



Women in Physics Society

A Year in Review

1st July 2022

Imperial College Women in Physics Society

Year in Review: 2021-2022

April-June 2021

Committee Formed
First Post-Exam Picnic

October 2021

Interview Series Launch
Menopause Workshop
Cocktail Event

November-December 2021

GirlsWhoML Coding Course
Breakfast with Dr. Katie Mack
Ice Skating Event

March-April 2022

International Women's Day
Mingle and Dinner
2 Outreach Events at Schools

February 2022

Safe Space Lunches: Mental Health
with Dr. Sarita Robinson
and Intersectionality
with Sophie Martin
Screening: **Picture a Scientist**

January 2022

Safe Space Lunch:
Impostor Syndrome
with Dr. Orla Murray

284

Members

326

IG+Twitter Followers @ic_wip

14

Socials, Training & Outreach,
and Discussion Events

ICWiP

Other Achievements

IOP Affiliation

FoNS Prize for Excellence in EDI to
Treasurer Dr. Isabel Rabey

Secured funding for 4 CUWiP attendees

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1. Committee Members 2021/2022

Who we are

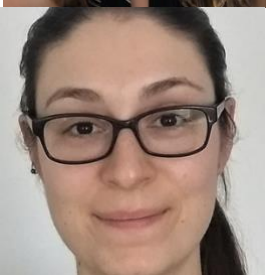
The Women in Physics committee was formally established in October 2021. The committee is made up of a mixture of Staff, PhD students, and undergraduate students.



PRESIDENT
Amy Smith
PhD Student
Physics Education
Group



**EVENTS
COORDINATOR**
Eva Los
PhD Student
Plasma Physics Group



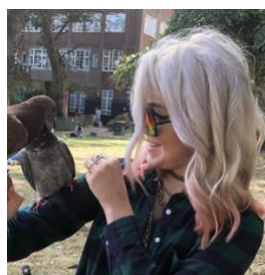
VICE PRESIDENT
Dr Jessie Durk
Postdoctoral
Researcher
Physics Education
Group



**SOCIAL MEDIA
OFFICER**
Amaya Calvo Sanchez
2nd Year
Undergraduate



SECRETARY
Su Ann Lim
4th Year
Undergraduate



**OUTREACH
COORDINATOR**
Trinity Stenhouse
2nd Year
Undergraduate



TREASURER
Dr Isabel Rabey
Teaching Fellow

2. Status of Women in Physics at Imperial

Women are still significantly underrepresented in the Department of Physics at Imperial. Table 1 shows the number of people who identify as women at every level, from UG to staff for the academic year 2021-2022 (data collected September 2021).

Level	Number	Percentage
Undergraduate	255	27.6%
1 st year UG	83	30.9%
2 nd year UG	67	26.0%
3 rd year UG	65	27.5%
4 th year UG	40	25.0%
Postgraduate	124	27.1%
PGT	55	35%
PGR	69	23%
Staff (incl. postdocs, admin, technicians)	72	18.7%
Permanent academic staff	13	10.4%

Table 1: Women in physics for the academic year 2021-2022

3. Engagement

a. Membership

CREATING A SAFE, INCLUSIVE SPACE FOR ALL MINORITIES IN PHYSICS

ICWiP
WOMEN IN PHYSICS SOCIETY

We will be hosting a series of social, educational and academic events to promote a strong sense of community within the department

Sign up to the mailing list with the QR code!

Anyone can join the Women in Physics Society. All they need to do is sign up to our [mailing list](#).

Over the past year, we made a lot of effort to recruit new members, particularly undergraduates. Posters were put up around the department and Isabel Rabey and Amy Smith did “shout outs” in all the undergraduate and postgraduate welcome events during the first few weeks of term. From our

membership statistics (Fig. 1), this had a big effect on our membership which has increased by ~15% this year. This is mostly due to a significant increase in undergraduate membership (Fig. 2).

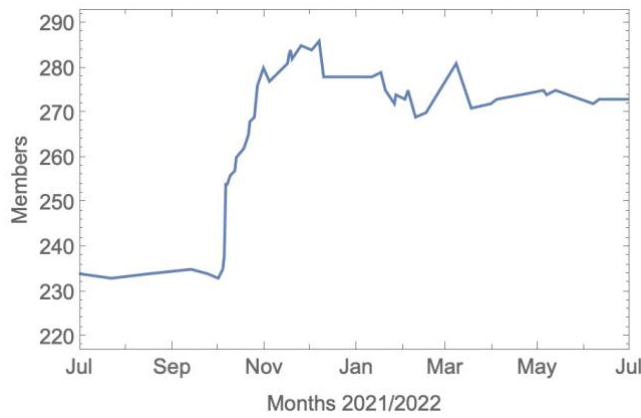


Fig. 1: Women in Physics membership July 2021 – July 2022

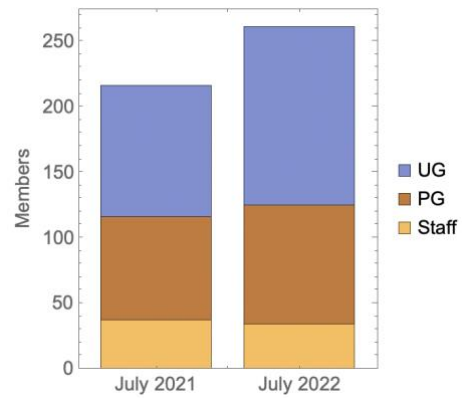


Fig. 2: Membership breakdown

b. Instagram

One of the biggest successes of the year has been our Instagram account [@ic_wip](#). Amaya Calvo Sanchez started the account in April 2021 and the number of followers has been steadily increasing, and now has over 250 followers (Fig. 3).

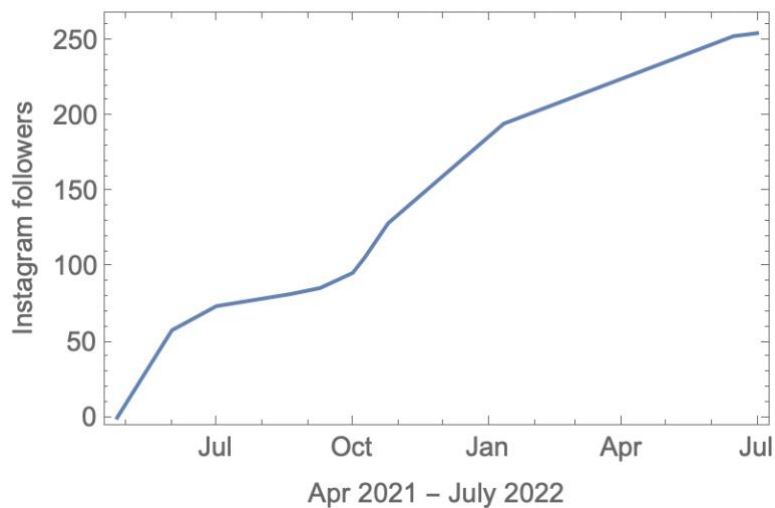


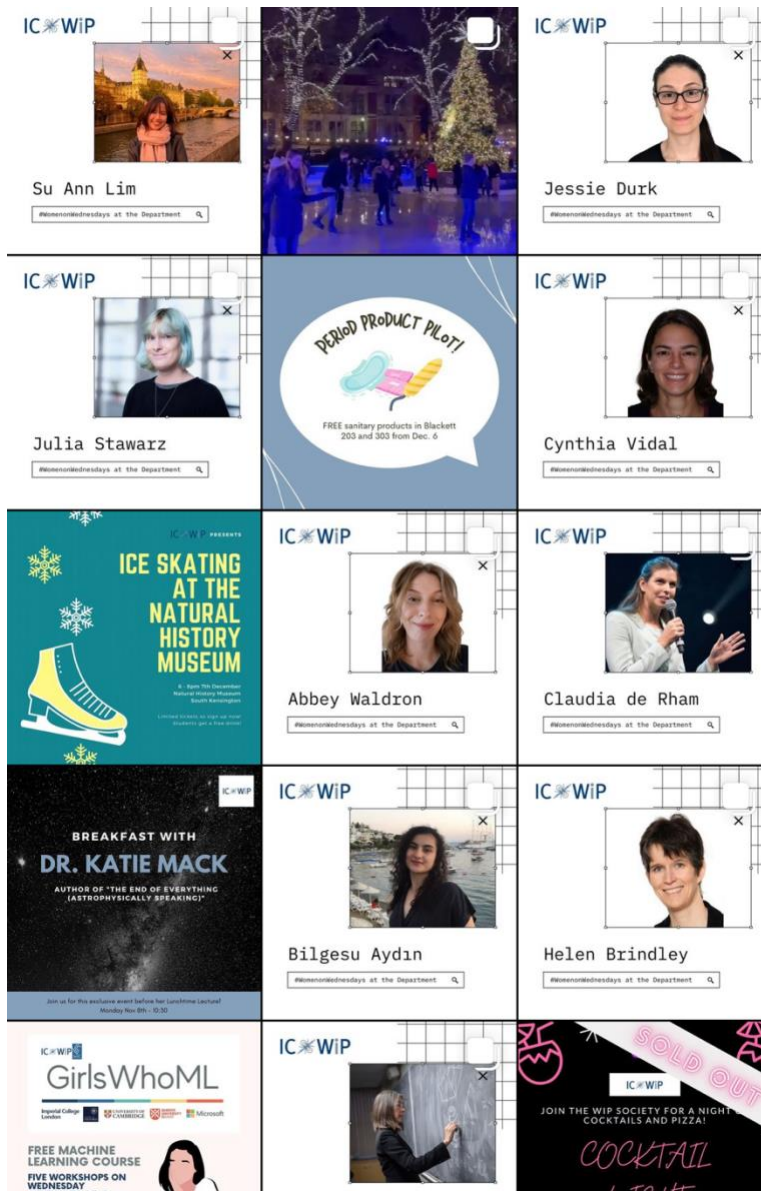
Fig. 3: @ic_wip instagram followers 2021 – 2022

Instagram campaigns

We use our Instagram profile for two main purposes; to promote social events to the Imperial community and to promote the work of female physicists in the department (Fig. 4). Below are details about two of the most successful Instagram campaigns this year

i. #WomenOnWednesdays

Firstly, our hugely popular #WomenOnWednesdays campaign. Over the summer, Amaya Calvo Sanchez and Su Ann Lim interviewed 10 women from all areas of the department. One interview was released every week on a Wednesday throughout Term 1. These interviews are also available on [our blog](#) and were featured as a series of posters in the Blackett foyer on International Women’s Day (see Section XX).



Who we interviewed:

- Fay Dowker, Professor of Theoretical Physics
- Helen Brindley, Professor in Earth Observation
- Bilgesu Aydin, 3rd year MSci Physics student
- Claudia de Rham, Professor of Theoretical Physics
- Abbey Waldron, Marie Skłodowska-Curie Research Fellow HEP
- Cynthia Vidal, Marie Skłodowska-Curie Research Fellow EXSS
- Julia Stawarz, Royal Society University Research Fellow SPAT
- Jessie Durk, Research Associate PEG
- Su Ann Lim, 4th year MSci Physics with Theoretical Physics student

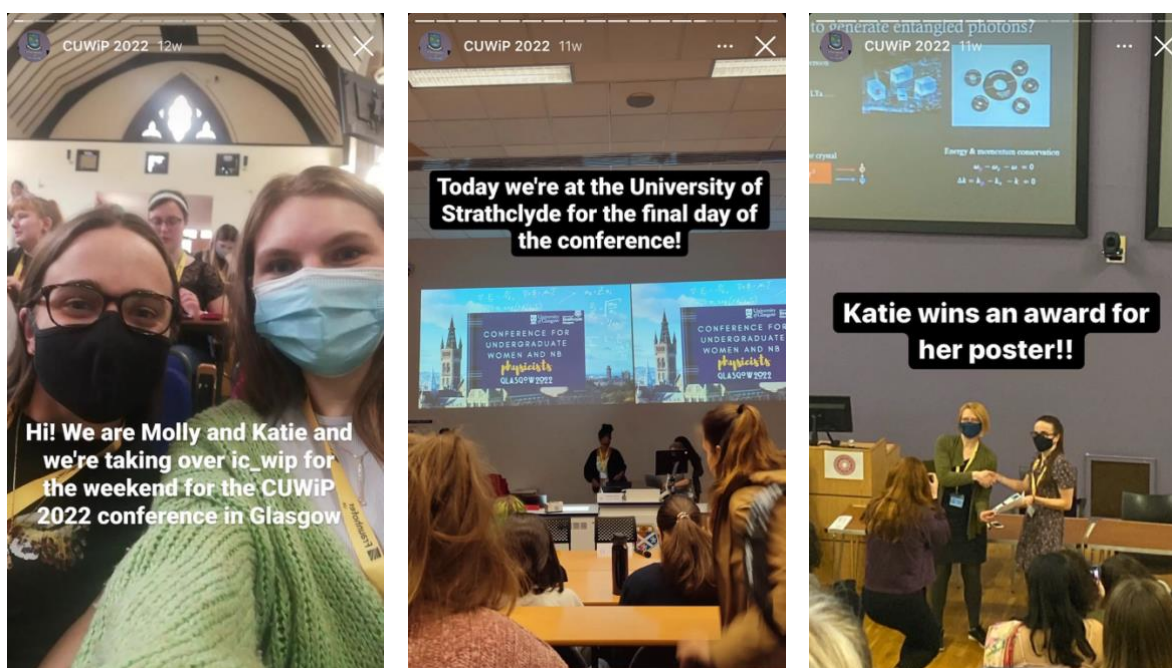
Fig. 4: The @ic_wip Instagram profile

ii. CUWiP Takeover

In April 2022, we had three undergraduate students – Bilgesu Aydin (3rd year), Katie Marrow (4th year), and Molly Smith (4th year) – attend the [Conference for Undergraduate Women in Physics](#) in Glasgow. The Women in Physics Society applied for, and was awarded with, funding from the IOP to cover the travel costs for these students to attend this event (~£500).

During the conference, the three women took-over the @ic_wip Instagram page. Highlighting some of the best features of the conference and answering questions from our followers. They also each wrote up report about the event which is [now featured on our blog](#).

Katie Marrow also won the best poster prize! Congratulations Katie!



4. Events

a. Social Events

Post-COVID, we have focussed on rebuilding the community of women in the Department of Physics. We hosted several social events throughout the year, roughly one per term.

Date	Event
28 th October 2021	Welcome Cocktails + pizza evening
7 th December 2021	Christmas Party Ice Skating at the Natural History Museum
10 th February 2022	Women in Science Day Movie night: Picture a scientist <i>People from across the Faculty of Natural Sciences attended including CEP, Maths and Life Sciences</i>

8 th March 2022	International Women's Day Dinner at Jakob's, Gloucester Road
15 th June 2022	End of year celebration Picnic

Table 2: Social events 2021-2022

ICWiP

JOIN THE WIP SOCIETY FOR A NIGHT OF COCKTAILS AND PIZZA!

COCKTAIL NIGHT

BLACKETT LEVEL 8
5PM ONWARDS THURS 28TH OCT

Only 35 places available so sign up with the QR code below now!

IC WOMEN IN PHYSICS PRESENTS

ICE SKATING AT THE NATURAL HISTORY MUSEUM

6 - 8pm 7th December
Natural History Museum
South Kensington

Limited tickets so sign up now!
Students get a free drink!

ADMIT ONE

PICTURE A SCIENTIST
JUNE 12TH THEATRICAL PREMIERE!
Tickets and info at pictureascientist.com

TO CELEBRATE INTERNATIONAL WOMEN IN SCIENCE DAY

PICTURE A SCIENTIST

PIZZA AND DRINKS WILL BE PROVIDED
TICKETS ARE LIMITED SO SIGN UP QUICK!

THURSDAY 10TH FEBRUARY 6PM BLACKETT LT3

ICWiP

END OF EXAMS PICNIC!

Join us to celebrate:
free food and drinks provided!

JUNE 15 — 12 PM
ALBERT MEMORIAL

Sign up on Eventbrite now!

b. Networking

We also offer a chance for junior women to network and interact with senior academic women. One special event hosted was with Katie Mack ([@AstroKatie](#)), who is a cosmologist and popular science writer with nearly 420k followers on Twitter. Jess Wade invited her to speak at Imperial and WiP hosted a breakfast with her on Level 8 before the talk, giving undergraduates and postgraduates a chance to network with her and ask her questions about her career and experiences so far.

c. Professional Development

i. GirlsWhoML



[GirlsWhoML](#) aims encourage those who identify as female and non-binary into the field of machine learning and to help people from these underrepresented groups become familiar with ML concepts and skills in an open and supportive environment. This is a not-for-profit organisation and was founded by the [Oxford Women in Computing Society](#) in 2020. Following sponsorship from Microsoft, the organisers wanted to extend this course to other universities.

Imperial was the first GirlsWhoML event outside of Oxford and was organised by the Women in Physics Society in conjunction with the [Women in Computing Society](#) – Eva Los (WiP, lead), Aydan Gasimova (WiC), Dominika Woszczyk (WiC) and Isabel Rabey (WiP). Imperial GirlsWhoML course consisted of five 2-hour sessions that happened once a week from Weds 3rd Nov – Weds 1st Dec. The sessions started with an hour lecture followed by an hour working through example exercises in small group sessions with experienced lecturers and demonstrators.

Over 50 undergraduates from computing, physics, maths, and chemistry signed up to this course with around 30 completing every session. It has since been extended to Queen Mary University and University of Cambridge.

d. Raising Awareness

i. Menopause 101



In celebration of World Menopause Day (19th October 2021), the Women in Physics Society hosted an online workshop with Dr. Bella Smith and Baz Moffat from [The Well HQ](#).

The one-hour workshop was open to all Imperial College staff and students and was aimed at people who will be personally affected by the menopause. Over 50 people from across the entire college attended this online workshop.

ii. Safe Space Lunches



This series of safe space lunches aimed to facilitate regular conversations between students and staff, focussing on topics related to systemic barriers for minorities in physics. We hoped to create a safe, supportive, and confidential environment where people from under-represented genders can

discuss their experiences and to help us build a network of empowered, informed, and confident female and non-binary physicists within the DoP. These lunches had the format: 30 minutes talk, followed by 30 minutes open discussion.

Table 3 shows a list of the events we hosted this year.

Date	Lunch
20 th January 2022	Student Imposters in STEMM Dr Órla Meadhbh Murray , Imperial College London
3 rd February 2022	Mental health issues in academia in a post-COVID world Dr Sarita Robinson , University of Central Lancashire
24 th February 2022	Navigating spaces - Reflections from my journey to PhD Sophie Martin, University College London
Postponed (UCU strike)	Embracing Neurodiversity in Physics Daisy Shearer, University of Surrey
Postponed (UCU strike)	Sexual Harassment 1752 Group

Table 3: Safe space lunch events from 2021-2022

iii. International Women's Day

On International Women's Day, our [#WomenOnWednesdays](#) interviews were converted into posters and displayed in the Blackett foyer alongside bunches of Mimosa flowers – [a symbol of solidarity](#). In collaboration with PhysSoc, we hosted tea, coffee, and cake for everyone studying and working the department during lunch.

ICWiP
@ic_wip
wips@ic.ac.uk

#Women on Wednesdays

Julia Stawarz
Royal Society University Research Fellow,
Space and Atmospheric Physics group

Q: As a little introduction, what area of Physics do you specialize in?
A: I work in the field of space plasma physics using measurements from spacecraft to study the dynamics of a number of different plasmas in near-Earth space – mainly the fast flow of hot plasma that expands from the Sun and the region of space influenced by Earth's magnetic field. Using data from NASA's Magnetospheric Multiscale and Parker Solar Probe missions and ESA's Solar Orbiter mission, I focus on studying some of the fundamental processes that operate in a plasma, including plasma turbulence (the highly-nonlinear, seemingly chaotic dynamics of the plasma) and magnetic reconnection (the sudden release of stored magnetic energy in the plasma into the charged particles), both in terms of understanding how they influence the interaction between the Sun and the Earth and understanding the fundamental physics that may be applicable to other plasmas throughout the universe.

Q: What has your experience being a woman in Physics been like? Both the positives and the negatives.
As a trans woman in physics there have certainly been some challenging times, particularly around when I was coming out. I guess a lot of people face various unique and intersectional challenges and it is easy to feel very isolated and discouraged. However, it is important, and certainly very possible, to find people within the field that you can connect with beyond just pure physics and that can be supportive during challenging times. For me, being involved with groups focused on promoting inclusivity in physics and LGBT+ physics groups have been a really great experience. I have also fortunately had some really wonderful supervisors and colleagues (some of which in places that I wouldn't have initially expected) that have helped to support me over the years, as well as had the opportunity to work with a number of really inspiring women in the field that I could look up to.

Q: What do you hope to achieve in the next 5 years?
A: It is a really exciting time in the field of space plasma physics at the moment. We have recently had multiple cutting-edge spacecraft launched, such as Magnetospheric Multiscale, which is letting us examine the detailed dynamics of the plasma with finer detail than we have ever had, and Parker Solar Probe and Solar Orbiter traveling closer to the Sun than we have ever gone before, letting us directly probe the solar atmosphere and understand the origin of the solar wind. These missions will be advancing our understanding of these physical systems in a fundamental way over the coming years, so I am really excited to be helping to analyse these datasets, shape the next big questions in the field, and develop the next generation of missions that will be answering them.

Scan here for the full interview!

ICWiP
@ic_wip
wips@ic.ac.uk

#Women on Wednesdays

Fay Dowker
Professor in Theoretical Physics

Q: As a little introduction, what area of Physics do you specialize in?
A: I work on quantum gravity which is a name we give to a "problem" rather than a "theory". The problem is that our current best understanding of gravity – General Relativity – and our current best understanding of matter – Quantum Theory – do not fit in the same conceptual framework as each other. Sometimes people say they are "contradictory" but on the other hand, each one is very successful in a certain realm. Those of us working on the problem of quantum gravity are trying to go beyond those realms – for example at the Big Bang and at the singularities of Black Holes.

Q: During your journey, what has your experience of being a woman in Physics been like? Both positives and negatives!
The feeling of solidarity with other women is positive. I am very disappointed that the proportion of women in my area has not increased substantially over my career: it was low when I started and it is still low. I have some sympathy with the controversial concept of feminist science and the concomitant thesis that the actual content of successful scientific theories has "masculine" aspects. However, it is hard for me to see what a feminist approach to the problem of quantum gravity, for example, might look like and I have not seen any concrete examples.

We want to find an overarching framework for all of fundamental physics that will recover the theories we know when we know they work and extend our understanding so we can answer questions like "what happened before the Big Bang." My particular work is on an approach to the problem of quantum gravity called Causal Set Theory in which spacetime is hypothesized to be fundamentally discrete or granular. My work also involves the foundations of quantum mechanics because the problem of quantum gravity forces us to face up to – what I consider to be – the incompleteness of our understanding of quantum theory and what it is telling us about the nature of the quantum world.

The positives include the experiences that make being a physicist rewarding in general: international collaboration and being able to work with people without boundaries and without borders, the thrill of introducing students to treasures of human knowledge and understanding and the essentially creative aspect of physics – the creation of new knowledge – which is deeply satisfying.

Scan here for the full interview!

5. Our network

a. IOP Affiliation

In November 2021, Women in Physics became an [IOP affiliated student society](#). In August 2022 we received the highest “Gold” accreditation status in recognition of the work we carried out this previous year. We are currently the only Women in Physics group in the UK with an affiliated status.

b. Other “Women in...” groups

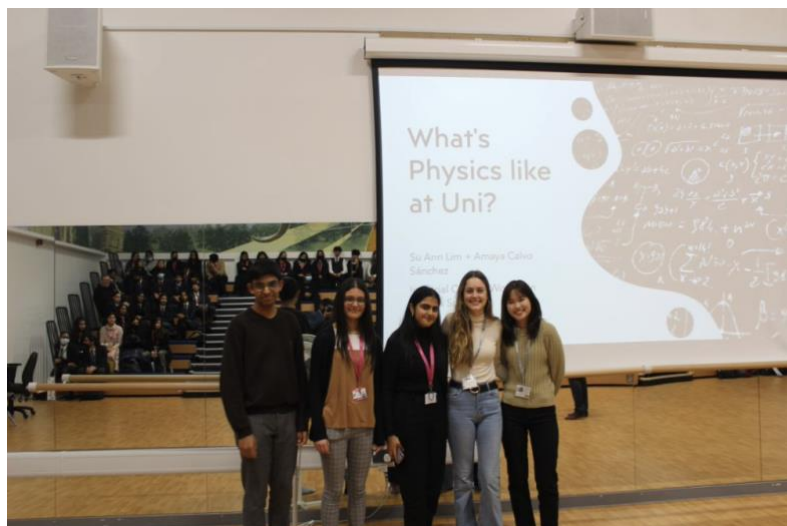
During the 2021-2022 academic year, we were hoping to build a network of other “Women in ...” groups at Imperial. Amy Smith connected with many groups across Imperial and we have since founded a loose collection of groups called Women in Natural Sciences (WiNS) which includes Women in Chemistry, Women in Maths, Women in CEP, and Women in Life Sciences. Many of these groups are still trying to establish themselves, and we hope that this network can provide support to these new groups.

6. Outreach

a. Our first WiP outreach event!

A first-year physics student reached out to the Women in Physics society to ask if we could give a talk in her old secondary school. As a society, we had never given a talk like this before, but we accepted and on 17th March 2022, Su Ann Lim and Amaya Calvo Sanchez went to Avanti House Secondary School in Stanmore, North London. Over 100 students attended their talk! The Avanti House Physics Society President said: *“Su Ann and Amaya’s passion for physics was reflected in their speech and I really enjoyed hearing about their journey so far. The talk was informative and engaging, inspiring me to consider physics as a potential degree course”* – well done guys!

Their experience is [written up in our blog](#)



7. Awards

In June 2022, Isabel Rabey was awarded the [Faculty of Natural Sciences Prize for Excellence in Equality, Diversity and Inclusion](#) for her work with Women in Physics. She was nominated by Yasmin Andrew (Student Liaison Officer) and Anthea MacIntosh-LaRocque (Wellbeing Rep). Congratulations, Izzie!

8. The future

a. Student Shapers project

Jessie Durk (PI), Amy Smith (Co-I), Isabel Rabey (Co-I), Bilgesu Aydin (Student partner), and Adele Julia (Student partner) are working together on a [Student Shapers](#) project *Exploring Women Physics Lecturers' Choices & Decisions*.

This project arose from the discussions in the Student-Staff Liaison Committee meetings. Student reps consistently raised the lack of representation of women among the lecturing staff – in the academic year 2021/2022, there were no women lecturing any of first- or second-year core courses. We are performing a qualitative study investigating the motivations and decisions of academic women in Physics, to understand the important factors women consider when selecting their teaching choices.

As of 9th Aug 2022, we are in the process of analysis of data and are due to present our findings at the Variety of Chemistry Education and Physics Higher Education Conference 2022.

b. London Network

We plan to build a London-wide network of Women in Physics groups over the next year, with a long-term goal being to host a London version of the Conference for Undergraduate Women in Physics.

c. Continue building our community

Over the next year, we hope that our community continues to grow with more social events, safe space lunches, professional development opportunities, and outreach events.

[#WomenOnWednesdays](#) will also return!