

# DOHERTY INSTITUTE












STRATEGIC PLAN 2022-2027



A joint venture between The University of Melbourne and The Royal Melbourne Hospital



# STRATEGY ON A PAGE

<b>ASPIRATION</b>	<b>DOHERTY INSTITUTE VISION</b> "To improve health globally through discovery research and the prevention, treatment and cure of infectious diseases"				
	<b>DOHERTY INSTITUTE MISSION</b> The Doherty Institute will be an inspiring, innovative, and enabling cross-disciplinary environment. We are dedicated to identifying and addressing fundamental challenges in all aspects of infection and immunity. Through our leadership, advocacy and education we will shape research, policy, and practice to improve health for communities both nationally and internationally.				
<b>PILLARS</b>	<b>EXCELLENCE</b> Strive for excellence in research, education and public health	<b>PARTNERSHIP</b> Maximise impact through operating as a collaborative and integrated Institute together with partners, stakeholders and communities	<b>CULTURE</b> Reinforce a clear internal identity and culture that is aspirational, supportive and empowering for the delivery of our mission	<b>LEADERSHIP</b> Conduct world-leading discovery science, clinical practice, public health and education leading to knowledge, social and economic impact	<b>CAPACITY</b> Retain and attract world class staff and graduate researchers, and assist them to achieve their full potential in existing and emerging key areas
<b>AREAS FOR ACCELERATION 2022-2027</b>	<ol style="list-style-type: none"> <li>1. Pandemic preparedness and response</li> <li>2. Vaccines and therapeutics</li> <li>3. Clinical research</li> <li>4. Computational science</li> <li>5. Global health</li> <li>6. Australian Institute for Infectious Disease</li> </ol>		<b>ORGANISATIONAL STRUCTURE</b> <b>THEMES</b>  <b>IMMUNOLOGY</b>  <b>VIRAL INFECTIOUS DISEASES</b>  <b>ANTIMICROBIAL RESISTANCE</b>  <b>BACTERIAL AND PARASITIC INFECTIONS</b> <hr/>  <b>Discovery Research</b>  <b>Public Health</b>  <b>Clinical and Health Systems Research</b>  <b>Global Health</b>  <b>Education and Professional Development</b>  <b>Indigenous Health</b>  <b>Computational Science and Genomics</b> <b>CROSS-CUTTING DISCIPLINES</b>		
<b>VALUES</b>	<b>DISCOVER</b> We break new ground and innovate	<b>DELIVER</b> We work to improve health practice and outcomes	<b>INSPIRE</b> We motivate, develop and attract the highest calibre staff and graduate researchers to achieve excellence. We share evidence and knowledge to build healthy communities	<b>COLLABORATE</b> We engage locally and globally with our partners, stakeholders, colleagues, and community, recognising the value of multi-disciplinarity and harnessing diverse sources of expertise	

Front cover image credit: Air-liquid interface Human Nasal Epithelium organoid culture by the University of Melbourne's Dr Bang Tran, Vincan Group at the Doherty Institute.

# INTRODUCTION

Since inception in 2014, the Peter Doherty Institute for Infection and Immunity (Doherty Institute) has undergone profound transformation, from an ambitious vision to the reality of combining research, education and public health in infectious disease and immunology under a single banner.

The framework initiated by the 2016-2021 Strategic Plan has enabled the Doherty Institute to integrate activities across the different departments and Joint Venture partners, grow expertise and innovation in key scientific areas, continually produce outstanding work of the highest impact and establish public leadership across infection and immunity towards meaningful policy change. Discovery science continues to be the cornerstone of the Doherty Institute's capacity across infection and immunity, an area which demands redoubled attention and support in an environment with fewer opportunities for competitive funding. Across all Institute activities, we maintain a steadfast commitment to community service by ensuring consumers, peers and the public are the primary stakeholders, participants and beneficiaries of our work.

In the wake of the COVID-19 pandemic, the next five years holds significant opportunities for the Doherty Institute. Importantly, the Doherty Institute, University of Melbourne and Burnet Institute have received funding to establish the Australian Institute for Infectious Disease, which offers significantly increased capacity, upgraded facilities and strategic partnerships.

This Strategic Plan (2022-2027) aims to consolidate the achievements made until 2021, whilst striving to identify strategic priorities and consolidate the Doherty Institute's culture, identity and work practices.

In this way, the 2022-2027 Strategic Plan builds on the distinguished history of the departments across the Institute and cements the gains in collaboration and leadership of the previous plan while identifying specific areas for growth and investment across the Areas for Acceleration. These are not intended to outline all Institute activities but rather to highlight priority areas which will have strategic or programmatic impact.

This Strategic Plan also includes five Pillars which is the primary framework to enable all staff members and programs to thrive. These principles will have relevance beyond the Areas for Acceleration to all initiatives within the Doherty Institute's broad remit.

There will be an accompanying monitoring, evaluation, and learning (MEL) framework which describes how progress and results against this Strategic Plan will be assessed throughout the lifetime of this strategy.

# ORGANISATIONAL STRUCTURE

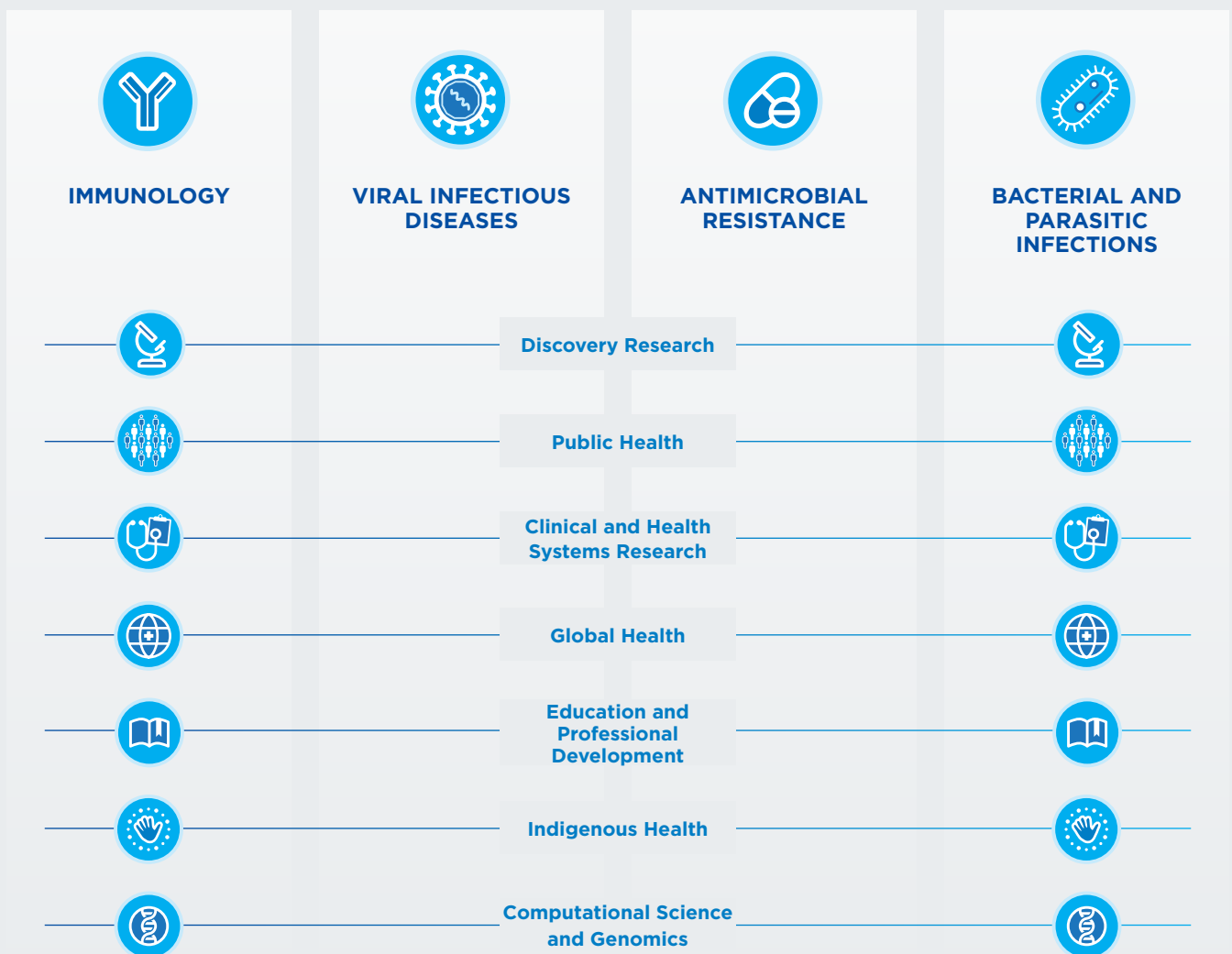
The Doherty Institute is structured around four Themes and seven Cross-Cutting Disciplines (CCDs) as shown in the matrix structure below.

This structure is designed to harness internal collaboration, build critical mass around key topics and display Institute strengths to an external audience. The Themes capture the major Institute approaches to addressing fundamental challenges in infection and immunity, whereas the CCDs represent the core capacities and platforms by which we support and contribute towards the Thematic areas. This structure is intended to be inclusive and recognises that many will work across several Themes and CCDs.

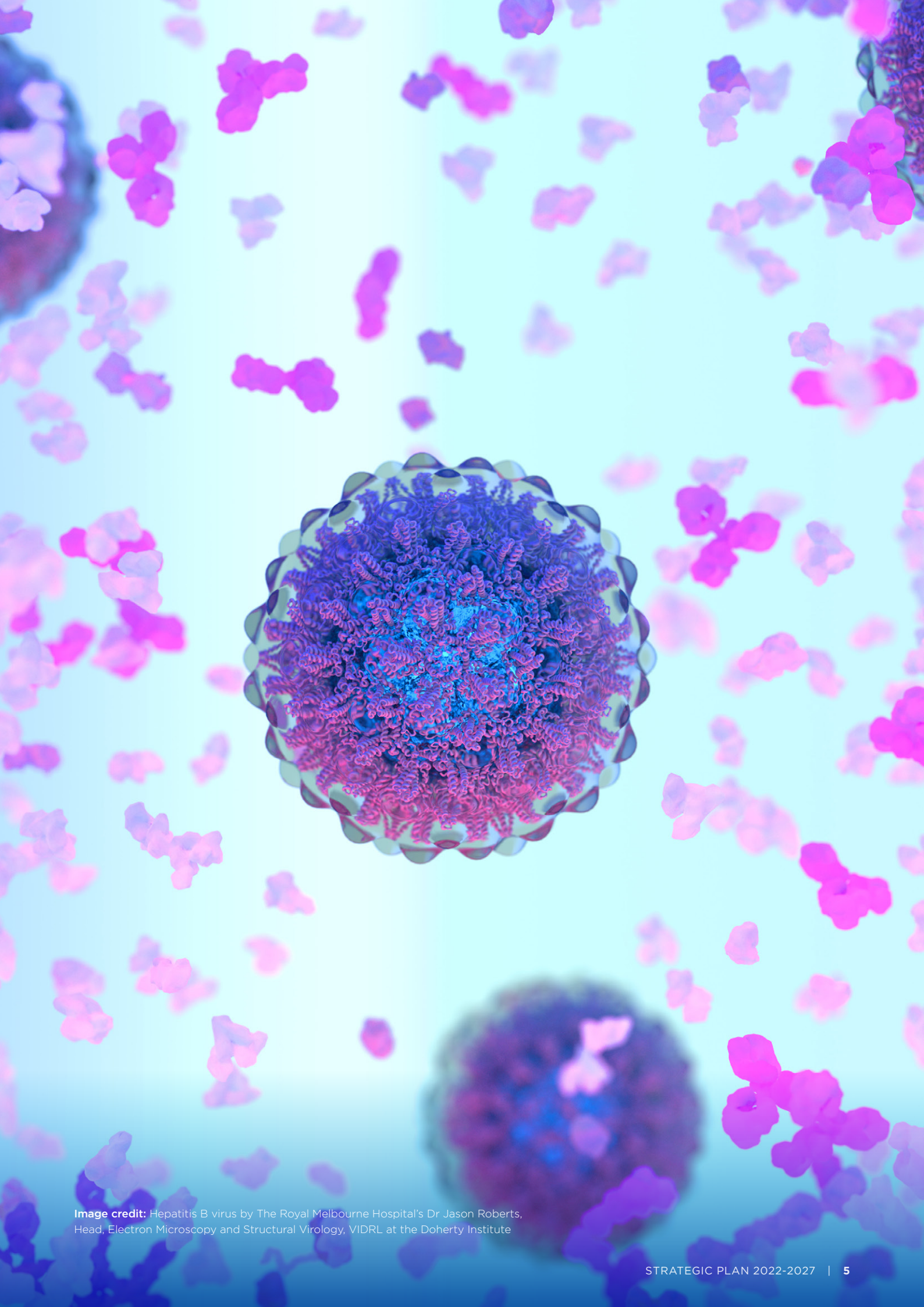
Each Theme and CCD is overseen by a Leader(s) who has responsibility for promoting collaboration, building external

partnerships and highlighting work across their portfolio. Recognising the time and effort involved, each Theme or CCD will now be resourced to a similar level, primarily through Project Managers who are responsible for driving and supporting Theme/CCD activities.

The Themes and CCDs include areas that the Doherty Institute will take both a leading role in and also where it will partner with other organisations to deliver impact. The following Matrix structure is similar to the 2016 Plan, with the addition of Bacterial and Parasitic Infections, and an adjusted focus for Clinical and Health Systems Research as well as Computational Sciences and Genomics.







**Image credit:** Hepatitis B virus by The Royal Melbourne Hospital's Dr Jason Roberts, Head, Electron Microscopy and Structural Virology, VIDRL at the Doherty Institute

# AREAS FOR ACCELERATION

To consolidate the Institute's culture, identity and mission, focus areas have been identified as key areas for acceleration and growth over the next five years. This will enable targeted investment to drive impact across the Institute. These areas are bold, inspirational and intentionally ambitious. Each Area for Acceleration has a unique mandate and will require varying levels of resources and institutional attention. They are not designed to capture all Institute activities but rather to achieve beyond the business as usual.

The Areas for Acceleration are:

## PANDEMIC PREPAREDNESS AND RESPONSE

**Build capacity to rapidly respond to the scientific, community and government needs posed by persistent or emerging infectious disease threats by:**

- Building on existing surveillance systems to monitor, detect and respond to epidemiologic trends, including outbreak investigations
- Developing novel diagnostics to support clinical practice and public health
- Supporting the development of evidence-based clinical practice and policymaking
- Informing models of care and surge capacity for health service responses
- Developing internal mechanisms which link strengths in discovery science to pandemic preparedness

## VACCINES AND THERAPEUTICS

**Design and deliver programs that translate discoveries into vaccines and therapeutics, in partnership with commercial and other organisations, to make a meaningful contribution to health outcomes. To achieve this, we will:**

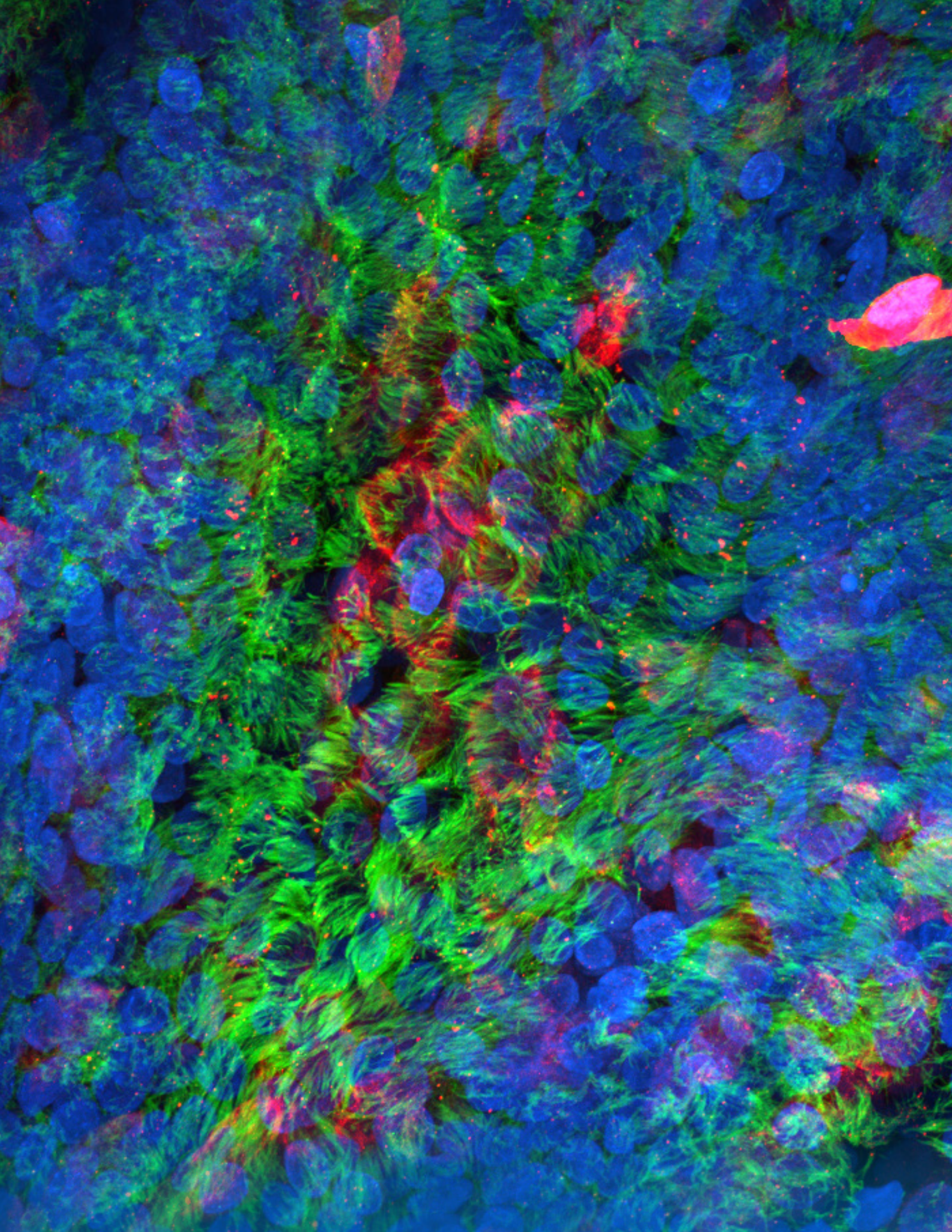
- Develop a Centre for Pandemic Therapeutics
- Expand the use of emerging technologies, such as mRNA
- Use expertise in immunology and microbiology to develop high-impact therapeutics and vaccines to solve key clinical problems
- Support, recruit and retain our workforce in discovery science and innovation while creating an enabling environment for rapid translation
- Define the role of the Doherty Institute, partners and industry within the product development pipeline

## CLINICAL RESEARCH

**Strengthen the infrastructure, processes and workforce to conduct impactful clinical research by:**

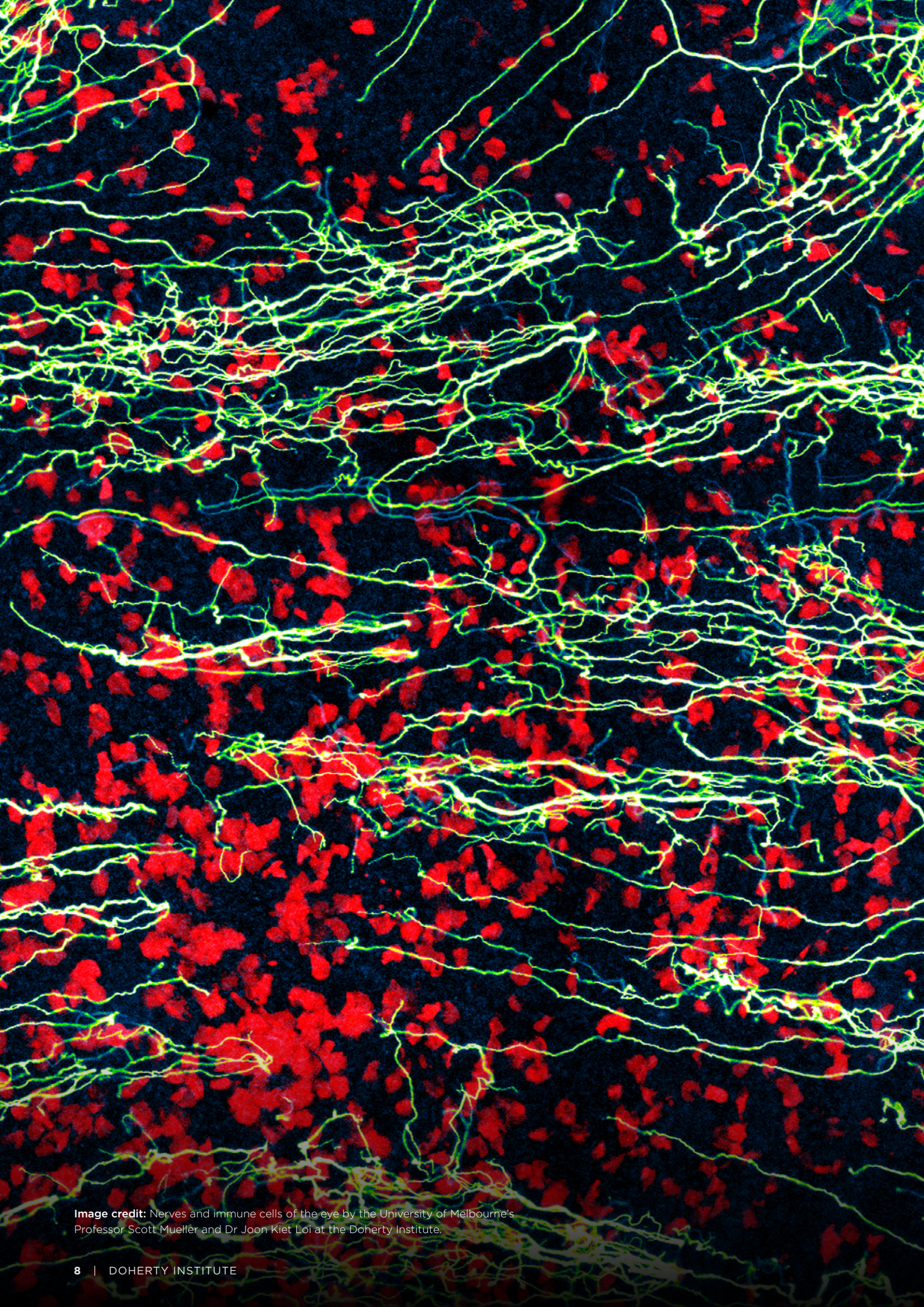
- Developing the Doherty Clinical Trials Unit
- Improving the exchange and sharing of patient bio-specimens and data to promote collaborations between basic researchers, public health researchers and clinicians
- Strengthening the nexus between clinical care and discovery science through problem-based research initiatives
- Inspiring the next generation of research active public health and infectious disease practitioners through the development of a defined clinician-scientist pathway
- Understanding and developing innovative solutions for the detection and management of infections in immunocompromised hosts





**Image credit:** Air-liquid interface Human Nasal Epithelium organoid culture by the University of Melbourne's Dr Bang Tran, Vincan Group at the Doherty Institute.





**Image credit:** Nerves and immune cells of the eye by the University of Melbourne's Professor Scott Mueller and Dr Joon Kiet Loi at the Doherty Institute.



## COMPUTATIONAL SCIENCE

**Accelerate Doherty's computational science capacity and become a world leader in the use of data, multi-omics and machine learning to answer critical questions in infection and immunity by:**

- Establishing computational sciences as a core Institute capability
- Creating a workforce and programs that capture emerging technologies to enhance the study of infection and immunity
- Establishing systems which support data integration and sharing across the Institute
- Leveraging on advances in e-records to inform research
- Capitalising on and enhancing the breadth of public health genomics research and service activities

## GLOBAL HEALTH

**Enhance the Institute's role in and contribution to global health through innovative interdisciplinary research and capacity building programs across the Region. To achieve this, we will:**

- Strengthen the relationship with Institut Pasteur and develop similar relationships with key regional stakeholders
- Capitalise on our existing portfolio with DFAT and build activities based on Institute expertise in targeted areas, such as AMR, blood borne viruses, reference laboratory capabilities and the development of evidence-based policy health policy
- Continue to develop our relationship with the World Health Organisation
- Develop a program to address the intersection between climate change and infectious diseases

## AUSTRALIAN INSTITUTE OF INFECTIOUS DISEASE

**As a Foundation Partner, deliver a facility which meets the long term needs of the Doherty Institute and creates a vibrant infectious disease ecosystem for Victoria, Australia and our region through collaboration and a shared vision. We will achieve this by:**

- Creating collaborative and inclusive strategic, mission driven research programs together with the AIID Foundation partners and the AIID Alliance
- Designing scientific platforms and collaborative spaces which build on our experience in our current facility and maximise utilisation and flexibility
- Developing and trialing new systems for space governance and allocation
- Developing and participating in national collaborative programs which support Australia's pandemic preparedness
- Piloting activities to reduce our carbon footprint and incorporate in the design of the AIID

# FOUNDATIONAL PILLARS

The 2022-2027 Strategic Plan posits five Foundational Pillars that underpin the Institute's ability to achieve impact. Under each pillar, there is a suite of strategies designed to drive the Institute's vision and mission over the next five years. Whereas the Areas for Acceleration are tightly defined programs ripe for investment, these strategies should permeate across all Institute planning, engagement and activities.

## EXCELLENCE

Demand excellence in research, education and public health at the heart of all of our activities

### STRATEGIES

- Continue to emphasise innovation as a foundation of discovery and translational science
- Learning from the COVID-19 experience, strengthen multidisciplinary science and the integration of research into public health
- Pioneer innovation and the application of emerging technologies, platforms, and novel methodologies
- Highly value and prioritise curiosity-led research as well as mission-led science within our activities
- Strengthen the nexus between clinicians and basic scientists through collaborative programs and pathways
- Evolve our organisational and governance structure to best catalyse and integrate a diverse core of activities
- Develop processes to measure impact of activities across research, education and public health

## PARTNERSHIP

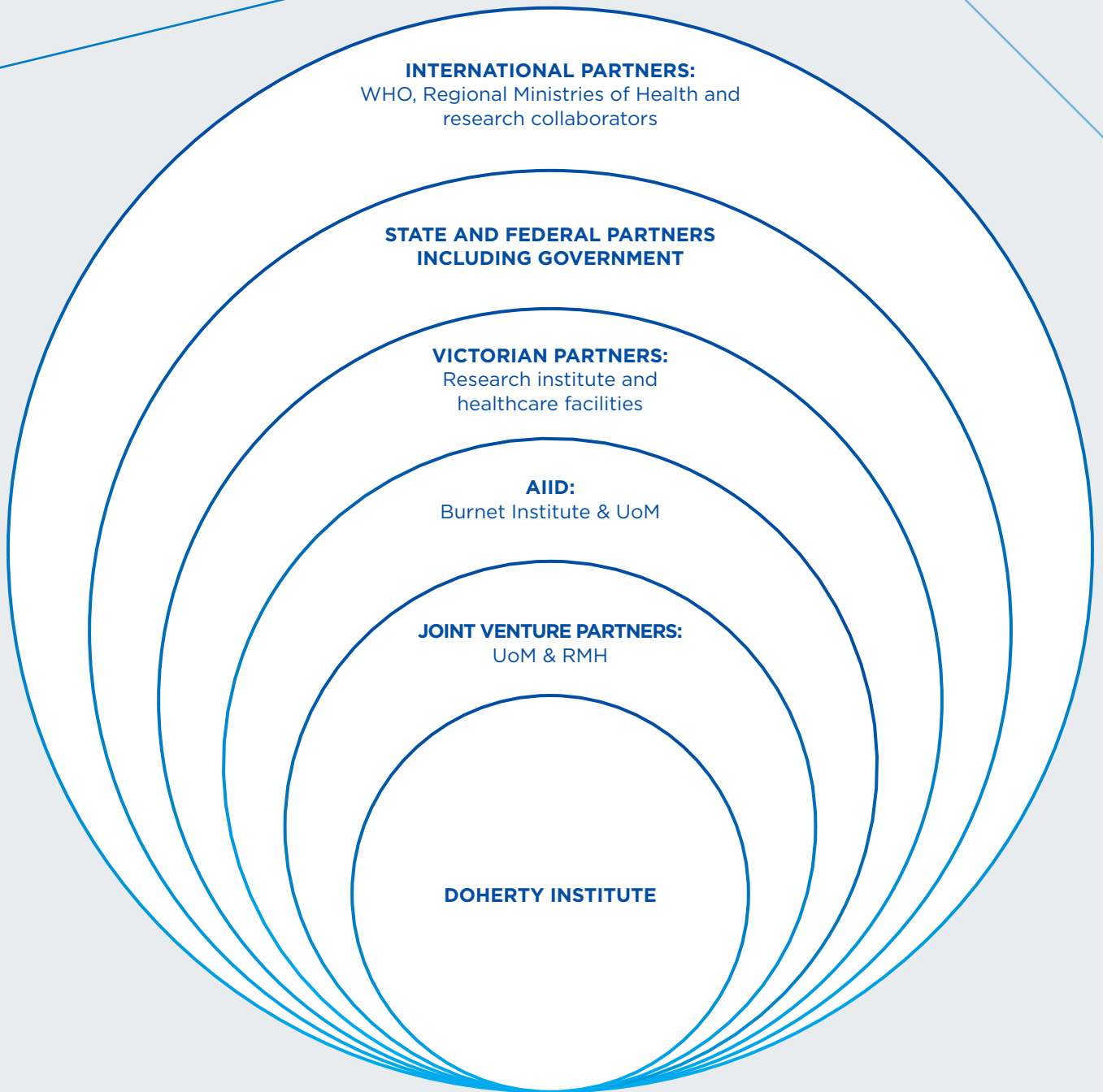
Maximise impact by operating as a collaborative and integrated Institute together with partners, stakeholders and communities

### STRATEGIES

- Through our engagement with our Joint Venture Partner Stakeholders harness multidisciplinary skills and knowledge from across the University of Melbourne and Royal Melbourne Hospital relevant to Institute activities
- Continue to develop and enhance the Doherty Institute's visibility, brand and reputation to build our collaborative potential, influence and funding base
- Provide greater opportunities for interactions between the Doherty Institute and industry to accelerate and foster innovation and entrepreneurial potential
- Towards a diverse funding profile, capitalise on recent considerable success in philanthropy through a pipeline of donations and legacies that are enduring and transparent
- Ensure that the communities we serve are a central consideration in all planning and activities
- Explore opportunities to increase meaningful collaborations with various stakeholders, communities and partners
- Continue to identify and develop formal strategic partnerships



# PARTNERSHIP MAP



## CULTURE

Reinforce a clear internal identity and culture that is aspirational, supportive and empowering for the delivery of our mission

### STRATEGIES

- Strengthen processes to sustain cross-pollination and synergies through a unified Institute culture across our entire workforce
- Support recruitment processes which are value-led, inclusive of diversity and rewarding of collaboration
- Embed Doherty Institute values into all activities, people management practices and platforms

## LEADERSHIP

Conduct world-leading discovery science, clinical practice, public health and education leading to knowledge, social and economic impact

### STRATEGIES

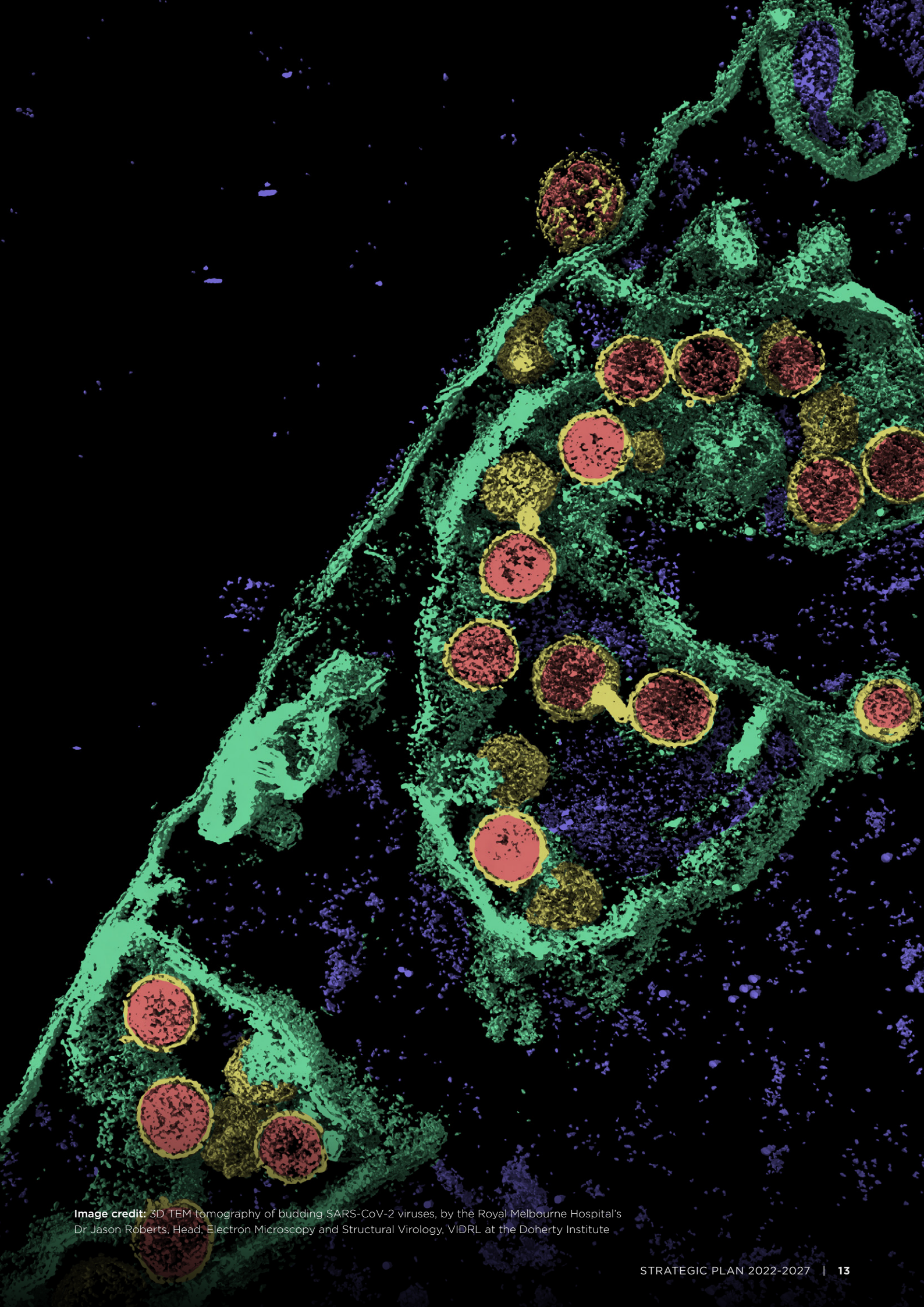
- Extend and strengthen relationships with policymakers to inform the development of evidence-based policy and action
- Develop a program of activities that encourages the next generation of scientists across various domains – secondary students, undergraduates, indigenous and vulnerable groups
- Create an environment and culture which encourages, enables and rewards leadership at all levels

## CAPACITY

Retain and attract world class staff and graduate researchers, and assist them to achieve their full potential in existing and emerging key areas

### STRATEGIES

- Assist individual departments to plan for succession through workforce analysis, knowledge and skills management
- Enhance the quality and attractiveness of the Doherty PhD program in order to recruit high quality graduate researchers and build meaningful career pathways
- Identify opportunities in the current teaching at an undergraduate level to allow for better integration with the activities of the Doherty Institute
- Identify and develop high potential emerging leaders in all fields and ensure retention strategies for outstanding performers
- Design, support and implement a policy to develop MCR and ECR capabilities across the Institute
- Create opportunities for and support of the careers of indigenous researchers, clinicians, staff, and students
- Ensure the Theme and CCDs are equally resourced, mobilised and recognised



**Image credit:** 3D TEM tomography of budding SARS-CoV-2 viruses, by the Royal Melbourne Hospital's Dr Jason Roberts, Head, Electron Microscopy and Structural Virology, VIDRL at the Doherty Institute





**Image credit:** Coronavirus COVID-19 glass sculpture by Luke Jerram










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