



# The UNSW Scientia Program: Annual Report Summary 2021

*As at 31/12/2021*

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## The UNSW Scientia Program: 2021 Annual Report

### Status Summary

The UNSW Scientia Program is one of the cornerstones of the UNSW 2025 Strategy, which outlines innovative and ambitious targets to ensure delivery of excellent research and education that reflect significant social engagement and global impact. The primary goal of the UNSW Scientia Program is to enhance UNSW's research performance by attracting and retaining exceptional early- and mid-career researchers. Scientia academics are leaders in their fields, focusing on improving lives globally through innovative research, transformative education, and commitment to a just society. The Scientia Program supports early to mid-career academics to become the stellar research leaders of the future.

The Scientia Program has appointed the following academics since 2017 (as per Table 1: Appointment Statistics by Faculty 2017-2021):

- Total appointments 127
- Internal appointments 71/127 (56%)
- Indigenous researcher appointments 10/127 (8%)
- Female appointments 67/127 (53%)
- Women in STEM (of all appointments in STEM) 29/63 (46%)
- As at 31/12/2021, 25 Scientia academics have exited the Program: 10 promoted, 6 left UNSW, 1 not applied and 8 non-renewed.
- 29 of 37 (78%) Scientia academics have had their appointments renewed following review of their first terms.

To date in 2021, **11 new Scientia academics** have been appointed, (55% external and 55% female) **of whom 7 are on external fellowships** (as per Table 2: Recruitment Outcomes 2021 by Faculty). They are all outstanding researchers working on high-impact projects.

### The Program's Benefits and Impact

Scientia academics have significantly boosted UNSW's research profile, e.g., by directly contributing to UNSW's leap ahead in international rankings. Scientia academics have received a significant number of international and national awards, external grants, and external fellowships, indicating the excellence of their contributions to UNSW and to society.

- **Five** Scientia academics are highly cited researchers.
- Many Scientia academics have been honoured for their research, receiving highly prestigious national and international awards and prizes. These distinctions demonstrate the significant impact of their research (as per Table 3: Scientia Program Awards).

Scientia academics consistently publish in top journal outlets: e.g., from 2017 - 2021, they produced **16 publications in *Nature and Science*** and **314 publications in *Nature Index*** (status 1/12/2021).

- Scientia academics' research is recognised for being of high societal impact. 2021 highlights include the following:
  - Rona Chandrawati, awarded the 2021 Premier's Prize for NSW Early Career Researcher of the Year (Physical Sciences);
  - Xiaojing Hao, awarded the Australian Academy of Science Pawsey Medal;
  - Orazio Vittorio, awarded a Young Tall Poppy Science Award;
  - Lina Yao, was awarded first place in the inaugural international Women in AI Awards;
  - Andrey Miroshnichenko+, named as one of *The Australian's* top Superstars of Research in 2021;
  - Simon Rosenbaum, Rebecca Collie and Wing Kwan (Derrick) Ng, were named in the top 40 of *The Australian's* Top Rising Stars in Research 2021;
  - Haris Aziz and Wing Kwan (Derrick) Ng, were named in *The Australian's* top 250 Researchers in 2021;
  - Mariana Mayer Pinto, finalist in the Duke of Cambridge's inaugural Earthshot Prize;
  - Brett Hallam and Rona Chandrawati, finalists in the Eureka Prize;
- Since 2017, the total grant income awarded to UNSW for which Scientia academics are named CIs is approximately **\$295 mil**. Of this total, Scientia academics are lead CIs for projects worth **\$76 mil** in grant income (status 1/12/2021).
- The Program directly addresses key UNSW equity targets, e.g., to date it has supported 10 Indigenous early career researchers, which represents the highest investment in Indigenous researcher support of any other UNSW scheme.

**TABLE 1 - Scientia Program External Awards as at 31/12/21**

Year	Award	Scientia	Faculty
2021	2021 Premier's Prize for NSW Early Career Researcher of the Year (Physical Sciences)	Rona Chandrawati	Engineering
2021	Australian Academy of Science Pawsey Medal	Xiaojing Hao	Engineering
2021	NSW Young Tall Poppy Science Award	Orazio Vittorio	Medicine
2021	Highly cited researcher	Wing Kwan (Derrick) Ng	Engineering
2021	Highly cited researcher	Da-Wei Wang	Engineering
2021	Highly cited researcher	Yi Liu	Engineering
2021	Highly cited researcher	Simon Rosenbaum	Medicine
2021	Highly cited researcher	Andrey Miroshnichenko +	Canberra
2021	Women in AI Awards First Place	Lina Yao	Engineering
2021	Connected Health Catalyst Award	Hamid Alinejad-Rokny	Engineering
2021	<i>The Australian's</i> Top Superstars of Research	Andrey Miroshnichenko +	Canberra
2021	<i>The Australian's</i> Research Top Rising Stars	Rebecca Collie	ADA
2021	<i>The Australian's</i> Research Top Rising Stars	Simon Rosenbaum	Medicine
2021	<ul style="list-style-type: none"> <li>• <i>The Australian's</i> Research Top Rising Stars</li> <li>• <i>The Australian's</i> Top 250 Researchers</li> </ul>	Wing Kwan (Derrick) Ng	Engineering
2021	<i>The Australian's</i> Top 250 Researchers	Haris Aziz	Engineering
2020	Prime Minister's Prize Science: Malcolm McIntosh Prize for Physical Scientist of the Year	Xiaojing Hao	Engineering
2020	Future Fellowship	David White	Science
2020	<i>The Australian's</i> Research 2020 Early Achievers Leaderboard – Australia's top 40 young researchers	Simon Rosenbaum	Medicine
2020	<i>The Australian's</i> Research 2020 Lifetime Achievers Leaderboard – Australia's top 40 researchers	Andrey Miroshnichenko +	Canberra
2020	<i>The Australian's</i> Research 2020 Australia's research field leaders – Game Theory and Decision Science	Haris Aziz	Engineering

2020	<ul style="list-style-type: none"> <li>Australia's Most Innovative Engineers 2020, Engineers Australia</li> <li>Ramaciotti Health Investment Grant, Ramaciotti Foundations</li> </ul>	Rona Chandrawati	Engineering
2020	2020 Outstanding Cancer Research Fellow – Early Career Fellow, the Cancer Institute NSW	Orazio Vittorio	Medicine
2020	IEEE Stuart R. Wenham Young Professional Award	Brett Hallam	Engineering
2020	Research Action Award, the Sax Institute	Rohina Joshi	Medicine
2020	Early Career Award, American Educational Research Association	Rebecca Collie	FASS
2020	NSW Heart Foundation Cardiovascular Research Network Professional Development Award	Luna Xu	Medicine
2020	APSA ANZSOG Policy Studies Prize	Kari Lancaster	FASS
2020	Highly cited researcher	Wing Kwan (Derrick) Ng	Engineering
2020	Highly cited researcher	Da-Wei Wang	Engineering
2020	Highly cited researcher	Andrey Miroshnichenko +	Canberra
2020	Highly cited researcher	Simon Rosenbaum	Medicine
2019	Highly cited researcher	Wing Kwan (Derrick) Ng	Engineering
2019	Highly cited researcher	Da-Wei Wang	Engineering
2019	Highly cited researcher	Andrey Miroshnichenko +	Canberra
2019	Highly cited researcher	Simon Rosenbaum	Medicine
2018	Highly cited researcher	Wing Kwan (Derrick) Ng	Engineering
2019	50 Young Scientists under 40, World Economic Forum	Rona Chandrawati	Engineering
2019	<ul style="list-style-type: none"> <li>NSW Premier's Prizes for Science &amp; Engineering (ECR of the Year – Biological Sciences)</li> <li>NSW Young Tall Poppy Science Award</li> <li>NSW Young Woman of the Year</li> <li>Young Investigator Award, Society of Free Radical Research International</li> </ul>	Angelica Merlot	Medicine

2019	<ul style="list-style-type: none"> <li>• Superstars of STEM 2019</li> <li>• Lowitja Institute Emerging Aboriginal and Torres Strait Islander Researcher Award</li> </ul>	Kalinda Griffiths	Medicine
2019	Dorothy Hill Medal, Australian Academy of Science	Laurie Menviel	Science
2019	Admission as Academic Member to the Australian College of Strata Lawyers	Hazel Easthope	Built Environment
2019	Australia's Most Innovative Engineers 2019, Engineers Australia	Xiaojing Hao	Engineering
2018	NSW Premier's Prizes for Science & Engineering (Energy Innovation in NSW)	Xiaojing Hao	Engineering
2018	Leading lights of solar technology named in 40 Under 40	Bram Hoex +	Engineering
2018	Leading lights of solar technology named in 40 Under 40	Alison Ciesla	Engineering
2018	<ul style="list-style-type: none"> <li>• Leading lights of solar technology named in 40 Under 40</li> <li>• JG Russell Award, Australian Academy of Science</li> <li>• NSW Premier's Prizes for Science &amp; Engineering (Energy Innovation in NSW)</li> <li>• Australia's Most Innovative Engineers 2018, Engineers Australia</li> </ul>	Brett Hallam	Engineering
2018	NSW Young Tall Poppy Science Award	Aliza Werner-Seidler	Medicine
2018	Dorothy Hill Medal, Australian Academy of Science	Tracy Ainsworth	Science
2018	Early Career Researcher Award, International Society for the Study of Drug Policy	Kari Lancaster	FASS

+ Promoted to level E in 2020