

# IMPERIAL

Early Career  
Researcher Institute



# ECR Showcase 2025

# Welcome to the Early Career Researcher Showcase 2025!

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This inaugural event is a celebration of the research being carried out by the Early Career Researcher community at Imperial College London.

Come and meet our amazing ECRs as they showcase their research and compete for prizes!

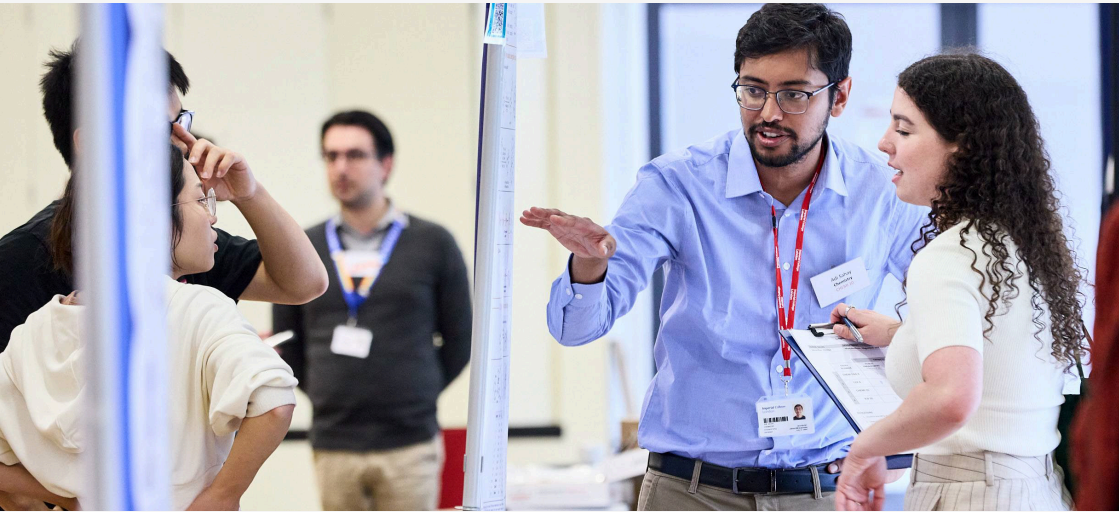
## Programme of Events

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<b>11:00 - 13:00</b>	<b>Judging Session &amp; Open Exhibition</b>	SAFB 120-122
<b>13:00 - 14:00</b>	<b>Participant Lunch</b>	SAFB Foyer
<b>14:30 - 15:30</b>	<b>Keynote Speech &amp; Prize Ceremony</b>	SAFB G34 LT
<b>15:30 - 16:30</b>	<b>Drinks Reception &amp; Networking</b>	SAFB Foyer

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# ECR Showcase Entries



## Aeronautics

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### **AERO 1 - Charlie Aveline**

Shape-changing mechanical metamaterials for cancer patient implants

### **AERO 11 - Yaxin Mo**

Reconstructing turbulent flows from sparse measurements with physics-constrained neural networks

### **AERO 12 - Flavio Savarino**

How do shock-induced separated flows transition to turbulence?

### **AERO 13 - Maria Luisa Scarpa**

Smart Control, Safer Robots: Differential Games in Action

### **AERO 14 - Ningyuan Fu**

Shaping the Flow: Elastic Metamaterials for Drag Reduction

# Bioengineering

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## BIO 2 - Ioana Esanu

The human body as a circuit board: or, what it takes to make a blood vessel

## BIO 15 - Pooja Kaur

Designed For Impact: Targeted Delivery of Cancer Therapies To Activate the Immune System

## BIO 16 - Margherita Montavoci

Teaching the Immune System How to Fight Cancer

## BIO 17 - Amelia Clark

Fungi-on-a-Chip



# Centre for Languages, Culture & Communication

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## CLCC 18 - Gemma Ralton

Media framing of Generative AI across the UK Political Spectrum

# Chemical Engineering

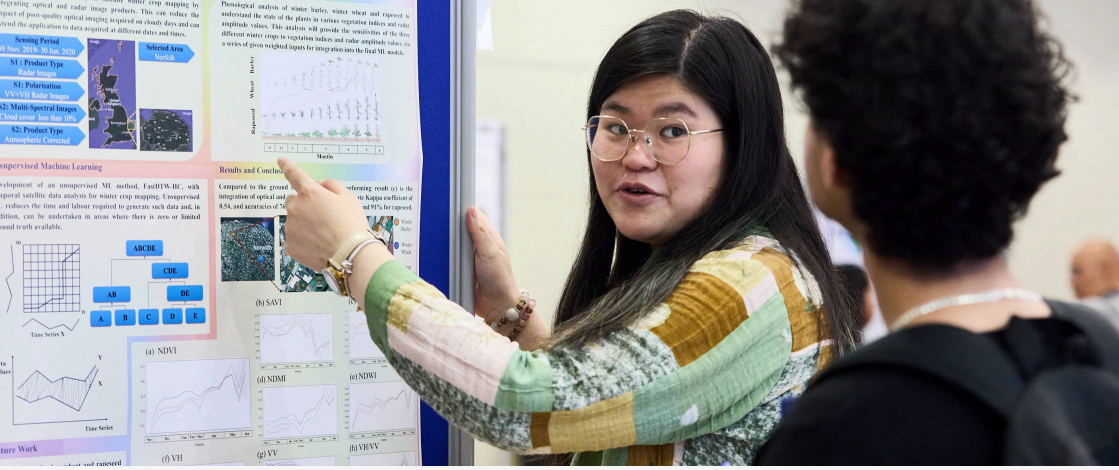
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## CHEM ENG 19 - Suhaib Nisar

Optimising the fractionation of biomass with ionic liquids

## CHEM ENG 20 - Robert Lever

Understanding the burden of producing therapeutic antibodies



# Chemistry

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## CHEMI 21 - Shradda Vadodaria

Drugging the “Undruggable” in Cancer

# Civil & Environmental Engineering

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## CIV ENG 3 - Atif Rasheed

Shaking Less, Saving More: A Low-Cost Way to Stop Buildings from Collapsing in Earthquakes

# Imperial Business School

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## IBS 22 - Shutian Liu

When Nature Meets Social Class: How Genes and Parenting Reinforce Health Inequality



# Infectious Disease

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## ID 4 - Tochukwu Anyaduba

Re-engineering Point-of-care  
Molecular Diagnostics for Cost  
Reduction in Sub-Saharan Africa

## ID 23 - Samuel Channon-Wells

Beyond Symptoms: AI Maps  
Children's Diseases Through Blood  
Patterns

# Mathematics

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## MATH 5 - Jeffrey Tse

Is this really the cause?  
Instruments can help!

## MATH 10 - Ella Orme

How can we get the most  
information out of a study?

## MATH 24 - Timothy Kang

Signature Dimension Reduction

## MATH 25 - Lucas Moschen

Steering Crowd-like Systems:  
An Optimal Control Approach

# Mechanical Engineering

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## MECH 26 - Yuankai Ren

Seeing Inside Batteries: Separating  
Structure and Material Changes Using  
Ultrasound

## MECH 27 - Catarina Duarte Nunes

What are my ammonia and hydrogen up to?

## MECH 28 - Natasha Waddell

Clear Coatings for the protection of historic  
ferrous objects stored in aggressive environments



# Metabolism, Digestion & Reproduction

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## **MDR 29 - Tanweer Beleil**

The Good, the Bad and the Ugly

## **MDR 30 - Belen Gimeno Molina**

Legally bound: the interaction case of immunoglobulins and vaginal bacteria

## **MDR 31 - Jiwoo Choi**

Next-Generation Shape and Stiffness Programmable Medical Devices:  
Thermally Drawn Shape-Memory Polymer Fibres in Medicine

## **MDR 32 - Jennifer Fisher**

Improving personalised care in inflammatory bowel disease

# National Heart & Lung Institute

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## **NHLI 6 - Anies Makhdomi-Sohi**

From Frankenstein's Monster to  
Cardiac Research

## **NHLI 33 - Aaraby Ragavan**

Recovery from heart failure – is  
there such a thing?



# School of Public Health

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## **SPH 7 - Pallavi Nair**

Building Bridges in Dementia Care: Empowering Communities Through Human Connection and Innovation

## **SPH 34 - Kimberley Foley**

How can we use electronic health records to improve children's health?

## **SPH 35 - Jo Craddock**

How adults born preterm view their health and what kind of support they need

## **SPH 36 - Husa Aldossary**

When Good Recipes Turn Out Bad: Fidelity vs. Adaptation in Practice

# Surgery and Cancer

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## **S&C 8 - Ahmed Alboksmaty**

"Hey Doc, Are You Listening?!"

## **S&C 9 - Tricia Tay**

Engaging older adults in digital interventions for healthy ageing

## **S&C 37 - Archana Gopalakrishnan**

Active surveillance for cancer: who and how?

## **S&C 38 - Jabed Ahmed**

Improving patients comfort in colonoscopy at no extra cost!

## **S&C 39 - Parisa Naeli**

Genetic speed bumps: when the code slows down, tiny proteins step in

## **S&C 40 - Emiko Sultana**

Inequality of Pelvic Floor Surgery Access in the UK



# Join us for the Keynote Speech

## IMPERIAL

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# Communicating about Science and the Scientific Enterprise for Nature

with Jack Leeming, Senior Careers Editor, Nature

**02.07.2025 | 14:30-15:30**

South Kensington Campus



For more information,  
scan the QR code or go to:  
[tinyurl.com/ecr2025](https://tinyurl.com/ecr2025)



**The keynote speech, will be followed by the prize ceremony for the winners of the ECR Showcase competition.**

**All attendees are then welcome to join us for a networking drinks reception in the Sir Alexander Fleming Building Foyer.**

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# IMPERIAL

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## Contact Us

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Socials: [@ImperialECRI](#)