

Hazelab Newsletter –Imperial College London

October 2022 –May 2023

Hello friends of Hazelab! Welcome to another update from Hazelab at Imperial College London. For more news follow us on twitter @ImperialHazelab, visit our [website](#) or watch our [video](#).

It's been another busy few months for Hazelab! We have had farewells, new friendly faces, trips, visitors, and plenty of fun fire research along the way.

Graduating Students

This year we said a very proud and heartfelt farewell to **Dr. Ben Khoo** (Façade fires) after he passed his viva and has started working at ARUP Fire in London – congratulations, Dr. Khoo! Thankfully he still works in London so we have many opportunities to see him again. **Dr. Edmund Ang** passed his viva with flying colours, and is currently making finishing touches to his thesis on tunnel fire safety . Congratulations Ed, looking forward to your graduation!

We are also incredibly happy to welcome two new members in the Hazelab family. **Dr. Hafizha (Afi) Mulyasih**, a visiting PhD student in the past year from Universitas Indonesia, is re-joining Hazelab as a post-doctoral student studying smouldering of peat. **Dr. Carlos Walker-Ravena** has joined the team, also studying peatland fires, after earning his PhD in the University of Edinburgh and working in the LFB. We are excited to start working with them both.

Conferences and Outreach

Riding high from the return of in-person conferences last year, Hazelab has been busy presenting and attending in conferences around the world.

Simona Dossi presented her work in the Pyrolife Conference in Barcelona, where she joined the rest of the Pyrolife team in a yearly event of research dissemination and networking. Guillermo attended as well, acting as a panel chair.

Dr. Klelia Petrou visited Hazelab as part of the SEMEDFIRE project, where Hazelab and the European University of Cyprus will start a knowledge exchange program, trading seminars and presentations to learn from each other's expertise. **Nick Kalogeropoulos** and **Carlos** will be travelling to Cyprus later this year to introduce themselves to the Cypriot team.

Guillermo presented in the Stolen Climate exhibition hosted by the Leverhulme Centre, where fire science and art were allowed to interact. **Harry Mitchell, Nick and Simona** ran our famous fire tornado demonstration to a mesmerised crowd.

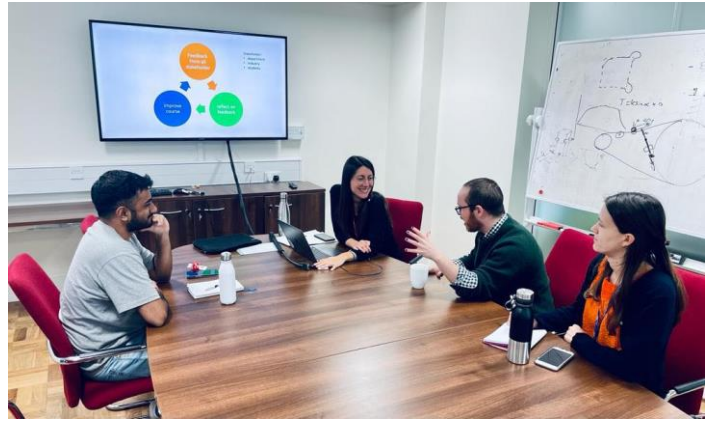


Guillermo is preparing and running workshops hosted by the UK Met office, with the goal of teaching fire practitioners, firefighters and land managers on the basics of fire dynamics and fire modelling. This should aid in bridging the gaps between practitioners and academics,

Guillermo has been teaching the 4th year combustion course for some years, and this years he decided to give the course a radical change, changing textbooks and focusing on applicable fire safety. The title of the course was accordingly changed to “Combustion Safety and Fire

Dynamics". **Nick, Harry** and **Rikesh Amin** have been assisting in the preparation of the course material and the weekly tutorials.

Hazelab is proud of keeping close links with its alumni. The entire team got to visit Dr. Francesco Restuccia's newly founded fire research lab at King's College London and get a tour of the newly formed mechanical engineering department in Waterloo, London. Dr. Matt Bonner visited the Hazelab offices, giving talks to the students about general fire engineering, data presentation, and professional accreditation. Dr. Nieves Fernandez also visited and presented her research on arctic wildfires to the group, starting great discussions on the topic and academia in general.



From September to December 2022 **Simona** completed an exchange at ITB Poland in Warsaw as part of the PyroLife ITN Horizon2020 project secondment. Supervised by long time Hazelab collaborator Wojciech Węgrzyński, the research focused on FDS simulations of firebrand accumulation around solid obstacles. During the exchange, Simona also visited fire experiments conducted in ITB experimental facilities; including a number of green walls tests and a full scale compartment fire test. The cultural exchange and interaction was also very valuable, Simona worked alongside visiting PhD student from Malaysia Iffah Zulmajdi, ITB PhD student Jakub Bielawski, and Ukrainian post-doc Nadija Spodyniuk.

A landmark paper has been published by Hazelab on peatland wildfires, the famed GAMBUT experiments. It involved the largest and longest peat fire field experiments, situated in Sumatra, Indonesia. The experiment yielded valuable insights on the emissions of such fires, along with temperature profiles and effective suppression methods.

We had a range of experts that came to visit Hazelab and talk to the students of Imperial College. Prof. Andrew Whelton from Purdue University talked about his findings on the impact of wildfires in the water system quality, highlighting some really alarming results. Dr Brian Meacham from WPI in Worcester, MA, presented on his research on fire safety design and performance-based design, along with current challenges and a new proposed framework. Dr. Matthew Blais from the Southwest Research Institute discussed the intricacies and specificities of fire testing and current research programs. Prof. Vincent Brannigan, Professor emeritus of the University of Maryland talked about the series of events that led to the sinking of the Titanic and the implications on emergency risk management and design.

Trigon Fire Safety created a new £50,000 scholarship fund for a first-year female undergraduate student in the mechanical engineering department. The scholarship will be used to cover living expenses for the duration of the recipient's studies, along with a designated spot in the Hazelab office. We thank the Advancement Team at Imperial and Trigon Fire Safety for helping in widening access to engineering education excellence.



The Hazelab façade team (Matt, Francesca, and Ben), all presented their work to a wide range of researchers and practitioners, hosted by the SFPE UK chapter. The chapter hosted a series of presentations at Imperial College where many of Hazelab's current and graduate members discussed their façade-related research to a professional audience.

Nick attended the UK Wildland Fire conference in Belfast to connect with fire practitioners, and was later joined by **Simona** and **Guillermo** to present their respective work in the International Conference on Forest Fire Research in Coimbra, Portugal. Nick presented his work on wildfire evacuation trigger

boundaries, Simona presented her work on wildfire damage statistics. Guillermo presented on Zombie fires in the arctic.

Rikesh attended the Combustion Institute's Summer School in Vina Del Mar, Chile, where he learned about everything ranging from fire chemistry to fire dynamics to simulation methods. Plus, you can't beat that Chilean weather! He also presented his poster on external flaming of timber compartments using computer vision. **Nick** attended the iFireNet summer school in Irvine, California, bringing Hazelab into a growing network of research and collaboration. **Nick** also attended the "Bridging the gap between fire ecology and fire behaviour" summer school in Barcelona, which was in part organised by Hazelab alumni Dr. Nieves Fernandez Anez.



Rik, Francesca, and Harry all presented their work at the 2022 SFPE Conference and Expo in Detroit, Michigan, meeting some great people in both industry and academia. Rik presented his work on external flaming in timber buildings, Francesca on non-combustible glass facades, and Harry on smouldering in timber buildings,

Guillermo and **Wuquan** attended the 39th International Symposium on Combustion in Vancouver. Wuquan presented his work on smouldering peat ignition, while Guillermo served as editor of the proceedings of the conference.

Hazelab also had the wonderful opportunity to visit the fire research group at the University of Edinburgh, as they graciously hosted Fired-Up 2022, a UK-based student-led fire conference! Thank you, Edinburgh team, we had a wonderful time.

Guillermo, Wuquan, Harry, and Nick attended a training session on vegetation and prescribed burning, run by the UK forestry commission. They worked under the supervision of wildfire masters Rob Gazzard and Andy Elliott to investigate how real fires behave, how fuel breaks are made in the field, and how prescribed fires can be planned out to achieve certain goals.

Follow this link to [Hazefiles](#), our repository of papers and reports!



Awards

We are thrilled to announce that **Harry** received the 2022 Dr Ashraf Ben El-Shanawany Memorial award, which highlights a student in the Imperial Mechanical Engineering Department who has shown exemplary research, innovation, and outreach to the public during their studies. The award ceremony will be later in the year where Harry and Guillermo will attend.

Hazelab was awarded the Research Excellence Award during the 2022 President's Awards ceremony at Imperial College London. The award recognises Hazelab for our academic achievements, the development of lasting external collaborations, and the impact of our research inside and outside Imperial. Read the press release [here](#).

The CODE RED series of experiments have received the Best Fire Research Project award 2022 from the SFPE UK chapter. Four of the largest timber experiments to date were carried out in 2021 to support the future fire-safe design of timber buildings. **Guillermo, Harry, Rik and Simona** were collaborators in this project, travelling to France to support instrumentation setup and post-experimental data analysis.

SFPE Greater London Student Chapter

The SFPE Greater London Student Chapter has been busy organising Fired Up, an event by students for students. Fired up is an event for students to present their work without feeling academic pressure, taking it as an opportunity to practice their presentation skills, their question answering skills, or just to explore the vast network of fire research in the UK. Click on the link [here](#) to register your interest in attending.

Sign up to our mailing list by emailing sfelondonstudentchapter@gmail.com for further updates!

Written by Nikolaos, Edits by Harry and Guillermo