

Hungarian Combustion Meeting – HCM2006

October 06, 2006

University of Szeged, Study and Information Centre

Organised by the Hungarian Section of The Combustion Institute

Hungarian Combustion Meeting – HCM2006*

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University of Szeged, Study and Information Centre (Szeged, Ady tér 10.)

Programme:

10:30 Opening.

10:40 Adel F. Sarofim (University of Utah, USA): "*Evolution of Combustion Simulation into a Predictive Tool: Selected Case Studies*"

11:40 Poster Session.

15:00 End of the meeting.

Objective of the meeting is to provide forum for the presentation of results from both fundamental and applied studies in relevance to combustion in a wide interdisciplinary range. A further objective is to help pave the way for collaboration between researchers working in different areas of combustion science and technology. Topics that are represented at the meeting include, for example, the followings: fire research and technology, bioenergetics, numerical fluid dynamics, heat engines, heat transfer, flame diagnostics, thermal degradation, environmental aspects, plasma-chemistry/synthesis, analysis of reaction mechanisms/computer modelling, quantum chemical computation of combustion reactions, thermochemistry, reaction kinetics, etc.

HCM2006 is a poster-conference that will be inaugurated by a keynote lecture. The invited speaker is *Prof. Adel F. Sarofim* who is one of the most outstanding combustion scientists in the world. His scientific activity is very wide-ranging, he has achieved important results, for example, in radiative heat transfer and furnace design, as well as in revealing the mechanism of the formation of several combustion pollutants.

* The meeting has been supported by the Hungarian National Office for Research and Technology as well as the FLAMMA Foundation.

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Posters

1. Mathematical model of rotary kiln for calcination of alumina

*V. Zs. Baranyai and I. Szűcs**

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2. Woodchips combustion in pulverized coal boilers

L. Barta

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3. Determination of optimal air-fuel ratio in an industrial pre-heater

M. Benke¹, Sz. Szabó^{1} and J. Franke²*

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4. Thermal decomposition of flame retarded polycarbonates

*J. Bozi, Zs. Czégény, E. Mészáros and M. Blazsó**

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5. Thermal using of crops and comparison of their combustion parameters

*E. Cserta and I. Szűcs**

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6. Direct kinetic determination of rate parameters for the reaction $\text{CH}_3 + \text{OH}$. Implications for methane flame modelling

R. Deters¹, H. Gg. Wagner¹, Á. Bencsura², K. Imrik², S. Dóbé^{2}, T. Bérces², F. Márta², F. Temps³, T. Turányi⁴ and I. Gy. Zsély⁴*

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7. Heat of formations of vinoxyl and methyl vinoxyl radicals

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8. Products of CCl₂XY in thermal plasma

*K. A. Főglein, P. T. Szabó and J. Szépvölgyi**

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9. Heat transfer simulation in the combustion chamber of a mixed fuel fired steam boiler

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10. Adjustment of ventilation windows for optimal number of air changes of a smelter pot room using mathematical optimization

L. Gyulai¹, Sz. Szabó^{2}, D. J. DeKock³ and J. A. Snyman³*

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11. Flameless oxidation of CO at low temperature

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12. Modelling of combustion of a coke furnace for decreasing the pollutants formation

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13. Direct dynamics quasiclassical trajectory calculations on the H+CH₄ reaction

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14. Kinetic studies of Br atom reactions. Determination of enthalpies of formation for free radicals of combustion importance

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15. Numerical simulation of flow field in a diesel injection nozzle

*A. Kadocsa and G. Kristóf**

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16. CO₂ gasification of biomass chars. A kinetic study

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17. Methane conversion to higher hydrocarbons in plasma

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18. Flame spectroscopy of renewable gases

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19. Kinetic analysis of mechanisms of PVC and PCP Degradation

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20. Investigation of ignition delay of spark ignition type internal combustion engines

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21. Thermogravimetry/mass spectrometry analysis of energy crops

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22. Modeling thermal degradation of polyethylene

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23. Detailed chemical kinetic modelling of the gas-phase processes during straw combustion

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24. Environmental optimization of the fuel type by reheating and thermal treatment

P. Sándor^{} and B. Soroka*

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25. TÜKI's applied research activities for reducing of fossil energy consumption

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26. Usage of schlieren method in renewable gas investigations

B. Somogyi, Gy. Gróf and Á. Bereczky^{}*

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27. Combustion problem of energy grass utilization

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28. First principle modeling of the reaction between isobutene and OH radical

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29. Characteristics of slags at biomass combustion

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30. Effect of biomass burning on the environment

I. Szűcs, Á. Wopera, K. Szemmelveisz, J. Mikó and Á. B. Palotás**

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31. Optical Diagnostics of Carbon Plasma during Fullerene Synthesis

B. Todorovi-Markovi¹, Z. Markovi¹, I. Mohai^{2}, Z. Nikoli³ and J. Szépvölgyi²*

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32. The role of duct thickness on the quenching process of premixed flame propagation

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33. NO_x and CO₂ formation by co-firing natural gas with synthesis gas

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34. Combustion simulation with FLUENT software - case studies

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35. Ion current measurements in natural gas flames

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36. Which rate parameters should be measured more precisely to improve complex kinetic models?

J. Zádor^{}, I. Gy. Zsély and T. Turányi*

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37. Uncertainty analysis of nitrogen oxide formation mechanisms

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38. How can very different combustion models produce similar results?

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