

# IAFSS Newsletter – Imperial College

## London Update

Hello! It's good to see you. Welcome to another update from Imperial College London. Our group's been busy over the last few months, and we can't wait to share what's been going on.

### Graduating Students

Yuqi successfully passed his VIVA in July, congrats!!! He will stay with us for a post-doc, good luck with that. Sadly, one of our post-docs, Dr Guoxiang Zhao, left us in May to start a career as a fire safety engineer at The Fire Surgery in London. We wish you all the best.

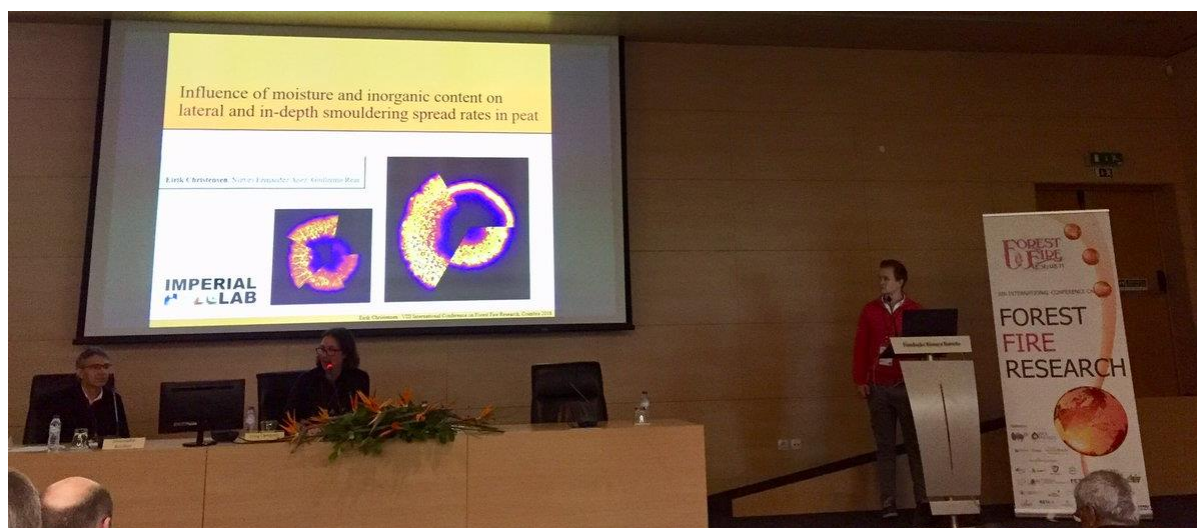
### New Arrivals

In October we will be officially welcoming Harry Mitchell from Imperial College to Hazelab. His research, funded by Arup, will focus on computational modelling of fire in wooden buildings. We look forward to having him.

We will also be hiring a PhD student to work on wildland fires under the project PyroLife, a 4million euro grant assigned by the European Union to consortium of 10 leading European universities, of which Imperial College is part.

### Conferences

On the 9<sup>th</sup> November last year, 3 members of Hazelab travelled to Coimbra for the 9<sup>th</sup> International Conference of Forest Fire Research. Eirik, Agung, and Yuqi gave presentations on the rate of spread of smouldering, the transition from smouldering to flaming, and the emissions given off during peat fires, respectively.



On the 7<sup>th</sup> April, 3 different members of Hazelab travelled to Vienna for the European Geoscience Union (EGU) annual general assembly. Wuquan, Dwi, and Han were only a small part of this huge event with 5,531 oral presentations and 9,432 posters.



On the 23<sup>rd</sup> May Francesca presented her work on bridge cable fires at the 3<sup>rd</sup> SFPE Europe Conference on Fire Safety Engineering in Malaga. Our supervisor Professor Guillermo Rein will also be giving a keynote speech at the conference titled “Forecasting Fire Dynamics: When Smart Buildings help Fire Commanders”.

In June, Han, Yuqi and Franz presented their recent work at the 11th Mediterranean Combustion Symposium in Tenerife, Canary Island. Yuqi also travelled to Cambridge for the Combustion Aerosol Conference and to University of Michigan for the 16th International Congress on Combustion By-Products and Their Health Effects.

In July, Xuanze and Zhenwhen presented their experimental and modelling work on self-ignition of ion battery at the first ever International Symposium on Lithium Battery Fire Safety in Hafei China. In September Matt, Ben and Francesca will be attending the Fire Safety of Façade conference in Paris.

## Awards

Guillermo Rein has won two awards since the last newsletter. The first was the 2018 Guise Medal for eminent achievement in the advancement of the science and technology of fire protection engineering, awarded by SFPE. He also won the 2018 Research Foundation medal for the research project “e-Sanctuary: Open Multi-Physics Framework for Modelling Wildfire Urban Evaluation” that best exemplifies the NFPA’s fire safety mission and collaborative approach.

Franz Richter also won two awards recently. His project on modelling the charring of wood won the Ben Ashraf El-Shanawany Memorial Prize for the best PhD project in Imperial College’s Department of Mechanical Engineering. He also won first prize for communicating his research in the regional level of the Speak Out for Engineering competition, hosted annually by the Institution of Mechanical Engineers. He will now go on to compete at the national level. We wish him the best of luck.

## Other

Hazelab created a short promotional video showing some of the work done in our group. You can watch the video on the [Imperial Mechanical Engineering YouTube channel](#).

Guillermo was invited to give a talk about polymer flammability at an Antimony day conference in Brussels, focused on flame retardants. A cartoonist y Floris Oudshoorn @MySwampThing (Comic House, 2018). happened to be present and made some comic drawings of his talk.



Guillermo also gave talks to the London Fire Brigade; Friends of Imperial; Arup London; AECOM London; University of Maryland; University of California; NFPA Massachusetts; NFPA via webinar; and SFPE via webinar. It's been a busy few months.

Hazelab were invited as special guests to the Royal Geographic Society's, Monday Night Lecture series. Presenting was Dr Thomas Smith from LSE, an expert in wildfires and a good friend and collaborator of Hazelab. He presented our latest collaboration – the GAMBUT field scale peat fire experiment.

In March, Dr Barbara Lane, a senior fire engineer at Arup, visited Imperial College to give a keynote talk at the Department of Mechanical Engineering Research Showcase. Her fascinating talk discussed the current challenges facing fire safety, and the need for communication between the different sectors dealing with fire safety.

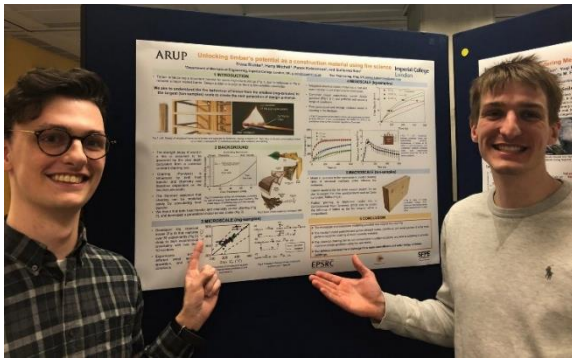




## Department of Mechanical Engineering Research Showcase 2019

13 March 2019, 3 pm, Lecture Theatre G16, Sir Alexander Fleming Building

Invited Lecture: **Dr Barbara Lane FEng FRSE CEng, Technology UK Group Leader, Arup-** “Shaping a safer world - tackling the fire safety conundrum”



Some of Hazelab’s peat fire researchers attended a two week course on the fundamentals of landscape at the University of Wageningen in the Netherlands. Through talks and excursions around the city, they discovered the relation between geology, topography, soils, and land use.

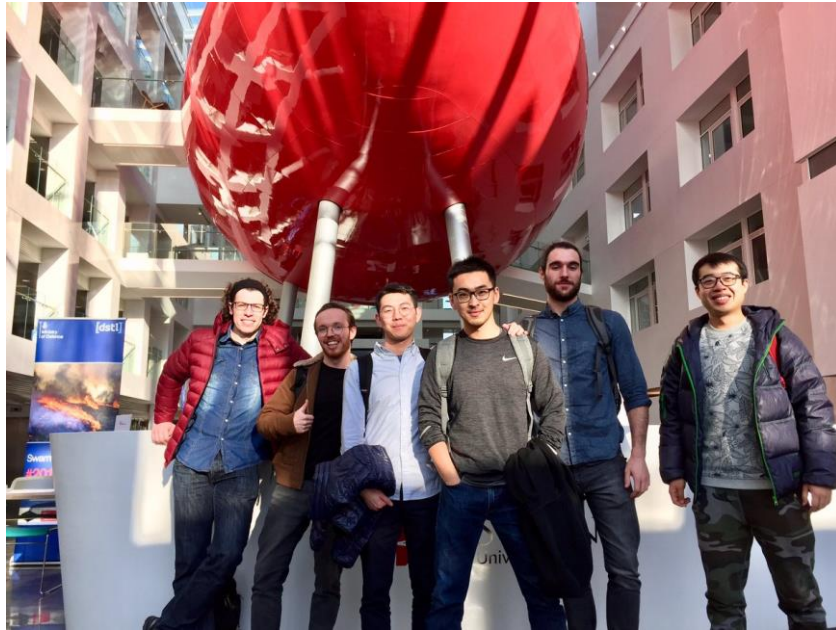
Dr Jiaje Zhu, Dr Wolfram Jahn, and Prof Guillermo Rein published a paper calculating the intensity of radiation produced by the “Walkie Talkie” building on 20 Fenchurch Street during an incident in 2013 when it melted a car parked nearby. The paper inspired an article in [The Londonist](#).

On February 4<sup>th</sup>, Hazelab welcomed in the Chinese New year in style with some friends from Arup.



In April, Hazelab were invited to visit the labs of both Bureau Veritas and BRE. We got to learn about fire forensics, small scale fire tests and large-scale facade tests. Thank you to both teams for being so welcoming.

Also, in April, four members of Hazelab teamed up with a student from the University of Coventry and another Imperial student to take part in “FireHack 2019” - a hackathon with the goal of using drones to track wildfires. While the team unfortunately didn’t win, it was a great learning experience. We look forward to the next one.



In May, Imperial College hosted Fired-up following the event’s success last year at the University of Edinburgh. The event is a chance for young, UK based fire researchers to meet up and discuss their work in a more informal setting than a traditional conference. A total of 40 students from 4 different UK universities attended the conference. We are looking forward to the 2020 edition!



That’s all from Imperial Hazelab this issue, but before we go we would like to thank all of the academics and engineers who were kind enough to visit us and share their expertise with the group. Thank you to Prof George Boustras, Dr Wojciech Wegrzynski, Dr Cathelinje Stoof, Dr Michael Spearpoint, Dr Roger Harrison, Dr Sara McAllister, Dr Martyn Mclaggan, Dr Danny

Hopkins, Marc Castellnou, Sandra Vaiciulyte, Mr. Charles S. Bushey, Dr. Sarah Scott, Dr. Maria Thomsen, Dr. Octavian Lalu, Tom Lennon, Dr. Cristian Maluk, Dr Eric Guillaume, Tarek Rashwan, Pieter Maes and Anne Ganteaume. Apologies to anyone we've forgotten.