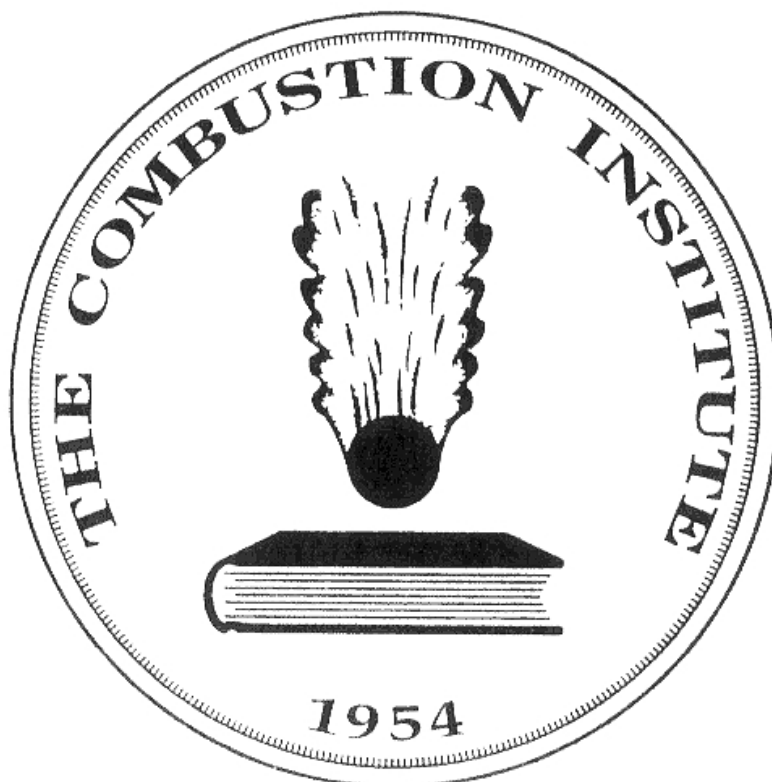


THE COMBUSTION INSTITUTE

(British Section)



NEWSLETTER

VOLUME 2009-2

Winter 2009

EDITOR: Professor J.F. Griffiths

E-mail: J.F.Griffiths@leeds.ac.uk

Internet versions of this *Newsletter* at:- <http://www.combustion.org.uk>

Earlier editions also available on the above site and at:-

<http://www.chemeng.ucl.ac.uk/research/combustion>

CONTENTS

• Committee of the British Section	3
• Editorial	4
• Combustion People	4
• Combustion-related publications 2009	5
• Meeting and Journal announcements	5
• Minutes of the Annual General Meeting, 2009	6
• Statement of the British Section accounts 2008	8
• The impact of combustion on society	10
• “Hot from the Press”	10
• Rules for British Section prizes	11
• Report on ECM 2009	11
• Report on the One-day Meeting on “Soots”	15
• Publications during 2008 by British Section members	13
• Combustion Links and Calendar	20

THE BRITISH SECTION OF THE COMBUSTION INSTITUTE

For a modest fee there are many benefits:-

- substantial travel grants to Combustion Symposia and other meetings
- reduced fees at Section-sponsored meetings
- reduced subscriptions to several combustion journals
- the Section's Newsletter
- and a chance to meet like-minded people

Please encourage associates to join the Section, especially research students recruited at the start of this academic year

Details from the Hon. Secretary, Professor Simone Hochgreb.
E-mail: sh372@cam.ac.uk

or download application forms from

<http://www.combustion.org.uk/membership.html>

COMMITTEE OF THE BRITISH SECTION: 2009-10

Chairman: Professor A N Hayhurst
Chemical Engineering Department
Cambridge University
Pembroke Street
Cambridge CB2 3RA
Tel:
<anh1000@hermes.cam.ac.uk>

Secretary: Professor S Hochgreb
Department of Engineering
University of Cambridge
Trumpington St
Cambridge CB2 1PZ
Tel: 01223 764098
<sh372@cam.ac.uk>

Membership Secretary Dr K.J. Hughes
SPEME
Houldsworth Building
University of Leeds
Leeds, LS2 9JT
Tel: 0113 343 2503
Fax: 0113 246 7310
<kevinh@chem.leeds.ac.uk>

Treasurer: Dr R. Cracknell
Shell Global Solutions
Shell Research and Technology Centre
Thornton, P O Box 1
Chester CH1 3SH
Tel: 0151 373 5725
Fax: 0151 373 5052
<roger.cracknell@shell.com>

Committee

Mr R. Boyce
Combustion & Casings SCU
ML-92, Rolls-Royce plc
PO Box 31
DE24 8BJ
<ralph.boyce@rolls-royce.com>

Professor P Gray, FRS
Gonville and Caius College
Cambridge
CB2 1TA
<pg263@cam.ac.uk>

Professor A. J. Griffiths
Cardiff School of Engineering
Queen's buildings
Newport Road, PO Box 925
Cardiff CF24 0YF
<griffithsaj2@cf.ac.uk>

Professor J.F. Griffiths
School of Chemistry
The University
Leeds LS2 9JT
<J.F.Griffiths@leeds.ac.uk>

Dr Y Hardalupas
Department of Mechanical Engineering
Imperial College of Science, Technology
and Medicine
Prince Consort Road
London SW2
<y.hardalupas@imperial.ac.uk>

Mr. B. Jones
Kausis Consultancy
7 Lodge Drive
Belper
Derbyshire
DE56 2TP
<bj224@cam.ac.uk>

Professor W.P. Jones
Department of Mechanical
Engineering
Imperial College of Science,
Technology and Medicine
Prince Consort Road
London SW2
<w.jones@ic.ac.uk>

Professor R.P. Lindstedt
Department of Mechanical Engineering
Imperial College of Science, Technology
and Medicine
Prince Consort Road
London SW2
<p.lindstedt@imperial.ac.uk>

Professor G. Makhviladze
Forensic and Investigative Science
University of Central Lancs.
Preston,
PR1 2HE
<gmakhviladze@uclan.ac.uk>

Dr G. Rein
Institute of Infrastructure and
Environment, Crew Building,
The King's Buildings
School of Engineering &
Electronics
The University of Edinburgh
Edinburgh, EH9 3JN
<G.Rein@ed.ac.uk>

Professor R. Stone
Department of Engineering Science,
University of Oxford
Parks Road,
Oxford OX1 3PJ
<richard.stone@eng.ox.ac.uk>

EDITORIAL

It is the time of year at which Section business comes to the fore and so, as usual, this is the main component of the current Newsletter. The AGM, held during the meeting at Shell Global Solutions, gave rise to a number of changes to the Committee membership. Chris Morley has tendered his resignation after a lot of years of service in several capacities. Yannis Hardaloupas and Bryn Jones were elected in the recent ballot as new members. Tony Griffiths and Simone Hochgreb had reached the end of their respective terms of Office but both have been co-opted to fulfil specific roles, Tony for liaison with the Committee as an organiser of ECM 2011, to be held in Cardiff, and Simone to continue in her capacity as Honorary Secretary.

May I remind you that, as announced in the last edition, the Committee agreed that an increase in fee would be appropriate, from January 2010, with the intention of it being fixed for a reasonable period. The new fee will be £30 for regular membership and £15 for student/retired members. This continues to be very modest when compared with fees for other professional bodies and we hope that members will continue to support the Section. A reminder will be sent to members (or may have been by the time this is received), in which you will also be asked if you would like to receive the newsletter in electronic form or hard copy only, or both a hard copy and electronic version.

The discussion during "Any other business", at the end of the AGM held in September, focussed on the way the general public perceives, and the "bad press" given to, combustion. There is further reference to this later, but I mention it here to say that I would be very pleased to receive commentary from any members on how we may address the issue, for publication in the Newsletter.

Finally, there remains a feeling that the British Section is not as successful as it should be in its links with the industrial combustion community. Perhaps members would give thought to how stronger connections can be made and also help promote the Section and its activities to colleagues in the industrial sector.

John Griffiths

COMBUSTION PEOPLE

Chris Morley

Chris Morley has been a member of the Committee of the British Section for almost as long as anyone can remember. He was our Treasurer throughout the '90s, before handing over to Gautam Kalgatghi - thereby maintaining the tradition of entrusting our funds to the capable hands of "Shell" research workers. Not content to relinquish responsibility entirely, Chris remained in control of the finances that steered us successfully through the 28th International Symposium in Edinburgh, in 2000. Subsequently, he took over the "running" of our website, from Tony Burgess, and the arduous task of collating the members' publications lists – a task which he is willing to continue to do for the foreseeable future. Of this, Chris said, in his typical modest way, "It's not something that anybody with other things better to do should spend their time on." Chris has been an excellent contributor at our Committee meetings. His memory goes back a long way and his very practical approach has always injected a lot of common sense into our discussions, so that, by and large, we have usually kept our feet on the ground. It was therefore with considerable regret that we heard that he wished, finally, to retire from our Committee. We thank him profusely for all he has done for The British Section and wish him well for the future. We shall miss him very much.

Other than his commitment to the British Section, many members will know that throughout most of his career Chris was a combustion chemist at Shell, Thornton Research Centre – and latterly perhaps the only one! With aspects of fuel-bound nitrogen in mind, Chris hit the Combustion Symposium scene (at the 18th) with a very informative paper on NO formation from nitrogen compounds in flames. He also had a string of Symposium contributions throughout the '90s, including a very elegant photolytic perturbation experiment to measure OH radical concentrations during two-stage combustion of hydrocarbons (see 22nd Symposium proceedings) and he devised a generic approach to modelling low temperature, hydrocarbon combustion. Although now retired, Chris will remain a key player in the combustion community as long as he continues to maintain his valuable program for predicting chemical equilibrium in combustion systems, GASEQ (<http://www.arcl02.dsl.pipex.com/gseqdnld.htm>).

Allan Hayhurst

Markus Kraft and Nondas Mastorakos

Markus Kraft, Department of Chemical Engineering and Biotechnology, Cambridge, and Nondas Mastorakos, Engineering Department, Cambridge, have been promoted to Personal Chairs. Both are highly active members of the UK combustion community and prize winners of several of our Section awards. It is good for us that their scientific contributions have been recognised in this way. We add our congratulations and best wishes to them.

Allan Hayhurst

COMBUSTION-RELATED PAPERS PUBLISHED BY SECTION MEMBERS IN 2009 AND WEBSITE BUSINESS

Following from the comment above, members are invited to continue to send their list of publications for 2009 to Chris Morley (c.morley@gaseq.co.uk). The preferred format is as in the 2008 list published in this Newsletter, with first author's surname followed by first name or initials and then other authors in any style (but all bold typeface), paper title and journal details. Guillermo Rein has offered take over the duty of Section Webmaster from Chris Morley. So information about meetings, vacancies for posts in combustion and similar business should be sent to Guillermo at <G.Rein@ed.ac.uk>.

John Griffiths

TURBULENT COMBUSTION TODAY AND TOMORROW Tuesday 15 December 2009, Selwyn College Cambridge

The Autumn meeting of The Combustion Institute (British Section) will be held on Tuesday 15 December 2009 at Selwyn College Cambridge, to honour Prof Ken Bray on the occasion of his 80th birthday. The meeting will consist mainly of invited talks on aspects of turbulent combustion, and there will be a session devoted to brief talks by current researchers. The meeting will be followed in the evening by a celebration dinner. If you would like to present a 10-minute talk or learn of further details, please contact the local organiser: Stewart Cant (rsc10@cam.ac.uk).

PROGRAMME

10.30 – 11.00	Coffee and Registration	
11.00 - 11.05	Welcome and Introduction	Prof Stewart Cant, University of Cambridge
11.05 - 11.30	“Autoignitive propagation”	Prof Derek Bradley, University of Leeds
11.30 - 12.00	“A multiscale view of multiphase combustion”	Prof Kai Luo, University of Southampton
12.00 - 12.30	“Recent results concerning the modelling of partially turbulent reactive flows”	Prof Michel Champion, University of Poitiers
12.30 - 13.30	Lunch	
13.30 - 14.00	“Countergradient transport in premixed turbulent flames”	Prof Stewart Cant, University of Cambridge
14.00 - 14.30	“Chemistry tabulation for the coming DNS of real combustion systems”	Prof Luc Vervisch, University of Rouen
14.30 - 15.00	“Calculations of lean premixed and stratified flames”	O Darbyshire, H Kolla and N Swaminathan, University of Cambridge
15.00 - 16.00	Short presentations	
16.00 – 16:30	Tea, discussion and close	
19.00 for 19.30	Celebration Dinner	

“Fire Technology”

The Journal of the National Fire Protection Association, published by Springer

Special issue on “Wildland Fires in Fire Technology”

The purpose is to help bridge the gap between the fire safety and forest fire communities. Multidisciplinary contributions and international perspectives are encouraged. Topics include technology, research and case studies in fire behaviour, laboratory and field experiments, fire modelling, fire fighting, detection and suppression, human behaviour, risk and related subjects.

Submissions by 20th Jan 2010 at: <http://fire.edmgr.com>. choose article type “wildland fire”

Contact Guest Editor: Guillermo Rein, BRE Centre for Fire Safety Engineering, University of Edinburgh, G.Rein@ed.ac.uk

Updated information at:

<http://edinburghfireresearch.blogspot.com/2009/09/call-for-papers-special-issue-on.html>

MINUTES OF THE ANNUAL GENERAL MEETING

12.45 pm, 16th September 2009
Shell Technology Centre Thornton, University of Cambridge.

Professor A.N. Hayhurst chaired the Annual General Meeting.

Members present

Mike Braisher	Isil Kilinc
Iain Burns	Markus Kraft
Lungti Chen	Chris Morley
Roger Cracknell	Andrzej Pekalski
Mike Davies	Guillermo Rein
Trevor Davies	Paul Richards
John Dold	Dave Richardson
Doug Greenhalgh	Andy Ross
Tony Griffiths	David Smith
Yannis Hardalupas	Richard Stone
Andrew Harrison	Chris Tighe
Allan Hayhurst	Jacqueline Wilson
Bill Jones	Huayong Zhao
Stephen Jones	

1. Apologies for Absence

Apologies for absence were received from K J Hughes, J.F. Griffiths and R Boyce

2. Minutes of the AGM, 18th September 2008 at Fitzwilliam College

The Minutes were signed as a correct record.

3. Matters arising

The follow-on to the proposed initiative to attract more industrial membership to the section was discussed. Letters were sent to every member to encourage industrialists to join the Section. It was pointed out that industrial membership often increases when meetings of interest are held.

4. Presentations of Prizes

The Chairman, Professor Allan Hayhurst, presented certificates and cheques to the winners of the Hinshelwood and Sugden Prizes for 2008. The recipients of The Gaydon prize were not able to attend.

Hinshelwood Prize for Combustion

The Hinshelwood Prize for 2008 was awarded to Dr Stuart Scott, University of Cambridge.

Sugden Prize

The Sugden Prize for 2008 was awarded to G. Kalghatgi, J.C.G. Andrae and T. Brinck, for the paper "HCCI experiments with toluene reference fuels modeled by a semi-detailed chemical kinetic model", published in Combustion and Flame, 155 (2008) 696–712.

Gaydon Prize

The Gaydon Prize for 2008 was awarded to P. Schroll, A.P. Wandel, R.S. Cant, E. Mastorakos for their paper "Direct numerical simulations of auto-ignition in turbulent two-phase flows", published in Proc. Comb. Inst. 32: 2275-2282 (2009).

5. Results of Committee Elections

There were two vacancies in the British Section's Committee. The call for nominations was sent out in June. The Committee received four nominations for membership of the committee. The nominees were:

Y. Hardaloupas, Imperial College	M. Kraft, University of Cambridge
B. Jones, Kausis Consultancy (formerly Rolls-Royce)	V. Sanderson, Siemens Industrial Gas Turbines Ltd.

Elections were held to replace two outgoing members. Votes were sent in by 41 members, and the votes elected members were selected via single transferable vote. The winners, **Y. Hardaloupas** and **B. Jones**, were congratulated. All nominees were thanked for their willingness to stand.

6. Chairman's Report

6.1. The Chairman highlighted the proposed increase in fees from £20 to £30, with students and retired member fees at half fee, starting in 2010. The last increase had been five years ago. A note will be sent as a reminder to members in due course.

6.2. A meeting in honour of Ken Bray's 80th birthday will be held at Selwyn College, Cambridge, on 15th December. Stewart Cant is the organizer, and an announcement for the meeting has been sent out to all members.

7. Secretary's Report

7.1. Membership. There are 2 fewer members than at this time last year. Assuming all outstanding standing orders are received, current membership stands at 241, with 151 full members, 59 students and 31 retired members. A detailed breakdown is as follows:

Category	Number	%	Category	Number	%
Academics	101	41.9	Non-Academics	50	20.7
Academics (rtd)	23	9.5	Non-Academics (rtd)	8	3.3
Students	59	24.5			
Subtotal	183	75.9	Subtotal	58	24.1
Total Membership			241		

Currently there are 31 new members and 35 non-renewals of 2008 members, who have recently been sent a reminder. A breakdown of trends in membership is as follows:

Date	Others (rtd)	Academics (rtd)	Students	Others	Academics	Total
2000	20	7	30	75	87	219
2001	21	9	15	81	68	194
2002	19	10	23	60	73	185
2003	16	13	30	54	81	194
2004	9	18	34	52	80	193
2005	9	18	47	46	94	214
2006	8	22	57	45	98	230
2007	6	23	65	47	95	236
2008	6	21	72	53	97	249
2009*	8	23	59	50	101	241

* as of 9/9/09

7.2. Meetings and Travel Grants

Autumn Meeting 2009 The Autumn Meeting was held at Imperial College on 8 January 2009, with the theme 'Optical Measurements in Combustion', in honour of Felix Weinberg's 80th birthday. The meeting was attended by 60 participants and was followed by a commemorative dinner.

ECM 2009

The British Section supported 10 student-members to attend the European Combustion Meeting in Vienna and to present a poster, as follows.

Oliver Darbyshire	University of Cambridge
Johannes Kerl	Imperial College
Hemanth Kolla	University of Cambridge
Ting-Yueh Liu	University of Cambridge
Sgouria Lyra	Imperial College
Sean P. Malkeson	University of Liverpool
Alexandre Neophytou	University of Cambridge
Vinayaka Nakul Prasad	Imperial College
Oliver Stein	Imperial College
Mark Sweeney	University of Cambridge
Konstantina Vogiatzaki	Imperial College

8. Honorary Treasurer's report

8.1. 2008 Overview. The 2008 accounts (see below) were audited by Mike Davies and Chris Morley, to whom many thanks are made. During 2008, the accumulated funds decreased by just under £3.5K to stand at the year-end at approximately £67.5K. Normal expenses (committee secretarial, newsletter, prizes) accounted for £2447.81, which is lower than the historical trend. Members' subscriptions accounted for £4084 of income (10% increase on 2007). However, the investment income of £3458.74 was marginally lower than in 2007.

The main reason for the decline in funds was the allocation of £8880.50 in travel grants for attendees at the International Combustion Symposium in Montreal in 2008. Significantly more money tends to be paid in travel grants during a year in which an International Symposium takes place – hence the oscillatory nature of the reserves (see diagram).

8.2. 2009 Status and Outlook. The continuing financial health of the British Section at the start of 2008 has allowed us to award 10 grants for attending the ECM2009 meeting in Vienna (each of £200). On the negative side we have seen a sharp decline in investment income so far in 2009, reflecting market conditions, and we may thus not see the increase in reserves normally observed in years where an International Symposium does not take place. It is hoped that the promotion of the ECM 2011 meeting at Cardiff will serve as a means of further boosting our finances.

Membership fees were last raised 5 years ago. Fees will increase for 2010, to £30/£15 for regular/(student/retired) members.

A discussion of the desirable spending rate followed. It was pointed out that returns from international symposia are now split evenly with HQ at Pittsburgh; thus any future symposium will not be as profitable as from the Edinburgh Symposium.

9. Any Other Business

The secretary raised concern about creating a positive image for combustion science in the media and with funding agencies. Doug Greenhalgh, David Smith and Markus Kraft suggested several means of communicating with the media (special BBC Horizon programme, alliances with other energy agencies, etc). A committee was formed of the above-named members to create a position paper and decide on initiatives towards the stated goal. That committee will report to the main committee and the next AGM.

9th October 2009

*Prof. Simone Hochgreb
Honorary Secretary*

STATEMENT OF ACCOUNTS

Statement of Income and Expenditure for the year ending 31 December 2008

INCOME	2007		2008	
	£	£	£	£
Membership subs	3708.00	4084.00	Colloquium expenses	0.00
Colloquium fees	709.86	1540.00	Secretarial expenses	12.30
Investment income			Committee expenses	1027.88
COIF Account	3545.15	3458.74	Newsletter	1026.21
			Travel grants	3150.00
			Prizes	900.00
			Surplus (Deficit)	1846.62
	=====	=====		=====
	7963.01	9082.74		7963.01
				9082.74

Subject to year to year variation because of the timing of receipts and payments.

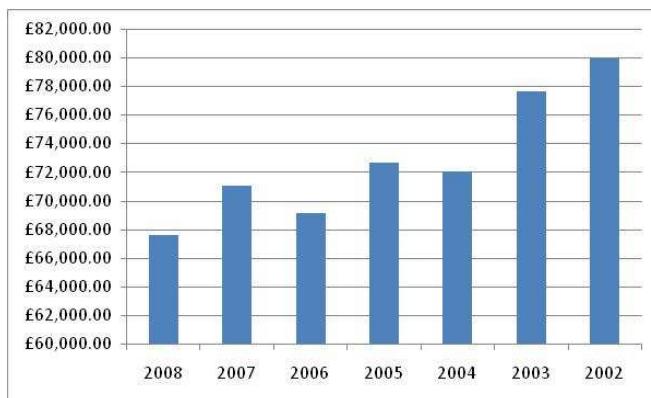
Balance Sheet for the year ending 31 December 2008

	ASSETS		LIABILITIES	
	2007 £	2008 £	2007 £	2008 £
Lloyds Bank 0082488	5069.05	2984.76	Uncashed cheques(2)	372.90
COIF 938290001C	66333.15	64791.89		
Overpayments(1)		58.65	Accumulated funds	71029.30
	=====	=====		=====
	71402.02	67835.30		71402.02
				67835.30

(1) Erroneous payments, repaid in 2009: bank error £15.90; double expenses claim £42.75

(2) Cheque numbers 570(£78), 579(£78), 580(£85.50). Total - £241.50

Accumulated Funds 2008-2002



MORE ABOUT THE SECTION ACCOUNTS

Evidence for how assiduously the Treasurer works on our behalf can be found in the following letter, received from Lloyds Bank.

*Dr R F Cracknell
Combustion Institute
Shell Global Solutions
Cheshire Innovation Park
P.O Box 1 Chester
CHI 3SH*

23 March 2009

Dear Dr Cracknell

Combustion Institute account number 301296 00082488

Thank you for taking the time to contact us about the Institute's concerns. Our Andover Customer Service has asked me to respond to the Institute's complaint. I'm sorry it's taken me some time to get back to you. Thank you for your patience and the time you took to speak to me on the phone today.

Your concerns

Before going any further, I think it would be helpful if I set out my understanding of the Institute's complaint.

- We tried to set up a weekly standing order of £300 to a Mr R Singh to start on 3 February 2009. Before we could set it up, we wrote to the Institute and you told us you had no knowledge of this person and the Institute had not made the request.*
- Last year you told us we set up a direct debit to Dennis Publishing without the Institute's authority. You asked us to refund the payments we made of £1 and £14.90 at the time but as yet we don't appear to have done so.*
- We set up a direct debit to the RAC and made a payment of £34.50 on 26 February 2009. You say this has also been set up without the Institute's authority.*
- You would like us to refund the Institute with £1, £14.90 and £34.50 and cancel the direct debits to Dennis Publishing and the RAC. You would also like us to ensure no future direct debits or standing orders are set up without checking with the Institute that they are genuine requests.*

My decision

I'm pleased to tell you that I agree with you because:

- When we received the standing order mandate to pay Mr R Singh, we inadvertently didn't realise that the signature on the mandate didn't match any of those we hold for the institute on our records. The mandate appears to have been signed by an R M James who you say the Institute has no knowledge of. However, I am pleased to say we have not set up this standing order. I apologise for the lapse in our service to the Institute.*
- When you contacted us last year about the Dennis Publishing direct debit, we should have refunded the amounts of £1 and £14.90 to the Institute as you requested at the time. I am sorry this did not happen. I have arranged for this direct debit to be cancelled and the amounts we paid refunded. We will credit the Institute's account with £1 and £14.90 shortly.*
- I have also arranged to cancel the direct debit to the RAC and to refund the £34.50. We paid them on 26 February, We will also be crediting this amount to the Institute's account shortly.*
- I am pleased to confirm these are the only amounts we have paid to Dennis Publishing and the RAC.*

- *I have contacted colleagues within the bank and am pleased to tell you I am confident we now have measures in place to ensure that we will not set up any further direct debits or standing orders without the Institute's authority.*

I'm very sorry for what has happened but I'm pleased that you got in touch and gave us the opportunity to sort things out.

My offer

I appreciate that you have spent time contacting us on several occasions about these payments and would like to offer the Institute £25 to cover any inconvenience and costs it has incurred doing this.

What happens next?

I hope you are happy with my offer and if you would like to accept it, please could two of the authorised signatories sign the enclosed copy of my letter and return it to me in the reply-paid envelope. Once we receive it, we will arrange to credit the Institute's account. This may take up to 21 days. I will hold my offer open for one month from today.

Please give me a call if it would help to talk through any of the points in my letter. If we cannot come to an agreement I will provide you with details of the Financial Ombudsman Service so they can consider the Institute's complaint independently. If I have not heard from you by 25 May 2009 I will close my file, though of course I will re-open it should you come back at any point afterwards.

Thank you once again for taking the time to raise the Institute's concerns with us.

*Yours sincerely
Tina Palmer
Manager*

DISCUSSION ABOUT THE IMPACT OF COMBUSTION ON SOCIETY

As noted in the Minutes of the AGM, "Any other business" was dominated by a discussion of the way the public perceives combustion. Here is a summary of the outcome.

The matter was raised by Simone Hochgreb, who said that by and large "Combustion" has a pretty bad press these days, being "responsible" for too much CO₂ being produced, as well as for atmospheric pollution from PAHs, particulates, NO_x, SO_x, HCl, dioxenes, etc. She then raised the question of how do we (i.e. the combustion community) cope with this situation? Markus Kraft said that he would like to see TV (e.g. in a Horizon programme) doing something to point out that technological problems have technological solutions. We need to communicate not only with the man in the street, but also with politicians and those who run EPSRC.

Time was running out at the end of the AGM, so as an initial measure it was decided that a committee would be formed, comprising Doug. Greehalgh (Heriot-Watt University; greenhalgh@hw.ac.uk), David Smith (retired ex British Gas; d57smith@btinternet.com), Markus Kraft (Univ. Cambridge; mk306@cam.ac.uk) and Simone Hochgreb (Univ. Cambridge; Simone.hochgreb@eng.cam.ac.uk) to consider how to deal with this problem.

It is most important that the members of the British Section have a say, so you are encouraged to get in touch (e.g. by e-mail) with any of the above group and/or to send views to the Editor of the Newsletter. It is expected that this group of four will report periodically (on their progress) to members. This might best be done by e-mail. This is an important issue and all members are encouraged to contribute to the discussion.

John Griffiths

"HOT FROM THE PRESS": Spontaneous Combustion leads to McKinleyville Fire

"A pile of disposable rags spontaneously combusted on Tuesday evening, 17/11/2009, starting a structure fire in McKinleyville and destroying one apartment. The Arcata Fire Protection District responded to a report of a fire at 1217 Railroad Ave. in McKinleyville at about 11:50 p.m. When fire crews arrived, heavy fire was coming from the front and side windows of the end apartment and rear door in the multi-unit apartment complex, according to an Arcata Fire press release. Disposable rags were determined to be what sparked (sic) the fire, according to Arcata Fire. The rags were soaked in a combustible liquid of oil-based wood stain. The owner and an employee had finished staining the wood floors of the apartment earlier that day and had placed the rags in a cardboard box on top of a wooden cabinet. The rags spontaneously combusted and started the fire."

BRITISH SECTION PRIZES: NOMINATIONS FOR 2009 AWARDS

Rules for the "Sugden Prize"

An award shall be made annually for the paper with at least one British Section member as author which makes the most significant contribution to combustion research. The prize will be called the Sugden Award, in honour of Sir Morris Sugden.

The aims of the award are threefold:

- a) to recognise good work in combustion
- b) to encourage membership of the Combustion Institute
- c) to encourage combustion research and publication, especially by British institutions.

Any member can submit or propose a paper published anywhere, for consideration. Furthermore, all members are encouraged to propose meritorious papers to the judges and the committee. The judges will automatically consider all eligible papers in the following journals: Combustion and Flame, Combustion Science and Technology, the Proceedings and Philosophical Transactions of the Royal Society, and Combustion Theory and Modelling. Papers published in the Proceedings of the International Combustion Symposia will not be considered for this award.

Rules for the "Hinshelwood Prize"

The Hinshelwood Prize for Combustion recognises meritorious work, in any branch of combustion, by a younger member of The British Section of The Combustion Institute. One aim of this annual prize is to encourage young people, not as yet well established researchers, but who work in any area or aspect of combustion. In addition, the prize commemorates Sir Cyril Hinshelwood, who shared the Nobel Prize for Chemistry in 1956 for his work on the combustion of hydrogen. Preference will be given to candidates under the age of 35 years on the deadline for nominations.

Written nominations, which may be submitted by anyone who knows the work of the nominee, must be received by the Secretary of The British Section no later than 31 December in each year. Nominations should include the *curriculum vitae* and list of publications of the nominee and also a brief account (no more than two pages of A4) of that person's achievements including description of accomplishments in industry if it is appropriate.

The award shall be of a certificate and a sum of £300. Normally one award shall be made each year; however, no award will be made, if, in the opinion of the panel of judges, a candidate of sufficient merit has not been proposed.

Each year the Committee of The British Section will nominate a panel, normally of three judges, who will be experts in different aspects of combustion. The chairman of the panel will be a member of the Section's Committee. The panel of judges shall co-opt extra members if they deem it necessary to select the winner of the prize. The Award shall be presented at the next Annual General Meeting of The British Section.

UNIVERSITY OF LEEDS SHORT COURSES

Weetwood Hall Conference Centre, Leeds

Ultra Low NO_x Gas Turbine Combustion: Monday 18 - Friday 22 January 2010

Combustion in Boilers & Furnaces: Monday 8 - Friday 12 March 2010

Contact Joanne Kennedy 0113 343 2494 or cpd@engineering.leeds.ac.uk

REPORT ON THE 4TH EUROPEAN COMBUSTION MEETING Vienna, April 2009

The reports about ECM2009, from students who attended the meeting, are summarised below. May I apologise if I have misplaced any other responses. I will make good the omission in a subsequent Newsletter.

John Griffiths

The 4th European Combustion Meeting, held at the Vienna University of Technology, Vienna, was an elaborate event that attracted an impressive number of papers over a wide range of combustion research areas. The rather high cost of the meeting, perhaps understandably given the constraints on sponsorship in the current economic climate, was valuably offset by the award of grants by the British Section to

postgraduate students. This was greatly appreciated. However, it seems a shame that student registrants did not receive the CD of the Proceedings to complete the benefits to be gained from attending this prestigious meeting. Nevertheless, the meeting proved to be a very useful avenue for research discussions with the broader combustion community, and offering a much wider perspective than can be gained from within the "home" department. The format followed the established pattern of poster sessions accompanied by a small number of invited lectures, which fostered an atmosphere of friendly and direct knowledge exchange across the research community. Potential collaborations were also established.

The invited lectures, together with the poster sessions, were an intense and hugely beneficial academic experience. The high quality of papers on turbulent combustion, both from experimental and computational groups was noted. Also an increasing shift in focus from RANS to more expensive computational approaches like PDF methods, LES and DES was noted. This probably is indicative of the availability of increasing computing power compared with a decade ago.

Hemanth Kolla, Sean Malkeson, Oliver Stein and Mark Sweeney

REPORT ON THE ONE-DAY MEETING ON "SOOTS"

This stimulating and informative, one-day meeting, organised by Roger Cracknell and co-sponsored by the IOP Combustion Physics Group, was held at Shell Technology Centre Thornton on 16th September 2009. About 50 people attended and the meeting included the AGM of the British Section.

Lionel Ganippa (Brunel University) opened the meeting with some background on soot formation and optical diagnostics and particularly the technique of Laser Induced Incandescence (LII). A short laser pulse heats soot particles (to ~4000K). The thermal radiation they emit, often at more than one wavelength, is then followed as a function of time as they cool. The soot volume fraction and particle size can then be deduced. However the required soot refractive indices are not well characterised and the derivation of the size distributions presents some problems because it is an ill-posed problem. Nevertheless, the technique is widely used and available commercially.

Doug Greenhalgh (Herriot Watt University) is also an advocate of LII and suggested that the uncertainties attached to alternative particle measurement techniques based on particle mobility, like SMPS, may have been underestimated. He described how, by using the elastic light scattering as well as LII, soot aggregates could be characterised. Going to reduced pressures offers the prospect of greatly increased sensitivity because the particles cool more slowly. But imaging showed that the soot particles may explode under these conditions. The ejection of fragments is angle dependent but the mechanism is not known. There is some interesting work to be done to elucidate what is happening, even if it is a diversion from the optimisation of practical LII techniques.

Claire Belcher (University College Dublin) took us away from our usual comfort zones when she talked about "Soot, Dinosaurs and Life on Earth". The quantity and form of soot found in rocks can provide useful information on the history of the Earth. For instance the asteroid impact 65 million years ago, which caused the disappearance of the dinosaurs, did not ignite extensive wildfires, and the increased carbon found in the rocks was associated with cenospheres and PAHs, showing it came from the initial event. Wildfires were important in the Mesozoic period and (modern day) flammability experiments showed that atmospheric oxygen needs to be at ~17% to get fires, overturning previous estimates of a low (13%) O₂ levels at this time. Narrow leaves (like grasses) greatly influence the probability of fire and our current world with its abundant grasslands is more flammable than an ancient tropical world.

Markus Kraft (Cambridge University) has been engaged in rather comprehensive modelling of the growth and oxidation of PAH molecules. Quantum chemistry has been used to determine kinetic parameters of their different chemical sites and, while maintaining a record of their structures in great detail, Monte Carlo methods have been used to calculate their growth. Experimental PAH mass spectra are well simulated, as is the laminated structure of soot aggregates. Predicted soot density is only about 1.1g/cm³ but the value usually assumed is 1.8 g/cm³, which is a difference of some significance.

Renate Uitz (Shell Global Solutions) described how it was important for the soot trapped in Diesel particulate filters to be easily regenerated by oxidation with O₂ or NO₂. Fuel effects on this were investigated by laboratory oxidation methods. Aromatic and sulphur content were important when the oxidation was by O₂, but less so when the oxidant was NO₂.

Yura Sevcenco (Cardiff University) described soot measurement in their "Hot End Simulator" for aero-engine combustion. SMPS was used to measure the quantity and size distribution of the soot under various conditions. The method was considered to be suitable for particulate measurements on real gas turbines, but the sampling system can cause significant distortion and needs to be fully characterised.

Chris Tighe (Cambridge University) had investigated soot oxidation for application to Diesel filters. He used a packed bed (which he preferred over TGA) and FTIR spectroscopy of the effluent. He showed that NO₂ reacted with carbon at low temperatures by a first order process and was reduced only to NO. Oxidation by O₂ had a higher activation energy and was a half order reaction. Burning was shown to occur either within porous spherules or on the surface of shrinking spherules, which are indistinguishable.

There were several posters displayed and E. Fitzpatrick won the poster prize for the meeting. Roger is to be thanked profusely for putting together such an excellent day. **Chris Morley**

COMBUSTION-RELATED PAPERS PUBLISHED BY SECTION MEMBERS IN 2008

Members were invited to send their list of publications for 2008. Those received are reproduced here. The list is in alphabetical order of the surname of the first-mentioned author. **Chris Morley**

Adler, J. and D.M.Herbert, "Transient diffusion-controlled smoulder propagation: a similarity solution approach", IMA J. Appl. Math. (2008) 73, 345-360

Agus, E.L., J.J.N. Lingard, A.S. Tomlin, "Suppression of nucleation particles by biomass burning in an urban environment: A case study", Journal of Environmental Monitoring, 10, 979-988, 2008

Alvani, R.F., and Fairweather, M., "Prediction of the Ignition Characteristics of Flammable Jets Using Intermittency-Based Turbulence Models and a Prescribed Pdf", Approach, Computers and Chemical Engineering, Vol. 32, No. 3, pp. 371-381, 2008.

Arcoumanis, C., C Bae, R J Crookes and E Kinoshita, "The potential of di-methyl ether (DME) as an alternative fuel for compression-ignition engines", Fuel, 87, 1014 (2008)

Balachandran, R. and Dowling, A.P. and Mastorakos, E., "Non-linear response of turbulent premixed flames to imposed inlet velocity oscillations of two frequencies", Flow, Turbulence and Combustion, 80 (4). pp. 455-487 (2008)

Barker, A.F., D.Hart and A.N. Hayhurst, "Kinetics of production of nitric oxide during the pyrolysis of small particles of coal in a hot (electrically heated) bed of sand fluidised by pure nitrogen", J. Energy Institute, 2008, 81, 125 – 130

Battin-Leclerc, F., "Detailed chemical kinetic models for the low temperature combustion of hydrocarbons with application to gasoline and diesel fuel", Progress in Energy and Combustion Science", 34, 440 (2008)

Battin-Leclerc, F., A.A. Konnov, J.L. Jaffrezo, M. Legrand, "To better understand the formation of short-chain acids in combustion systems", Combustion Science and Technology" (, 180, 343-370 (2008)

Biet, J., M.H. Hakka, V. Warth, P.A. Glaude, F. Battin-Leclerc, "Experimental and modeling study of the low-temperature oxidation of large alkanes", Energy & Fuels", 22, 2258-2269 (2008)

Bohn, C.D., C.R. Müller, J.P. Cleeton, A.N. Hayhurst, J.F. Davidson, S.A. Scott, and J.S. Dennis, "Production of very pure Hydrogen with simultaneous capture of Carbon Dioxide using the Redox Reactions of Iron Oxides in Packed Beds", Ind. Eng. Chem. Res., 2008, 47, 7623 – 7630

Boxx, I., C. Heeger, R.L. Gordon, B. Böhm, A. Dreizler, W. Meier, "On the importance of temporal context in interpretation of flame discontinuities", Combustion and Flame Brief communication 156 (2009) 269-271

Bradley, D., "Fundamentals of Lean Combustion", p.19-53, Chap. 2 of Book Lean Combustion: Technology and Control (Ed. Derek Dunn-Rankin), Elsevier, 2008

Bradley, D., M. Lawes, Kexin Liu, "Turbulent flame speeds in ducts and the deflagration/detonation transition", Combust. Flame 154 (2008) 96-108

Bradley, Derek, "Flame Instabilities, Turbulent Burnng Velocities and Deflagration/ Detonation Transition of Hydrogen-Air", Third European Summer School onHydrogen Safety, The Commission of the European Communities, University of Ulster, 2008.

Bray, Ken, Michel Champion and Paul A Libby., "Partially premixed flames in stagnating turbulence: The merging of planar triple flames", Combust. Flame 154 (2008) 181-185

Brennan S., Makarov D., Molkov V., "LES of high pressure hydrogen jet fire", Proceedings of the 7th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions, 6-12 July 2008, Vol. II, pp.168-178.

Burns, I.S., N. Lamoureux, C.F. Kaminski, J. Hult and P. Desgroux, "Diode laser atomic fluorescence temperature measurements in low-pressure flames", Applied Physics B, 93 (2008) 907-914

Campbell, A.N., S.S.S. Cardoso and A.N. Hayhurst, "Oscillatory and nonoscillatory behavior of a simple model for cool flames, Sal'nikov's reaction $A \rightarrow B \rightarrow C$, occurring in a spherical batch reactor with varying intensities of natural convection", Combustion and Flame, 2008, 154, 122 – 142

Celnik, Matthew S., Abhijeet Raj, Richard H. West, Robert I. A. Patterson, and Markus Kraft, "Aromatic site description of soot particles", Combustion and Flame, 155 (1-2), 161-180, (2008)

Celnik, Matthew S., Richard H. West, Neal M. Morgan, Markus Kraft, Anna Moisala, John Wen, William H. Green, and Henning Richter, "Modelling gas-phase synthesis of single-walled carbon nanotubes on iron catalyst particles", Carbon, 46, 422-433, (2008)

Chakraborty, N., M. Klein, "The effects of initial kernel radius on the Surface Density Transport in Turbulent Flame Kernels", 12th SIAM Numer. Combust. Conference, Monterey, USA, 31stMarch-2ndApril, 2008

Chakraborty, N., M. Klein and N. Swaminathan, "Effects of Lewis number on the reactive scalar gradient alignment with local strain rate in turbulent premixed flames", Presented in 32nd Symposium (International)

on Combustion, August 3 – 8, 2008 **Chakraborty, N., E. Mastorakos**, "Direct Numerical Simulation of localised forced ignition of turbulent mixing layers: the effects of mixture fraction and its gradient", *Flow Turbulence and Combustion*, 80, pp.155-166, 2008

Chakraborty, N., E.R. Hawkes, J.H. Chen, R.S. Cant, "Effects of strain rate and curvature on Surface Density Function transport in turbulent premixed CH₄-air and H₂-air flames: A comparative study", *Combustion and Flame*, 154,259-280, 2008

Chakraborty, N., J. W. Rogerson and N. Swaminathan, "A-Priori assessment of closures for scalar dissipation rate transport in turbulent premixed flames using direct numerical simulation", *Phys.Fluids*, 20 045106-1 – 15(2008)

Chakraborty, N., M. Klein, "A priori Direct Numerical Simulation assessment of algebraic Flame Surface Density models for turbulent premixed flames in the context of Large Eddy Simulation", *Phys. Fluids*, 20, 085108, 1-14, 2008

Chakraborty, N., M. Klein, "Influence of Lewis number on the Surface Density Function transport in the thin reaction zones regime for turbulent premixed flames", *Phys. Fluids*, 20, 065102, 1-24, 2008

Chakraborty, N., R.S. Cant, "Effects of Lewis number on the scalar flux in Turbulent premixed Flames", 12th SIAM Numer. Combust. Conference, Monterey, USA, 31st March-2nd April, 2008

Chrystie, R.S.M., I.S. Burns, J. Hult and C.F. Kaminski, "On the improvement of two-dimensional curvature computation and its application to turbulent premixed flame correlations", *Measurement Science and Technology*, 19 (2008) 125503

Chuang, S.Y., J.S.Dennis, A.N.Hayhurst and S.A.Scott, "Development and performance of Cu-based oxygen carriers for chemical looping combustion", *Combustion and Flame*, 2008, 154, 109 – 121

Cracknell, R.F., D. J. Rikeard, J. Ariztegui and K. D. Rose M. Muether M. Lamping A. Kolbeck, "Advanced Combustion for Low Emissions and High Efficiency: Part 2 Impact of Fuel Properties on HCCI Combustion", Proceedings of the at Powertrains, Fuels and Lubricants Meeting, Chicago, October 2008, SAE Paper 2008-01-2404

Dahoe A., Molkov V., "On the implementation of an International Curriculum on Hydrogen Safety Engineering into higher education", *Journal of Loss Prevention in the Process Industries*, March 2008, Vol.21, No.2, pp.222–224.

Davis, M.J. and A.S. Tomlin, "Spatial Dynamics of Steady Flames 1. Phase Space Structure and the Dynamics of Individual Trajectories", *Journal of Physical Chemistry*, 112(34), 7768-7783, 2008

Davis, M.J. and A.S. Tomlin, "Spatial Dynamics of Steady Flames 2. Low-Dimensional Manifolds and the Role of Transport Processes", *Journal of Physical Chemistry*, 112(34), 7784-7805, 2008

De Paola, G. and Wright, Y.M. and Boulouchos, K. and Mastorakos, E., "Diesel engine simulations with multi-dimensional conditional moment closure.", *Combustion Science and Technology*, 180 (5). pp. 883-899(2008)

Dembele, S., A.F. Rosario, J. Wen, P.D. Warren, K.S. Dale, "Simulation of Glazing Behavior in Fires using Computational Fluids Dynamics and Spectral Radiation Modeling", 9th IAFSS (The International Association for Fire Safety Science) Symposium, Sep., Karlsruhe, Germany, (2008)

Dembele, Siaka, Ricardo Rosario, Jennifer Wen, Paul Warren, and Stuart Dale, "Numerical study of glazing behaviour in fire conditions", 3RD INTERNATIONAL SYMPOSIUM, The 21st Century Center of Excellence Program, TOKYO UNIVERSITY OF SCIENCE, 2008

Eames, I., "Disappearing bodies and ghost vortices", In "New Perspectives on Dispersed Multiphase Flows", *Phil Trans.* 366, 2219-2232.

Eames, I., "Introduction to "New Perspectives on Dispersed Multiphase Flows"", *Phil Trans.* 366, 1873, 2095-2102, 2008

Eames, I., "Settling of dense particles beneath water waves", *J. Physical Oceanography* 2008.

Eames, I., "Rapidly dissolving bodies in an inviscid fluid", *Proc Roy Soc.* 464, 2985, 2008

Eames, I., Landeryou, M., Greig, A. & Snellings, J., "Continuous flushing of contaminants from ballast tanks", *Marine Pollution Bulletin.* 56(2):250-60, 2008

Elghawi,U., K. Theinnoi, S. Sitshebo, A. Tsolakis, M.L. Wyszynski, H.M. Xu, R.F. Cracknell, R.H. Clark and A. Mayouf, "GC-MS determination of low hydrocarbon species (C1–C6) from a diesel partial oxidation reformer", *Int. J. of Hyd. Energy* 33 (2008) 7074

Ferraris, S. A. and J. X. Wen, "LES of the Sandia Flame D Using Laminar Flamelet Decomposition for Conditional Source-Term Estimation", *Flow, Turbulence and Combustion* 81(4), p609.

Ferraris, S.A., J. X. Wen and S Dembele, "Large Eddy Simulation of the Backdraft Phenomena", *The Fire Safety Journal*, Volume 43, Issue 3, April 2008, Pages 205-225

Fox, A.B., Y.Y. Huang, D. Rafik, J. Williamson, T.C. Lindley and P.D. Lee., "Increasing the Lifetime of Flare Tips", Society of Petroleum Engineers 4th International Conference on Oilfield Corrosion, Aberdeen, Scotland, May 2008

Garmory, A. and Mastorakos, E., "Aerosol nucleation and growth in a turbulent jet using the Stochastic Fields method", *Chemical Engineering Science*, 63, 4078-4089 (2008)

Gordon, R.L. and Masri, A.R. and Mastorakos, E.., "Simultaneous Rayleigh temperature, OH- and CH₂O-LIF imaging of methane jets in a vitiated coflow", *Combustion and Flame*, 155 (1-2). pp. 181-195. (2008)

Gordon, R.L.,A.R. Masri, E. Mastorakos, "Simultaneous Rayleigh temperature, OH- and CH₂O-LIF imaging of methane jets in a vitiated coflow", *Comb. Flame* 155 (2008) 181-195

Gubba, S.R., Ibrahim, S.S. and Malalasekera, W ., "A Dynamic SGS Model for LES of Turbulent Premixed Flames", Paper No. CHT-08-206, Proceedings of CHT-08, ICHMT International Symposium on Advances in Computational Heat Transfer, May 11-16, 2008, Marrakech, Morocco

Gubba, S.R., Ibrahim, S.S., Malalasekera, W., Masri, A.R., "LES Modelling of Premixed Deflagrating Flames in a Small Scale Vented Explosion Chamber with a Series of Solid Obstructions", *Combustion Science and Technology*, 10 (180), pp. 1936-1955, (2008)

Gubba, S.R., Ibrahim, S.S., Malalasekera, W., "A Dynamic SGS Model for LES of Turbulent Premixed Flames", Proceedings of CHT-08, ICHMT International Symposium on Advances in Computational Heat Transfer, Marrakech, Morocco, 11-16 May 2008, Paper no. CHT-08-206

Gueniche, H.A., P.A. Glaude, R. Fournet, F. Battin-Leclerc, "Rich methane premixed laminar flames doped by light unsaturated hydrocarbons – Part III: cyclopentene", *Combustion and Flame*, 152, 245 (2008)

Hartung, G., J. Hult, C. F. Kaminski, J. W. Rogerson and N.Swaminathan, "Effect of heat release on turbulence and scalar-turbulence interaction in premixed combustion", *Phys. Fluids*, 20, 1 – 16 (2008)

Heeger, C.,B. Böhm, S.F. Ahmed, R.L. Gordon, I. Boxx, W. Meier, A. Dreizler, E. Mastorakos, "Statistics of Relative and Absolute Velocities of Turbulent Non-premixed

Ives,M., R.C. Mundy, P.S. Fennel, J.F. Davidson, J.S. Dennis and A.N. Hayhurst, "Comparison of different natural sorbents for removing CO₂ from combustion gases, as studied in a bench-scale fluidized bed", *Energy and Fuels*, 2008, 22, 3852 – 3857.

Javed, M.T.; Nimmo, W.; Gibbs, B.M., "Experimental and Modelling Study of the Effect of CO and H₂ on the Urea DeNO_x Process in a 150 kW Laboratory Reactor", *Chemosphere*, 70, pp.1059-1067, 2008

Jiang, X. and K. H. Luo, "Dynamics of an annular swirling non-premixed jet flame", 32nd International Symposium on Combustion, Montreal, Canada, August 2-3 (2008)

Jiang, X., K. H. Luo and G. A. Siamas, "Swirling effects on the dynamics of an annular nonpremixed jet flame", 7th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements (ETMM7), Limassol, Cyprus, 4-6 June (2008)

Jones J.C., "Review of B. Elvers (Ed) 'Handbook of Fuels: Energy Sources for Transportation' ", *The Chemical Engineer* February 2008 p. 58.

Jones J.C., "Comments on LNG fire hazards", *Journal of Hazardous Materials* 150 183-184 (2008)

Jones J.C., "The Indian scene", *World Coal* 17 (2) 10-12 (2008)

Jones J.C., "Comments on reported results for the burning of LPG and landfill gas blends", *Fuel* 87 1436-1437 (2008)

Jones J.C., "Comments on BLEVE behaviour", *International Fire Fighter* Feb. 2008 p. 6

Jones J.C., "On the reduction of atmospheric carbon dioxide levels", *Open Thermodynamics Journal* 2 12 (2008)

Jones J.C., "The Greymouth Petroleum Company", *Petro Industry News* 9 (1) 2 (2008)

Jones J.C., "Comments on recently reported results on the performance of Karanja oil as a liquid fuel", *Fuel* 87 2352 (2008)

Jones J.C., "Petrol shortages are just the tip of the iceberg", *Scottish Mail on Sunday* April 27th 2008 p. 24.

Jones J.C., "Closure has potential to be more than a blip", *Scotland on Sunday* April 27th 2008 p.3.

Jones J.C., "Review of 'Geology of Coal Fires: Case Studies from around the World' by G.B. Stracher (Ed.)", *Fuel* 87 2847 (2008)

Jones J.C., "Aircraft fires", *International Fire Fighter* May 2008 pp. 41-43

Jones J.C., "Leakage and ignition of flammable liquids", *International Fire Fighter* May 2008 pp. 54-48.

Jones J.C., "Application of Semenov theory of thermal ignition to chemical process safety", *Journal of Fire Sciences* 26 197-212 (2008)

Jones J.C., "The mother of coal petrography", *Links: Bulletin of the Newcomen Society* No. 206 p. 15 (2008)

Jones J.C., "A possible means of identifying firewise plants", *Journal of Fire Sciences* 26 309-310 (2008)

Jones J.C., "Spectroscopic techniques: atomic absorption spectroscopy", *Air, Water and Environment International* June 2008 pp. 30-37

Jones J.C., "Fuel technology in the Vermissa Valley", *Sherlock Holmes Journal* Summer 2008 pp. 140-141

Jones J.C., "Forest fires and carbon calculations", *Fire Risk Management* July 2008 p. 6

Jones J.C., "Inherent safety", *Air, Water and Environment International* September 2008 pp. 38-43

Jones J.C., "Christmas 1931: no time off for Ford development engineers", *International Journal of Mechanical Engineering Education* 36 1 (2008)

Jones J.C., "Hydrocarbon supply to Japan from Indonesia: then and now", *International Journal of Mechanical Engineering Education* 36 91 (2008)

Jones J.C., "Energy-return-on-energy-invested for oil and other fuels", Abstracts of Papers, Institution of Chemical Engineers, Oil and Natural Gas Subject Group, half-day technical meeting, London October 2008

Jones J.C., "On the EROEI for biodiesels", *Fuel* 88 391 (2008)

Jones J.C., "Chemical explosions and overpressures", *Journal of Chemical Health and Safety* 15(6) 4 (2008)

Jones J.C., "Atmospheric Pollution", 109pp. Ventus Publishing, Frederiksberg (2008)

Jones J.C., "Passive a misnomer for intumescent", *Fire Risk Management* December 2008 p. 7

Jones J.C., "A possible analogue of the Lewis number for gases and vapours in a porous medium", *Journal of Fire Sciences* 26 213-214 (2008)

Jones J.C., "Application of the phase rule to natural gas hydrates", *International Journal of Mechanical Engineering Education* 36 182 (2008)

Jones J.C., "Difficulties with reported thermocouple usage", *Fuel* 88 218-219 (2008)

Jones J.C., "Progressive developments in the oil industry with special reference to the Arabian Gulf region", (Keynote address) *Laboratory Technology Conference, Bahrain, October 2008*

Jones J.C., Cardno S., Service J., Udensi I., "Calculations and hypotheses concerning the EROEI of hydrocarbon fuels", *International Journal of Mechanical Engineering Education* 36 176-181 (2008)

Katoshevski, D., Shakked, T. and Sazhin, S.S., "Grouping of droplets in oscillating flows. ILASS 2008", 22nd European Conference on Liquid Atomization and Spray Systems, September 8-10, 2008, Como Lake, Italy CD, paper 4-8

Katoshevski, D., Shakked, T., Sazhin, S.S., Crua, C., Heikal, M.R., "Grouping and trapping of evaporating droplets in an oscillating gas flow", *International J of Heat and Fluid Flow* 29 415-426(2008)

Kempf, A., "LES Validation from Experiments. Flow", *Turb. Combust.* 80: 3 (2008) 351

Kempf, A., Malalasekera, W., Ranga-Dinesh K.K.J., Stein, O., "Large-Eddy Simulation of Swirling Premixed Flames with Flamelet Models A Comparison of Numerical Methods", *Flow, Turb. Combust.* 81: 4 (2008) 523-563

Klein, M., N. Chakraborty, R.S. Cant, "Effects of Turbulence on Self-sustained Combustion in Premixed Flame Kernels: A Direct Numerical Simulation (DNS) Study", *Flow Turbulence and Combustion*, 81, 583-607, 2008

Kolla, H., J. Rogerson, N. Chakraborty and N. Swaminathan., "Prediction of turbulent flame speed using scalar dissipation rate", Presented in 32nd Symposium (International) on Combustion, August 3 – 8, 2008, McGill University, Montreal, Canada.

Kolla, H. and N. Swaminathan., "On turbulent scalar mixing with heat release", Presented in Isaac Newton Institute for Mathematical Sciences Workshop on The Nature of High Reynolds Number Turbulence – Inertial – Range Dynamics and Mixing, September 29 – October 3, 2008

Kolla, H., J. Rogerson, N. Chakraborty, N. Swaminathan, "An algebraic model for scalar dissipation rate in Turbulent Premixed Flames", 12th SIAM Numer. Combust. Conference, Monterey, USA, 31st March-2nd April, 2008

Kolla, H. and N. Swaminathan, "Strained flamelets for predicting turbulent premixed flames.", First International Forum on Multidisciplinary Education and Research for Energy Science, Nikko, Tochigi, Japan, December 14-17, 2008

Lawes, M, Lee, Y, Mokhtar, A S, Woolley, R, "Laser ignition of iso-octane air aerosols", *Combust Sci Technol*, 180(2), pp. 296-313 (2008)

Lee, C. W. and Mastorakos, E., "Transported scalar PDF calculations of autoignition of a hydrogen jet in a heated turbulent co-flow.", *Combustion Theory and Modelling*, 12 (6). pp. 1153-1178. (2008)

Li Cao, Haiyun Su, Sebastian Mosbach, Markus Kraft, Amit Bhawe, Sanghoon Kook, and Choongsik Bae, "Studying the Influence of Direct Injection on PCCI Combustion and Emissions at Engine Idle Condition Using Two dimensional CFD and Stochastic Reactor Model", *SAE Paper*, 2008-01-0021

Liu, Kexin, John P. Wood, Eoghan R. Buchanan, Pete Martin and Victoria E. Sanderson, "Biodiesel as an alternative fuel in Siemens DLE combustors: atmospheric and high pressure rig testing", *Proceedings of ASME Turbo Expo 2009: Power for Land, Sea and Air, GT2009 June 8-12, 2009, Orlando, Florida, USA. No. GT2009-59065, and Journal of Engineering for Gas Turbines and Power* January 2010, Vol. 132, GTP-09-1071, pp1-9

Liu, T-Y, A.N. Campbell, S.S.S. Cardoso and A.N. Hayhurst, "Effects of natural convection on thermal explosions in a closed vessel", *Phys. Chem. Chem. Phys.*, 2008, 10, 5521 – 5530

Malalasekera, W., Ranga-Dinesh, K.K., Ibrahim, S. and A.R.Masri, "LES of Recirculation and Vortex Breakdown of Swirling Flames", *Combustion Science and Technology*, Vol. 180, pp. 809-832, 2008., DOI: 10.1080/00102200801894018

Malkeson, S., N. Chakraborty, "Analysis of Scalar Dissipation rate transport in combusting stratified charge mixtures using Direct Numerical Simulations", 32nd International Combustion Symposium, Montreal, Canada, 3rd to 8th August, 2008

Malmgren, A., G.S. Riley, F. Wigley, J. Williamson, S. Haarmann and A. Lythgoe, "Technical and commercial aspects of high levels of co-firing", *Coal Research Forum, 7th European Conference on Coal Research and its Applications, Cardiff, Sept 2008*

Man, Peter L.W. Markus Kraft and J. R. Norris, "Coupling Algorithms for Calculating Sensitivities of Population Balances", *AIP Conference Proceedings*, 1048, 927 (2008)

Manning, R., Sansom, C. and Xu, Z.G., "Combustion by Design - Practical Kiln Optimization", 2008 Engineering, Pulping and Environmental Conference, Portland, Oregon, USA, August 24-27, 2008

Maqua, C., Castanet, G., Grisch, F., Lemoine, F., Kristyadi, T., Sazhin, S.S., "Monodisperse droplet heating and evaporation: experimental study and modelling", *International J of Heat and Mass Transfer* 51(15-16), 3932-3945(2008)

Markides, C.N. and Mastorakos, E., "Measurements of the statistical distribution of the scalar dissipation rate in turbulent axisymmetric plumes.", *Flow, Turbulence and Combustion*, 81 (1-2). pp. 221-234 (2008)

Markides, C.N. and Mastorakos, E., "Flame propagation following the autoignition of axisymmetric hydrogen, acetylene and normal-heptane plumes in turbulent co-flows of hot air.", *Transactions of the ASME, Journal of Engineering for Gas Turbines and Power*, 130 (1). p. 011502 (2008)

Molkov V., "Preface to Special Issue on Hydrogen Safety", *Journal of Loss Prevention in the Process Industries*, March 2008, Vol.21, No.2, pp.129–130.

Molkov V., Verbecke F., Makarov D., "LES of hydrogen-air deflagrations in a 78.5 m tunnel", *Combustion Science and Technology*, 2008, Vol.180, pp.1-13

Molkov V., Verbecke F., Saffers J.B., "Uniform hydrogen-air deflagrations in vented enclosures and tunnels: predictive capabilities of engineering correlations and LES", *Proceedings of the 7th International Symposium on Hazards, Prevention and Mitigation of Industrial Explosions*, 6-12 July 2008, Vol. II, pp.158.

Molkov V., Verbecke F., Zbikowski M., "Pressure effects of hydrogen-air explosions.", In: *Physics of extreme state of matter 2008 (selected papers presented at the XXIII International Conference on Interaction of Intense Energy Fluxes with Matter, Elbrus, 1-6 March 2008)*, Editors: Fortov V.E., Efremova V.P., Khischenko K.V. et al., Chernogolovka, 2008, pp.143-145.

Molkov, V, Makarov, D, Verbecke, F, Mansurov, Z and Zhumabaev, M, "LES model of vented explosion: hydrogen-air mixtures", *Proceedings of the 5th International Seminar on Fire and Explosion Hazards*, Edinburgh, Scotland, 23-27 April 2007, 2008, pp.187-196.

Morgan, Neal M., Robert I. A. Patterson, and Markus Kraft, "Modes of neck growth in nanoparticle aggregates", *Combustion and Flame*, 152 (2), 272-275, (2008)

Mosbach, Sebastian, Ali M. Aldawood, and Markus Kraft, "Real-Time Evaluation of a Detailed Chemistry HCCI Engine Model Using a Tabulation Technique", *Combustion Science and Technology*, 180 (7), 1263-1277, (2008)

Moss, J.T., A.M. Berkowitz, M.A. Oehlschlaeger, J. Biet, V. Warth, P.A. Glaude, F. Battin-Leclerc, "An experimental and kinetic modelling study of the oxidation of the four isomers of butanol", *The Journal of physical chemistry A*, 112, 10843-10855 (2008)

Muether, M., M. Lamping A. Kolbeck, R.F. Cracknell D. J. Rikeard, J. Ariztegui and K. D. Rose, "Advanced Combustion for Low Emissions and High Efficiency: Part 1- Impact of Engine Hardware on HCCI Combustion", *Proceedings of the at Powertrains, Fuels and Lubricants Meeting*, Chicago, October 2008, SAE Paper 2008-01-2405

N. Swaminathan, "Small scale mixing in turbulent premixed flames", Invited talk in First International Forum on Multidisciplinary Education and Research for Energy Science, Nikko, Tochigi, Japan, Dec. 14-17, 2008

Namasivayam, AM, RJ Crookes, T Korakianitis, and J Olsen, "Combustion in natural gas dual fuelled compression ignition engines with DME and RME pilot ignition", 32 Symposium on Combustion, August 2008, Montreal, Canada

Nimmo, W.; Javed M.T.; Gibbs, B.M., "NO_x control by ammonium carbonate and ammonia with hydrocarbons as additives", *Journal of the Energy Institute*, 81(3), pp 131-134, 2008

Nimmo, W.; Patsias, A.A. ;Gibbs B.M.; Williams, P.T., "A New Technology for the Control of NO_x, SO₂ and HCl Emissions from Large Scale Combustion Plant using Calcium Magnesium Acetate", WIP Poster, 32nd International Symposium on Combustion, Montreal, 4th – 8th Aug 2008

Nimmo, W.; Singh S.; Gibbs, B.M.; Williams, P.T., "The Evaluation of Waste Tyre Pulverised Fuel for NO_x Reduction by Reburning", *FUEL* 87(13-14) pp 2893-2900, 2008

Nimmo, W.; Singh, S.; Gibbs B.M.; Williams, P.T., "Co-firing of Pulverised Coal with Fine Rubber Powder Derived from Waste Tyres", Presented at the IEA Clean Coal Centre Workshop on Perspectives on Co-combustion, Cardiff, UK, 2nd Sept. 2008. <http://www.iea-coal.org.uk/site/ieacoal/publications/cardiff-2008>

Nimmo, W.; Singh, S.; Gibbs, B.M.; Williams, P.T., "Co-firing of pulverised coal and fine rubber powder from waste tyres in a pilot scale combustor", WIP Poster, 32nd International Symposium on Combustion, Montreal, 4th – 8th Aug 2008

Nimmo, W.; Singh, S.; Gibbs, B.M.; Williams, P.T., "The evaluation of waste tyre pulverised fuel for NO_x reduction by reburning", WIP Poster, 32nd Int. Symposium on Combustion, Montreal, 4 - 8 Aug 2008

Pacciani, R., C.R. Müller, J.F. Davidson, J.S. Dennis and A.N. Hayhurst, "Synthetic Ca-based solid sorbents suitable for capturing CO₂ in a fluidized bed", *Canadian J. of Chemical Engineering*, 2008, 86, 356

Pacciani, R., C.R. Müller, J.F. Davidson, J.S. Dennis and A.N. Hayhurst, "How does the concentration of CO₂ affect its uptake by a synthetic Ca-based solid sorbent ?", *AIChE J.*, 2008, 54, 3308 – 3311

Porter, R., P.A. Glaude, F. Buda, F. Battin-Leclerc, "A tentative modelling study of the effect of wall reactions on oxidation phenomena", *Energy & Fuels*, 22, 3736-3743 (2008)

Puttick, S., "Liquid Mists and Sprays Flammable Below the Flash Point – The Problem of Preventative Bases of Safety", *Hazards XX: Process safety and environmental protection Harnessing knowledge – Challenging complacency*, 2008, 825-83

Puttick, S., "Avoidance of Ignition Sources as a Basis of Safety – Limitations and Challenges", *Hazards XX: Process safety and environmental protection Harnessing knowledge – Challenging complacency*, 2008, 893

Ravikanti, M., Malalasekera, W., Hossain M and Mahmud, T., "Flamelet Based NO_x-Radiation Integrated Modelling of Turbulent Non-premixed Flame using Reynolds-stress Closure", *Flow, Turbulence and Combustion*, Volume 81, Numbers 1-2 / July, 2008

Ruan,S. and N. Swaminathan, "Modelling of partially premixed turbulent combustion.", First International Forum on Multidisciplinary Education and Research for Energy Science, Tochigi, Japan, Dec. 14-17, 2008

Sadasivuni, S.K., Malalasekera, W. and Ibrahim, S.S., "Unsteady Flamelet/Progress Variable Approach for Non-premixed Turbulent Lifted Flames", Proceedings of the 6th International Seminar on Flame Structure, Brussels, Belgium, Sept. 14-17, 2008, pp. 1- 22

Sazhin S.S., Shakked, T., Sobolev, V., Katoshevski, D., "Particle grouping in oscillating flows, European", J of Mechanics B/Fluids 27 131-149(2008)

Sazhin, S.S. and Shishkova, I.N., "Evaporation of droplets into a background gas: hydrodynamic and kinetic modelling", Proceedings of the 19th National & 8th ISHMT-ASME Heat and Mass Transfer Conference, January 3-5, JNTU Hyderabad, India(2008)

Sazhin, S.S. Shishkova, I., Martynov, S., Heikal, M., "Hydrodynamic and kinetic models of droplet heating and evaporation", Proceedings of CHT-08 ICHMT International Symposium on Advances in Computational Heat Transfer. May 11-16, 2008, Marrakesh, Morocco, CD, paper CHT-08-101

Sazhin, S.S., Abdelghaffar, W.A., Krutitskii, P.A., Sazhina, E.M. and Heikal, M.R., "Numerical modelling of droplet transient heating and evaporation", Heat Transfer Research 39 (1), 51-64(2008),

Sazhin, S.S., Kaplanski, F., Begg, S. and Heikal, M., "Vortex ring-like structures in gasoline fuel sprays: modelling and observations.", ILASS 2008, 22nd European Conference on Liquid Atomization and Spray Systems, September 8-10, 2008, Como Lake, Italy. CD, paper 6-5.

Sazhin, S.S., Kaplanski, F., Begg, S., Heikal, M.R., "Vortex rings in internal combustion engines: modelling versus experiment", Proceedings of the 19th International Symposium on Transport Phenomena, 17-20 August, 2008, Reykjavik, Iceland, paper 33

Sazhin, S.S., Martynov, S.B., Kaplanski, F., Begg, S., "Spray dynamics as a multi-scale process", Journal of Physics, Conference Series, International Workshop on Multi-Rate Processes & Hysteresis. University College Cork, Ireland, March 31 – April 5, 2008 (Eds. M Mortell, R O'Malley, A Pokrovskii and V Sobolev), 138, paper 012034

Sazhin, S.S., Martynov, S.B., Kristyadi, T., Crua, C., Heikal, M.R., "Diesel fuel spray penetration, heating, evaporation and ignition: modelling versus experimentation", International J of Engineering Systems Modelling and Simulation 1(1), 1-19(2008)

Sazhin, S.S., Shishkova, I.N., Kristyadi, T., Martynov, S.P. and Heikal, M., "Droplet heating and evaporation: hydrodynamic and kinetic models", Heat Transfer Research 39 (4), 293-303(2008)

Sazhin, S.S., Shishkova, I.N., Kryukov, A.P., Levashov, V.Yu., Heikal, M.R., "Evaporation of droplets into a background gas in the presence of heat flux: kinetic and hydrodynamic modelling", Proceedings of the 19th International Symposium on Transport Phenomena, 17-20 August, 2008, Reykjavik, Iceland, paper 48

Scott, A.; Brown, A.; Nimmo, W.; Milne, S.J., "Effects of Aerosol Heating Rate on the Properties of Aggregates of Lead Zirconate Titanate Nanoparticles Produced by Spray Pyrolysis", Journal of Materials Science 43(18), 2008

Serrano, C, Hernandez, J J, Mandilas, C, Sheppard, C G W, "Laminar burning behaviour of biomass gasification-derived producer gas", International Journal of Hydrogen Energy, 33, pp. 851-862 (2008)

Sharpe, G J, "Effect of thermal expansion on the linear stability of planar premixed flames for a simple chain-branching model: The high activation energy asymptotic limit", Combust Theor Model, 12(4), pp. 717-738 (2008)

Sharpe, G J and Quirk, J J, "Nonlinear cellular dynamics of the idealized detonation model: Regular cells", Combustion Theory and Modelling, 12(1), pp.1-21 (2008)

Sharpe, G J, Falle S A E G and Billingham, J, "Numerical solutions of a model for the propagation of a surface catalysed flame in a tube", IMA Journal of Applied Mathematics, 73(1), pp. 107-122 (2008)

Sharpe, G J, Gorchkov, V and Short M, "Shock initiation of explosives: the idealized condensed-phase model", IMA Journal of Applied Mathematics, 73(2), pp. 361-373 (2008)

Short, M, Anguelova, I I, Aslam, T D, Bdzil, J B, Henrick, A K and Sharpe, G J, "Stability of detonations for an idealized condensed-phase model", Journal of Fluid Mechanics, 595, pp.45-82 (2008)

Sidhu, M S and Burluka, A A, "Average vaporisation rate in turbulent subcritical two-phase flow", Combustion Science and Technology, 180, pp. 975-996 (2008)

Singh, S.; Nimmo, W.; Gibbs B.M.; Williams,P.T., "Waste Tyres as a Secondary Fuel for Pulverised Power Plants", 7th European Conference on Coal Research and it's Applications, The University of Cardiff, 3 - 5 Sept. 2008

Stein, O., Boehm, B., Dreizler, A., Kempf, A., "LES and PIV of isothermal and reacting, premixed turbulent opposed jet flows", 32nd Symposium (International) on Combustion, Montreal, Canada, 2008 (poster)

Tam, V.H.Y., M. Wang, C.N. Savvides, E. Tunc, S. Ferraris, and J.X. Wen, "Simplified Flammable Gas Volume methods for Gas Explosion Modelling from Pressurized Gas Releases", A comparison with large scale experimental data, Symposium Series No.154 © 2008 IChemE

Thomas, G.O., "An investigation of explosion development in a chlorinated hydrocarbon-air mixture in a complex pipe geometry in", D. Bradley, D. Drysdale, V. Molkov (Eds.), Proceedings of the Fifth Int. Seminar on Fire and Explosion Hazards, (2008)

Thomas, G.O., "An evaluation of MESG as a relative measure of potential explosion severity and the genesis of a mimic gas concept for explosion hazard testing", in: D. Bradley, D. Drysdale, V. Molkov (Eds.), Proceedings of the Fifth Int. Seminar on Fire and Explosion Hazards , (2008)

Thomas, G.O., "Some observations on explosion development in process pipelines and implications for the selection and testing of explosion protection devices", *Trans. I. Chem. E.: Part B - Process Safety and Environmental Protection*. 86 (3): 153-162(2008)

Thomas, G.O., "Flame Acceleration and The Development Of Detonation In Fuel Oxygen Mixtures At Elevated Temperatures And Pressures", *J. Hazardous Materials* (2008) published online July 2008 doi:10.1016/j.jhazmat.2008.07.105

Vince I (ed), "Major accidents to the environment – a practical guide to the Seveso II Directive and the COMAH regulations", (Oxford: Elsevier) ISBN: 978-0-7506-8389-0(2008)

Wedlock, M., Wood, J. P., Miller, M. N., Sims, G. J., Liu, K., Syed, K., Bowen, P., Crayford, A., and Sevcenco, Y., "Detailed Internal Measurements of a Siemens Combustor Operating at Gas Turbine Relevant Conditions", *ASME Paper No. GT2008-50790* 2008.

Weinberg, Felix, Fred Carleton, Derek Dunn-Rankin, "Electric field-controlled mesoscale burners", *Combustion and Flame* 152, 186 - 193, (2008)

Wen, J. X. and V.H.Y. Tam, "The HYFIRE project & Numerical prediction of spontaneous ignition of pressurized hydrogen release", *FABIG News Letter*, September 2008

Wen, J. X., B Xu, S. Dembele, V.H.Y. Tam, "Predicting spontaneous ignition of under-expanded hydrogen jets: the issue of numerical accuracy", *32nd International Symposium on Combustion* (2008) McGill University, Canada

Wen, J. X., B Xu, S. Dembele, V.H.Y. Tam, "The effect of pressure boundary rupture rate on the spontaneous ignition of pressurized hydrogen release", *Seventh International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions*, St Petersburg, Russia, 2008

Wen, J. X., B Xu, S. Dembele, V.H.Y. Tam, "The dispersion characteristics of Micromist in enclosures – a proof of concept numerical study on using Micromist as a soft barrier for explosion control", *7th International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosions*, St Petersburg, Russia, 2008

Wen, J. X., B. P. Xu, S. Dembele, V.H.Y. Tam and S.J. Hawksworth, "Numerical study on spontaneous ignition of direct release of pressurized hydrogen into air", *NHA Annual Hydrogen Conference 2008 with Hydrogen EXPO US*, Sacramento Convention Center, California, USA

Wen, J., S. Dembele, M Yang, V.H.Y. Tam, J Wang, "Numerical Investigation on the Effectiveness of Water Spray Deluge in Providing Cooling, Smoke Dilution and Radiation Attenuation in Fires", *9th IAFSS (The International Association for Fire Safety Science) Symposium*, Sept., Karlsruhe, Germany, (2008)

Wen, J.X., "From "FIRENET" to global collaboration in fire research", *3RD INTERNATIONAL SYMPOSIUM, The 21st Century Center of Excellence Program* □ TOKYO UNIVERSITY OF SCIENCE, 2008

Wen, John, Matthew S. Celnik, Henning Richter, Meri Treska, John B Vander Sande, and Markus Kraft, "Modelling study of single walled carbon nanotube formation in a premixed flame", *Journal of Materials Chemistry*, 18 (13), 1582-1591, (2008)

Wigley, F., J. Williamson, A. Malmgren and G.S. Riley, "Thermal properties of deposits from coal-biomass combustion", *Coal Research Forum, 7th European Conference on Coal Research and its Applications*, Cardiff, Sept 2008

Williams, B., H Ma, R Stone, R Stevens, P Ewart, J Qiao, D Richardson, R Cracknell, H Walmsley, and S Wallace, "Multi-component Quantitative PLIF: Robust Engineering and Measurements of Cyclic Variation in a Firing Spray-guided Gasoline Direct Injection Engine", *Proceedings SAE World Congress & Exhibition*, April 2008, Detroit, MI, USA, SAE Paper 2008-01-1073

Xia, J. and K. H. Luo, "Effects of inert evaporating droplets on turbulent combustion", *DNS and LES of Reacting Flows*, Eindhoven University of Technology, The Netherlands, October 22-24 (2008)

Xia, J. and K. H. Luo, "Direct numerical simulation of reacting mixing layers laden with evaporating droplets", *7th ERCOFTAC Workshop on Direct and Large Eddy Simulations*, Trieste, Italy, Sept. 8-10 (2008)

Xia, J. and K. H. Luo, "Direct numerical simulation of diluted combustion by evaporating droplets", *32nd International Symposium on Combustion Paper PROCI-D-08-00321R1*, Montreal, Canada, Aug. 2-3 (2008)

Xia, J. and K. H. Luo, "Large-eddy simulation of interactions between a reacting jet and evaporating droplets", *Flow, Turbulence and Combustion*, 80 (1): 133-153 (2008)

Xia, J., K. H. Luo and S. Kumar, "Dynamic interactions between a buoyant reacting plume and evaporating droplets", *9th Int. Symposium on Fire Safety Science*, University of Karlsruhe, Germany, 21-26 Sept. (2008)

Xu, B.P., L. EL Hima, J.X. Wen, S. Dembele, V.H.Y. Tam and T. Donchev, "Numerical study on the spontaneous ignition of pressurized hydrogen release through a tube into air", *Journal of Loss Prevention in the Process Industries* 21 (2008) 205–213

Yahyaoui, M., H. Hakka, P.A. Glaude, F. Battin-Leclerc, "Experimental and modeling study of the autoignition of cyclopentene", *International Journal of Chemical Kinetics*, 40, 25-33 (2008)

Yunardi, Woolley, R.M., and Fairweather, M., "Conditional Moment Closure Prediction of Soot Formation in Turbulent, Nonpremixed Ethylene Flames", *Combustion and Flame*, Vol. 152, No. 3, pp. 360-376, 2008

Zbikowski M., Makarov D., Molkov V., "LES model of large scale hydrogen–air planar detonations: Verification by the ZND theory.", *International Journal of Hydrogen Energy*, Vol.33, Sep 2008, pp.4884-4892

Zhang, J P, S Dembele and J X Wen, "Investigation of Turbulence Models for CFD Simulations of Gas and Liquid Pool Fires", *J of Fire Sciences* (In press), 2008

Zhang, J P, S Dembele and J X Wen, "Investigation of gas radiation models for CFD Modelling of upward flame spread", *J of Applied Fire Science* (In press), 2008

Ziehn, T., A.S. Tomlin, "A global sensitivity study of sulphur chemistry in a premixed methane flame model using HDMR", International Journal of Chemical Kinetics, 40(11), 742-753, 2008

Ziehn, T., K.J. Hughes, J.F. Griffiths, R. Porter, and A.S. Tomlin, "A global sensitivity study of cyclohexane oxidation under low temperature fuel rich conditions using HDMR methods", Proceedings of the 32nd International Combustion Symposium Accepted Poster, 2008

Ziehn, T., N.S. Dixon and A.S. Tomlin, "The effects of parametric uncertainties in simulations of a reactive plume using a Lagrangian stochastic model", Proceedings of the 12th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, 37-41, 2008

COMBUSTION LINKS AND CALENDAR

<http://www.combustioninstitute.org>; <http://www.combustion.org.uk>;

<http://www.afm.asso.fr>; <http://ukelg.ps.ic.ac.uk/>;

<http://www.iop.org/activity/groups/subject/comb/index.html> <http://www.see.ed.ac.uk/fire/links.html>

2009

15 December: Selwyn College, Cambridge

Turbulent Combustion Today and Tomorrow; British Section meeting

Details: Professor Stewart Cant (rsc10@cam.ac.uk)

2010

11-16 April: Weetwood Hall Conference Centre, Leeds, UK

6th International Seminar on Fire and Explosion Hazards

Details: Email: feh6@leeds.ac.uk, Web: <http://www.engineering.leeds.ac.uk/cpd/feh6>

4-8 May: Mugla University, Turkey

The Tenth International Conference on Combustion and Energy Utilization

Details: Professor I. Gokalp: gokalp@cnsr-orleans.fr, ICCEU2010@cnsr-orleans.fr

16 - 19 May: Sorrento, Italy

ASME-ATI-UIT 2010 Conference on Thermal and Environmental Issues in Energy Systems

Details: <http://www.ichmt.org/asme-ati-uit-10/>

16-18 June: Semiramis Hotel, Puerto de la Cruz Tenerife (Canary Islands), Spain

SPEIC10: Towards Sustainable Combustion

An international meeting organized by the Spanish and Portuguese Sections of the Combustion Institute

Abstract-submission deadline, 28 Feb 2010; notification to authors, 20 Mar 2010

Details: <http://www.sustainablecombustion.org/>

1-6 August: Tsinghua University, Beijing, China

33rd International Symposium on Combustion

Details: combustion2010@tsinghua.edu.cn; <http://www.combustioninstitute.org/>

6-8 September: University of Leeds

8TH European Conference on Coal Research and its Applications: ECCRIA 8

Details: <http://www.coalresearchforum.org>

John Griffiths