THE UNIVERSITY OF
SYDNEY

Sydney
Knowledge Hub

Year One in Review

October 2019 – October 2020

Introduction

The Sydney Knowledge Hub aims to foster a closer understanding between the University and the outside world. We strive to create a welcoming 'front door' that serves as both an entrance for small to medium organisations, and as an egress for research to leave campus and impact our lives.

We are proud of what we have achieved during this year of uncertainty, a year that very much had two distinct halves.

The first half was consumed with attracting great members and making the physical hub operational. By March, we had 100 industry partners and researchers in early-stage businesses using the space as their primary place of work. We spent most of our time connecting members to each other and increasing their exposure to the researchers, students, and resources at the University.

We had to adapt to people's shifting relationship with the workplace in the second half of the year. While initially we were fearful that the burgeoning community would disintegrate, we came out of lockdown with energy to broaden our impact beyond our member community, and to accelerate a culture of research commercialisation here at the University for members and non-members alike.

The driving force for our successful first year has been the appetite for collaboration from the faculty, multi-disciplinary institutes, and the Core Research Facilities. Personally, I've had a lot of fun getting acquainted with the people of the University and identifying areas of mutual interest and motivation.

It has been gratifying to take a step back to reflect on the last year. We're excited for the year ahead.

Rupal Ismin
Director, Sydney Knowledge Hub

The Team

Rupal Ismin
Director

Sarah Lacroix
Community Manager

Andrew Duong
Space Manager

Governing Council

Bill Simpson-Young
CEO, Gradient Institute

Julie Cairney
Pro-Vice Chancellor
(Research - Enterprise
and Engagement)

Duncan Ivison
Deputy Vice Chancellor (Research)

Kate May
Director of Alumni Relations

Kathryn Sunn
Commercialisation Manager

Tania Rhodes-Taylor
Vice Principal (External Relations)

Rupal Ismin
Director, Sydney Knowledge Hub

About Us

The Sydney Knowledge Hub helps researchers at the University of Sydney reach the people their research can ultimately benefit. We do this by supporting environments for researchers and industry to interact, both informally and formally.

Our coworking space located in the Merewether is the most visible example of this. 95 members use the Sydney Knowledge Hub as their primary place of work for their commercial activity. Members include industry partners that want to be physically closer to the researchers they work with, as well as staff and students in early stages of their IP-heavy startups.

The Sydney Knowledge Hub does very little alone. We work closely with faculty to run events, programs, and other initiatives supporting researchers on their journey to make the most impact possible from their work.

By the Numbers*

95
Members

17
Member
organisations

21
Events
Products

18
Student
placement

$3,054, 044**
Research income from
member collaborations

3.5
Avg. FTE
at member orgs

2.5
Avg. 12 mo. FTE growth
at member orgs

Our Value

Space: We help members access the space they need for their businesses, including coworking space, access to the Core Research Facilities, and maker spaces across the University.

Community and Events: We have co-produced 21 for members and for the broader research community, and hosted dozens more.

Wayfinding Within and Outside of the University: We help members connect to new parts of the University, and help researchers expand their network outside of the University.

Member Organisation Types
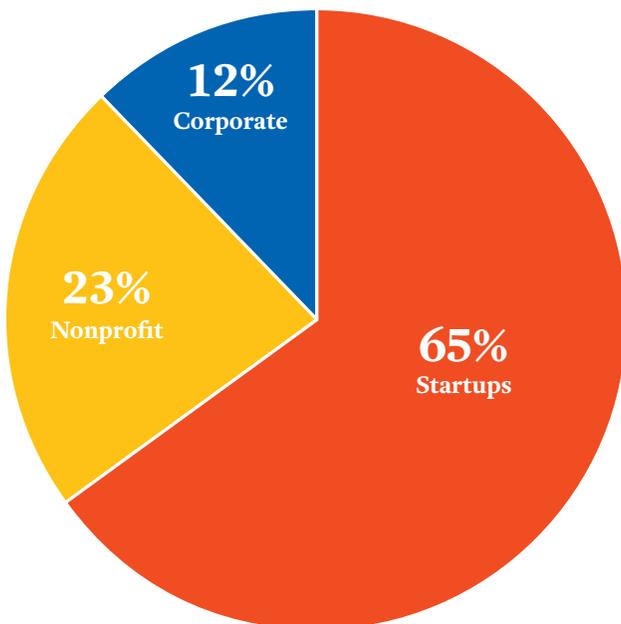
12% Corporate
23% Nonprofit
65% Startups

The Knowledge Hub, through the capable leadership of Rupal and her wonderful team, has assisted in introducing us to partners from across multiple disciplines. A connection to Westmead Breast Cancer Institute opened the door to meeting clinicians (who worked) with us... to start a local sample collection to validate the BCAL test. Introductions lead to academics at the University, which allowed discussions for ARC funding applications. We also connected with fellow Knowledge Hub start-up, DetectED-X, a breast cancer imaging start-up, about potential collaborations. These are just a few examples of the versatile connections established thanks to Sydney Knowledge Hub.

Dr Amani Batarseh
Chief Scientist, BCAL
October 2020

BCALdiagnostics
Breast cancer blood screening. For every woman, everywhere.

* This report includes metrics from 1 October 2019 – October 2020 from member surveys, sign up data capture, and member-report data. Snapshots in time are from 31 October 2020.
** Excludes University of Sydney funding contributions to the Digital Health CRC

Our Members

We only moved into the Knowledge Hub about a month ago but have already been really enjoying the space and being around other like-minded startups. There are some great opportunities for collaboration we see coming up in the near future, such as using the manufacturing facilities to assist with next-gen prototyping. We are also looking to hire our first employees and the university presents a great avenue to find talent!

Matt Boustred
Co-Founder, ResusRight
November 2020

Supporting Researchers with Industry Engagement and Commercialisation

The Sydney Knowledge Hub supports researchers on their industry engagement and commercialisation journey. Much of our work is done in collaboration with other parts of the University including the Pre and Post Awards team in the Research Portfolio, the Innovation Hub, faculties and schools. Below includes some of the initiatives that we have led.

We are always on the lookout for motivated partners internally and externally to bring ideas that provide support for industry engagement and commercialisation to life.

Awareness and Inspiration of Opportunities

Producing and hosting events that showcase research translation from and in conjunction with the University. Events include:

- **Spark Festival:** Organised events on research commercialisation as part of this startup festival attracting over 450 viewers

- **Commercialising Medical Diagnosis Tools:** With the Kolling Institute, held an event on research translation with speakers from Faculty of Medicine and Health, Uniseed, BCAL Diagnostics, and DetectED-X

- **CSIRO On Demo Day:** Hosted the demo day for the research-based startups from the CSIRO On Program.

Trust Building with Industry

Supporting discussions and networking between industry, government, and researchers at the University. Events include:

- **Smart Agriculture – The Present, the Future and the Opportunities:** Co-produced an agriculture technology event with XAG and the China Studies Centre

- **National Smart Sensing Network:** Hosted and introduced the first networking event for the NSSN

- **Engineering Robust AI Systems:** Held a panel discussion hosted by Gradient Institute and the Warren Centre with industry, government, and AI researchers in attendance.

Funding Mechanisms

Partnering with the Business Development Managers to promote, educate and connect industry partners and researchers on funding opportunities between the two sectors. Events include:

- **Cooperative Research Centre Program:** Hosted an introduction on CRCs led by Tony Peacock, CEO of the CRC Association along with successful CRC funding recipients

- **Funding Spotlights:** Educated researchers on grants such as the CSIRO Kick Start Program, Innovation Connections, and federal grants overview

- **NSW Treasury R&D Challenge:** Administered an industry/research institution challenge, which secured $350k of prize money awarded to DetectED-X and V-Breathe

- **Core Research Facilities Lab Packages:** Joint lab offerings for BCAL Diagnostics in Sydney Mass Spectrometry and Archer Materials in Research Prototype Foundry.
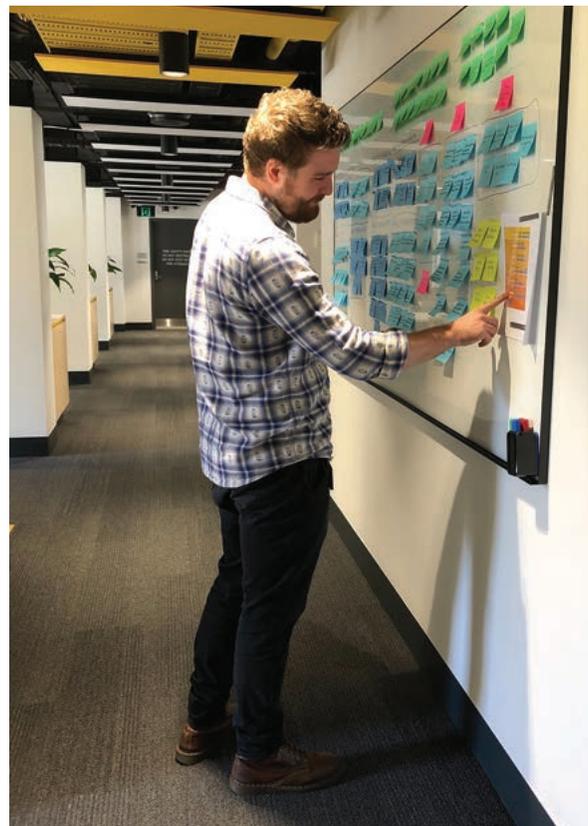
Lewis Collins from Bioscout looking at our a university map, presenting a birds eye view of groups at and structure of the University

A Values-Driven Community

Nurturing a community that aims to be inclusive, ethical, socially responsible, and culturally competent with initiatives such as:

- International Women's Day event
- Acknowledgement of and Welcome to Country session
- Engineering Robust AI Systems event
- Diversity and Inclusion training sessions
- Cultural Competency Leadership Program hosting
- Space and Community Managers in the USYD Ally Network.

Startup Support

Holding events and ushering in introductions for members and researchers to start and scale their startups. Events include:

- **IP and Law with Aperion Law**
- **Hacky Hour with the Sydney Infomatics Hub**
- **Commercialisation Office Hours with Paul Young and Rupal Ismin**
- **What Investors Look for in Digital Health with MTP Connect.**

Sydney Knowledge Hub has been significant contributors to the Spark Festival program in both 2019 and 2020. In both those years they have hosted conversations and shared knowledge around the commercialisation of research, a topic of critical importance to the Australian economy. In doing so they have also contributed to bridging the gap between the startup community and universities.

Maxine Sherrin
Program Director
Spark Festival

Supporting Students and Early and Mid-Career Researchers

Judging, advising, and supporting student and EMCR events and industry engagement opportunities including:

- Summer Law Innovation Program prize support
- SEMCAN Viral Bytes competition judge
- Biodesign Program judge and prize support
- Inventing the Future judge
- New Business Opportunity and Startups (Business School) course mentor
- Industry-led capstone projects.

Selected Member Wins

Awards and Grants

- Bioscout won the Australian Agripreneur of the Year in the Future Agro Challenge.

- Archer Materials received a NSW Tech voucher and a CSIRO Innovation Innovations grant for its work within the Research Prototype Foundry.

- NSW MVP Grant recipients include Lucigem, Virtupharma, and DetectED-X.

- DetectED-X additional grants include awards from NSW Treasury, CSIRO, and the Medical Research Future Fund.

Firsts

- Sydney Quantum Academy funded over 80 fellows and students in 2020.

- Gradient Institute co-developed the NSW Artificial Intelligence User Guide, now mandatory for all NSW government agencies using AI, for guidance on responsible use of AI.

- Archer Materials has built a quantum device required for initial qubit control measurements as part of its 12CQ room-temperature quantum computing qubit processor.

University Research Collaborations

- Virtupharma trialled their minimum viable product on a virtual center for high-end equipment with the School of Pharmacy to train students remotely.

- BCAL Diagnostics is working to commence an early clinical trial to test the ability to identify the presence of breast cancer in blood. The introduction to Dr Dinny Graham via SKH facilitated establishing the Westmead clinical team for the next phase of trial.

- CHUR Networks contracted work with Dr Dong Yuan and colleagues in the School of Electrical and Information Technology on research on indoor location through deep learning.

We are proud to see our members working with all parts of the University, whether it is for events, work placements or research. Every project is an opportunity to involve industry more deeply into our University community. What we do is help our members build deep relationships with our colleagues which leads to bigger research and educational impact in the future.

Sarah Lacroix
Community Manager

Highlights from this Year

Going from 0 to 100

We went from an empty space to 95 members, representing 17 organisations

Member-focused events have created a sense of community

Connecting members to the University

The University of Sydney had over **$3 mil** in research income from collaborations with members. **40%** of member organisations have collaborated with researchers at the University; **18** student work placements were facilitated

NSW Chief Scientist gives staff card details to access to the Sydney Knowledge Hub

Making industry partners feel welcome, comfortable, and connected to sometimes unforeseen parts of the University has been very rewarding. A highlight for me personally was inviting Professor Jaky Troy and Katie Moore to deliver an insightful Acknowledgement of Country session. The hour-long session rolled into a wonderfully intimate two hours. Our members walked away with a greater understanding of the importance of an Acknowledgement of Country and confident in their ability to deliver a personalised recognition of the traditional custodians of our great country in the future.

Andrew Duong, Space Manager
Sydney Knowledge Hub

Gathering place

The space has established itself as a meeting place for commercialisation events and industry engagement activities. We co-produced 21 events and hosted 52 events.

The Warren Centre and Gradient Institute hosting a panel on Engineering Robust AI Systems

Member Snapshot

BCAL Diagnostics

Amani Batarseh from BCAL Diagnostics talks about why her work is important and how the Sydney Knowledge Hub is helping BCAL achieve their aims.

Tell us about BCAL Diagnostics

BCAL Diagnostics is developing and commercialising a universal screening test for early detection of breast cancer by analysing lipids in the blood. It aims to shift the paradigm in breast cancer screening by introducing a blood test for detection of the disease that can help women regardless of age, race and geographic location and is accessible to women everywhere.

Breast cancer is the most common cancer amongst women. Therefore, improving the effectiveness of the screening and diagnosis technology used is a high priority. The implication of such a technology could revolutionise the way we manage breast cancer by allowing a blood sample to be taken remotely from the site of analysis. BCAL was co-founded by Ms Jayne Shaw and The Honorary AO Ron Philips, ex-minister of health for NSW. They bring together extensive experience in the health sector, specifically women's health.

Why did BCAL decide to join the Sydney Knowledge Hub?

We became members of the Sydney Knowledge Hub primarily to:

- Collaborate on ARC Linkage grants
- Offer student work placements
- Work nearer to Sydney Mass Spectrometry
- Develop clinical and strategic partnerships with Sydney University and the RPA campus

Dr Ben Crossett, the manager of Sydney MS approached BCAL in Jan 2019 to invite us to meet the earlier team that was establishing SKH, for he saw the value and synergy in the mission of SKH and the needs of BCAL as a small promising start-up.

How has joining the Sydney Knowledge Hub been beneficial to you?

As BCAL progressed, we started expanding our operations, which required a more space and access to facilities and systems that the University could provide. The Hub has been instrumental in providing us access to core facilities and services and worked quickly to address several of our needs and getting us set up. The various networking opportunities, partnerships, and webinars were all vital in helping me spread the BCAL mission. As was the introductions to key contacts in the commercialisation team at University and Westmead. Most of all, having the opportunity to be in an environment with other companies that are going through similar experiences gave us support, a sense of belonging, and the energy to keep going.

Tell me about a project or initiative that you've collaborated with the University on or are planning to collaborate on

We are very excited that surgeons at LifeHouse, RPAH and NSW BreastScreen are considering running a pilot study with the BCAL test to assess its clinical utility. Part of this pilot, we want to apply machine learning and AI to enhance the accuracy of our test by training an algorithm on real-world samples. We have also reached out to other start-ups at the Knowledge Hub that may be interested in joining our initiative.

What connections have you made at the University through joining the Knowledge Hub?

The Knowledge Hub, through the capable leadership of Rupal and her wonderful team, has assisted in introducing us to partners from across multiple disciplines. A connection to a Breast Cancer research group at Westmead Breast Cancer Institute opened the door to meeting clinicians at Westmead Hospital, who began working with us along with clinicians from LifeHouse and RPAH on an ethics application to start a local sample collection to validate the BCAL test. Introductions to the commercialisation department connected us with lead academics at the University, which allowed discussions for ARC funding applications. We also connected with fellow Knowledge Hub start-up, DetectED-X, a breast cancer imaging start-up, about potential collaborations. These are just a few examples of the versatile connections established thanks to Sydney Knowledge Hub.

November 2020

Member Snapshot

ResusRight

Matthew Boustred from ResusRight talks about his company and his experience being a member of the Sydney Knowledge Hub.

Tell us about ResusRight and how it got started

ResusRight's mission is to revolutionise newborn delivery room resuscitation. Every year a million babies die, and another million babies are left with a disability, due to a lack of oxygen at birth.

We've developed a low-cost monitoring system to help clinicians get resuscitation right and reduce the numbers of babies who die or are left with a disability. The idea is that it provides clinicians feedback on whether they are resuscitating correctly so that they have confidence in an extremely stressful situation that they are optimising ventilatory support of the infant.

We founded the company at the beginning of the year based on research conducted by one of our co-founders, the erudite Dr Mark Tracy, and development work was carried out by my other co-founder, Matt Crott, and myself.

Over the past eight months, we've been powering through product development. We're currently raising a seed round to move into the next stage of execution.

How has the Sydney Knowledge Hub benefited your business?

We only moved into the Knowledge Hub about a month ago but have already been really enjoying the space and being around other like-minded startups. There are some great opportunities for collaboration we see coming up in the near future, such as using the manufacturing facilities to assist with next-gen prototyping. We are also looking to hire our first employees and the University presents a great avenue to find talent!

What are some opportunities and advantages that have come about from working on the University campus?

When we moved into the SKH, there was a lot of talk about the death of the office and the move to working from home. I can say with certainty that the advantages of a physical working space will never be replaced! The opportunity for face to face collaboration, the serendipity of water-cooler chats, and the ability to build a team culture are all invaluable for any company. For a startup, with a grow or die mentality and who to some extent lives flying by the seat of their pants, it is irreplaceable.

We've also loved getting to know other startups in the space like Streamplate. The Sydney Knowledge Hub team of Rupal, Andrew and Sarah are all amazing and have been helpful in finding us practical resources like IP advice and putting us in touch with useful contacts from their network.

November 2020