



ANNUAL REPORT FOR THE YEAR 2014

OF THE

INTERNATIONAL ENERGY AGENCY IMPLEMENTING AGREEMENT FOR ENERGY CONSERVATION AND EMISSIONS REDUCTION IN COMBUSTION

**prepared by the
Executive Committee Secretariat**

**for
Dennis Siebers, Agreement Operating Agent
Sandia National Laboratories - California**

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FOR THE YEAR 2014**

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INTERNATIONAL ENERGY AGENCY
ENERGY CONSERVATION AND EMISSIONS REDUCTION
IN COMBUSTION IMPLEMENTING AGREEMENT

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EXECUTIVE ABSTRACT

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EXECUTIVE ABSTRACT

The purpose of the IEA Implementing Agreement on Energy Conservation and Emissions Reduction in Combustion program is to improve fundamental and applied combustion technology which is developed to provide predictive design capabilities for internal combustion engines, furnaces, and gas turbines. This document summarizes the progress made in this agreement year.

Since 1978, IEA cooperative research by program participants has focused on developing experimental and computational tools to aid combustion research and on developing advanced laser-optical diagnostic tools that permit time- and space-resolved measurements of combustion phenomena for achieving this end. The Agreement's Annex structure has been planned to improve the modeling and simulation processes as well as the instrumentation required for the supporting experimental activities. In order to more efficiently organize Agreement Research Activities the Annex structure was revised in the 2013 agreement year.

The new Annex structure adopted by the Executive Committee at its April 23, 2013 Meeting is shown below. In addition to initiating new Collaborative Tasks in Gas Engines and Combustion Chemistry, the HCCI Task was renamed Low Temperature Combustion to more accurately reflect the nature of the research and the Advanced Hydrogen Fueled Internal Combustion Engine Task was incorporated into the newly formed Gas Engines Task. The new Annex Structure is shown below.

- Annex 1 Administration and Supportinc Activities

- Annex 2 Individual Contributor Tasks
 - Area 1 Advanced Piston Engine Technology
 - Area 2 Advanced Furnace Technology
 - Area 3 Fundamentals
 - Area 4 Advanced Gas Turbine Technology

- Annex 3 Sprays in Combustion

- Annex 4 Low Temperature Combustion (formerly HCCI)

- Annex 5 Advanced Hydrogen Fueled Internal Combustion Engines (No longer active – related work can be found in Annex 9)

- Annex 6 Alternative Fuels

- Annex 7 Nanoparticle Diagnostics

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emission Gas Turbine Combustors

Annex 9 Gas Engines

Annex 10 Combustion Chemistry

YEAR 2014 ACTIVITIES OF THE EXECUTIVE COMMITTEE

Chair: Dr. Mario Ditaranto, Norway

Vice Chair: Prof. Douglas Greenhalgh, United Kingdom

The Executive Committee (ExCo) of the International Energy Agency's (IEA) Program of Research, Development and Demonstration on Energy Conservation and Emissions Reduction in Combustion coordinates the cooperative efforts undertaken by participating institutions. The Committee met twice during the business year. The first meeting took place in April at IEA headquarters in Paris. The second took place following the Agreement's Thirty-sixth Task Leaders Meeting in July in Stavanger, Norway.

Actions taken by the Executive Committee this year include:

Task Leaders Meeting: The Thirty-sixth Task Leaders Meeting, sponsored by the Executive Committee was held at the Victorisa Hotel in Stavanger, Norway in June. Principal Investigators, Executive Committee members, and invited guests gathered to hear papers presented on the Agreement's research. Fifty members of the Combustion Research Community attended and fifty papers were presented on the Agreement's ongoing Collaborative Task activities

Executive Committee Meetings: Minutes of the Executive Committee's meetings of April and June have been published and distributed to IEA Headquarters and to ExCo members. The Proceedings of the Thirty-sixth Task Leaders Meeting were published and distributed to IEA Headquarters and Executive Committee members for distribution to participants. The Agreement's Annual Reports and 30 Year Anniversary Report are available on the public web site.

Future Meetings: The Executive Committee scheduled its next meetings for April 2015 at IEA Headquarters, Paris and August 2015 in St. Andrews, Scotland. The August meeting will be held immediately following the 37th Task Leaders meeting in St. Andrews, Scotland.

Highlights from Recent ExCo Meetings

Paris France --- April 29, 2014

The Executive Committee:

The Executive Committee unanimously accepted Spain's application for membership in the Agreement. Prof. Jacobo Porteiro from the University of Vigo will represent Spain on the Executive Committee.

Effective following the 2014 meetings in Norway, attendance at Task Leaders Meetings (TLM) and Executive Committee Meetings (ExCo) by representatives of countries interested in joining the Agreement will be limited to one TLM and two ExCo meetings.

Mr. Alexander Koerner will replace Ms. Aracelli Fernandez Pales as Agreement's IEA Desk Officer

The ExCo thanked Dr. Sandra Hermle from Switzerland for her many years of exceptional service and contributions to the Agreement and wished her well in her new assignment.

Pending confirmation of a meeting room, the Spring 2015 ExCo Meeting will be held at IEA Headquarters, Paris on April 29, 2015.

The 2015 Task Leaders Meeting will be hosted by the United Kingdom in St. Andrews, Scotland in August with Prof. Douglas Greenhalgh as the local host.

Stavanger, Norway --- June 13, 2014

Prof. Douglas Greenhalgh was elected Chair and Prof. Martti Larmi Vice Chair for the 2014-2015 Agreement Year. Their appointment will begin at the conclusion of the Stavanger ExCo meeting.

The ExCo approved proposals from China and France to join the IEA Combustion Agreement. The countries were instructed to work with IEA Headquarters personnel and their respective governments to finalize the necessary approvals associated with their participation.

The following meeting dates were noted:

The 2015 Task Leaders Meeting will be hosted by the United Kingdom in St. Andrews, Scotland from August 2-6, 2015. Prof. Greenhalgh will be the local host.

The 2016 Task Leaders Meeting will be hosted by Finland from June 12-16, 2016. Prof. Martti Larmi will be the local host. Rukai-Kuusamo in the Lapland region of Finland has been proposed as the likely location.

The 2015 Strategy Meeting will be held in France shortly before the ExCo meeting. Prof. Bae from Korea working with Prof. Rouselle from France will make the local arrangements. Dates are April 25-26, 2015. ExCo members are reminded that participation in this meeting is voluntary.

The next ExCo meeting will be held at IEA Headquarters, Paris on April 29, 2015 beginning at 1:30pm. A no host ExCo dinner will be held in Paris the prior evening, April 28, 2015 beginning at 7:30pm at a local restaurant.

SUMMARY OF RESEARCH ACTIVITIES
FOR A PROGRAM OF APPLIED RESEARCH,
DEVELOPMENT, AND DEMONSTRATION
IN ENERGY CONSERVATION AND
EMISSIONS REDUCTION IN COMBUSTION

Introduction

The Implementing Agreement for A Program of Applied Research, Development, and Demonstration in Energy Conservation and Emissions Reduction in Combustion requires that the Executive Committee define and adopt detailed specifications for each research task undertaken within the program.

For most of its existence the Agreement consisted of a single Annex comprised largely of individual/single investigator tasks. Although this model worked well, the Executive Committee recognized that more attention should be paid to multi-nation/multi-investigator collaborative tasks. As the result of a series of strategic planning meetings six broad areas were identified for collaborative task development. In the spring of 2011 this culminated in an expansion of the number of Annexes within the Agreement such that each of these collaborative research areas were designated as a separate Annex. At the same time the original concept of single contributor tasks was retained for those investigators who preferred to contribute in that manner.

Moving forward, the Agreement will be comprised of multiple Annexes with Annex 1 being reserved for Administration and Supporting Activities, Annex 2 being Individual Contributor Tasks, and Annexes 3 and beyond being Multi Nation Collaborative Tasks

Briefly the focus of the individual Annexes is summarized below:

Annex 1 --- Administration and Supporting Activities

The objective of the work in this area is to provide administrative support services and information dissemination as called for by the work in Annexes 2 - 10.

In addition from time to time the Executive Committee may request that a Special Session of invited speakers focused on a Research Area or Policy Matter of current interest be added to the Program for an upcoming Task Leaders Meeting

Annex 2 --- Individual Contributor Tasks

This Annex has been planned to improve fundamental and applied combustion technology which is developed to provide predictive design capabilities for internal combustion engines, furnaces, and gas turbines. The Annex is divided into the following Areas:

Area 1: Advanced Piston Engine Technology

The objective of the cooperative work in this Area is the development of combustion

technology, both analytical and experimental, that will provide improved models for advanced internal-combustion piston engines, namely lean homogeneous-charge, stratified-charge, and diesel engines. The research will contribute primarily to technology common to these engine concepts and will provide data bases and descriptive and predictive system codes, in addition to practical demonstrations

Area 2: Advanced Furnace Technology

The objective of the cooperative work in this Area is the development of combustion technology, both analytical and experimental, that will provide models for furnaces and boilers. The research will provide a data base and descriptive and predictive system codes, as well as practical demonstrations.

Area 3: Fundamentals

The objective of the cooperative work in this Area is to conduct theoretical investigations of the fundamental physical phenomena relevant to the combustion process as is called for in Areas 1, 2 and 4, and to support the development of new diagnostic techniques for application in the future.

Area 4: Advanced Gas Turbine Technology

This Area covers work related to the development of combustor and gas turbine modeling and verification, to the study of emissions formation and control mechanisms, and to practical studies in fuel injection and fuel/air mixing.

Annex 3: Sprays in Combustion

Spray investigations aim at a deeper understanding of the complex interrelated aerodynamic and thermodynamic mechanisms involved in transient & steady spray combustion, which are responsible for the tradeoffs among energy conversion efficiency, nitrogen oxides and soot emissions in advanced engines and combustors. Tasks in the context of spray propagation involve a wide set of investigations on atomization, fuel-air mixing and combustion under high temperature and high pressure, as encountered in advanced diesel engines, gas turbines – and to some extent also boilers

Annex 4: Low Temperature Combustion (formerly HCCI)

The combustion process in the HCCI (Homogeneous Charge Compression Ignition) engine is mainly driven by the chemical kinetics. Thus the chemical properties of the fuel are of outmost importance. Many small molecule fuels like methane and methanol have relatively simple and well controllable combustion process but it has been shown that many fuels experience a two-stage ignition process with a time period between the two stages without significant heat release.

The intent of this Annex is to look into the interaction between HCCI and fuels. It will include activities for both the gasoline and diesel type of fuels and HCCI with fully premixed charge and direct injection.

Annex 5: Advanced Hydrogen Fueled Internal Combustion Engines (No longer active – related work can be found in Annex 9)

Annex 6 Alternative Fuels

The present day engine combustion technology has been fully developed for crude oil based traditional liquid fuels: gasoline and diesel fuel.

The aim of the Annex is develop optimum combustion of future fuels and thereby significantly reduce engine out emissions together with a noticeable increase in engine efficiency. The development of combustion techniques focuses especially on synthetic and renewable fuels. This Annex concentrates mainly on road transportation. There is a potential of engine out emission reduction by 70% to 90 % or even more. Dedicated fuels need new combustion technology to meet optimal emission reduction.

Annex 7 Nanoparticle Diagnostics

This Annex focuses on research concerning the measurement of nanoparticles produced by combustion. The development of diagnostics to characterize the physical or chemical characteristics of the nanoparticles, and demonstration of the application of these diagnostics, are within the scope of this Annex. The development may include experimental, numerical, or both approaches to the research. Demonstration may be in-flame studies of nanoparticle formation and oxidation, or post-flame measurements of nanoparticle emissions.

Annex 8: Hydrogen Enriched Lean Premixed Combustion for Ultra Low Emission Gas Turbine Combustors

In response to national policies gas turbine manufacturers have set the goal to adapt their large gas turbines for CO₂-mitigated power generation, whereby up to 90% of the carbon contained in the fired fossil fuel is captured and stored as CO₂. In order to mitigate CO₂ emissions Zero Emission Power Plant concepts are being explored on a global scale. Gas turbine based configurations are playing a significant role in these scenarios. Following up on the previously conducted collaborative effort on “Hydrogen enriched Lean Premixed Combustion for Ultra-Low Emission Gas Turbine Combustors” it is proposed to widen the future collaborative task activities to gas turbine combustion issues linked to respective Zero Emission Power Plant concepts.

Annex 9: Gas Engines

This task seeks to establish collaborations among IEA membership countries in the field of gas engines.

The following topics were identified as of particular interest/suitable for collaboration:

Ignition systems

- Diesel micro pilot injection

- Extension of lean limit for LPG fuel

- Optimization of injector and spark plug location

Fuels/kinetics

- Self-ignition and knock

- Tailored combustion systems and kinetics for various gaseous fuels with different physical and chemical properties

- Operation to even leaner and/or more dilute mixtures

- Effect of injector configuration and fuel on spray characteristics and mixing process

Novel Concept and Modelling Approaches

- LIF experiments of various gas jets

- Full scale experiments in optical engines; combustion verification in single-/multi-cylinder Engines

Annex 10: Combustion Chemistry

The aim of this work is to build reaction mechanisms taking into account the formation and the consumption of species detected in combustion processes. Thanks to these models, precious information on the degrees and the rates of reactants conversion, the formation of pollutants, the effects of additives can be obtained. These mechanisms will then be used in the numerical simulation of combustion devices (engines, furnaces, boilers...) to define their best operating conditions.

The Combustion Chemistry (CC) task has to be envisioned as a supporting task to the other IEA tasks (HCCI, Alternative Fuels, Spray...). It will aim at a tighter coordination and enhanced communication between research groups in kinetics. The main focus of this collaborative task is to extend and to improve the understanding of kinetics to reduce pollutants formation. The combustion of hydrocarbons, oxygenated species and surrogate fuels needs to be well understood through more elaborate mechanisms ; such knowledge could be exploited to optimize the combustion processes or devices.

Additional information on any of the work areas of the Agreement may be obtained by contacting:

Dr. Robert J. Gallagher
Secretary, Executive Committee
IEA Combustion Agreement
5380 Mallard Drive
Pleasanton, CA 94566
USA
email: bobgall@aol.com

How to Join the Agreement

Participation in IEA Combustion is based on mutual benefit to the Implementing Agreement and the interested newcomer.

If there is interest in joining the Implementing Agreement please contact the IEA Combustion ExCo Secretary, Dr. Robert Gallagher (Bobgall@aol.com). The Secretary will provide you with details on the Implementing Agreement and invite you to attend an ExCo Meeting as an Observer. By attending you will become familiar with the Implementing Agreement's current and future research areas. Assuming mutual interest, the next step would be to make a formal presentation to the ExCo at its next regularly scheduled meeting identifying the research areas in which you would propose to contribute. Prior to this ExCo presentation you would also be welcome to attend the next Task Leaders meeting as an Observer and, if you wished to, make a presentation related to a combustion related research topic in which you were currently engaged.

Contracting Parties to IEA Combustion Agreement are usually governments. Therefore, for interested parties it is necessary to seek support from their government to join the Implementing Agreement. The government will later appoint a Delegate and an Alternate to represent the Contracting Party in the ExCo.

Executive Committee Members Agreement Year 2014

Chair: Dr. Mario Ditaranto, Norway

Vice Chair: Prof. Douglas Greenhalgh, United Kingdom

BELGIUM

Dr. Véronique Dias
Université Catholique de Louvain
Institute of Mechanics, Materials
and Civil Engineering
Place du Levant, 2
1348 Louvain-la-Neuve , Belgium

veronique.dias@uclouvain.be
Tel: 32-10-47 22 10

Alternate:
Prof. Philippe Ngendakumana
Laboratoire de Thermodynamique
Université de Liège
Batiment B49 - Chemin des Chevrueils
B4000 Liège, Belgium

Tel: 32-43-66 48 03
Fax: 32-43-66 48 12
pngendakumana@ulg.ac.be

Alternate:
Dr Ir Gilles Tihon
Attaché - Cellule Recherche
Direction de la Promotion
de l'Energie Renouvelable
Chaussée de Liège 140-142
5100 Namur (Jambes)
Belgium

Tel: +32 (0)81 48 63 53
gilles.tihon@spw.wallonie.be

CANADA

Dr. Gregory J. Smallwood
National Research Council Canada
Institute for Chemical Process
and Environmental Technology
Building M-9, 1200 Montreal Road
Ottawa, ON, Canada K1A 0R6

Tel: 1-613-993-1391
Fax: 1-613-957-7869
greg.smallwood@nrc-cnrc.gc.ca

Alternate:

Dr. Kevin A. Thomson
National Research Council Canada
Institute for Chemical Process
and Environmental Technology
Building M-9, 1200 Montreal Road
Ottawa, ON, Canada K1A 0R6

Tel: 1-613-991-0868
Fax: 1-613-957-7869
kevin.thomson@nrc-cnrc.gc.ca

FINLAND

Martti Larmi, D.Sc.(Tech), Professor
Department of Energy Technology
Aalto University
PO Box 14300
Puumiehenkuja 5A
FI 00076 Aalto, Finland

Phone +358 9 4702 3459
Mobile +358 50 569 5625
martti.larmi@aalto.fi
<http://www.aalto.fi>

Alternate:

Heikki Kotila, Technology Manager
Energy and Environment
Tekes, Finnish Funding Agency for Technology
and Innovation
P.O Box 69, 00101
Helsinki, Finland

Phone: +358-106055673
Mobile: +358-505577673
Fax: +358-106055905
Heikki.Kotila@Tekes.fi
www.tekes.fi

FRANCE

Prof. Christine Mounaim-Rousselle
Université d'Orléans
8 rue Léonard de Vinci
45072 Orléans cedex
France

christine.rousselle@univ-orleans.fr

GERMANY

Prof. Frank Behrendt
Technische Universitaet Berlin
Institut fuer Energietechnik
Fachgebiet Energieverfahrenstechnik und
Umwandlungstechniken Regenerativer Energien
Skr. RDH 9 Fasanenstrasse 89
10623 Berlin ,Germany

Tel: +49 (30) 314-79724
Fax: +49 (30) 314-22157
Mobile: +49 (171)5064911
frank.behrendt@tu-berlin.de
<http://www.evur.tu-berlin.de>

ITALY

Dr. Gerardo Valentino
CNR Istituto Motori
4, via Marconi
80125 Naples, Italy

Tel: 39-81-7177 129
FAX: 39-081-2396097
g.valentino@im.cnr.it

JAPAN

Prof. Yasuo Moriyoshi
Department of
Mechanical Engineering
Chiba University
1-33 Yayoicho, Inage-ku, Chiba-city
Chiba 263-8522, Japan

Tel: +81-43-290-3182
ymoriyos@faculty.chiba-u.jp

Alternate:

Prof. Eiji Tomita
Dept. of Mechanical Engineering
Okayama University
3-1-1 Tsushima-Naka, Kita-Ku
Okayama 700-8530, Japan

Tel: +81-86-251-8049
tomita@mech.okayama-u.ac.jp

KOREA

Prof. Choongsik Bae
KAIST Department of Mechanical Engineering
373-1 Kusong-Dong
Yusong-Gu
Taejeon 305-701 Republic of Korea

Tel: +82-42-350-3044
Fax: +82-42-350-5044
Mobil: +82-10-9095-5044
csbae@kaist.edu

Alternate:

Prof. Kyoungdoug Min
Department of Mechanical Engineering
Seoul National University
56-1 Shilim-dong, Kwanak-gu
Seoul 151-742
Republic of Korea

Tel: 82 2 880 1661
kadmin@snu.ac.kr

NORWAY

Dr. Mario Ditaranto
Sintef Energy Research
Department of Energy Processes
Trondheim
Norway

Mario.Ditaranto@sintef.no

Alternate:
Prof. Ivar S. Ertesvag
Dept of Energy and Process Engineering
Norwegian University of Science
and Technology
N-7491 Trondheim, Norway

Tel 47-73-593 839
ivar.s.ertesvag@ntnu.no

SPAIN

Prof. Jacobo Porteiro
Head of the Department of Thermal
Machines and Engines, Mechanical Engineering
and Fluid Mechanics
University of Vigo
Campus Lagoas-Marcosende
Vigo, Spain

Tel: +34 986 812604 (Office)
porteur@uvigo.es
Tel: +34 986 812219

SWEDEN

Anders Johansson
anders.johansson@energimyndigheten.se
Swedish Energy Agency
P. O. Box 310
Kungsgatan 43
SE 631-04 Eskilstuna, Sweden

Alternate:
Dr. Sven-Inge Moller
Division of Combustion Physics
Lund University
PO Box 118
SE-221 00 Lund
Sweden

Tel: 46-46-222-9728
Fax: 46-46-222-4542
sven-inge.moller@forbrf.lth.se

Second Alternate:
Professor Bengt Johansson
Lund University of Technology
Dept of Energy Sciences
P.O. Box 118, 22100
Lund, Sweden

Tel: +46 (0)46-2228523,
Mobil: +46 (0)70-3328523,
Fax: +46 (0)46-2224717
- 046-136338
bengt.johansson@vok.lth.se

SWITZERLAND

Dr. Sandra Hermle
Swiss Federal Office of Energy/ SFOE
Mühlestrasse 4, 3
CH- 3003 Bern, Switzerland

Tel +41 31 325 89 22
Fax +41 31 323 25 00
sandra.hermle@bfe.admin.ch

Alternates:

Stephan Renz
Beratung Renz Consulting
Elisabethenstrasse 44
CH – 4051 Basel, Switzerland

Tel: 061 271 7636
Fax: 061 272 5795
renz.btr@swissonline.ch

Dr. Peter Jansohn
Combustion Research Laboratory
Paul Scherrer Institute (PSI)
CH-5232 Villigen PSI, Switzerland

Tel: 41-56-310 2871
Fax: 41-56-310-4416
peter.jansohn@psi.ch

UNITED KINGDOM

Prof. Douglas Greenhalgh
Glasgow Caledonian University
Cowcaddens Road
Glasgow G4 OBA
Scotland UK

Tel:
Fax:
d.a.greenhalgh@gcu.ac.uk

Alternate:

Professor AMKP Taylor (Alex)
Department of Mechanical Engineering,
Imperial College London
South Kensington Campus
London SW7 2AZ, United Kingdom

Tel: +44 (0)20 47042
a.m.taylor@imperial.ac.uk

Alternate:

Professor Honming Xu
Future Power Systems Research Group
Department of Mechanical Engineering
The University of Birmingham
Edgbaston, Birmingham, B15 2TT
United Kingdom

Tel: +44 (0)121 414 4153
H.M.Xu@bham.ac.uk

UNITED STATES

Mr. Gurpreet Singh
U. S. Department of Energy
Mail Code: EE-2G
1000 Independence Avenue
Washington, DC, 20585-0121, U.S.A.

Tel: 1-202-586-2333
gurpreet.singh@ee.doe.gov

Alternate:
Dr. Dennis Siebers
Combustion Research Facility
Mail Stop 9053
Sandia National Laboratories
P. O. Box 969
Livermore, CA 94551-0969, U.S.A

Tel: 925-294-2078
Fax: 925-294-1004
siebers@sandia.gov

Secretary:
Dr. Robert J. Gallagher, ExCo Secretary
5380 Mallard Drive
Pleasanton, CA 94566 USA.

Tel: 1-925-462-3051
bobgall@aol.com

IEA Point of Contact

Alexander Koerner
Energy Technology Policy Division
International Energy Agency
9, rue de la Fédération
75739 Paris Cedex 15, France

Alexander.Koerner@iea.org

Summary of Accomplishments for the 2014 Agreement Year

Introduction

Each year the Agreement's Executive Committee selects one of the member countries to organize and host a technical meeting known as the Task Leaders Meeting (TLM) for the purpose of disseminating highlights from Agreement research. In 2014 the TLM was hosted by Norway in Stavanger. Dr. Mario Ditaranto from Sintef Energy Research in Trondheim was the organizer and local host. A total of fifty papers were presented, as shown in the attached program. Proceedings were distributed to all attendees.

If further information or research results are of interest the leaders identified for each of the Tasks or the Executive Committee Member from the country responsible for the Task should be contacted directly.



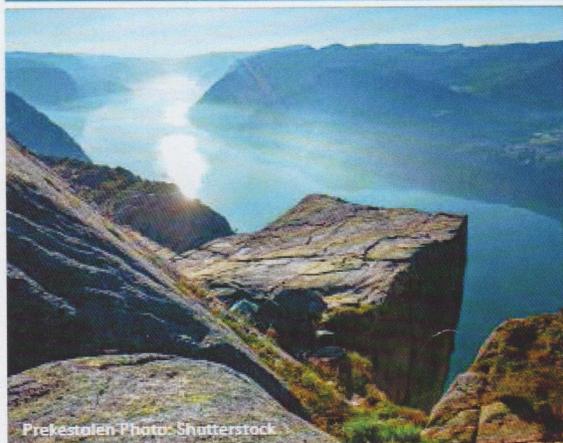
IEA COMBUSTION 2014
Stavanger, Norway
June 9 – 13, 2014

36th Task Leaders Meeting on

Energy Conservation and Emissions Reduction in Combustion

In celebration of the 80th Birthday of Prof. Bjørn F. Magnussen.

PROGRAM



Disclaimer: The Implementing Agreement for Energy Conservation and Emissions Reduction in Combustion (IEA Combustion) functions within a framework created by the International Energy Agency (IEA). Views, findings and publications of the IEA Combustion do not necessarily represent the views or policies of the IEA Secretariat or of all its individual member countries.

Tuesday, June 10, 2014	
08:30	General information
General Session - Chairperson: Mario Ditaranto (SINTEF)	
08:35	Roadmap towards Germany's Energy System 2050, F. Behrendt, TU Berlin, Germany
Low Temperature Combustion (ex-HCCI task) - Chairperson: Bengt Johansson (Lund University)	
08:55	Multi-cylinder advanced combustion research in light-duty compression ignition engines, R.M. Wagner, Oak Ridge NL, USA
09:15	Load Extention of Multiple Premixed Compression Ignition (MPCI) Fuelled with Low-octane Fuels, S. Shuai, Tsinghua Univ., China
09:35	Effect of Low Octane Fuel on HCCI Engine Combustion, Y. Moriyoshi, T. Kuboyama, Chiba Univ., Japan
09:55	BREAK
10:10	Effect of Different Fuels Blends on Emissions and Performance of a Light Duty Diesel Engine Under Partially Premixed Combustion, G. Valentino, S. Iannuzzi, Istituto Motori - CNR, Italy
10:30	Effect of ozone in the Gas HCCI combustion mode, F. Foucher, C. Mounaim Rousselle, G. Dayma, CAPRYSES, Excellence laboratories consortium, France
10:50	Comparison of JP-8 and Diesel Fuel in Conventional Combustion and PCI Combustion in a Diesel Engine, C. Bae, KAIST, Korea
11:10	SDCI with Dieseline - a New Combustion Mode , H. Xu, Univ. of Birmingham, UK
11:30	Low load operation with high octane fuels in PPC mode, B. Johansson, Lund Univ. , Sweden
11:50	LUNCH
12:50	Ignition Characteristics of Diesel Pilot Injections under Low-Temperature, Dilute In-cylinder Conditions, P.C. Miles, Sandia NL, USA
13:10	Expanding the Low Load Limit in Gasoline Compression Ignition LTC, S. Ciatti, Argonne NL, USA
Sprays in Combustion - Chairperson: Martti Larmi (Aalto University)	
13:30	Improving spray models for advanced combustion strategies: application to PPC and pilot injection strategies, F. Perini (1), P. C. Miles (2), R. D. Reitz (1), 1 Univ. of Wisconsin; 2 Sandia NL, USA
13:50	A Skeletal Model of n-Cetane and Heptamethylnonane for CFD Calculation of a Diesel Spray, H. Kawanabe, Kyoto Univ., Japan
14:10	Experimental Studies of Late Post Injection, M. Larmi, AALTO, Finland
14:30	BREAK
14:45	X-ray Diagnostics for Fuel Injection and Sprays, C.F. Powell, Argonne NL, USA
15:05	Multiple Information from Diesel Spray in Reacting Conditions using Hybrid Imaging Technique, A. Zhang(1), A. Montanaro(2), J. Naber(1), S.Y. Lee(1), L. Allocca(2); (1)Michigan Technological Univ., Houghton (MI), USA; (2)
Ultra-Low Emission Gas Turbine Combustors - Chairperson: Peter Jansohn (Paul Scherrer Institute)	
15:25	Turbulent flame speed of hydrogen containing fuel gas mixtures at elevated pressure, P. Jansohn, Paul Scherrer Institute, Switzerland
15:45	Investigation of hydrogen enriched natural gas flames in a SGT-700/800 burner, S.I. Möller, Lund Univ. , Sweden
16:05	Oxyfuel Gas Turbine Combustion concept, I. Saanum, M. Ditaranto, SINTEF, Norway
16:25	Hydrogen burner investigation, M. Dutka (1), M. Ditaranto (2), T. Løvås (1), (1) NTNU, (2) SINTEF, Norway

Wednesday, June 11, 2014

Nanoparticle Diagnostics - Chairperson: Doug Greenhalgh (Glasgow Caledonian University)

09:00	Detailed Optical Diagnostics of Soot Reduction Mechanisms during Post Injection Application, C. Barro, P. Kyrtatos, P. Obrecht and K. Boulouchos, ETH Zurich, Switzerland
09:20	Laser Diagnostics and Transmission Electron Microscopy of In-Flame Diesel Soot Particles, T. Aizawa, Meiji Univ., JAPAN
09:40	Particulate emissions and the particular case of small scale biomass combustion, M Seljeskog, SINTEF, Norway
10:00	Simultaneous multi-species imaging in premixed jet flames, S.I. Möller, Lund Univ. , Sweden
10:20	A new look at why soot particles explode when heated in LII systems, D. A. Greenhalgh(1), A.M.K.P. Taylor(2), Y. Hardalupas(2) and C. Hong(2), 1 Glasgow Caledonian University, 2 Imperial College, UK
10:40	BREAK

Gas Engines - Chairperson: Yuri Wright (ETH Zurich)

10:55	Experimental investigation of n-heptane micro pilot injection in gas engines, S. Schlatter, B. Schneider, Y.M. Wright and K. Boulouchos, ETH, Switzerland
11:15	Effect of fuel injection ratio and injection timing retard for inter-injection spark ignition strategy in lean-burn LPG direct injection engine, S. Oh, C. Park, C. Bae, KIMM, Korea
11:35	Gas Engine and Dual Fuel Studies in Aalto Univ., M. Larmi, AALTO, Finland
11:55	Experimental study of hot syngas as a fuel for HCII engines, H. Jeanmart, Université Catholique de Louvain, Belgium
12:15	LUNCH
13:15	Fueled pre-chamber with very rich mixtures - a means for operating at lambda 2.6, A. Shah, P. Tunestål, B. Johansson, Lund Univ., Sweden

General Session - Chairperson: Mario Ditaranto (SINTEF)

13:35	National Energy Policies - Norway - NOT CONFIRMED, NC, NC, Norway
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Alternative Fuels - Chairperson: Hongming Xu (University of Birmingham)

13:55	Laminar burning characteristics of product gases from pyrolysis and gasification of wood, A. Dieguez-Alonso, F. Behrendt, V. Cuervo, TU Berlin, Germany
14:15	Dual Fuel PCCI Combustion in a Diesel Engine with Propane, K. Min, Seoul National Univ., Korea
14:35	BREAK
14:50	Diluted combustion of low calorific, alternative fuels on a 30 kW furnace, G. Mosca, Univ. of Mons, Belgium
15:10	Optical Diagnostics of Combustion with DMF and Ethanol Compared with Gasoline , H. Xu, Univ. of Birmingham, UK
15:30	Understanding the primary and secondary pyrolysis mechanisms of cellulose, lignin and wood with Laser-Induced Fluorescence, A. Dieguez-Alonso, A. Anca-Couce, N. Zobel and F. Behrendt , TU Berlin, Germany
19:00	Bus leaving hotel to Dinner at FORUM

Thursday, June 12, 2014

Special session in Combustion Modelling in honour of Prof. B. M. Magnussen 80th Birthday - Chairperson: Ivar Ertesvåg (NTNU)

09:00	Introduction to the Special Session, I. Ertesvåg, NTNU, Norway
09:15	Mathematical Modeling and The Eddy Dissipation Concept, Bjørn F. Magnussen, ComputIT, Norway
09:55	Supercomputing Developments Over the Next Decade, Dona Crawford, Lawrence Livermore National Laboratory, USA
10:40	BREAK
10:55	From 3D-CRFD to Virtual Real-Time Sensors: Different Approaches of Engine Modelling, C. Barro and Y.M. Wright, ETH LAV Team, Switzerland
11:15	CFD simulations of the impact of ozone and nitric oxide seeding on the engine ignition delay using the Tabulation of Dynamic Adaptive Chemistry method, F. Contino, Vrije Universiteit Brussel, Belgium
11:35	CFD of biomass fired plant, J. Porteiro, Univ. of Vigo, Spain
11:55	Modification of the Eddy Dissipation Concept for turbulence/chemistry interaction in the context of MILD combustion, A. Parente, Université Libre de Bruxelles, Belgium
12:15	LUNCH
14:20	Board boat
17:00	Banquet at Lysefjord-Helleren
21:30	Arrival at hotel

Friday, June 13, 2014

Combustion Chemistry - Chairperson: Veronique Dias (Université Catholique de Louvain)

08:30	Combustion modeling of C5 alcohol fuel for HCCI engine analysis, T. Tsujimura, AIST, Japan
08:50	Laminar burning velocities of methyl and ethyl valerate and comparison with similar esters, EJK Nilsson, AA Konnov, Lund Univ., Sweden
09:10	Development of Chemical Kinetic Modeling for Surrogate Compounds and Surrogate Mixtures for Gasoline, Diesel and Alternative Fuels, B. Pitz, Lawrence Livermore NL, USA
09:30	Experimental study of premixed ethyl valerate flames at low pressure, V. Dias, UC Louvain, Belgium
09:50	BREAK
10:05	Reduced-order modelling of turbulent reacting flows, A. Parente, Université Libre de Bruxelles, Belgium
10:25	New approaches for the construction of reduced and skeletal mechanisms, M. Kooshkbaghi, ETH, Switzerland
10:45	Isomer specific mass spectrometry at the SLS/VUV beamline, T. Gerber, PSI, Switzerland
11:05	Collaborative Tasks meetings
12:30	LUNCH
13:30	----- TLM36 closed -----
14:00	ExCo Meeting
19:00	ExCo Dinner