

**RESIDENTIAL 2023 WITH** 



2023 Programme Report





Innovative Young Minds (IYM) offers young women in Years 11 and 12 the opportunity to learn about the wide range of research and career opportunities available in STEMM (science, technology, engineering, mathematics and high-tech manufacturing).

Now, more than ever, we need to inspire talented people to invent new ways of living. To build a better future for everyone, the next generation of innovators need to reflect our diverse society. This is why it is so important to encourage more young women to get involved in science and technology.

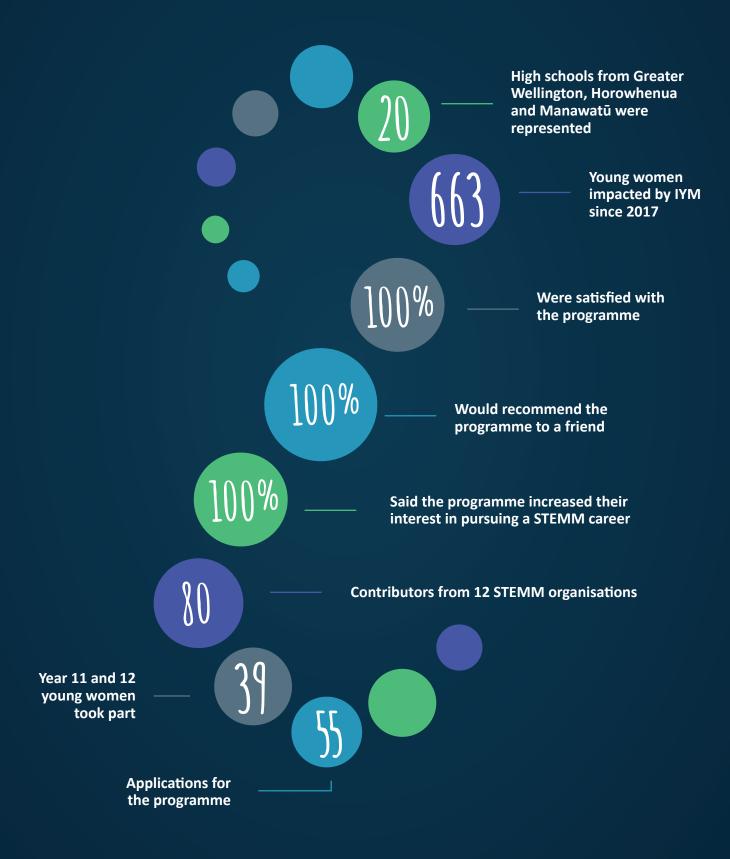
In July 2023, 39 young women from the Greater Wellington Region, Horowhenua and Manawatū took part in our six-day residential programme and were inspired by local researchers, innovators and entrepreneurs who are themselves making cutting-edge advances in STEMM.

After a week of seeing incredible opportunities available in science and technology first-hand, these young women are now ready to become Aotearoa New Zealand's next generation of innovators and industry leaders.





# OUR NUMBERS







# OUR PROGRAMME HIGHLIGHTS

# ► MPI's National Biocontainment Laboratory

Exploring the state-of-the-art facility and infectious disease control including the only Physical Containment Level PC3+ laboratory in Aotearoa.

# ► National Institute of Water and Atmospheric Research Ltd (NIWA)

Speed dating with female NIWA scientists, followed by a tour of NIWA'S Wellington campus to see two supercomputers, Māui and Mahuika, in their High Performance Computing Facility and the Mass Spectrometry Laboratory where isotopes are used to determine the feeding habits of whales.

### ► Finance technology company FNZ

Discovering how sustainability initiatives and artificial intelligence will influence the future.

# Callaghan Innovation Quarter

A visit to Callaghan Innovation included experiencing one of the quietest places in Aotearoa – the anechoic chamber, plus the Ferrier Research Institute's lab, Measurements Standards light lab, and the Integrated Bioactive Technologies' culture lab.



# Otago University

Hands-on sessions at the Surgery and Anaesthesia Department and the Radiation Therapy Department included emergency medicine, learning a suturing technique to close wounds (on a banana!), isolating breast cancer cells and creating a radiotherapy mould for radiation therapy patients.

#### ► Paihau-Robinson Research Institute

Building solar cars from scratch with no instructions and racing them against each other!

# ► Fraser Engineering

A tour of the operations at Fraser Engineering who fabricate and assemble New Zealand's fire engines.

#### ▶ WSP

A demonstration of metal testing and seeing WSP's wind tunnel in operation which has a miniature model of Lambton Quay to demonstrate wind movement throughout the city.

### ► Parliamentary Reception

Networking reception at Parliament hosted by Hon. Ginny Andersen and Chris Bishop. Attended by IYM supporters and industry leaders working in the science and technology sector.

- Inspiring storytelling from Physicist turned author Laurie Winkless, based on the stickiness of geckos feet.
- ► Innovation Challenge where student teams designed and pitched innovative climate change solutions to industry judges.
- ► Team building, design thinking and mentoring sessions led by Paul Newsom from the Young Enterprise Scheme and IYM staff.

"PEOPLE AT CALLAGHAN INNOVATION LOVE TO SHARE THEIR KNOWLEDGE AND EXPERTISE, AND HAVE A VERY POSITIVE PERSPECTIVE ON ENCOURAGING THE NEXT GENERATION SO IT IS OUR PLEASURE TO BE PART OF YOUR FANTASTIC PROGRAMME."

Hayley Ellison, Community Development Manager, Callaghan Innovation Quarter at Callaghan Innovation

# OUR STUDENTS' FEEDBACK



- I have been inspired to put myself out there and apply for science internships and volunteering opportunities to further learn about the careers that IYM Residential has shown me. I have developed better self-confidence from this programme, seeing those powerful women in STEMM makes me feel secure that I can pursue the field I am passionate about. Mia, Year 11, Aotea College
- As a result of this programme I am 100% more confident about my career in STEMM and I will definitely be approaching businesses and science organisations about possible internships. I would not have had the confidence to do this without IYM. It was just an amazing and " inspiring course and something that I will never forget. Emma, Year 11, Chanel College
- Throughout this programme, my confidence has developed immensely. I realised that self-confidence is essential for a young women entering the field of STEMM. As a result of this programme, I wish to become more involved in the STEMM field, as well as gain more experience and understanding of the future career pathways available in this world. For example, by 'shadowing' researchers or by volunteering at the places we visited, I will be able to gain more insight into how science functions in our daily lives. Lopa, Year 11, Samuel Marsden Collegiate School
- IYM was amazing, definitely the highlight of my year so far. It was totally worth it. Hannah, Year 11, Whitby Collegiate School



IYM was a week of innovation and inspiration. My personal favourite was experiencing applied chemistry and technology at Callaghan Innovation. So much knowledge and wisdom was shared and received throughout the week - endless gratitude and thanks to you all!

Lucy, Year 12, Tawa College

As a result of this programme, I will start to research in many particular fields that I have now become interested in.

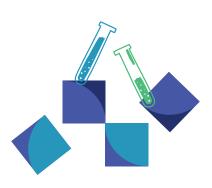
Gloria, Year 12, Heretaunga College

Amazing opportunity! I have forever changed my perspective on STEMM careers and what they include. I feel as though I have become so much more aware of the possibilities as well as feeling more secure that if my career does not go the way I have planned, there will always be something out there for me.

Summer, Year 12, Fielding High School

Because of IYM, I want to deepen my knowledge into the biochemical field and explore more of the career options this field has to offer. I also want to spread the news of this programme to other girls I know who would be interested and would benefit from the opportunity.

Yahvi, Year 12, Wa Ora Montessori School







# >>> OUR IMPACT

We know IYM's programmes are making a difference. Each year we survey our programme participants and alumnae to measure our impact. We are genuinely interested in how IYM has influenced the many young women who have attended our programmes.



Young women from around Aotearoa New Zealand have been impacted by IYM's programmes.



Of high school graduates who attended IYM are studying or working in STEMM.\*



Of IYM attendees who are still at high school plan to pursue STEMM and 12.5% have yet to decide.\*

IYM's mission is to break down barriers and encourage young women to enter the STEMM sector and to do so we must ensure that our programmes are as engaging and accessible as possible. This is only possible with the help of our dedicated sponsors and supporters. With our two annual programmes – IYM Online and IYM Residential – we look forward to making an impact on the lives of even more young women and creating a better future for everyone.

<sup>\*2023</sup> Alumnae survey results

# >>> OUR SUPPORTERS - THANK YOU!

IYM Residential 2023 with FNZ would not have been possible without our generous sponsors and supporters. Our programme was a success thanks to the valuable contributions made by:

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### **Student Sponsors**

Businesses - Datacom, Wellington Electricity, Kia ora Hauora, 3M, FNZ, Laurie Winkless

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### **Programme Supporters**

Allan and Trish Brown & Silver Science Jewellery

IYM is also grateful to its dedicated volunteers and the 80 staff from 12 STEMM organisations who generously gave their time and knowledge.

### **Founding Partners**





