ICEEP

第二届能源与环境保护国际学术会议

2013/2nd International Conference on Energy and Environmental Protection

April 20-21, 2013

Guilin, China

Organized by:
Inner Mongolia University
HongKong Industrial Technology Research Centre

Co-organized by:
Key Laboratory of Environmental Biotechnology,
Research Center for Eco-Environmental Sciences, CAS

Following the success of the inaugural conference, **the 2013/2nd International Conference on Energy and Environmental Protection (ICEEP 2013)** will take place in Guilin, China, April 20-21, 2013. A key aspect of this conference is the strong mixture of academia and industry. This allows for the free exchange of ideas and challenges faced by these two key stakeholders and encourage future collaboration between members of these groups.

The first of this conference series (**ICEEP'2012**) was held in Hohhot, China, in June 2012 with the participation of Scientists from the Asia-Pacific region, Europe and the United States. All accepted papers from this conference were published on **Advanced Materials Research** journal and **had been indexed into EI Compendex, Thomson ISTP and Elsevier SCOPUS databases**.

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Conference Website

http://www.iceep2013.org

Paper Title:

Optimizing the Coupling of a Firebrand Generator to a Horizontal Wind Tunnel

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- **Abstract**

Australia is considered as the most fire-prone country in the world. Spotting ignition by lofted firebrands is the main mechanism of fire spread. Many experimental studies have been conducted to evaluate the effect of the firebrand attacks on structures and to identify possible solutions. The experimental facility consists of a firebrand generator coupled to a wind tunnel. The wind speed in the firebrand generator is relatively low, in order to assure a quality continuous flow of glowing firebrands. On the contrary, the wind speed in the wind tunnel is high to duplicate actual firebrand attacks. Previous works show a highly turbulent region above the entrance of firebrands to the wind tunnel which is formed because of the velocity difference and penetration of firebrand entrance hose into the wind tunnel. The penetration is required to provide a uniform firebrand distribution along the height of the test section. In this computational work, the influence of the height of the entrance hose, its orientation respect to the tunnel and the distance between the coupling port and the test section are analyzed. The optimized results are presented and discussed for a variety of wind speeds within the wind tunnel and the firebrand generator.