

IAFSS Newsletter – Imperial College London Update

Hello to all from Imperial College London! We hope you are all doing well since last June. Before beginning the update, we would like to give a big congratulations to our collective supervisor Professor Guillermo Rein, who received his professorship in fire science last September. With that major news out of the way, here are some more general updates.

Graduating Students

Following the last newsletter, Dr Egle Rackauskaite submitted corrections from her viva and has now officially received her PhD, and will soon be starting as a fire engineer at Arup in May. Dr Izabella Vermesi and Dr Francesco Restuccia have also graduated in the last few months. Izabella is now working at H+H Fire, and Francesco has stayed at Imperial for his post-doctorate studies. Furthermore, Nils Roenner has recently submitted his PhD, which he defended in early March. Good luck Nils!

We are also saying goodbye to one of our post-docs Dr Nieves Fernandez-Anez, who will be taking up a new position as Associate Professor at Western Norway University of Applied Science. Congratulations Nieves. We wish all of you luck.

New Arrivals

Despite saying goodbye to a few of our students, Hazelab has grown in size over the last few months. We now have a total of 13 PhD students and 2 post-docs. Among the new arrivals, we welcome Xuanze He and Zhenwen Hu from University of Science and Technology of China (USTC) and Harbin Institute of Technology (HIT) in China, who are studying different approaches to modelling self-heating ignition in batteries. We also welcome Benjamin Khoo from University College London (UCL), who is studying facade fires. We are additionally joined by Wuquan Cui from IMFSE, who has just finished his master's thesis at the University of Maryland, and will be studying as part of the ERC funded project on peat fires.

Conferences

Obviously the biggest conference news was last year's IAFSS 12th International Symposium. All members of Hazelab at the time attended, with Professor Rein and seven members of the group giving presentations and six members presenting posters on their work. We were excited to find our own Franz Richter and visiting scholar Rahul Wadhwani won two of the Sheldon Tieszen Student Awards, and Yuqi Hu won the audience choice award for best poster. There also may have been some Avengers-esque fisticuffs with the University of Edinburgh fire lab (see photos below).



Figure 1: Left: Yuqi with his award winning poster. Right: Hazelab enjoying a delicious banquet, then taking it outside for an after dinner 'debate' with Edinburgh

Nils Roenner also presented a poster at 2017 conference for Fire Retardant Polymeric Materials in Manchester (FRPM 17) and won 3rd prize for best poster.

More recently Franz Richter presented his work on timber in fire at 2018 SFPE Europe Fire Safety Conference in Rotterdam, where he met a positive response and good questions. In April, Hazelab will also be giving three presentations at SFPE's 2018 12th International Performance-Based Codes and Fire Safety Design Methods, presenting work on fires in combustible cladding, timber in fire, and large scale fire experiments.

Other News

Last September, Hazelab turned their idea for a large scale natural fire experiment into reality inside an abandoned soviet cow shed near Warsaw. With help from Arup, CERIB, ITB, EPSRC, and the local fire service, we were able to conduct the largest indoor, compartment fire experiment to date.



Figure 2: Left: Hazelab meet the firefighters who helped with the Obora experiment. Right: Hazelab prepares the cow shed for incineration.

Hazelab alumnus Dr Virginia Alonso and current Hazelab member Edmund Ang teamed up to provide specialist evacuation and CFD fire modelling support, in collaboration with Forensic Architecture, as part of the fire investigation into the fatal fire at the Ali Enterprises textile factory in Karachi (Pakistan). 260 people were killed in the fire on 11 September 2012, and a further 32 were injured. The work has now been publicised on [ECCHR](#) (European Centre for Constitutional and Human Rights):

Hazelab members past and present, Dr Xinyan Huang and Dr Francesco Restuccia, alongside Michela Gramola, were awarded the Sugden Award from The UK Combustion Institute last October for their paper *Experimental study of the formation and collapse of an overhang in the lateral spread of smouldering peat fires*.

You can read the paper [here](#).

An Imperial-Arup collaboration won last year's C2i Collaborate to Innovate award in the built environment category, for their work: *Making the 38-storey, 52 Lime Street (Scalpel): Structural design of modern, open-plan buildings using the travelling fire methodology*. Congratulations to all involved.

Imperial College held a week celebrating diversity in STEM in January, where Hazelab showcased some of their research to students aged 7-13 years old from across London. The event was a big success – students seemed particularly taken by the demonstration of fire whirls.



Figure 3: Hazelab members demonstrating our research at the Diverse@Imperial event

Hazelab has also been asked to return once again to the Imperial Festival in April, following a successful stand last year. The event showcases research from across Imperial, connecting cutting edge research to issues that can capture the imagination of the public.



Figure 4: A collection of photos from last year's Imperial festival. Seems Prof. Rein wanted to take a souvenir home.

Finally, Hazelab would like to thank all of the academics who visited us and were kind enough to share some of their expertise with the group. These included Professor Arvind Atreya, Professor Ann Jeffers, Dr Juan Hidalgo, Dr Cristian Maluk, Dr Cathelijne Stoof, and Dr Simo Hostikka. Their talks allowed us to expand our knowledge of fire science beyond the restricted bounds of our respective PhD topics. We hope they enjoyed their visits as much as we did.



Figure 5: Dr Cristian Maluk giving a talk on testing in structural fire engineering.