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EDUCATION

- ❖ **Doctor of Philosophy [October 2013] in *Energy Engineering***, Energy Research Institute, School of Chemical and Process Engineering, **Leeds University, United Kingdom (UK)**.

Thesis: "Combustion and Emissions of Alternative fuels in Gas Turbines"

- ❖ **Master of Science [October 2005] in Environmental and Energy Engineering**, Department of Chemical and Process Engineering, **Sheffield University, United Kingdom (UK)**

Thesis: "Effect of Redox Potential on Leachability of Trace Elements from Coal Fly Ash".

- ❖ **Bachelor of Engineering [January 2001]**, Mechanical Engineering Department, Faculty of Engineering Science and Technology, **Sebha University, Libya**.

EXPERIENCE

1) Assistant Professor (2019- present)

Chemical Engineering Department, Faculty of Mining and Energy Engineering , Sebha University.

2) Lecturer (2016-2019)

3) Head of the Chemical Engineering Department (2016-2017)

Chemical Engineering Department, Faculty of Mining and Energy Engineering , Sebha University.

4) Assistant Lecturer (2006– 2008)

Petroleum, and Chemical Engineering Departments , *Sebha University*

I have worked for at Petroleum, and Chemical Engineering Departments, Faculty of Engineering Sciences and Technology, Sebha University (SU) for two years.

Courses taught: Introduction to Physics for Engineering Students, Engineering Drawing, Engineering Mechanics I, Engineering Mechanics II ,Thermodynamics I, Thermodynamics II and Engineering Fluid Mechanics.

5) Mechanical Engineer (2001-2003)

Traghen Institute of Mechanical and Electrical occupations (LY).

I have involved in the training and examination of students in the department of mechanical engineering. The duty was to train the students engine parts and working principles for both diesel and petrol engines.

RESERCH EXPERINCE

Combustion Experiment/Theory and Clean Energy include: Combustion and emission performance of alternative fuels including hydrogen and Biofuels in gas turbines, Design of Low NOx gas turbine combustor, and development of gaseous and particulate emission measurement methods for gas turbines.

SOME TYPICAL WORK.

1) I have been a part of Leeds University team which were assigned to compare the thermal performances and regulated emissions from the biomass wood-pellet and oil-fired burners using the same cross-flow heater system. Thus an environmental and energy audit of both heaters was carried out. The industrial air heaters are located at Marshall's, which is situated near Halifax in York.

2) I have been involved in an EU project SWAFAE (Sustainable Way for Alternative Fuels and Energy in Aviation) to evaluate and measure particle size numbers and their distribution and hydrocarbon speciation of alternative fuels from an m Auxiliary Power Unit (APU) engine

3) I have also been involved in Rolls-Royce (RR) led EU project for the development of the particle emission measurement methodology for aero engines.

RESERACH INTEREST

Gas turbine combustion , Swirl flows , Combustion , Sprays, Biofuels, Alternative fuels, Pollution, Combustion in micro-engines, Internal combustion engines, High temperature air combustion.

PROFESSIONAL TRAINING

1) Energy from biomass combustion 5 days course 12th -16th January 2009, Leeds UK, organized by Leeds University.

2) Ultra low NO_x Gas Turbine Combustion, 5 days course, 19th -23th January 2009, Leeds UK, organized by Leeds University

3) Engine Emissions Measurement, 5 days course, 22th -26th June 2009, Leeds UK, organized by Leeds University.

4) Combustion in Boilers and Furnaces, 5days course, 7th - 11th March 2011, Leeds UK, organized by Leeds University

5) Combustion and Alternative fuels in Aviation Workshop 12th -16th September 2011, Cheshire UK, organized by ECATS international Association.

PROFESSIONAL AFFILIATIONS

Combustion Institute British section (CI)	2011- present
American Society of Mechanical Engineering (ASME)	2012-present
American Institute of Aeronautics and Astronautics (AIAA)	2013-Present

REFERENCES

1) Prof Gordon E. Andrews

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2) Dr Hu Li

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3) Dr Ali Elwafi

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PUBLICATIONS

- 1) **Altaher, M. A** and **Abdulla, M. M.**, "Review and Prospects of Jojoba (*Simmondsia chinensis*) used as Biodiesel in Libya", Libyan Journal of Ecological & Environmental Sciences and Technology, 2019, (01), 01, pp. 09-21.
- 2) **Altaher, M. A.**, "Gas Turbine NO_x Emissions and Control: Review", International Science and Technology Journal. 2109, (01), 16, pp. 01-20.
- 3) **Altaher, M. A**, Li. H and Andrews, G., "Influence of Residence on Fuel Spray Sauter Mean Diameter(SMD) and Emissions using Biodiesel and its Blends in Low NO_x Gas Turbine Combustor", ASME Turbo Expo 2016, GT2016-58148. Seoul South Korea, July 13-17, 2016.
- 4) **Altaher, M. A**, G. E. Andrews, B. M. Gibbs, S. A. Hadavi, H. Li, E. Jones and M. Mercer, Comparison of Gaseous and Particulate Emissions from Wood Pellet and Oil Fired Combustion for the Same Thermal Heat Input. Presented in 10th European Conference on Industrial Furnaces and Boilers (INFUB-10), 2015.

- 5) **Altaher, M. A.**; Li. H and G.E Andrews. " Study of Biodiesel Emissions and Carbon Mitigation in Gas Turbine Combustor. American Journal of Engineering Research. 2014, (03), 11, pp. 290-298.
- 6) Li. H, **M. A. Altaher**, C. Wilson, C. Winson, B. Simon and L, Rye., "Quantification of Aldehydes Emissions from Alternative and Renewable Aviation Fuels using a Gas Turbine Engine". Journal of Atmospheric Environment , 2014, 84, pp. 373-379.
- 7) **Altaher. M. A**, H. Li, C. Wilson, C. Winson, B. Simon and L, Rye., "Determination of Particle Penetration Factors in a Particle Transfer Line for Aero Gas Turbine Engine Exhaust Particle Measurement". Presented in ASME Turbo Expo conference 2014, and accepted in Journal of Engineering for Gas Turbine and Power.
- 8) **Altaher. M. A**, H. Li, C. Wilson, C. Winson, B. Simon and L, Rye., " NMHC and VOC Speciation of the exhaust Gas Speciation from a Gas Turbine Engine using Alternative, Renewable and Conventional JetA-1 Aviation Fuels". ". ASME Turbo Expo 2014, GT2014-25445.
- 9) **Altaher. M. A**, H. Li, C. Wilson, C. Winson, B. Simon and L, Rye., "Hydrocarbon speciation of Exhaust Gases from a Gas Turbine Engine using Conventional and Alternative Aviation Fuels". In proceedings of 6th European Combustion Meeting (ECM 2013), Lund 25-28 June, 2013.
- 10) **Altaher, M. A**, G.E. Andrews and H. Li., "PM Characteristics of Low NOx Combustor Burning Biodiesel and its Blends with Kerosene". ASME Turbo Expo 2013, GT2013-95481.
- 11) Li. H, **M. A. Altaher**, C. Wilson, C. Winson, B. Simon and L, Rye " Influence of fuel composition, engine power and operation mode on exhaust gas particulate size distribution and gaseous emissions from a gas turbine engine. ASME Turbo Expo 2013, GT2013-94854.
- 12) **Altaher, M. A**, Li. H, C. Wilson, C. Winson, B. Simon., " Particulate emissions and size distributions from renewable fuel blend for gas turbine engine". In 9th Asia-Pacific Conference on Combustion. Gyeongju, South Korea: The Combustion Institute Korean Section, 19-22 May 2013.
- 13) **Altaher, M. A**, G.E. Andrews and H. Li., "Co-firing of Kerosene and Biodiesel with Natural Gas in a Low NOx Radial Swirl Combustor". ASME Turbo Expo 2012, GT2012-68597.

- 14) Andrews, G.E, **M. A. Altaher** and H. Li., "Hydrogen Combustion at High Combustor Airflow using an Impinging Jet Flame Stabiliser with no Flashback and Low NO_x". ASME Turbo Expo 2012, GT2012-70046.
- 15) Li, H., **M.A. Altaher**, and G.E. Andrews, "Aldehydes Emissions Measurement and OFP assessment of Biodiesel and its Blends with Kerosene using a Low NO_x Gas Turbine Combustor". ASME Turbo Expo 2011, GT2011-45707.
- 16) **Altaher, M. A.**, H. Li, and G.E. Andrews, "Biodiesel and its Blends with Kerosene as an Alternative Fuel in Low NO_x Gas Turbine Combustor". International Gas Turbine Congress, Osaka, Japan, November 13-18, 2011, IGTC2011-0171.
- 17) **Altaher, M. A.**, H. Li, and G.E. Andrews, "Effect of Biodiesel and its Blends Co-firing with Natural Gas on Emissions in a Low NO_x Gas Turbine Combustor". International Gas Turbine Congress, Osaka, Japan, November 13-18, 2011. IGTC2011-0101., 2011.
- 18) Li, H; **Altaher, M. A** and Andrews, G.E "Evaluation of combustion and emissions using biodiesel and blends with kerosene in low NO_x gas turbine combustor". ASME Turbo Expo 2010, GT2010-22182.
- 19) **Altaher, M. A.**, H. Li, and G.E. Andrews. "Effect of Wall Fuel Injection Configuration on Emissions Using Low NO_x Radial Swirl Combustor". In Eighth Asia-Pacific Conference on Combustion. Hyderabad, India: The Combustion Institute Indian Section, 2010.

PRESENTATIONS

- 1) Altaher, M. A, Li. H and Andrews, G. E. "Evaluation of Biodiesel as fuel for use in Gas Turbine engines on emissions and carbon mitigation", presentation in Energy, Environment and Water Desalination Conference, Libya, 2009.
- 2) Altaher, M. A, Low Emissions Gas Turbine Combustion, Presentation in Energy research institute colloquia, Leeds University, 2010
- 3) Altaher, M. A, Li. H and Andrews, G. E. "Application of biodiesel in gas turbine combustors", Poster in A Low Carbon Future?' Summer Conference, Leeds University, 2010.
- 4) Altaher, M. A and Li. H. " Alternative fuels commercial Aviation" presentation in Energy Future Research Seminar, Leeds University, 2011.
- 5) Altaher, M. A, Li. H and Wilson. C. "Alternative fuels commercial Aviation", poster in Energy Technology Research at Leeds, Leeds University, 2012.

6) Altaher, M. A, AlQahtany. H, Andrews, G.E and Li. H "Hydrogen Combustion at High Combustor Airflow using an Impinging Jet Flame Stabiliser with no Flashback and Low NO_x", Poster in Energy Technology Research at Leeds, Leeds University, 2012.