Associate Prof. Dr. HASAN KÖTEN

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Mechanical Engineering Department

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EDUCATION

Post Doctorate
2018-2019

Brunel University, London, CEDPS, College of Engineering, Design and Physics, Mechanical and Aerospace Engineering.

Experimental and CFD study for dual-fuel diesel engine.

PhD
2010-2014

Marmara University, Department of Mechanical Engineering.

Experimental investigation and (single and dual fuel) multidimensional modeling of biogas effects on CI engine combustion characteristics.

MSc
2007-2009

Marmara University, Department of Mechanical Engineering

Comparison of Various Combustion Models Within A Multidimesional Framework Applied to Heavy Duty CI Engine

BSc
2003-2007

Sakarya University,
Department of Mechanical Engineering with honour of degree, **first degree**.

BSc
2003-2007

Sakarya University,
Department of Electrical-Electronics Engineering Double Major

High School
1999-2003

Kadikoy Imam Hatip High school, **first degree**

Assoc. Prof. Hasan KOTEN graduated from Mechanical Engineering Department with honor of degree in 2007. At the same time, he received a BSc degree in Electrical and Electronics Engineering Department as a double major. Hasan KOTEN worked in the first full geometry engine design project for The Scientific and Technological Research Council of Turkey (TUBITAK). During his Ph.D., he worked as a visiting scholar at the Ohio State University Center for Automotive Research (CAR). Hasan KÖTEN also worked as a consultant for TUBITAK Domestic Electric Vehicle Design project in 2017. He attended to CEDP group at Brunel University as a post-doctorate researcher in 2018. He leaded number of projects, MSc and PhD thesis in this combustion field. He attended and presented more than 100 conference proceedings and published about 50 articles indexed in SCI and SCI-e. He is awarded by TUBITAK 2238 programme with first degree over all national PhD thesis applications. Assoc. Dr. Hasan KÖTEN is still working at the mechanical engineering department of Istanbul Medeniyet University. Currently, He is working at Turkey's largest TÜBİTAK budgeted 2400HP 16 and 8-cylinder engine production project.

PROJECTS

- TUBITAK (The Scientific and Technological Research Council of Turkey), 2018-2019, Ast.Prof. Hasan KOTEN "Development of Electrical Vehicle and Hybrid Engine for Turkish Domestic Car", Report-39506865-903.99-E.89244, 2016-2017. Consultant.
- TUBITAK 1007, 2018-2024, Ast.Prof. Hasan KOTEN "Modernization of V16 Heavy Duty Diesel Engine", P-117G026-1.
- TUBITAK 1007, 2018-2024, Ast.Prof. Hasan KOTEN "Development of V8 Heavy Duty Diesel Engine", P-117G026-2, Consultant.
- TUBITAK 1001, 2008-2011, Design of a Very Low Emission Narrow Angle Direct Injection Compression and Firing NADICI Heavy Duty Engine, P- 108M237. Researcher.

EXPERIENCE

2018-2019	Visiting Professor, TUBITAK 2219, 510906515, London.
2015-2018	Ast.Prof (Head of Mechanical Engineering Faculty).
2009-2015	R.A. Marmara University Engineering Faculty.
2011	TUBITAK Trijen, Gasification, Meeting.
2011	Southwest Research Institute SwRI
2011	Toyota Tundra Factory, Technical Visit.
2011	University of British Columbia, Workshop.
2010-2011	PhD researcher, The Ohio State University, USA.
2011	Scott Lab. OSU, Meeting.
2010-2011	Center for Automotive Research (CAR), Experiments.
2008-2010	Researcher, TUBITAK 1001 project.

2007-2009 Ford Otosan & Marmara University Project

AWARDS

2014 TUBITAK 2238 award first degree.
2014 TIM award first degree.
2007 Graduation award first degree.

PUBLICATIONS

1. Nursal, R. S., Khalid, A., Abdullah, I. S., Jaat, N., Darlis, N., & Koten, H. (2021). "Autoignition behavior and emission of biodiesel from palm oil, waste cooking oil, tyre pyrolysis oil, algae and jatropha." Fuel, 306, 121695.
2. Shaiful Fadzil Zainal Abidin, Amir Khalid, Sophia Zanalli, Izzarief Zahari, Rifqi Irzuan Abdul Jalal, Mohd Azman Abas, Hasan Koten, "The effect of 48V mild hybrid technology on fuel consumption of a passenger car by using simulation cycle," Case Studies in Thermal Engineering, Volume 28, 2021, 101492, doi.org/10.1016/j.csite.2021.101492
3. Tang Tsz Loong, Hamidon Salleh, Amir Khalid, Hasan Koten, "Thermal performance evaluation for different type of metal oxide water based nanofluids," Case Studies in Thermal Engineering, Volume 27, 2021, 101288, doi.org/10.1016/j.csite.2021.101288
4. Touaibi, R., & Koten, H. (2021). Energy Analysis of Vapor Compression Refrigeration Cycle Using a New Generation Refrigerants with Low Global Warming Potential. Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 87(2), 106-117.
5. Abdullah, I. S., Khalid, A., Jaat, N., Nursal, R. S., Koten, H., & Karagoz, Y. (2021). A study of ignition delay, combustion process and emissions in a high ambient temperature of diesel combustion. Fuel, 297, 120706.
6. Shoukat, A. A., Noon, A. A., Anwar, M., Ahmed, H. W., Khan, T. I., Koten, H., ... & Sharif, A. (2021). Blades Optimization for Maximum Power Output of Vertical Axis Wind Turbine. International Journal of Renewable Energy Development, 10(3).
7. Balcı, Ö., Karagöz, Y., Gezer, O., Kale, S., Köten, H., Pusat, S., & Yüksek, L. (2021). Numerical and experimental investigation of fuel consumption and CO2 emission performance for a parallel hybrid vehicle. Alexandria Engineering Journal, 60(4), 3649-3667.
8. Syarifudin Syarifudin, Firman Lukman Sanjaya, Faqih Fatkhurrozak, M Khumaidi Usman, Yohanes Sibagariang, Hasan Koten, (2021). Effect Methanol, Ethanol, Butanol on the Emissions Characteristics of Gasoline Engine. Automotive Experiences, Volume 4, Issue 2, Pages 62-67. https://doi.org/10.31603/ae.4641
9. Ferroudj, N., Köten, H., Kachi, S., & Boudebous, S. (2021). NUMERICAL SIMULATION OF PRANDTL NUMBER EFFECT ON ENTROPY GENERATION IN A SQUARE CAVITY. Journal of Thermal Engineering, 7(4), 1016-1029.
10. Balcı, Ö., Karagöz, Y., Kale, S., Damar, S., Attar, A., Köten, H., ... & Wongwises, S. (2021). Fuel consumption and emission comparison of conventional and hydrogen feed vehicles. International Journal of Hydrogen Energy, 46(30), 16250-16266.
11. Muhammad Adnan Aslam Noon, Bilal Anwar, Hasan Koten, (2021). Design and Fabrication of Solar Heat Cell Using Phase Change Materials. Technical Journal, University of Engineering and Technology (UET) Taxila, Vol. 26 No. 1-2021 ISSN:1813-1786 (Print) 2313-7770

12. Karagöz, Y., Balcı, Ö., Gezer, O., Köten, H., & Işın, Ö. (2021). Performance and emissions of spark-ignition engines fuelled with petrol and methane. Proceedings of the Institution of Civil Engineers-Energy, 1-14.
13. Koten H., 2021, Recent Researches in Engineering Sciences, Livre de Lyon. ISBN: 978-2-38236-155-9
14. Bilal ANWAR, Muhammad Adnan Aslam NOON, Hasan KOTEN, 2021, Phase Change Materials (PCM) and Their Applications, Livre de Lyon.
15. Mohammad Rasidi RASANI, Hasan KOTEN, 2021, Critical Velocity for Flow Induced Instability in Pipes a Simulation Approach, Livre de Lyon. ISBN: 978-2-38236-155-9
16. Yasin KARAGOZ, Tarkan SANDALCI, Hasan KOTEN, 2021, Examination of Usage of Natural Gas/Diesel Dual Fuels in Series-Driven Hybrid Vehicles, Livre de Lyon. ISBN: 978-2-38236-155-9
17. Yasin KARAGOZ, Saban PUSAT, Azade ATTAR, Hasan KOTEN, 2021, The Effect Of Using Metallic Nanoparticles As Coolant In Tractor And Construction Machinery Engines On Performance And Emissions, Livre de Lyon. ISBN: 978-2-38236-155-9
18. Yasin KARAGOZ, Hasan KOTEN, 2021, Investigation of the Usage of Organic Rankine Cycle In Internal Combustion Engines, Livre de Lyon. ISBN: 978-2-38236-155-9
19. Alphonse, B. H. B., Basavaraj, R. R., Koten, H., Balasubramanian, R., & Umrao, S. D. (2021). Comparative design and CFD analysis of 3D printed abs nozzle aerator for discharge reduction. Thermal Science, (00), 155-155.
20. Noon, A. A., Jabbar, A. U., Koten, H., Kim, M. H., Ahmed, H. W., Mueed, U., ... & Anwar, B. (2021). Strive to Reduce Slurry Erosion and Cavitation in Pumps through Flow Modifications, Design Optimization and Some Other Techniques: Long Term Impact on Process Industry. Materials, 14(3), 521.
21. Balcı, Ö., Karagöz, Y., Kale, S., Damar, S., Attar, A., Köten, H., Dalkılıç, A.S. and Wongwises, S., 2020. Fuel consumption and emission comparison of conventional and hydrogen feed vehicles. International Journal of Hydrogen Energy.
22. Senthilraja, S., R. Gangadevi, Hasan Köten, and R. Marimuthu. "Performance assessment of a solar powered hydrogen production system and its ANFIS model." Heliyon 6, no. 10 (2020): e05271.
23. S.Senthilraja, R.Gangadevi, Hasan Koten, R.Marimuthu, "Performance Analysis of a Novel Hydrogen Production System Incorporated with Hybrid Solar Collector and Phase Change Material" International Conference on Economics, Energy and Environment, 2020.
24. Karagöz, Y., Balcı, Ö., & Köten, H. (2019). Investigation of hydrogen usage on combustion characteristics and emissions of a spark ignition engine. International Journal of Hydrogen Energy, 44(27), 14243-14256.
25. Yasin Karagöz, Hasan Köten, "Effect of Different Levels of Hydrogen + LPG Addition on Emissions and Performance of a Compression Ignition Engine", Journal of Thermal Engineering, Volume: 5, Issue: 2, (FEB 2019), pp:58-69, doi: 10.18186/thermal.531704.
26. Y Karagoz., Ö Balcı, O Gezer, H Köten, Ö Işın, 2020, Performance and emissions of spark-ignition engines fuelled with petrol and methane, Proceedings of the Institution of Civil Engineers-Energy, 1-48. https://doi.org/10.1680/jener.19.00055.
27. Köten, H., Karagöz, Y., & Balcı, Ö. 2020. Effect of different levels of ethanol addition on performance, emission, and combustion characteristics of a gasoline engine. Advances in Mechanical Engineering. Volume:12, Issue:7, https:// doi.org/10.1177/ 1687814020943356
28. Koten Hasan, Karagöz, Y., Balcı, Ö., Gezer, O., Kale, S., 2020. Performance analysis of a hybrid lightweight vehicle with downsized engine. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 42 (12), pp.1513-1525. https://doi.org/10.1080/15567036.2019.1604866

29. Touaibi, R., Koten, H. and Boydak, O., 2020. Parametric Study of an Organic Rankine Cycle Using Different Fluids. Emerging Science Journal, 4(2), pp.122-128. DOI: 10.28991/esj-2020-01216
30. Touaibi, R., Koten, H. and Boydak, O., 2020. An Energy Investigation of An Organic Rankine Cycle Utilizing Three Organic Fluids. Hittite Journal of Science & Engineering, 7(1), pp.41-44. DOI: 10.17350/HJSE19030000170
31. Hasan Koten, D. G. Raheem, K. Erdem, 2018, "Techno-Environmental Studies on a Reciprocating Internal Combustion Engine Fired with Syngas Produced by Gasifying Different Types of Turkish Lignites", International Journal of Advances on Automotive and Technology, Volume 1, Issue 3.
32. Hasan Koten, A. S. Parlakyigit, 2018, "Effects of the diesel engine parameters on the ignition delay", Fuel, Volume 216, Pages 23-28, doi: 10.1016/j.fuel.2017.11.136
33. D. Abdurrahman, Koten Hasan, G. Metin, 2018, "The effects of small amount of hydrogen addition on performance and emissions of a direct injection compression ignition engine", Thermal Science, No.103, Pages: 4-15, doi: 10.2298/TSCI170802004D
34. Boydak Ö., Ekmekçi I. , Yılmaz M. , Hasan Koten, 2018, "Thermodynamic Investigation Of Organic Rankine Cycle (ORC) Energy Recovery System And Recent Studies", Thermal Science, No.103, Pages:103-115, doi: 10.2298/TSCI170720103B
35. S. Mehmet, K. Aykut, Hasan Koten, 2018, "Thermal analysis and optimization of high power led armature", Thermal Science, No.103, Pages:238-248, doi: 10.2298/TSCI170704238S
36. Hasan Koten, 2018 "Hydrogen Effects on the Diesel Engine Performance and Emissions", International Journal of Hydrogen Energy, Volume:43, Issue:22, Pages:10511-10519, doi: 10.1016/j.ijhydene.2018.04.146
37. F. Unal, G. Temir, Hasan Koten, 2018, "Energy, exergy and exergoeconomic analysis of solar assisted vertical ground source heat pump system for heating season", Journal of Mechanical Science and Technology, Volume:, Issue:, Pages:, doi:
38. Hasan Koten, M. Z. Gul, 2014, "Multidimensional Modeling of Compressed Bio Gas (CBG) Engine for Ultra Low Emission", Marmara Journal of Pure and Applied Sciences, Volume 26, No 2, Pages 47-55, doi: http://dx.doi.org/10.7240/MJS.2014267516
39. M.Yilmaz, Hasan Koten, M. Z. Gul, 2012, "Effects of the injection parameters and compression ratio on the emissions of a heavy-duty diesel engine", International Journal of Vehicle Design, Volume 59, Number 2/3, Pages 147-163, doi: 10.1504/IJVD.2012.048691
40. Hasan Koten, M. Yilmaz, M. Z. Gul, 2015, "Compressed biogas-diesel dual-fuel engine optimization study for ultralow emission", Advances in Mechanical Engineering, Volume 6, Pages 1-8, doi: 10.1155/2014/571063
41. Ali Hafiz Muhammad, Koten Hasan, et al., 2018, "Condensate retention as a function of condensate flow rate on 1 horizontal enhanced pin-fin tubes", Thermal Science, No.103, Pages:161-161, doi: https://doi.org/10.2298/TSCI171129161A
42. Hasan Koten, 2018, "Performance Analysis of a Diesel Engine within a Multi-Dimensional Framework", Journal of Thermal Engineering, Volume: 4, Issue: 4, Pages:2075-2082, doi: 10.18186/journal-of-thermal-engineering.414153
43. Z. Gul, Hasan Koten, M. Yilmaz, I. H. Savci, 2018, "Advanced Numerical and Experimental Studies on CI Engine Emissions ", Journal of Thermal Engineering, Volume:4, Issue:4, Pages:2234-2247, doi: 10.18186/journal-of-thermal-engineering.434044
44. N. Dogan, M. Inci, A. Bingolbali, Hasan Koten, 2015, "Effects of number of magnet in halbach magnet system for producing homogeneous magnetic field" Print ISBN: 978-1-4799-7269-2, IEEE, doi: 10.1109/IWMPI.2015.7107088

45. M. Yilmaz, Hasan Koten, R. S. Pour, 2016, "One Dimensional Modeling of Gasoline Alcohol Dual Fuel Combustion Engine", International Journal of Energy Engineering Sciences,
46. M. Z. Gul, M. Yilmaz, Hasan Koten, I. H. Savci, 2016, "CI Engine Modeling and Experimental Studies for Lower Exhaust Emissions", International Journal of Fuels, Fire and Combustion, Volume 4, Pages 4 - 13.
47. Hasan Koten, M. Yilmaz, M. Z. Gul, "Effects of the Injection Parameters on the Emissions of a Heavy Duty Diesel Engine and Geometrical Improvements", 11th International Combustion Symposium, June 24th - 27th 2010, SARAJEVO,BOSNA.
48. Hasan Koten, M. Yilmaz, M. Z. Gul, "A CFD Study on Heavy Duty DI Diesel Engine to Achieve Ultra-Low Emissions", ESDA-2010, 12-14 July 2010, Istanbul, Turkey.
49. M. Yilmaz, Hasan Koten, M. Z. Gul, "Combustion Chamber Design and Effects of Injection Parameters on the Emission Characteristics of a Heavy Duty CI Engine", ICEF2010, Augst 12th - 15th 2010, San Antonio,TEXAS, USA.
50. Hasan Koten, M. Yilmaz, M. Z. Gul, "A CFD Study and Geometrical Improvement on Heavy Duty Diesel Engine for Ultra-Low Emissions", IMECE2010, November 12th - 15th 2010, Vancouver, CANADA.
51. Hasan Koten, M. Yilmaz, H. Soyhan, "Ethanol-Gasoline Fuel Blend Combustion Study in SI Engine", SAS-CI Annual Meeting, Saudi Arabia, 2017.
52. Hasan Koten, Zafer GUL, Mustafa YILMAZ, Ismail Hakki SAVCI "CI Engine Modeling and Experimental Studies at Marmara University for Lower Exhaust Emissions" Proceedings of ICFD12, Twelfth International Conference of Fluid Dynamics, 19-20 December, 2016, Le Méridien Pyramids Hotel, Cairo, EGYPT.
53. R. S. POUR, Hasan Koten, Mustafa Y., "One Dimensional Modeling of Gasoline Alcohol Dual Fuel Combustion Engine" International Energy and Engineering Conference 2016, October 13-14 Gaziantep TURKEY.
54. Z. Gul, Hasan Koten, Mustafa Yilmaz, Ismail Hakki Savci "Advanced Numerical and Experimental Studies on CI Engine Emissions" International Conference On Advances In International Conference On Advances In Automotive Technologies, AAT16, 14 October 2016.
55. M. Yılmaz, M. Z. Gül, B. Akay, Hasan Koten "Effects of The Injection Parameters On The Emissions Of A Heavy Duty Diesel Engine" IMECE2009- 13222, Proceedings of the ASME International Mechanical Engineering Congress and Exposition, 2009, Florida, USA.
56. Gul M. Z., Yılmaz M., Hasan Koten, "A CFD Study on Heavy Duty DI Diesel Engine to Achieve Ultra-Low Emissions", ESDA 2010 ASME 10th Biennial Conference On Engineering Systems Design & Analysis. İstanbul, Turkey.
57. Yilmaz M., Gül M. Z., Hasan Koten, Binark, A. K. (2010), "Injection Parameters and Geometrical Effects on the Emissions of a Heavy Duty CI Engine" 11th International Combustion Symposium. Sarajevo, Bosna-Hersek.
58. Hasan Koten, Yılmaz M., Gul M. Z., "A CFD Study and Geometrical Improvement on Heavy Duty Diesel Engine for Ultra-Low Emissions", IMECE2010- 40368, Proceedings of the ASME International Mechanical Engineering Congress and Exposition, 2010, Vancouver, British Columbia.
59. Hasan Koten, Yılmaz M., Gul M. Z., "Comparison of Various Combustion Models within a Multidimensional Framework Applied to Heavy Duty CI Engine", Proceedings of the ASME ICFDP 2010 Egypt.
60. M. Z. Gül, M. Yılmaz, B. Akay, Hasan Koten, Combustion Simulation of A Heavy Duty Diesel Engine, Submitted to 17. Ulusal Isı Bilimi ve Tekniği Kongresi, Sivas, 24-27 June 2009, ULIBTK09-MOT-019.

61. Hasan Koten., Yılmaz M., Gul M. Z., "Multidimensional Simulation And Optimzation Parameters Of A Heavy Duty Diesel Engine", ICEF2011-60179, Proceedings of ICEF2011 ASME Internal Combustion Engine D4ision Fall Technical Conference October 2-5, 2011 Morgantown, WV, USA.
62. Hasan Koten., Yılmaz M., Gul M. Z., "Numerical Study On A Heavy Duty Ci Engine To Achieve Ultra-Low Emissions", ICEF2010-35043, Proceedings of ICEF2010 ASME Internal Combustion Engine Division Fall Technical Conference September 12-15, 2010 San Antonio, Texas, USA.

BOOK:

1. Hasan Koten, Tayyab RazaShah, Hafiz MuhammadAli, Performance effecting parameters of hybrid nanofluids, Hybrid Nanofluids for Convection Heat Transfer, 2020, Pages 179-213. https://doi.org/10.1016/B978-0-12-819280-1.00005-7 "Hybrid Nanofluids for Convection Heat Transfer", Book Chapter, ISBN: 978-0-12-819280-1.
2. "Comparison of Combustion Models Applied to Heavy Duty Diesel Engine" Hasan Koten. ISBN-13:978-3-659-55117-8.
3. "Usage of Biogas in a Diesel Engine" Hasan Koten. ISBN-13:978-3-330-07965-6.
4. "HCCI Engines" M. Yilmaz, Hasan Koten, ISBN: 978-620-2-01850-0.
5. "Axial Fan Design and Applications" ISBN: 978-605-033-185-1.
6. "Diesel and Gasoline Engines" IntechOpen, Published: February 26th 2020, ISBN: 978-1-78985-447-3, Print ISBN: 978-1-78985-248-6, eBook (PDF) ISBN: 978-1-78985-448-0. DOI: 10.5772/intechopen.82206

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Researcher link:

- Google scholar: https://scholar.google.com/citations?hl=en&user=jz3S5CwAAAAJ&view_op=list_works&sortby=pubdate
- TUBITAK ID TBTK-0020-4961
- YOK - Researcher No: 189410
- Scopus Author ID:36157946800 https://www.scopus.com/authid/detail.uri?authorId=36157946800
- Clarivate – ResearcherID: AAG-4611-2019
- ORCID: 0000-0002-1907-9420