

Flame Refluxing: An Environment-friendly Alternative to Waste Removal by Open Burning

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41% of the waste generated by the world (10^8 tons) is burned annually in open uncontrolled piles*

That is 1000 times the weight of Empire State Building !

The waste to energy recovery is zero

Can Flame Refluxing bridge the gap?

Flame Refluxer

Methods and systems for clean-up of hazardous spills US 9772108 B2



Animation by Pat Roughan (patroughan.com)

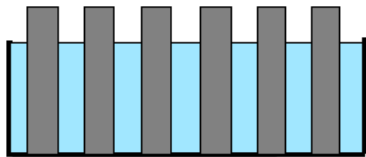
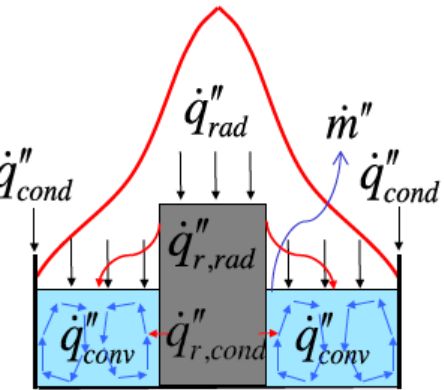
Applications

2013

2015
prototype burner

2017
ISB

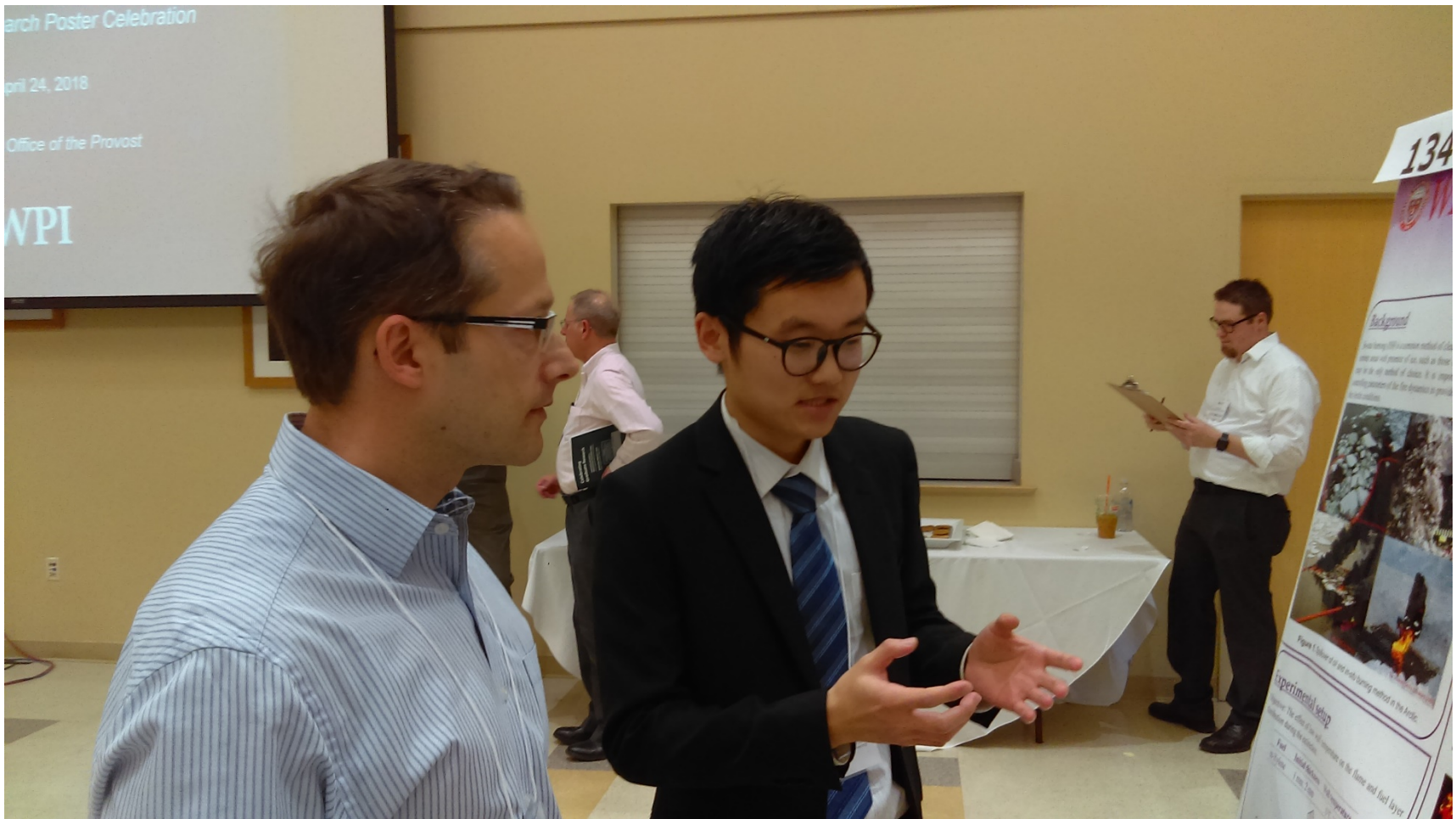
2018
organic waste



Seed Grant Activities

- Improving our fundamental understanding of nucleate boiling (water-fuel ratio)
- Improving our fundamental understanding of emissions from diffusion flames
- Waste to energy conversion technologies
- Design/Development/Construction of prototype pit burner for waste applications in Arctic

Thank You



Tsinghua university student **Cong Li** with Prof. Simeoni at the GRIE poster competition