



International Flame Research Foundation

Finnish National Committee Swedish National Committee

FINNISH-SWEDISH FLAME DAYS 2002

September 24-25, 2002

Adapting Combustion Technology to New Fuels and Fuel Mixtures

The IFRF National Committees of Finland (FFRC) and Sweden (SFRC) are organizing Flame Days on **September 24-25, 2002, in Vaasa, Finland**. This letter includes the preliminary program and registration and hotel reservation forms to be returned.

ORGANIZING COMMITTEE

Martti Aho, FFRC
Jan Eriksson, SFRC
Mikko Hupa, FFRC
Truls Liliedahl, SFRC
Risto Raiko, FFRC
Pia Salokoski, FFRC
Mika Järvinen, FFRC, secretary

TOPICS

The Flame Days will mainly be devoted to **Adapting Combustion Technology to New Fuels and Fuel Mixtures**. Interest will be focused on research concerning widening of the fuel range and demands on combustion technology as well as CO₂ reduction and emission control. The language of the conference will be English. The conference will be open also to non-members of the IFRF.

INVITED LECTURES

Dr. Louis Wibberly, Centre for Metallurgy and Resource Processing, Newcastle Laboratories, Australia: "Coal in Sustainable Development".

Dr. Peter Glarborg, CHEC Research Centre, Denmark's Technical University: "Fuel Nitrogen Conversion in Solid Fuel Fired Systems".

Peter Roberts, IFRF, IJmuiden, the Netherlands : "IFRF - Present and Future Activities"



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VENUE

The Flame Days will take place in Vaasa, at Rantasipi-Tropiclandia Hotel. Services from the bathing and waterpark are freely available during the conference. More information on the hotel can be obtained at: <http://www.rantasipi.fi/hotelli.cfm?id=rstropic&switch=1>.

EXCURSION

Alholmens Kraft Ltd built the world's largest biofuel power plant in Pietarsaari in 2001. Participants have an opportunity to visit this modern power plant during the Flame Days. See more information at: <http://www.alholmenskraft.com/>

HOTEL RESERVATION

For hotel reservation, please fill in the attached form and fax or mail it **directly** to Hotel Rantasipi Tropiclandia. The hotel pre-booking period is closed, but there are some rooms still available. If you book the room by phone, please mention the reservation code "Flame Days". Hotel fees are to be paid directly by the participants to the hotel.

REGISTRATION, CONFERENCE FEE, PAYMENT

For conference registration, please fill in the attached registration form and sent it to FFRC secretary Mika Järvinen.

Separate conference fee **250 €** includes proceedings, excursion, lunches, conference cocktail buffet, and refreshments. Please give the following information when paying the fee to the bank:

Transferee:

IFRF, Finnish National Committee
Helsinki University of Technology
P.O. Box 4400, 02015 HUT, FINLAND
Contact person: Mika Järvinen/ENY

Bank address:

Nordea Bank Finland Plc
Aleksanterinkatu 36, FIN-00020 NORDEA
Account number 200118-150578
SWIFT-code = (give code) ; NDEAFIHH

You may also use the international bank account number,
IBAN-number F17520011800150578



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PRELIMINARY PROGRAM

Tuesday 24th September 2002

- 9:00-10:00 Registration and Coffee
 10:00-10:15 Welcome and Introduction, Pia Salokoski, FFRC
- 10:15-11:15 Invited lecture "Coal in Sustainable Development" by Dr. Louis Wibberly
 11:15-12:00 Invited lecture, "IFRF - Present and Future Activities" by Peter Roberts
- 12:00-13:15 Lunch
- 13:15-14:55 Sessions 1a and 1b

Modeling of Biomass Combustion Chairman: Jan Eriksson	Fouling, Ash Behavior Chairman: Bengt-Johan Srifvars
Huttunen, M, Kjaldman, L. and Saastamoinen, J. <i>Analysis of Grate Firing of Wood with Numerical Flow Simulation</i>	Pamela Henderson, Håkan Kassman and Christer Andersson. <i>The Use of Fuel Additives in Wood-fired Boilers to Reduce Corrosion and Fouling Problems</i>
J. Adanez, L.F. de Diego, P. Gayan, F. Garcia-Labiano. <i>A Model for Co-Combustion of Biomass and Coal in CFB.</i>	Flemming J. Frandsen, Kim Dam-Johansen, Ole Hede Larsen and Charlotte Appel <i>Ash and Deposit Formation in Waste Incinerators</i>
Vesa Wallén and Pauli Haukka. <i>New Model for Wood Particle Pyrolysis in Fluidized Bed.</i>	Martti Aho, B.-J. Skrifvars, Tor Lauren , Mikko Hupa, Jaani Silvennoinen, Risto Eteläaho, Juha Kouki and Kari Saari. <i>Pilot-Scale Combustion Tests to Predict Deposit Formation in Bubbling Bed Boilers.</i>
J. Saastamoinen <i>Simplified Model for Calculation of Devolatilization in Fluidised Beds.</i>	Christian Mueller, Dan Lundmark, Bengt-Johan Skrifvars and Mikko Hupa <i>CFD Based Ash Deposition Prediction in a Bubbling Fluidised Bed Boiler Firing Mixtures of Biomass</i>

14:55-15:15 Coffee break

15:15-16:30 Sessions 2a and 2b

Black Liquor Chairman: Kari Saviharju	Emissions Chairman: Pia Kilpinen
Miikkulainen, P., Kankkunen, A. and Järvinen, M. <i>The Effect of Excess Temperature and Flashing on Black Liquor Spray Properties.</i>	Vesa Wallén and Anna Haapamäki. <i>CO₂ Capture from Flue Gas Using Limestone.</i>
Ari Kankkunen, Pasi Miikkulainen. <i>Particle Size Distribution in Black Liquor Sprays with High Solids Content.</i>	Jens Kohlmann, Ron Zevenhoven, Arun B. Mukherjee and Tiina Koljonen. <i>CO₂ Storage Options for Finland.</i>
Christian Mueller, Mikael Forssén and Mikko Hupa. <i>Simplified Black Liquor Combustion Model Based on Single Droplet Experiments</i>	Lahtimo, M., Sierilä, S., Oksanen, A. and Kytö, M. <i>Soot and NO_x Emissions in Multi-Burner Furnace.</i>

19:00 - Poster session & Conference Cocktail Buffet



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Wednesday 25th September 2002

8:30-8:55 Sessions 2a and 2b (Cont.)

Black Liquor Chairman: Kari Saviharju	Emissions Chairman: Pia Kilpinen
Järvinen Mika, Zevenhoven, Ron and Vakkilainen, Esa. <i>Modeling the Combustion of a Single Black Liquor Droplet in Furnace Conditions – Relevant Properties for a Simplified CFD Sub-model</i>	A. Saario, A. Oksanen, M. Ylitalo, V-P. Heikkilä and K. Salmenoja. <i>Modeling the Nitric Oxide Formation in a Recovery Boiler.</i>

8:55-9:45 Sessions 3a and 3b

Fuel Characterization, Ash Behavior Chairman: Truls Liliedahl	New Techniques Chairman: N.N.
Johanna Heikkinen, Hartmut Spliethoff. <i>Characterisation of Waste Fuels by Thermogravimetric Analysis.</i>	Anna Haapamäki and Antti Oksanen <i>High Temperature Air Combustion Application for Light Fuel Oil.</i>
Johan Werkelin, Bengt-Johan Skrifvars, Mikko Hupa <i>Distribution of Ash-Forming Matter in Four Trees of Different Species</i>	Rafidi E. Nabil and Blasiak Wlodzimierz. <i>Measurements of Flue Gas Compositions and Flame Volume in High Temperature Air Combustion (HiTAC) Furnace.</i>

9:45-10:05 Coffee break

10:05-10:55 Sessions 3a and 3b (Cont.)

Rainer Backman, Kristoffer Sandelin, Petri Kouvo, Marcus Öhman, Anders Nordin, Elisabeth Brus. <i>Reactions Between Trace Elements and Sand Bed Particles in Fluidized Bed Combustion of Biomass and Waste Based Fuels.</i>	Loay Saeed, Javier Pallarés Ranz, Ron Zevenhoven. <i>A Process for Two-Stage Combustion of High PVC Solid Waste.</i>
D. Valero, T. Liliedahl. <i>Tar Cracking Capability of Iron in Biomass Gasification.</i>	

10:55-11:40 Invited lecture "Fuel Nitrogen Conversion in Solid Fuel Fired System" by Dr. Peter Glarborg

11:40-12:50 Lunch (hotel check-out for those leaving on 25th September)

12:50-17:00 Excursion to Alholmens Kraft power plant

14:00 Arrival to Ahlholmen

14:00-15:30 Lecture and guided power plant tour

17:00 Arrival back to Vaasa, transportation to Airport, Railway Station etc.



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Contact information

Finnish Flame Research Committee, Secretary, Mika Järvinen, Helsinki University of Technology, P.O. Box 4400, 02015 HUT, FINLAND, tel: +358 9 451 3657, fax: +358 9 451 3418, email: mika.jarvinen@hut.fi, www-site: <http://www.ifrf.net/flame-days/index.html>



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FLAME DAYS 2002 REGISTRATION FORM

Name:	
Full address:	
Tel:	
Fax:	
Email address:	
Title of the presentation/poster:	

Dietary restrictions: e.g. seafood

I will participate in the excursion to Ahlholmen Power Plant

The conference fee **250 €** includes proceedings, excursion, lunches, conference cocktail buffet, and refreshments.

Please fill in this form for every participant separately and post, E-mail or

fax it to:

Finnish Flame Research Committee, Secretary, Mika Järvinen, Helsinki
University of Technology, P.O. Box 4400, 02015 HUT, FINLAND
email: mika.jarvinen@hut.fi

tel: + 358-9-451 3657, fax: + 358-9-451 3418



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FLAME DAYS 2002 HOTEL RESERVATION FORM

RESERVATION CODE: FLAME DAYS

Name:	
Full address:	
Tel:	
Fax:	
Email address:	

Arrival date:

Departure date:

Desired accommodation:

<input type="checkbox"/>	single room	
<input type="checkbox"/>	double room, shared with	<input type="text"/>
<input type="checkbox"/>	smoking	

Dietary restrictions: e.g. seafood

Please fill in this form for every participant separately and return it to:

Rantasipi Tropiclandia, Lemmenpolku 3

FI-65170 VAASA, FINLAND

Tel: + 358 - (0)6 - 283 8000, Fax: + 358 - (0)6 - 283 8888