).
26. *M. Muradoglu* and G. Tryggvason, “Simulations of soluble surfactants in 3D multiphase flow”, **J. Comput. Phys.**, 274:737-757 (2014).
27. R. Mokhtarpoor, H. Turkeri and *M. Muradoglu*, “A new robust consistent hybrid finite-volume/particle method for solving the PDF model equations of turbulent reactive flows”, **Comput. Fluids**, 105:39-57 (2014).
28. D. Izbassarov and *M. Muradoglu*, “A front-tracking method for computational modeling of viscoelastic two-phase systems”, **J. Non-Newtonian Fluid Mech.**, 223:122-140 (2015).
29. D. Izbassarov and *M. Muradoglu*, “A computational study of two-phase viscoelastic systems in a capillary tube with a sudden contraction/expansion”, **Phys. Fluids**, 28, Art. No.012110 (2016).
30. D. Izbassarov and *M. Muradoglu*, “Effects of viscoelasticity on drop impact and spreading on a solid surface”, **Physical Review Fluids**, 1(2), Art. No. 023302 (2016).
31. A. Mustafa, A. Erten, R.A. Ayaz, O. Kayillioglu, A. Eser, M. Irfan, *M. Muradoglu*, M. Tanyeri, A. Kiraz, “Enhanced dissolution of liquid microdroplets in the extensional creeping flow of a hydrodynamic trap”, **Langmuir**, 32:9460-9467 (2016).
32. J. Feng, *M. Muradoglu*, H. Kim, J.T. Ault and H. A. Stone, “Dynamics of a bubble bouncing at a liquid/liquid/gas interface”, **J. Fluid Mech.**, 807:324-352 (2016).
33. M. Nooranidoost, D. Izbassarov and *M. Muradoglu*, “Droplet formation in a flow focusing configuration: Effects of viscoelasticity”, **Phys. Fluids**, 28, 123102 (2016).
34. M. Irfan and *M. Muradoglu*, “A front-tracking method for direct numerical simulation of evaporation process in a multiphase system”, **J. Comput. Phys.**, 337:132-153 (2017).
35. J. Lu, *M. Muradoglu* and G. Tryggvason, “Effect of insoluble surfactant on turbulent bubbly flows in vertical channels”, **Int. J. Multiphase Flow**, 95:135-14 (2017).
36. H. Zolfaghari, D. Izbassarov and *M. Muradoglu*, “Simulations of viscoelastic two-phase flows in complex geometries”, **Comput. Fluids**, 156:548-561 (2017).
37. M. Irfan, *M. Muradoglu*, “A front-tracking method for particle-resolved simulation of evaporation and combustion of a fuel droplet”, **Comput. Fluids**, 174:283-299 (2018).
38. E. Lepowsky, *M. Muradoglu* and S. Tasoglu, “Towards preserving post-printing cell viability and improving the resolution: past, present, and future of 3D bioprinting theory”, **Bioprinting**, 11:e00034 (2018).
39. M. N. Farooqi, D. Izbassarov, *M. Muradoglu*, D. Unat, “Communication analysis and optimization of 3D front tracking method for multiphase flow simulations”, **International Journal of High Performance Computing Applications**, 33(1):67-80 (2019).
40. H. Turkeri, X. Zhao, S.B. Pope and *M. Muradoglu*, “Large eddy simulation/probability density function simulations of the Cambridge turbulent stratified flame series”, **Combust. Flame**, 199:24-45 (2019).
41. H. Turkeri, S.B. Pope and *M. Muradoglu*, “A LES/PDF simulator on block structured meshes”, **Combust. Theory Model**, 23(1):1-41 (2019).

42. M. Nooranidoost, M. Haghshenas, *M. Muradoglu* and R. Kumar, “Cell encapsulation modes in a flow focusing microchannel: Effect of shell fluid viscosity”, **Microfluidics and Nanofluidics**, 23(3):Article Number:31 (2019).
43. Z. Rashid, A. Erten, B. Morova, *M. Muradoglu*, A. Jonas and A. Kiraz, “Passive sorting of emulsion droplets with different interfacial properties using laser-patterned surfaces”, **Microfluidics and Nanofluidics**, 23(5):Article Number:65 (2019).
44. M. Nooranidoost, D. Izbassarov, S. Tasoglu, *M. Muradoglu*, “A computational study of droplet-based bioprinting: Effects of viscoelasticity”, **Phys. Fluids**, 31(8):081901 (2019).
45. *M. Muradoglu*, F. Romano, H. Fujioka, J.B. Grotberg, “Effects of surfactant on propagation and rupture of a liquid plug in a tube”, **J. Fluid Mech.**, 872:407-437 (2019).
46. F. Romano, H. Fujioka, *M. Muradoglu*, J.B. Grotberg, “Liquid plug formation in an airway closure model”, **Physical Review Fluids**, 4(9):Article Number: 093103 (2019).
47. Z. Ahmed, D. Izbassarov, J. Lu, G. Tryggvason, *M. Muradoglu*, O. Tammisola, “Effects of soluble surfactant on lateral migration of a bubble in a pressure driven channel flow”, **Int. J. Multiphase Flow**, 126:103251 (2020).
48. Z. Ahmed, D. Izbassarov, P. Costa, M. Muradoglu, O. Tammisola, “Turbulent bubbly channel flows: Effects of soluble surfactant and viscoelasticity”, **Comput. Fluids**, 212, 104717 (2020)
49. F. Romano, *M. Muradoglu*, H. Fujioka, J.B. Grotberg, “The effect of viscoelasticity in an airway closure model”, **J. Fluid Mech.**, 913: A31 (2021).
50. H. Turkeri, X. Zhao, *M. Muradoglu*, “Large eddy simulation/probability density function modeling of turbulent swirling stratified flame series ”, *Phys. Fluids* 33(2): 025117 (2021).
51. H. Fujioka, F. Romano, *M. Muradoglu*, J.B. Grotberg, “A particle method for the propagation and split of a liquid plug at an airway bifurcation model”, **J. Fluid Mech.**, (submitted) (2021).
52. S.A. Bahrani, S. Hamidouche, K. Seck, C. Duc, *M. Muradoglu*, J.B. Grotberg, F. Romano, “Rupture of an elastoviscoplastic liquid plug with surfactant”, **Phys. Fluids**, (submitted) (2021).
53. D. Izbassarov, Z. Ahmed, P. Costa, V. Vuorinen, O. Tammisola, *M. Muradoglu*, “Polymer drag reduction in a surfactant-laden turbulent channel bubbly flow”, **Physical Review Fluids**, (submitted) (2021).
54. O. Erken, F. Romano, J.B. Grotberg, *M. Muradoglu*, “Capillary instability of a two-layer annular film: An airway closure model”, **J. Fluid Mech.**, (submitted) (2021).
55. F. Romano, *M. Muradoglu*, H. Fujioka, J.B. Grotberg, “The effect of surfactant in an airway closure model”, (preprint, to be submitted) (2021).

BOOK CHAPTERS

1. *M. Muradoglu*, “Finite-volume/front-tracking computations of dispersed multiphase flows in complex geometries”, **Frontiers of Computational Fluid Dynamics-2004**, D.A. Caughey and M. Hafez, Editors, World Scientific Publishing (2006).
2. *M. Muradoglu*, “The front-tracking method for multiphase flows in microsystems: Fundamentals”, **Microfluidics Based Microsystems: Fundamentals and Applications**, Book Series: NATO Science for Peace and Security Series A-Chemistry and Biology, pp: 203-220 (2010).
3. *M. Muradoglu*, “The front-tracking method for multiphase flows in microsystems: Applications”, **Microfluidics Based Microsystems: Fundamentals and Applications**, Book Series: NATO Science for Peace and Security Series A-Chemistry and Biology, pp: 221-242 (2010).
4. D. Izbassarov and *M. Muradoglu*, “Pendant droplets: Overview of dynamics and applications”, **Laser Optofluidics in Fighting Multiple Drug Resistance**, M.L. Pascu, Editor, Bentham e-Books, (2017).

REPORTS

1. *M. Muradoglu* and S.B. Pope, “Efficient PDF calculations of piloted jet flames”, Research report for UTRC, Cornell University, Ithaca, NY, USA (2001).
2. *M. Muradoglu* and S.B. Pope, “PDF modeling of a bluff-body stabilized turbulent flame”, FDA Report, Cornell University, Ithaca, NY, USA (2001).
3. *M. Muradoglu*, “Lab-on-a-chip, unit micro operations and computer simulations”, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2008).
4. *M. Muradoglu*, “Computational modeling of multiphase/multifluid flows: Multiphysics effects”, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2011).
5. *M. Muradoglu*, “Filtered density function (DFD) modeling of turbulent reacting flows”, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2014).
6. *M. Muradoglu*, “Computational modeling of non-Newtonian drops in biological/microflows”, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2016).
7. *M. Muradoglu*, “Development of an efficient numerical method for the shadow-position mixing model (SPMM) within the RANS/PDF and LES/PDF frameworks”, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2019).
8. *M. Muradoglu*, “Computational modeling of soluble surfactant and viscoelasticity in 3D multi-phase flow”, The Scientific and Technological Research Council of Turkey (TUBITAK), Turkey (2019).

CONFERENCE PUBLICATIONS AND PRESENTATIONS

1. *M. Muradoglu* and D.A. Caughey, “Implicit multigrid solution of the preconditioned Euler equations”, Proceedings of AIAA 13th Computational Fluid Dynamics Conference, pp.648-58, Snowmass, CO, USA, June 29-July 2 (1997).
2. *M. Muradoglu* and D.A. Caughey, “Implicit multigrid solution of the multi-dimensional preconditioned Euler equations”, 36th AIAA Aerospace Sciences Meeting and Exhibit, AIAA paper 98-0114, Reno, NV, USA, Jan. 12-15 (1998).
3. *M. Muradoglu*, S.B. Pope and D.A. Caughey, “Towards efficient PDF computations of non-premixed turbulent flames with local extinction and re-ignition”, 2nd Joint Meeting of the US Sections of the Combustion Institute, Oakland, CA, USA, March 25-28 (2001).
4. *M. Muradoglu*, “Efficient PDF simulations of a non-premixed bluff-body stabilized turbulent flame”, Proceedings of ESDA 2002: 6th Biennial Conference on Engineering Systems Design and Analysis, Istanbul, Turkey, July 8-11 (2002).
5. S. Gokaltun, H. Saygin and *M. Muradoglu*, “Implicit multigrid computations of unsteady multiphase flows in varying cross-sectional area channels”, IUTAM Symposium on Integrated Modeling of Fully Coupled Fluid-Structure Interactions Using Analysis, Computations, and Experiments, N.J., USA, June 2-6 (2003).
6. *M. Muradoglu*, U. Olgac and A.D. Kayaalp, “A finite-volume/front-tracking method for computations of multiphase flows in complex geometries”, IUTAM Symposium on Computational Approaches to Dispersed Multiphase Flows, Argonne National Laboratory, Argonne, IL, USA, Oct. 4-7 (2004). Also published in IUTAM Symposium on Computational Approaches to Multiphase Flow Book Series: Fluid Mechanics and Its Applications edited by S. Balachandar and A. Prosperetti, 81:301-310 (2004).
7. *M. Muradoglu*, M.B. Soydan and S. Nas, “Computational modeling of biofluid mechanics of white blood cells”, IUTAM Symposium on Computational Approaches to Dispersed Multiphase Flows, Argonne National Laboratory, Argonne, IL, USA, Oct. 4-7 (2004).

8. *M. Muradoglu*, “Computational modeling of interfacial flows in microchannels”, NNIN/C Conference: Synergy Between Experiment and Computational Science, Harvard University, Cambridge, MA, USA, May 29-June 3 (2006).
9. I. Filiz and *M. Muradoglu*, “A computational study of drop formation in an axisymmetric flow-focusing device”, ASME Proceedings of 4th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM4), Limerick, Ireland, June 19-21 (2006).
10. *M. Muradoglu*, “A front-tracking method for simulation of interfacial flows with soluble surfactants”, IUTAM Symposium on Recent Advances in Multiphase Flows: Numerical and Experimental, Istanbul, Turkey, June 11-14 (2007).
11. I. Filiz, O. Eren and *M. Muradoglu*, “Assessment of performance of PDF velocity models for computations of turbulent reacting flows”, Ankara International Aerospace Conference (AIAC), Ankara, Turkey, Sep. 10-12 (2007).
12. S. Tasoglu, G. Kaynak and *M. Muradoglu*, “Impact and spreading of a microdroplet on a solid wall”, IV. National Biomechanics Conference, Erzurum, Turkey, Oct.16-17 (2008).
13. A. Kiraz, Y. Karadag, S.C. Yorulmaz, *M. Muradoglu* “Large spectral tuning of liquid microdroplets by local heating with a focused infrared laser - art. no. 703811”, Optical Trapping and Optical Micro-manipulation V, Proceedings of the Society of Photo-Optical Instrumentation Engineering (SPIE), 7038:1381-1381 (2008).
14. *M. Muradoglu* and S. Tasoglu, “Computational modeling of single cell epitaxy”, ASME Proceedings of 7th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM7), POSTECH, Pohang, S. Korea, June 22-24 (2009).
15. *M. Muradoglu* and G. Kaynak, “Computational modeling of impact and spreading of a microdroplet on a solid wall”, 5th Ankara International Aerospace Conference (AIAC), Ankara, Turkey, Aug. 17-19 (2009).
16. G. Gursel, U. Olgac and *M. Muradoglu*, “Effects of surfactant on the motion of a large bubble in a capillary tube”, ASME Proceedings of 9th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM9), Edmonton, Canada, June 19-22 (2011).
17. U. Olgac and *M. Muradoglu*, “Unsteady surfactant-laden liquid plug propagation: A model for surfactant replacement therapy”, Proceedings of the ECCOMAS Thematic International Conference on Simulation and Modeling of Biological Flows (SIMBIO2011), Vrije Universiteit Brussel, Brussels, Belgium, Sep. 21-23 (2011).
18. *M. Muradoglu* and G. Kaynak, “Effects of surfactant on liquid film thickness in the Bretherton problem”, 6th Ankara International Aerospace Conference (AIAC), Ankara, Turkey, Sep. 14-16 (2011).
19. *M. Muradoglu* and U. Olgac, “Computational modeling of surfactant-laden liquid plug propagation in capillary tubes”, ASME Proceedings of International Conference on Nanochannels, Microchannels and Minichannels (ICNMM12), Puerto Rico, July 8-12 (2012).
20. D. Izbassarov, U. Olgac and *M. Muradoglu*, “The effect of viscoelasticity on the transient motion of a buoyancy-driven bubble”, The 8th Annual European Rheology Conference, Leuven, Belgium, April 2-5 (2013).
21. R. Mokhtarpoor, H. Turkeri, *M. Muradoglu*, “JPDF simulations of swirling flames using a new hybrid FV/particle method”, Eighth Mediterranean Combustion Symposium (MCS-13), Cesme, Izmir, Turkey, Sep. 8-13 (2013).
22. R. Mokhtarpoor, S.V. Inmas, *M. Muradoglu*, “A New Consistent Hybrid Algorithm for Solution of the PDF Equations of Turbulent Reactive Flow”, 11th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM), Greece, Sep. 21-27 (2013). Book Series: AIP Conference Proceedings, 1558:322-325 (2013).

23. D. Izbassarov, H. Nozari and *M. Muradoglu*, “A front-tracking method for computations of viscoelastic interfacial flows”, Euromech Colloquium 555, Pessac, Bordeaux, France, Aug. 28-30 (2013).
24. *M. Muradoglu* and G. Tryggvason, “Computational modeling of soluble surfactant in 3D multiphase flows”, 2nd International Conference on Numerical Methods in Multi- phase Flows (ICNMMF-II), Darmstadt, Germany, June 30-July 2 (2014).
25. D. Izbassarov and *M. Muradoglu*, “Computational modeling of viscoelastic two-phase systems in a microchannel with an abrupt contraction and expansion”, 2nd International Conference on Numerical Methods in Multiphase Flows (ICNMMF-II), Darmstadt, Germany, June 30-July 2 (2014).
26. H. Turkeri, *M. Muradoglu* and S.B. Pope, “A New LES/PDF method for computational modeling of turbulent reacting flows”, 10th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements, Don Carlos Resort, Marbella, Spain, Sep. 17-19 (2014).
27. H. Turkeri and *M. Muradoglu*, “Large-eddy simulation/probability density function modeling of Cambridge stratified flame”, 15th International Conference on Numerical Combustion, Palais des Papes, Avignon, France, April 19-22 (2015).
28. M. Irfan and *M. Muradoglu*, “A Front-Tracking Method for Computational Modeling of Evaporation Process in Two-Phase Flows”, 8th International Conference on Computational Heat and Mass Transfer (ICCHMT 2015), Istanbul, Turkey, May 25-28 (2015).
29. H. Turkeri and *M. Muradoglu*, “A New LES/PDF Implementation for Computational Modeling of Turbulent Reacting Flows”, Frontiers in Computational Physics: Energy Sciences, Zurich, Switzerland, June 3-5 (2015).
30. *M. Muradoglu*, J. Feng, H. Kim and H. A. Stone , “Computational Modeling of a Bubble Bouncing at a Water-Oil Compound Interface”, 6th International Workshop on Bubbles and Interfaces, Potsdam, Golm, Germany, July 6-10 (2015).
31. D. Izbassarov and *M. Muradoglu*, “Effects of viscoelasticity on impact of a compound droplet on a at surface”, A Special Rheology Symposium in honor of Professor Roger I. Tanner on the occasion of his 82nd birthday, Vathi, Samos, Greece, June 29-July 2 (2015).
32. M. Nooranidoost, D. Izbassarov and *M. Muradoglu*, “A computational Modeling of Viscoelastic Effects on Droplet Formation in a Flow-Focusing Configuration”, International Conference on Applied and Computational Mechanics, ACM2015, Izmir, Turkey, Aug. 5-7 (2015).
33. *M. Muradoglu*, J. Feng, H. Kim and H. A. Stone , “Dynamics of a bubble bouncing at a compound interface”, Droplets 2015, The University of Twente, The Netherlands, Oct. 6-8 (2015).
34. *M. Muradoglu*, “The effects of viscoelasticity on drop impact and spreading on a solid surface”, Smart and green interfaces (SGIC2016), Athens, Greece, May 3-6 (2016).
35. *M. Muradoglu* and G. Tryggvason, “Effects of soluble surfactant on lateral migration of a bubble in a shear flow”, The 9th International Conference on Multiphase Flow- ICMF2016, Firenze, Italy, May 22-27 (2016).
36. *M. Muradoglu*, “Computational modeling of soluble surfactant in multiphase flows”, 9th International Conference on Computational Fluid Dynamics (invited talk), Istanbul, Turkey, July 11-15 (2016).
37. M. Irfan and *M. Muradoglu*, “A front-tracking method for computational modeling of temperature and species gradient based phase change”, 9th International Conference on Computational Fluid Dynamics, Istanbul, Turkey, July 11-15 (2016).
38. D. Izbassarov and *M. Muradoglu*, “A front-tracking method for direct numerical simulation of viscoelastic interfacial flows”, 9th International Conference on Computational Fluid Dynamics, Istanbul, Turkey, July 11-15 (2016).

39. D. Izbassarov and *M. Muradoglu*, “Impact and spreading of a viscoelastic droplet on a solid surface”, 24th International Congress of Theoretical and Applied Mechanics (ICTAM 2016), Montreal, Canada, Aug. 21-26 (2016).
40. *M. M. Muradoglu*, H. Fujioka, J.B. Grotberg, “Propagation and rupture of a surfactant-laden liquid plug in distal airways”, The 8th World Congress of Biomechanics, Dublin, Ireland, July 8-12 (2018).
41. *M. Muradoglu*, H. Turkeri, X. Zhao, S.B. Pope, “LES/PDF simulation of Cambridge/Sandia turbulent stratified flames with differential diffusion”, 17th International Conference on Numerical Combustion, Aachen, Germany, May 6-8, (2019).
42. H. Turkeri, X. Zhao, S.B. Pope, *M. Muradoglu*, “LES/PDF simulations of swirling turbulent premixed flames”, 17th International Conference on Numerical Combustion, Aachen, Germany, May 6-8, (2019).
43. D. Izbassarov, *M. Muradoglu*, P. Costa, Z. Ahmed and O. Tammisola, “Combined effects of soluble surfactant and viscoelasticity on pressure-driven turbulent bubbly channel flows”, 10th International Conference on Multiphase Flow (ICMF 2019), Rio de Janeiro, Brazil, May 19-24 (2019).
44. Z. Ahmed, D. Izbassarov, M.N. Farooqi, D. Unat, *M. Muradoglu*, “Parallel scalable front-tracking method for multi-phase flow simulations in 3D”, 31st International Conference on Parallel Computational Fluid Dynamics (ParCFD2019), Antalya, Turkey, May 13-15, (2019).
45. *M. Muradoglu*, Z. Ahmed, D. Izbassarov, O. Tammisola, J. Lu, G. Tryggvason, “Effect of soluble surfactant on turbulent bubbly channel flow undergoing topology changes”, 17th European Turbulence Conference, ETC 2019, Torino, Italy, September 3-6 (2019).

INVITED TALKS

1. “PDF modeling of turbulent reacting flows”, 11th Istanbul Statistical Physics Days, Istanbul Technical University, Istanbul, Turkey (2004).
2. “Computational modeling of chaotic mixing in gas-segmented microchannels”, Analysis and Control of Mixing with an Application to Micro and Macro flows Processes, Advanced Summer School, Udine, June 27-July 1 (2005).
3. “Computational modeling of interfacial flows in microchannels”, NNIN/C conference: Synergy between Experiment and Computational Science, Harvard University, Cambridge, MA, USA, May 29-June 3 (2006).
4. “Computational modeling of soluble surfactants and applications to drops and bubbles in microchannels”, Nano-TR3, Nano Science & Technology, Bilkent University, Ankara, Turkey, June 11-14 (2007).
5. “Impact and spreading of a droplet on a solid wall”, COST-P21&WG, Bucharest, Romania, May 4-6 (2009).
6. “The front-tracking method for multiphase flows in microsystems: Fundamentals and applications”, NATO Advanced Study Institute on Microsystems for Security-Fundamentals and Applications, Golden Dolphin Hotel, Cesme-Izmir, Turkey, Aug. 23-Sep. 4 (2009).
7. “Computational modeling of soluble surfactant in 3D interfacial flows”, XIX. National Congress of Mechanics, Karadeniz Technical University, Trabzon, Turkey, Aug. 24-28 (2015).
8. “Computational modeling of soluble surfactant in multiphase flows”, 9th International Conference on Computational Fluid Dynamics (ICCFD9), Istanbul, Turkey, July 11-15 (2016).
9. “LES/PDF Modeling of Turbulent Reacting Flows”, 10th Ankara International Aerospace Conference, METU, Ankara, Turkey, September 18-20 (2019).

PRESENTATIONS

1. Proceedings of the Fourth International Workshop on Measurement and Computation of Non-premixed Flames (TNF4), Darmstadt, Germany (1999).
2. Proceedings of the Fifth International Workshop on Measurement and Computation of Nonpremixed Flames (TNF5), Delft, The Netherlands (2000).
3. The Combustion Institute 28th International Symposium on Combustion, Edinburgh, Scotland (2000).
4. The 53rd Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD00), Washington, D.C., USA (2000).
5. The Department of Mechanical Engineering, The University of Nebraska-Lincoln, Lincoln, NE, USA (2001).
6. Los Alamos National Lab, The Theoretical Mechanics Section, Los Alamos, NM, USA (2001).
7. College of Engineering, Koc University, Sariyer, Istanbul, Turkey (2001).
8. Proceedings of the Fourth International Workshop on Measurement and Computation of Non-premixed Flames (TNF6), Sapporo, Japan (2002).
9. 7th US National Congress on Computational Mechanics, Albuquerque, NM, USA (2003).
10. . Chemical Kinetics & Diffusion Processes in Reactive Flows, CDRF2004, Istanbul Technical University, Istanbul, TURKEY (2004).
11. SEAS, Harvard University, Cambridge, MA, USA (2004).
12. Department of Mechanical Engineering, WPI, Worcester, MA, USA (2004, 2005).
13. Biological Engineering Division, MIT, Cambridge, MA, USA (2005).
14. Crimson computing Circle, SEAS, Harvard University, Cambridge, MA, USA (2005).
15. The 58th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD05), Chicago, IL, USA (2005).
16. Department of Chemical Engineering, The University of Illinois at Chicago, Chicago, IL, USA (2005).
17. Department of Physics, Bilkent University, Ankara, Turkey (2006).
18. Proceedings of the 8th International Workshop on Measurement and Computation of Nonpremixed Flames (TNF8), Heidelberg, Germany (2006).
19. Division of Engineering and Applied Sciences, Harvard University, Cambridge, MA, USA (2006).
20. The 59th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD06), Tampa, FL, USA (2006).
21. The 60th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD07), Salt Lake City, UT, USA (2007).
22. Proceedings of the Ninth International Workshop on Measurement and Computation of Non-premixed Flames (TNF9), Montreal, Canada (2008).
23. The 61st Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD08), San Antonio, TX, USA (2008).
24. Faculty of Engineering and Natural Sciences, Sabanci University, Istanbul, Turkey (2008).
25. Department of Mechanical Engineering, Hanyang University, Seoul, S. Korea (2009).

26. The 62nd Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD09), Minneapolis, MN, USA (2009).
27. The 63st Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD10), Long Beach, CA, USA (2010).
28. EUROMECH Colloquium 521 - Biomedical Flows at Low Reynolds Numbers, ETH-Zurich, Switzerland (2011).
29. The 64th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD11), Baltimore, MD, USA (2011).
30. Faculty of Engineering and Natural Sciences, Sabanci University, Istanbul, Turkey (2012).
31. Polish Academy of Sciences, Warsaw, Poland (2012).
32. The 66th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD13), Pittsburgh, PA, USA (2013).
33. Department of Aerospace and Mechanical Engineering, The University of Notre Dame, Notre Dame, IN, USA (2013).
34. Department of Mechanical and Aerospace Engineering, Princeton University, Princeton, NJ, USA (2014).
35. Department of Mechanical and Aerospace Engineering, Cornell University, Ithaca, NY, USA (2014).
36. Department of Physics, Istanbul Technical University (ITU), Istanbul, Turkey (2014).
37. Faculty of Engineering and Natural Sciences, Sabanci University, Turkey (2014).
38. The 67th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD14), San Francisco, CA, USA (2014).
39. Department of Chemical Engineering, University of California-Davis, Davis, CA, USA (2014).
40. Faculty of Aeronautics and Astronautics, Istanbul Technical University (ITU), Istanbul, Turkey (2015).
41. ITU-MEMS laboratory, Istanbul Technical University (ITU), Istanbul, Turkey (2015).
42. 6th International Workshop on Bubble and Drop Interfaces, Potsdam/Golm, Germany (2015).
43. International Conference on Advances in Applied and Computational Mechanics (ACM2015), Izmir, Turkey (2015).
44. Droplets 2015, University of Twente, Twente, The Netherlands (2015).
45. The 68th Annual Meeting of the American Physical Society's Division of Fluid Dynamics (DFD15), Boston, MA, USA (2015).
46. Department of Mechanical Engineering, Bilkent University, Ankara, Turkey (2016).
47. Joint workshop between Koc University and the University of Bath on Applied and numerical analysis, with applications to differential equations, optimization and eigenvalue problems", University of Bath, Bath, U.K. (2016).
48. Workshop on fluid mechanics research, Middle East Technical University, The Northern Cyprus Campus, Guzelyurt, Northern Cyprus (2016).
49. Department of Chemical Engineering, Bosphorus University, Istanbul, Turkey (2017).
50. Department of Mechanical Engineering, University of Connecticut, Storrs, CT, USA (2017).

51. The 70th Annual Meeting of the American Physical Society’s Division of Fluid Dynamics (DFD17), Denver, CO, USA (2017).
52. Department of Mechanical Engineering, Colorado School of Mines, Golden, CO, USA (2017).
53. Department of Mechanics, KTH, Stockholm, Sweden (2018).
54. 8th World Congress of Biomechanics, 8-12 July, Dublin, Ireland (2018).
55. New Developments in Thermal and Flow Sciences, Izmir Institute of Technology, Urla, Turkey (2018)
56. 12th European Fluid Mechanics Conference, 9-13 September, Vienna, Austria (2018).
57. The 71st Annual Meeting of the American Physical Society’s Division of Fluid Dynamics (DFD18), Atlanta, GA, USA (2018).
58. The Max-Planck Intelligent Systems, Stuttgart, Germany (2019).
59. Bundeswehr University Munich, Munich, Germany (2019).
60. University of Stuttgart, Stuttgart, Germany (2019).
61. The 72nd Annual Meeting of the American Physical Society’s Division of Fluid Dynamics (DFD19), Seattle, WA, USA (2019).
62. University of Lille, Lille, France (2020).

FUNDED PROJECTS

1. “Development of new technologies for greenhouse gas emission reduction to meet 2025-230 regulations in motor vehicle”, TUBITAK, 119C176, 2020-2027.
2. “CTFF-Control of turbulent Friction Force”, Research and Innovation Staff Exchange (RISE), H2020-MSCA-RISE-2017, 2017-2021 (\$60K).
3. “CTFF-Control of turbulent Friction Force”, Research and Innovation Staff Exchange (RISE), H2020-MSCA-RISE-2017, 2017-2021 (\$60K).
4. “Computational modeling of airway closure and reopening”, TUBITAK, 2019-2022 (\$82K).
5. “ComSUV-Combined effects of surfactant and viscoelasticity on turbulent bubbly flows”, PRACE, 2019-2020².
6. “Development of an efficient numerical method for the shadow-position mixing model (SPMM) within the RANS/PDF and LES/PDF frameworks”, TUBITAK, 2015-2018 (\$90K).
7. “Computational modeling of soluble surfactant and viscoelasticity in 3D multi-phase flow”, TUBITAK, 2015-2018 (\$85K).
8. “Computational modeling of non-Newtonian drops in biological/micro flows”, co-sponsored by COST, Action-MP1106 and TUBITAK, 2012-2015 (\$149K).
9. “Filtered density function modeling of turbulent reacting flows”, TUBITAK, 2011-2014. (\$155K).
10. “Computational modeling of multiphase/multifluid flows: Multiphysics effects”, TUBITAK, 2008-2010. (\$121K)
11. “Computational modeling of interfacial flows”, Turkish Academy of Sciences, 2009-2012. (\$30K)
12. “Lab-On-A-Chip, unit micro processes and computational simulations”, TUBITAK, 2005-2008. (\$62K)
13. “Physics of droplets”, COST, Action P21, 2006-2010³.
14. “Smart and green interfaces”, COST, Action MP1106, 2012-2016³.

²Budget: 18M core-hour computer time

³Budget: Covered all the travel expenses for 4 years within EU

SUPERVISED POSTDOCS

1. Dr. Ufuk Olgac, PhD from ETH-Zurich, Switzerland (July 2011-July 2013)
2. Dr. Daulet Izbassarov, PhD from Koc University, Istanbul, Turkey (Jan. 2016-May 2017)

SUPERVISED Ph.D. DISSERTATIONS

1. R. Mokhtarpour, “A robust consistent hybrid finite-volume/particle method for solving the PDF model equations of turbulent reactive flows”, PhD Thesis, Koc University (2014). (Next position: Postdoc in Department of Mathematics, University of Wyoming, USA)
2. D. Izbassarov, “Computational modeling of viscoelastic two-phase systems”, PhD Thesis, Koc University (2016). (Next position: Postdoc in Department of Mechanics, KTH Royal Institute of Technology, Stockholm, Sweden)
3. H. Turkeri, “A general purpose large-eddy simulation/probability density function simulator on block structured grid”, PhD Thesis, Koc University (2017). (Next position: Postdoc in Department of Mechanical Engineering, University of Connecticut, Storrs, CT, USA)
4. M. Irfan, “Direct numerical simulation of evaporation/vaporization and burning of a fuel droplet”, PhD Thesis, Koc University (2017). (Next position: Professor in Department of Mechanical Engineering, The Capital University of Science and Technology (CUST), Islamabad, Pakistan)
5. Z. Ahmed, “Effects of surfactant and viscoelasticity on turbulent bubbly flows”, PhD Thesis, Koc University (2020). (Next position: Professor in Department of Mechanical Engineering, Mehran University of Engineering and Technology, SZAB Campus, Khairpur Mir’s 66020, Sindh, Pakistan)

SUPERVISED M.S. DISSERTATIONS

1. A.D. Kayaalp, “A finite-volume/front-tracking method for computations of multiphase flows in complex geometries”, M.S. Thesis, Koc University (2004). (Next position: OMV Group, Vienna, Austria)
2. M.B. Soydan, “Computational modeling of bio-fluid mechanics of white blood cells”, M.S. Thesis, Koc University (2004). (Next position: Mercedes-Benz, Istanbul, Turkey)
3. U. Olgac, “Dynamics of buoyancy-driven viscous drops in constricted capillaries including effects of soluble surfactants”, M.S. Thesis, Koc University (2005). (Next position: PhD student at ETH-Zurich, Switzerland)
4. E. Golbasi, “A front-tracking method for simulation of interfacial flows with soluble surfactants”, M.S. Thesis, Koc University (2006). (Next position: BOSCH, Bursa, Turkey)
5. S. Kassabbashi, “An implicit pressure-correction (SIMPLE) based finite-volume/front-tracking method for computations of multiphase flows in complex geometries”, M.S. Thesis, Koc University (2006). (Next position: No information)
6. O. Eren, “A new hybrid finite-volume/particle method for the PDF equations of turbulent reactive flows”, M.S. Thesis, Koc University (2006). (Next position: PhD student at Georgia Tech, USA)
7. S. Tasoglu, “The effects of soluble surfactant on the transient motion of a buoyancy-driven bubble”, M.S. Thesis, Koc University (2008). (Next position: PhD student at UC Berkeley, USA)
8. H. Dogan, “Mixing of miscible liquids in gas-segmented serpentine channels”, M.S. Thesis, Koc University (2009). (Next position: PhD student at Wessex Institute of Technology Southampton, UK)
9. G. Kaynak, “Computational study of impact and spreading of a compound droplet on a surface as a model for single cell epitaxy”, M.S. Thesis, Koc University (2010). (Next position: PhD student at Iowa State University, USA)

10. G. Gursel, “Effects of surfactant on the motion of a large bubble in a capillary tube”, M.S. Thesis, Koc University (2011). (Next position: PhD student at Eindhoven University of Technology, Netherlands)
11. H. Zolfaghari, “Dynamics of viscoelastic droplets in complex geometries”, M.S. Thesis, Koc University (2015). (Next position: PhD student at University of Bern, Switzerland)
12. M. Nooranidoost, “Effects of viscoelasticity on drop dynamics in microfluidic systems”, M.S. Thesis, Koc University (2016). (Next position: PhD student at Florida State University, Tallahassee, FL, USA)
13. M. Nabizadehmashhadtoroghi, “Combined effects of surfactant and viscoelasticity on drop dynamics”, M.S. Thesis, Koc University (2018). (Next position: PhD student at Northeastern University, Boston, MA, USA)
14. I.N. Yildiran, “An adaptive mesh refinement (AMR) method for particle-resolved simulations of multiphase flows”, M.S. Thesis, Koc University (2019). (Next position: PhD student at The George Washington University, DC, USA)
15. B. Altungeyik, “Immersed boundary method for fluid-fluid-solid three phase flows”, M.S. Thesis, Koc University (2020). (Next position: PhD student at University of Birmingham, UK)

CURRENT STUDENTS

1. O. Erken, “Two-layer model for air-way closure”, PhD student, Koc University. (Expected graduation: July 2023).
2. M. Yapar, “Fluid-structure interactions in airway closure and reopening”, PhD student, Koc University. (Expected graduation: July 2023).
3. A. Kozhabergenov, “Simulations of droplet evaporation and burning in 3D multiphase flow systems”, PhD student, Koc University. (Expected graduation: July 2023).
4. O.U. Caglar, “Computational modeling of hybrid hydrogen-Diesel combustion”, PhD student, Koc University, (Expected graduation: July 2024).
5. H.U. Naseer, “Viscoelastic turbulent bubbly flows”, PhD student, Koc University, (Expected graduation: July 2024).

MEMBERSHIPS

1. American Physical Society (APS).
2. American Society of Mechanical Engineers (ASME)
3. Society of Applied and Industrial Mathematics (SIAM).
4. European Mechanics Society (EUROMECH).
5. Turkish Chapter of American Society of Mechanical Engineers.
6. Turkish National Committee on Theoretical and Applied Mechanics (TUMTMK).