

The background features a dark blue field with large, flowing, organic shapes in a lighter blue and a bright orange. A white, curved, abstract shape is positioned on the right side of the page.

# **BEYOND SCIENCE**

## **Annual Report 2024**

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## MISSION and PURPOSE:

Fostering impact through connectivity

***The Beyond Science program is a capability and connectivity building initiative for Early Career Researchers undertaking medical device research in Otolaryngology, Head and Neck surgery***

It is an Australian-first initiative which fosters impact through connectivity facilitating translation

The program has three pillars:

1: **Project Support**

Providing support to early career researchers by developing academic mentorship and stakeholder networking.

2: **Facilitating Training:**

Through webinars, symposiums and by facilitating uptake of courses, we contribute to the training of early career researchers. We connect them with stakeholders relevant to the deployment of their research (such as government or industry). In this way, we aim to foster in the early career researchers a better understanding of the priorities of the health system, driving better impact through innovation.

3: **Advocacy:**

We advocate on behalf of early career researchers to address unintended barriers in the system that stifle interdisciplinarity and capability development. We do this by communicating with various stakeholders in College, Community, Government, Industry and the University sector.

**We are grateful for funding support from**



**Passe & Williams  
Foundation**



**Health**  
Sydney  
Local Health District

## STRUCTURE AND GOVERNANCE:

In its third year, Beyond Science has maintained the purpose and membership of the advisory committee and the scientific board. To streamline operations, an executive group derived from the scientific board has been formed. The function of the executive is to plan strategy and impact while the scientific board provides operational expertise and project mentorship and the advisory committee provides counsel and oversees the governance of the scientific board and executive.

### **Beyond Science Advisory Committee**

Professor Jim Patrick AO (Chair)  
Professor Philip Truskett  
Professor Susie Nilsson  
Ellen Rawtron  
Dr Bruce Ashford  
Anne O'Neill

Advisory Committee representation has changed due to completion of member terms, but the skills and gender mix continue to remain the same.

### **Executive Committee:**

Prof Gordon Wallace AO  
Prof Laura Poole-Warren  
Mr Stuart Anderson  
Prof Jonathan Clark  
Dr Julia Crawford  
A.Prof Payal Mukherjee

### **Inaugural members of Beyond Science Board**

#### ***Clinical***

A.Professor Payal Mukherjee  
A.Professor Kelvin Kong  
Professor Stuart Mackay  
Professor Raymond Sacks  
Professor Richard Harvey  
A.Professor Raewyn Campbell  
Professor Nirmal Patel  
A.Professor Daniel Novakovic  
Professor Jonathon Clark

#### ***Scientific***

Professor Gordon Wallace  
Professor Ben Eggleton  
Professor Gregg Suaning  
Professor Svetha Venkatesh  
A.Professor Hamish Macdougall  
Professor David McAlpine  
Professor Nigel Lovell  
Professor Laura Poole-Warren  
Professor Jeremy Crook

### **Diversity:**

The Beyond Science Board diversity is articulated in the skills matrix below. The Advisory Committee diversity includes representation from industry, science, clinical, philanthropy and government. The Executive represents input from RACS, ASOHNS, Clinicians, Industry, and Engineering. Both the Executive and Advisory Committee has 50% gender diversity.

# Skills Matrix

Clinical										Scientific									
	R HAR	R SAC	K KON	S MAC	D NOV	R CAM	N PAT	P MUK	J CLA	G WAL	L POOLE	G SUA	H MAC	D MCA	S VEN	J CRO	B EGG	N LOV	
Clinical Experience																			
Ear			✓				✓	✓											
Nose	✓	✓	✓			✓													
Head and Neck			✓	✓	✓				✓										
Indigenous Health			✓				✓												
Rural Surgery		✓	✓																
Health Services	✓	✓	✓	✓				✓	✓										
Health Policy			✓				✓	✓											
Education	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓					
Health Technology																			
3D printing				✓				✓	✓	✓		✓				✓			
Biomedical Engineering								✓	✓	✓	✓	✓		✓		✓	✓	✓	
Machine Learning														✓	✓			✓	
Material Sciences									✓	✓	✓	✓				✓			
Stem Cell technologies								✓			✓					✓			
Sensors and diagnostics										✓		✓	✓	✓	✓		✓	✓	
Nanotechnology																✓	✓		
Medical Devices																			
Commercialisation								✓	✓			✓	✓			✓		✓	
Regulatory								✓	✓		✓	✓						✓	
Implementation Guidelines		✓	✓					✓			✓	✓							
Clinical Trials		✓																✓	
Networks																			
International Connections		✓			✓			✓			✓						✓	✓	

## 2024 ACTIVITIES

In 2024, the program hosted 3 webinars and an annual Connecting the Dots meeting:

### Webinars 2024:

- Deployable Technologies in Space: 8<sup>th</sup> March 2024 (Appendix 1)
  - This webinar drew on interdisciplinary colleagues and was run as a hybrid program. It has generated new collaborations and projects which are currently running through the Beyond Science program
- Ideas to Implementation: 15<sup>th</sup> May 2024 (Appendix 2)
  - This webinar focused on commercialisation journey for research. It drew input from NSW funded start-up training infrastructure, Medical Technology Association of Australia (Australia's peak body representing med tech industry) and also start-up entrepreneurs to share successful commercialisation strategies.
- Funding your research: Scheduled 22<sup>nd</sup> August
  - This webinar will have input from MRFF, the SNOW medical foundation and Venture Capitalists to allow researchers to develop better strategies to make more competitive funding applications. The impact of this will be to generate better grant success for researchers

Meetings 2024: The annual Connecting the Dots event was held in collaboration with the Surgical Robotics and Innovation Summit (Appendix 3)

Outputs: 10 new Early Career Researchers were selected to present. 3 judged (A.Prof Kerin Fielding, Dr Teresa Anderson and Prof Terry Campbell) adjudicated on 4 awards. All abstract presenters will now be enrolled in the program for 12 months to assist with mentorship, scale and impact of their project.



Em Prof Jim Patrick did the honours of presenting awards to Eileen Stacey for overall best project, Dr Xiao Liu for most innovative paper, Dr Angelique Kumar for Paper with the most unmet need and Masoud Mohseni Dargah for the most impactful project.



**Sydney**  
**Local Health District**

## IMPACT

### 1: ECONOMIC:

At this stage there is no medium within RACS or ASOHNS to support entrepreneurial training amongst researchers. Therefore, many researchers do not realise the difference between projects that should continue in research and those that may need to have a commercialisation plan to make a difference in patients' lives. With NSW health Commercialisation Training Program as well as MTP connect funded Australian Clinician Entrepreneurial program or AUSCEP (which is co-funded by NSW health), Beyond Science students have accelerated their economic impact for research. An excellent example is Dr Emma Charters, a speech pathologist, who was advised to undertake the AUSCEP program after the 1<sup>st</sup> Connecting the Dots program. She has now developed a patent, acquired awards and also capital to commercialise a Trismus therapy device called RESTORABITE. We have also had better engagement with Industry in collaborating in Research through the Medical Technology Association of Australia, the peak body representing device companies in Australia.

### 2: NEW KNOWLEDGE:

There are many basic science projects that have been coming through the program. The benefit of the program has been in accelerating collaborations between researchers. We have noticed that there is an increase in interuniversity collaboration, breaking down the barriers that prevent new knowledge. For instance, in Otolaryngology, there has been pockets of scientific expertise in University of Wollongong, University of Sydney, University of NSW as well as Macquarie University. With an increase amount of collaboration in between the research groups, the ability to learn from each other and share knowledge and learnings has increased. We have also promoted the program through ASOHNS, so there is a transparent call for collaboration amongst all early career researchers in ENT. The increase in interchange between scientists and surgeons has resulted in scientists and engineers visiting clinics and operating theatres increasing real world awareness of the scientific ECRs to tailor current and future research methodologies.

### 3: IMPROVING HEALTH OUTCOMES:

Perhaps the biggest strength of this program has been the engagement we have had with NSW health, both through the Advisory Committee through the Office for Health and Medical Research which is the body that oversees all research in NSW as well as the Agency for Clinical Innovation (ACI), that oversees innovation in health services. The ACI has directly been involved in many projects that have required input from government. They have mediated meetings with funding bodies (such as the Cancer Institute), they have linked researchers to analogous projects being conducted in different districts for shared learnings, they have provided support letters for grants. We have found that the other resources from NSW health such as the NSW health Commercialisation Training Program has been really valuable for our Scientist ECRs whereas the health services research in ENT (clinical ECRs) has flourished through the support of ACI. This has improved future preparedness in the ECRs to navigate translational hurdles in future endeavours with a better understanding of the health system, assisting them as they develop into leaders in their fields in the future.



#### 4: SOCIAL IMPACT:

Due to the increased range of projects, we have actively collaborated with Patient Groups to involve them and engage them in the ongoing research. This includes groups such as Deafness forum, Microtia Atresia Australia as well as Sydney Meniere's Support Groups. Patients are invited to speak at our research symposiums (so our scientists are better aware of the need), our research is also presented at the patient run symposiums to patients have visibility of upcoming innovations. This connection also allows notifying patients of clinical trials are conducted in the state to assist recruitment.

## MILESTONES 2024:

### Year 3:

1. Governance:
  - Ensure roles and responsibilities met
  - Review governance as program grows
2. Meetings:
  - Advisory Committee meeting: 6 monthly
  - Clinical and Scientific Leaders annual meeting
  - Stakeholders: such as university sector, industry
3. Workshops:
  - Cicada courses
  - Program workshops (College and RPA IAS): June and November
    - Intellectual Property
    - Commercialisation for surgeons
  - Section of Academic Surgery meetings
    - Develop a career in academic surgery
    - November section meeting
4. Comms Plan:
  - Expand Online Platform: Promote new collaborations
  - Surgeon's Month: Innovation Award
  - Implement Comms plan: Surgical news, media, social media: profile key achievements
5. Sustainability Plan:
  - Consortium support: Local, National and International
  - Grants – submit to MRFF, MTP Connect, NHMRC
  - LHD Support and University funding
6. Reporting:
  - Annual reporting to Garnett Passe
  - Annual reporting to partner and stakeholder institutions
7. Review with Garnett Passe Board for further funding

To ensure milestones were met in 2024 as the program grew and also incorporate needed diversity from stakeholders, an executive was formed. In addition to the Advisory Committee meetings which are held 3 times a year, the executive meets quarterly with an annual meeting with the entire scientific board.

Advisory committee membership has changed in 2024 in line with the terms of reference. The altered membership maintains the skills and gender diversity and continues to be chaired by Em. Prof Jim Patrick. The co-directors report to the chair of the advisory committee monthly to keep him appraised on the developments.

The program has exceeded the milestones in all fields except for the sustainability plan. This is addressed in the section below.

## VISION AND FUTURE SUSTAINABILITY

In 2022 and 2023, the program directors met with several stakeholders judging appetite for collaboration and co-funding. The program directors felt that this was important for the long-term sustainability of the program beyond the Garnett Passe funded program as well as to support the current growth of the activities of the program. These stakeholder meetings were held with the backdrop of a changing financial landscape for institutions supporting Australia's med tech sector. Meetings were held with:

- MTP Connect
- NHMRC
- MRFF
- SPHERE
- Sydney Health Partners
- NSW Government and various agencies within NSW Government:
  - Office for Health and Medical Research
  - Chief Scientist
  - Minister for Science, Industry and Trade
  - Agency for clinical innovation
  - Tech Precinct Leads
- RACS state and federal committees supporting research
- International Collaborators: US, UK, India
- Department of Trade and Foreign Affairs

Based on these meetings and decision by the executive the following actions were taken:

### 1: AWARENESS and ENGAGEMENT WITH BEYOND SCIENCE

A: This will be assisted with a clear and concise MISSION Statement: This has been achieved (Page 3)

B: Connecting the Dots: Awareness and attendance would be assisted to have an annual meeting that is consistent at the same venue and same date: this is being explored in collaboration with MTAA

### 2: GROWTH STRATEGY AND FUNDING:

Given health services are funded by state government; to have immediate impact on the health service as well as to get funding support, it would be important to have a strategic growth plan:

**2025-EXPAND DISCIPLINES:** Beyond Science will stay focused on state, but initially scale to include other specialties in surgery: this will improve the funding possibilities in NSW and improve the scale that the RACS platform can provide.

A funding application to fulfil goals for 2025 has been submitted through RACS NSW to Investment NSW. As part of the funding proposal, key stakeholders in Plastics, Urology and Vascular have already been enrolled. Each specialty seems to be trying different strategies to

achieve similar outputs, some ahead of others, but very importantly, key Research translational centres have already committed funding support to sustain this initiative. The proposal with support letters is attached in APPENDIX 4.

**2026-EXPAND NATIONAL:** the RACS Section of Academic Surgery already has the platform to expand Beyond Science to a national academic program

**2027-EXPAND GLOBAL:** The program directors have spoken to international partners in India, US and UK and explored the possible benefits of such partnerships. The immediate benefit to Australian researcher (scientists and clinicians) of such partnerships is in the form of mini fellowships or an exchange program, so fellows from overseas come spend time with us whilst our fellows also understand the benefits/constraints in international health systems. Our Indian collaborators have already offered to fund fellows from India to come to Australia. The program directors are now speaking with Australian Government and Department and Foreign Affairs and Trade to fund Australian fellows to go overseas.

## APPENDIX 1

# DEPLOYABLE TECHNOLOGIES FOR SURGERY IN SPACE



**FRIDAY, 8 MARCH AT 1:00PM  
ONLINE VIA ZOOM**



Limited resources and onboard surgical expertise, as well as microgravity, are some of the numerous challenges that spring to mind when we contemplate the need for surgery in space. But in Australia, we have a collaborative research community involving clinicians, engineers and scientists, as well as relevant policy and regulatory experts, that are well-positioned to contribute to this area.

### OUR MISSION

We propose to examine these challenges in the context of selected specific case studies, including:

- **SKIN REPAIR: PROF FIONA WOOD**
- **BONE FRACTURES: PROF PETER CHOONG**
- **EYE DAMAGE: PROF GERARD SUTTON**
- **VESTIBULAR: A/PROF PAYAL MUKHERJEE**

This event will feature a panel discussion moderated by Prof Gordon Wallace.

**REGISTER TO ATTEND ONLINE HERE:  
[SURGERY-IN-SPACE.EVENTBRITE.COM.AU](https://surgery-in-space.eventbrite.com.au)**

### The Workshop

Following the discussions, we will workshop the challenges in small groups led by the above clinicians.

### Would you like to participate?

We are calling on scientists and engineers from across the country to join us in person for this special event. Please send a two-page CV and a career note indicating what you could contribute to the event before February 14. Successful attendees will be notified by February 20. Places are limited. Apply to [sfindlay@uow.edu.au](mailto:sfindlay@uow.edu.au) soon.





## APPENDIX 2

# IDEAS TO IMPLEMENTATION WEBINAR

How to Get Your Research Funded

Wednesday, 15 May

4.00pm-5.00pm



Do you have a medical device that you want to get from bench to bedside?

Join us for our next Beyond Science virtual webinar on getting ideas to industry, and hear from experts about their commercialisation journeys.

The webinar will feature a panel of experts to cover the industry view, inventor view and start-up view, including:

- Dr Stuart Anderson, Medical Technology Association of Australia: Engaging with Industry Players
- Dr Julio Ribeiro, Inventia Life Science: Attending Incubators
- Dr Katja Beitat, Cicada Innovations: Is a Start-up for You?

Followed by a panel discussion with questions from the audience moderated by A/Prof Payal Mukherjee and Prof Gordon Wallace from Beyond Science.

### WHAT IS BEYOND SCIENCE?

Beyond Science is a clinician led and clinician run training program aiming to incrementally develop a comprehensive Australian-first medical technology translation program for Otolaryngology, Head and Neck Surgery.

Register by May 13 to attend online via Eventbrite:  
[beyond-science-webinar-2024.eventbrite.com.au](https://beyond-science-webinar-2024.eventbrite.com.au)

## APPENDIX 3

Webinar:

# Funding Your Research Journey



The Beyond Science platform is hosting a webinar with key stakeholders to help NSW researchers optimise their grant and funding success.

Speakers include:

1. Tracey Laba  
*MRFF*
2. Derek Van Dyk  
*SNOW Medical Research*
3. Dr John Parker  
*Tyree IHealthE*

**Moderator:** Anne O'Neill  
*Office of Health and Medical Research,  
NSW Health*

Date  
**August 22**



Time  
**4:00-5:00pm**

[Register](#)



APPENDIX 4

Lunch Session <b>Corinthian Room</b>	Networking lunch for ECRs: Meet the experts	
Session 1: Opening Panel Co-moderator: Payal Mukherjee, Ray Sacks  <b>Corinthian Room</b>	<b>A.Prof Kerin Fielding</b> (RACS president) <b>Dr. Teresa Anderson</b> (CE Single Digital Patient Record) <b>Prof Terry Campbell</b> (Chair PLAC, Committee Member ACMD TGA) <b>Dr Jeanette Conley</b> (Medical and Clinical Governance Executive, Sydney Adventist Hospital) <b>Chad Wilhelm</b> (Managing Director, Wilhelm Integrated Solutions) <b>A.Prof Celi Varol</b> (Urologist, Founder Medlogical Innovations)	30 minutes
Session 1: Abstract Presentation: Chaired by Laura Poole Warren  <b>Corinthian Room</b>	Abstracts: 1: Jolande Ma 2: Angelique Kumar 3: Steven Posniak 4: Eileen Wallace 5: Masoud Mohseni Dargah 6: Behrouz Aghajanloo 7: Ulises Aregueta Robles 8: Rhea Kaur 9. Xiao Liu	Judges: Teresa Anderson Terry Campbell Kerin Fielding  Award Presenter: Jim Patrick  55 minutes
Afternoon tea and Networking		
Plenary: Moderator Lance Chia and Anne O'Neill  <b>Grand Lodge</b>	<b>Gordon Wallace:</b> Introduction to Beyond Science <b>Jarrod Belcher:</b> Preparing our workforce for deployment <b>Susie Nilsson:</b> Deploying Australian Research for National Impact Device technologies	
Plenary Panel: Moderator Payal Mukherjee and Gordon Wallace  <b>Grand Lodge</b>	Simon Singer: TGA Prof Jian Yang: Macquarie Uni Simon Cos: Microsoft CSO Prof Stuart Grieve: Radiologist A.Prof Amith Shetty: CEO Digital health NSW Health	



