

# Work-in-Progress Poster Program

| <b>Paper ID</b> | <b>Topic</b><br><i>Authors</i>  |
|-----------------|---|
| <b>P0101</b>    | <b>Theoretical investigation for reaction mechanism of Al/CO/O<sub>2</sub> system</b><br><i>Nozomu Yonetani, Tatsuo Oguchi</i>  |
| <b>P0201</b>    | <b>Preparation of nano-thermite by aluminum nanoparticles containing triphenylphosphine protective layer</b><br><i>You-Chi Jian, Wan-Lien Hsu, Chao-Wei Huang, Ming-Hsun Wu</i>   |
| <b>P0301</b>    | <b>Development of a TDLAS system for quantifying CO<sub>2</sub> concentration in flue gas</b><br><i>Chun-Wei Wu, Bao-Wen Chang, Ming-Hsun Wu</i>  |
| <b>P0302</b>    | <b>Mid-infrared interband cascade laser sensor for temperature and CO concentration measurement in laminar premixed flames using heterodyne phase-sensitive dispersion spectroscopy</b><br><i>Weitian Wang, Zihao Song, Zhenhai Wang, Ning Zhu, Xing Chao</i> |
| <b>P0303</b>    | <b>Sorting and decontamination of e-waste plastics</b><br><i>Pallab Das, Jong-Min Lee</i>   |
| <b>P0401</b>    | <b>Study of DC electric field on flame behavior and emission with hydrogen and methane fuel in co flow non premixed flame</b><br><i>Byeong Hun Seok, Jun Seok Kim, Sung Hwan Yoon, Jungho Whang, Dae Geun Park</i>  |
| <b>P0402</b>    | <b>Experimental and theoretical study of critical laminar burning velocity on the destabilization of ammonia planar flames propagating downwards in tubes transitioning to parametric instability</b><br><i>Jerric R. Delfin, Feng Guo, Osamu Fujita</i>      |
| <b>P0501</b>    | <b>Investigation of flame-vortex interaction and combustion noise in a backward-facing-step burner</b><br><i>Ji Hun Yeo, Nam Il Kim, Hui Man Yang</i>   |
| <b>P0701</b>    | <b>Numerical study of a high-pressure hydrogen tank burst at different heights from the ground and its hazards on humans</b><br><i>Dinesh Myilsamy, Paulo Cardozo Soares Amaral, Chang Bo Oh</i>  |

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| <b>P0801</b>    | <b>The combustion process of a single wood pellet under convective oxy-fuel atmospheres with steam addition</b><br><i>Hsien-Tsung Lin, Guan-Bang Chen, Yei-Chin Chao</i>  |
| <b>P0802</b>    | <b>Experimental study of coal/ammonia co-firing using bench-scale furnace system</b><br><i>Taeyoung Chae, Won Yang, Jaewook Lee, Kyoungil Park</i>  |
| <b>P0901</b>    | <b>Relationship between mixing ratio and flame spread rate of cellulose/polypropylene composites</b><br><i>Takuya Yamazaki, Taisuke Kawasaki, Koki Matsumoto, Daiki Matsugi, Tsuneyoshi Matsuoka, Yuji Nakamura</i> |
| <b>P0902</b>    | <b>Experimental observations of downward flame spread along thin wire in various gravity fields using a centrifuge</b><br><i>Yusuke Konno, Shoryu Ishikawa, Nozomu Hashimoto, Osamu Fujita</i>                      |
| <b>P1001</b>    | <b>Fluidized properties of a mixture of basic oxygen furnace slag with iron ore in a fluidized-bed chemical looping system</b><br><i>Cetera Chen, Seng-Rung Wu, Heng-Wen Hsu</i>                                    |
| <b>P1002</b>    | <b>Parametric study of radiant tube burner by CFD modeling</b><br><i>Chien-Shun Lin, Chien-Chou Tseng, Ming-Hsun Wu</i>   |
| <b>P1003</b>    | <b>Effects of unburned gas humidification on flashback, NO<sub>x</sub> emission, and thermal efficiency in boilers with hydrogen premixed flame burners</b><br><i>Hui Man Yang, Nam Il Kim, Ji Hun Yeo</i>          |
| <b>P1004</b>    | <b>Numerical simulation of ammonia combustion in a 760kW combustion furnace</b><br><i>Kenji Tanno, Hiroaki Watanabe, Takayuki Nishiie, Kazuki Tainaka, Hiroyuki Nishida, Maromu Otaka, Masayoshi Kimoto</i>         |

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| P1006    | <b>CO<sub>2</sub> emissions of combustion in plastic-IPGCC and plastic-IGCC</b><br><i>Beom-hui Lee, Seong-kyun Im</i>  |
| P1007    | <b>Study on the reforming of carbon dioxide/methane mixture with waste heat recovery</b><br><i>Wei-Cheng Chiu, You-Ming Chang, Cheng-You Wu, Cheng-Hsun Liao, Chun-Yi Kuo, Shuhn-Shyurng Hou</i>   |
| P1008    | <b>Numerical simulation of CH<sub>4</sub>/H<sub>2</sub> combustion in an industrial pilot scale heating furnace</b><br><i>Zong-Yu Pan, Fang-Hsien Wu, Guan-Bang Chen, Ming-Hsun Wu, Ta-Hui Lin</i> |
| P1009    | <b>Data-driven model for NO<sub>x</sub> emission control of a rod-mill furnace</b><br><i>Weidong Hsieh, Tingshuo Chen, Weiyu Chen, Yihsien Lin</i>   |
| P1201    | <b>Design of a high-pressure spray combustion test rig for gas turbine combustors</b><br><i>Qi-Wei Zeng, Chen-Yu Lien, Ming-Hsun Wu</i>  |
| P1202    | <b>Combustion instability characteristics with pilot burner operating condition in fractal grid low-swirl multi-nozzle combustor</b><br><i>Jinseong Kim, Jihwan Ahn, Keeman Lee</i>                |
| P1203    | <b>Development of a finite volume Helmholtz equation solver for a large-scale combustion instability problems</b><br><i>Namsu Kim, Young Tae Guahk, Changbog Ko, Taesong Lee</i>                   |
| P1204    | <b>Linear burn rate of SHP163 gel propellant</b><br><i>Yu-Jia Chen, I-You Tsai, Ming-Hsun Wu</i>   |
| P1301    | <b>Electrolytic decomposition of HAN-based propellants under elevated pressures</b><br><i>Yu-Ting Chou, Guo-Zheng Yang, Ming-Hsun Wu</i>   |
| P1302    | <b>Catalytic decomposition of HAN-based monopropellants with hexaaluminates</b><br><i>Kuan-Io Lao, Yan-Ze Song, Ming-Hsun Wu</i>   |