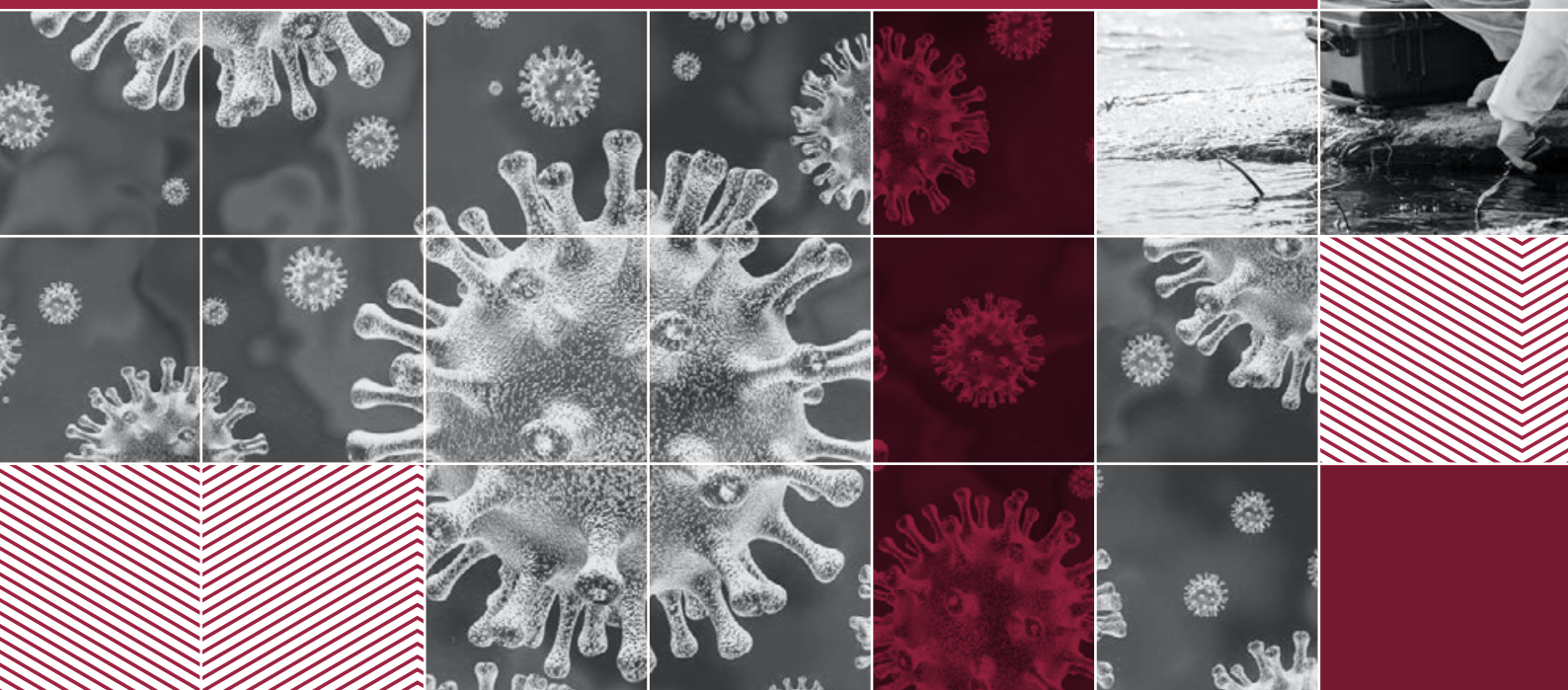
Professional Scientists Australia

Science & Technology AUSTRALIA

THE INITIAL EMPLOYMENT IMPACT OF THE COVID-19 PANDEMIC ON AUSTRALIA'S SCIENCE WORKFORCE



NOTE:

Conducted in May 2020, the 2020-21 Professional Scientists Employment and Remuneration Survey looked at the employment impact of COVID-19 on Australia's professional scientists.

It asked how the pandemic was affecting job security, working hours, caregiving responsibilities and well-being for scientists and researchers.

As well as contributing survey data, respondents made comments about how the pandemic was affecting them and their work – and this commentary features throughout the report.

The impact of COVID-19 is a rapidly developing area of research with frequent updates. This report was accurate when written, yet the authors note the impact will likely evolve as the pandemic continues.

Professional Scientists Australia and Science & Technology Australia invite readers to check for future updates.

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FOREWORD

"Sometimes it takes a pandemic to truly value scientists – particularly with the push to develop a vaccine."

The COVID-19 pandemic has hit Australia's economy hard.

The Australian Bureau of Statistics estimates 2.7 million people (around one in five workers in Australia) either lost their job or had their paid work hours fall between March and April 2020.

A staggering 594,300 jobs were lost in April alone.[1]

Australia's scientists have been on the frontline of our nation's response to the public health crisis and the global race for a vaccine.

Yet they have also faced job losses, cuts to paid work hours, and a vast unpaid workload of caregiving and distance learning supervision for children at home amid school closures.

This survey of 1,059 scientists, taken in May 2020, gives further insights into the early picture of the impact of the pandemic on Australia's scientific workforce.

One in 20 scientists in the survey had taken a pay cut, and one in 10 (10.3%) said their paid work hours had fallen.

Around 7 in 10 had been instructed to work from home, and almost one in three said physical distancing and home isolation had limited their work.

One in seven said their work role had changed during the pandemic, and nearly one in four said anxiety/ mental distress caused by the pandemic was affecting their ability to work.

One in five said caring for children/home schooling had limited their ability to work.

A lack of job security was a key source of stress affecting mental health and well-being.

This new data adds to the evidence and modelling of recent months collected by the Australian Bureau of Statistics and the Rapid Research Information Forum, chaired by Australia's Chief Scientist.

Australia's scientific and technical services industry recorded job losses of 5.6% from mid-March to mid-April 2020, with jobs down 6.3% for women compared with 4.8% for men.[2]

Without extra support, further science job losses are anticipated, as the economic impact of the pandemic on major science employers such as universities and research institutes worsens.

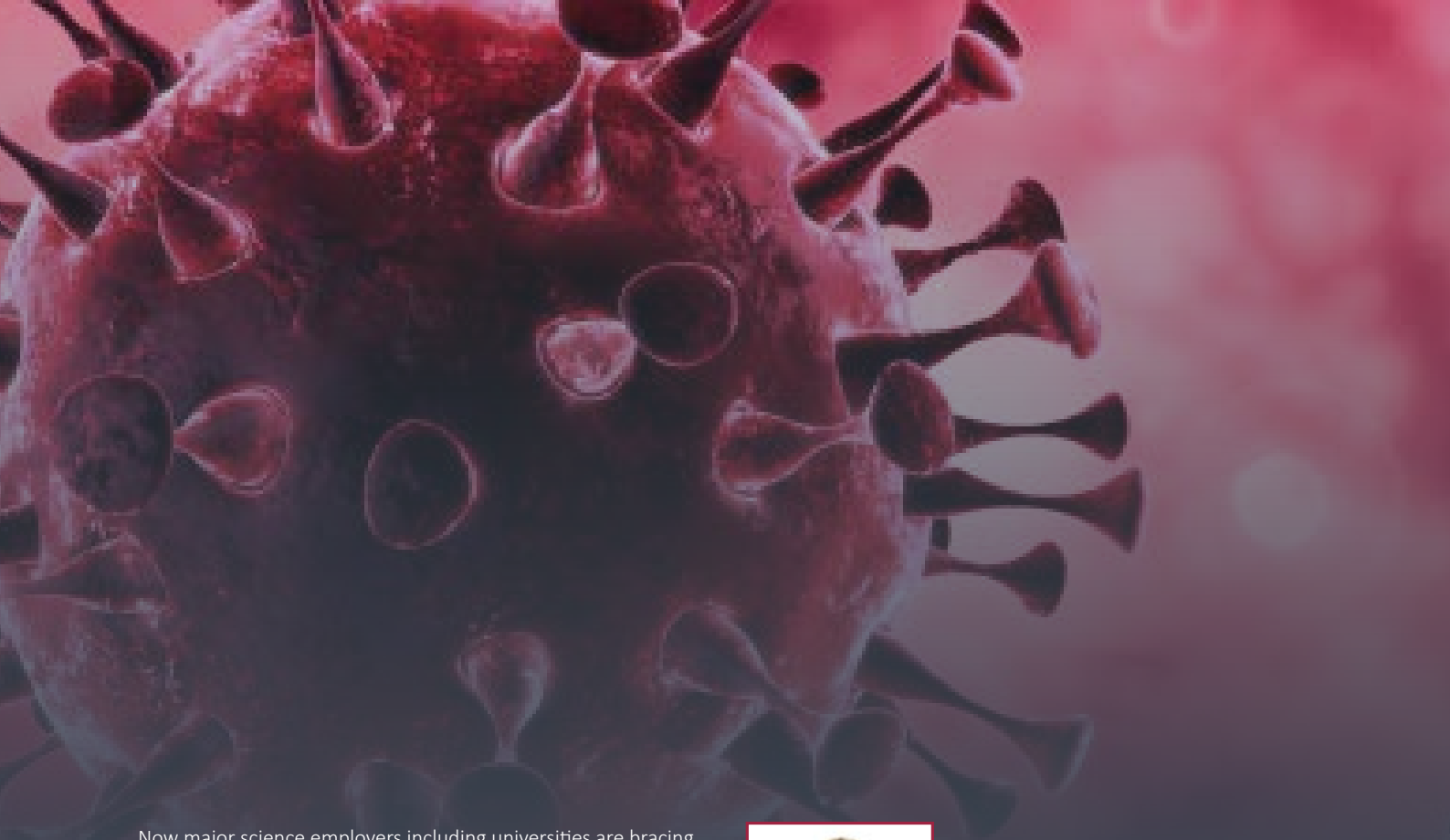
An estimated 21,000 jobs – 7,000 of them research staff – are projected to be lost from Australian universities alone, a recent report by the Rapid Research Information Forum found.[3] This represents one in seven university staff.[4]

Staffing cuts, stand-downs and reduced hours have already begun to affect scientists.

One survey participant told us they fear the loss not only of their job, but also of their home.

Many laboratories, fieldwork sites and research centres were shut down in the early stages of the pandemic, with some research trials and projects lost entirely.

Other research efforts were set back profoundly with major disruptions and delays.



Now major science employers including universities are bracing for a fall in international student income over the next two years.

Confidence also needs to be rebuilt to encourage private sector investment in research and development – which was already falling relative to the size of our economy before the pandemic.

Science and technology must play a crucial role in our national economic recovery.

A stronger investment in the science and technology workforce as part of our economic reconstruction efforts would help to set our economy up for growth and job creation.

On a bright note from the survey, Australia's scientists now sense an even stronger level of support from the Australian public for their crucial work.

Almost six in 10 scientists in the survey said Australians placed greater value in science and our nation's professional scientific workforce as a result of the COVID-19 pandemic.

This strong public support is helping to propel our scientists to new successes, even amidst the vast challenges posed by this pandemic.

Science and research are crucial to create new jobs, boost productivity and grow smart new technology-enabled industries here in Australia.

Our capacity to rebuild a growing, competitive Australian economy depends on it.

Gordon Brock,
CEO, Professionals Scientists Australia

Misha Schubert,
CEO, Science & Technology Australia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160

KEY FINDINGS

OF THE SCIENTISTS SURVEYED:

Almost six in 10 scientists surveyed (56.7%) said Australians place greater value on science and our nation's professional scientific workforce as a result of the COVID-19 pandemic.

More than one in four (27.7%) had opted to work from home, and 67.6% had been directed to work from home. Some surveyed scientists said they were not permitted to work from home, even though they thought it was feasible.

Nearly one in four (23.2%) said anxiety/mental distress due to the pandemic was affecting their ability to work.

One in 10 scientists in the survey (10.3%) said their paid work hours had fallen – with full-time salaried employees the least affected.

Just under one in three (29.8%) said physical distancing was limiting their work.

Around one in five (19.6%) said caring for children/home schooling had reduced their ability to work.

One in 20 (5.5%) had taken a pay cut as a result of the COVID-19 pandemic.

One in seven (15.7%) had their role or responsibilities at work changed.

A lack of job security was a key source of stress affecting mental health and well-being.

EMPLOYMENT IMPACTS

CONTRACT RENEWALS, STAND-DOWNS AND TERMINATIONS

"Staffing levels were dramatically reduced and staff continue to be supported by the Government JobKeeper supplement."

Jobs in the professional, scientific and technical services sector fell by 7.9 per cent between March 13 and April 4.[5]

Evidence suggests even worse is yet to come.

The recent Rapid Research Information Forum report on the impact of the pandemic on the nation's research system concluded major research job losses were likely over the next six months.

It anticipated university job losses of up to 21,000 jobs, including 7,000 in research roles.

It also noted job losses may extend to non-university research staff with organisations like medical research institutes losing income from with philanthropy, investments and commercial sources.[6]

Conducted in the first two months of the pandemic before those further anticipated major job losses, this survey asked about contract renewals, stand-downs and job terminations.

TABLE 1 – CONTRACT RENEWALS, STAND-DOWNS AND TERMINATIONS

Nature of stand-down	% of sample who had experienced
My employment was terminated by my employer.	0.9
My contract has not been renewed.	2.9
I have been stood down without pay by my employer.	0.9

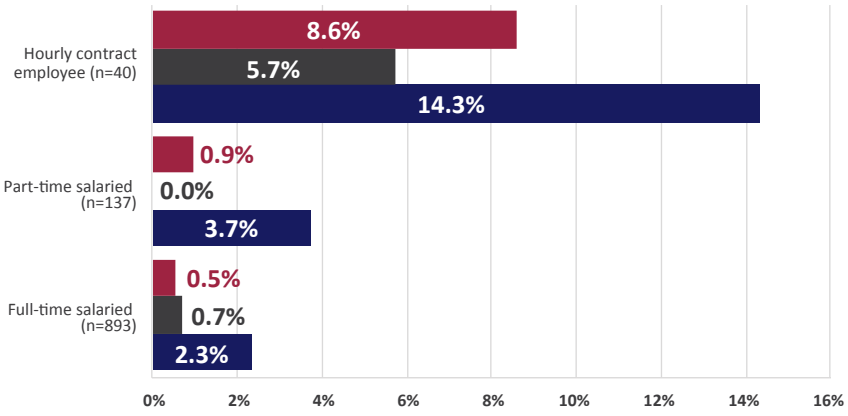
If these percentages were applied to the whole scientific workforce, they would represent hundreds of jobs lost and contracts not renewed.

The comments from scientists in the survey suggest that stand-downs are taking a range of temporary and permanent forms beyond the options asked in the survey.

TABLE 2 – COMMENTS - CONTRACT RENEWALS, STAND-DOWNS AND TERMINATIONS

My contract should have been renewed for 2 years but was only renewed for 1 year instead.
Staffing levels were dramatically reduced and staff continue to be supported by the Government JobKeeper supplement.
Potential visa issues when my fixed term contract finishes and the visa is discontinued if contract is not renewed or new positions are available with the employer. I will have to leave the country and travel is unadvised. Very stressful and unnerving.
My job was being made redundant before the pandemic happened; the pandemic has made the search for new employment near impossible.
My university is considering applying salary reductions by the end of May 2020. In addition, voluntary measures were proposed in April 2020 including salary reduction, taking leave and early retirement. Over 1,000 submitted applications for these voluntary measures.
Have not been allowed to work from home. Due to funding bodies delaying decisions on funding rounds, I will not have a job come July 1st.
My contract will not be renewed.
I have taken on more work and am busier than ever. My future at my workplace is more uncertain, as we were in the middle of a restructure that has now been put on hold which means my contract may end before I have the chance to be considered in the restructure appointments.
The COVID-19 pandemic has come at a time when my contract was soon to expire. Many opportunities for continued work are also on hold i.e. funding from industry for research. This has been coupled with a period of reduced productivity due to school holiday extensions, lack of school after hours care and remote working. This has led to extreme stress due to likely loss of job and house as a result.
My postdoc contract expires at the end of 2020 and with the pandemic it's clear that the resources to extend this have been significantly curtailed.
Worried about future of contract – due December 2020 – not sure if it will get renewed.
University freeze on casual employment means that I will not have sessional income in semester 2 this year. The university is not eligible for JobKeeper.

FIGURE 1 – PREVALENCE OF CONTRACT NON-RENEWALS, STAND-DOWNS AND JOB TERMINATIONS BY EMPLOYMENT STATUS



PAY CUTS, FREEZES AND FINANCIAL HARDSHIP

"We are being asked to take a pay cut while being asked to work more each week which realistically means they are asking you to work 70 hours a week so now half your time will be unpaid."

One in 20 scientists surveyed had taken a pay cut as a result of the COVID-19 pandemic.

Many employers are proposing a wage freeze or deferral of pay increases amid a dramatic collapse in revenue. As we move into the next phase of the COVID-19 crisis, the risk to scientists' jobs will become even more acute.

As we move into the recovery phase, there is a serious risk scientists will face an employment landscape characterised by funding reductions, cuts to entitlements and conditions, cuts to staffing levels and wage freezes.

And yet the work of scientists will be crucial to create new jobs, innovation and productivity growth.

There is a strong case for a major strategic investment in our national capability in science and technology to drive the economic reconstruction.

Several respondents said they had taken a pay cut or had a pay increase deferred for a specific or indefinite period.

TABLE 3 – COMMENTS - PAY CUTS, PAY FREEZES AND FINANCIAL HARDSHIP

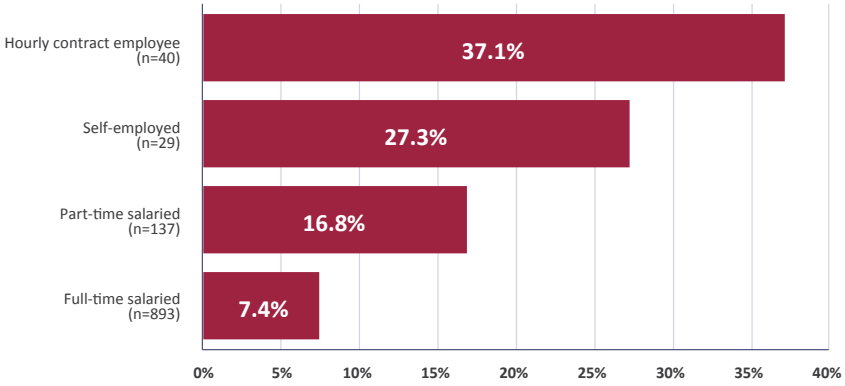
There is fear over coming pay cuts or job losses.
Pay rise has been cancelled for this year.
I have been asked not to work overtime.
Annual pay increase and salary scale step has been cancelled.
I have received no support whatsoever from either the government or the university and am struggling financially.
Vast amounts of unpaid overtime – the pandemic is being used as an excuse for cutting back of resources.
I am working at least 50% of my hours unpaid.

HOURS OF WORK

"I am working much longer hours. I now work at least 15 hours a day (double my normal work hours). I feel like this is expected of me and I feel bad about complaining because I still have a job."

One in 10 scientists in the survey (10.3%) said their paid work hours had fallen – with full-time salaried employees the least affected.

FIGURE 2 – PREVALENCE OF WEEKLY HOURS BEING REDUCED BY EMPLOYMENT STATUS



While some scientists had their working hours cut, others had their hours increased, including unpaid working hours. One in 10 scientists in the survey (11.4%) said their weekly working hours had risen.

Working from home, covering for casual workers who had been let go and responding directly to COVID-19 had increased the workloads for many professional scientists.

Many scientists indicated they are working longer hours due to the impact of the pandemic.

TABLE 4 – COMMENTS - HOURS OF WORK

I am working a 6-day week with at least one being a 12-hour day.
Lots more to do – threat of decreased salary.
My hours have increased massively and I have had no support from my organisation in relation to enabling me to effectively work from home.
I have been working longer hours to deliver the same product due to also looking after the household and caring for children at the same time.
I find that I am working much longer hours. I now work at least 15 hours a day (double my normal work hours). I feel like this is expected of me and I feel bad about complaining because I still have a job.
We are being asked to take a pay cut while being asked to work more each week which realistically means they are asking you to work 70 hours a week so now half your time will be unpaid.

Despite being expected to do additional hours, some scientists have been asked to take pay cuts and/or had their formal paid work hours cut – yet they are doing more hours of unpaid work.

WORKLOAD AND WORKPLACE CHANGE

"My workload significantly increased due to additional tasks and managing COVID-19 impacts on the research program."

Respondents said their workload had grown significantly during the pandemic.

TABLE 5 – COMMENTS – IMPACT ON WORKLOAD AND WORKPLACE CHANGE

My workload significantly increased due to additional tasks and managing COVID-19 impacts on the research program.
My workload has increased as collaborators/clients look at dormant projects while work is quiet.
Managers have been placing a lot of pressure on us to increase workload in order to "keep our jobs".
Volume and urgency of work has increased.
I have received no support whatsoever from either the government or the university and am struggling financially.
Vast amounts of unpaid overtime – the pandemic is being used as an excuse for cutting back of resources.
I am working at least 50% of my hours unpaid.

FLEXIBILITY AND WORKING FROM HOME ARRANGEMENTS

"There is no doubt the transition to working from home has been difficult but it has also come with benefits such as no two hour per day commute which is more time with the family which has increased my well-being."

One in four scientists in the survey (27.7%) said they had opted to work from home, and two in three (67.6%) had been instructed to work from home.

The data suggest employers with over 200 staff were more likely to have enforced remote work arrangements than smaller employers. Scientists in the education sector were most likely to be required to work from home.

FIGURE 3 – PREVALENCE OF BEING INSTRUCTED TO WORK FROM HOME BY NUMBER OF EMPLOYEES

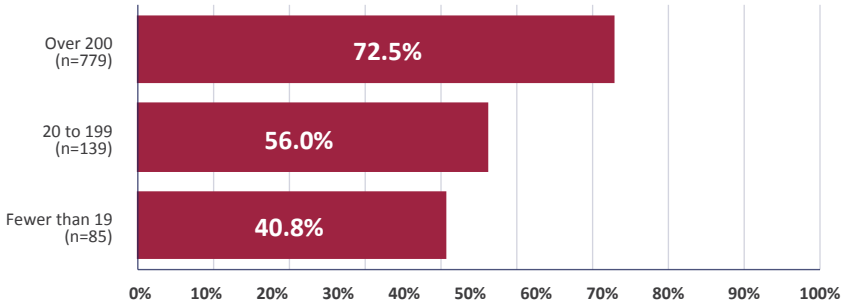
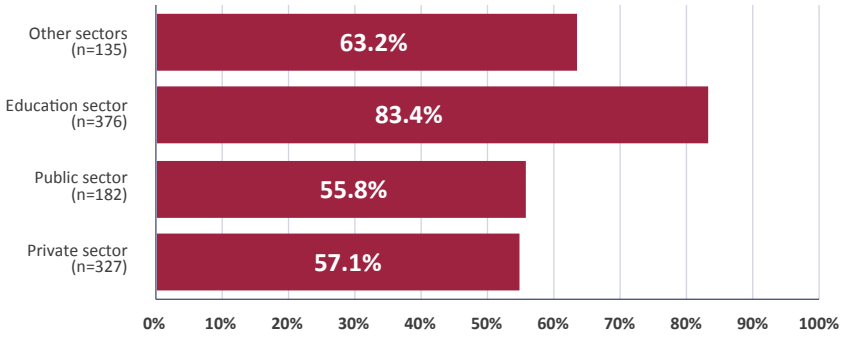


FIGURE 4 – PREVALENCE OF BEING INSTRUCTED TO WORK FROM HOME BY EMPLOYMENT SECTOR



"Working from home has improved my well-being and productivity. Many of my colleagues report the same thing."

Many survey comments suggested the experience and flexibility of working from home had been positive overall and resulted in greater productivity.

However others said it had eroded their productivity – in part due to challenges with IT and systems issues from working remotely.

TABLE 6 – COMMENTS – POSITIVE ASPECTS OF FLEXIBILITY AND WORKING FROM HOME ARRANGEMENTS

I have enjoyed working from home. It's sometimes a difficult balance to strike but generally working from home has been nice. I don't have children though, perhaps that makes it easier to deal with.
Finding out that working from home with current technology saves 9 hours a week travel time so I have more time and virtual meets are easier to do. Some of the work can't be done but mostly it is better working from home.
There is no doubt that the transition to working from home has been difficult but it has also come with benefits such as no 2 hour per day commute which is more time with the family which has increased my well-being.
Made me realise how much the administrivia load impacts on my productivity and morale. So much better working with my team from our homes. Never felt as happy as I do now.
I can work from home more and have more flexible working hours.
I have wanted to work from home for a long time, so it's worked out well for me.
Working from home has improved my well-being and productivity. Many of my colleagues report the same thing.
Made me happier working from home. I do as much work – just more efficient.
It has given me a new challenge to think of ways to work differently to get similar results. Forcing us to go paperless and to adopt new communication methods was challenging but I feel was necessary.
I'm getting a lot more writing done.
I am finding I am generally more productive working from home because I don't have a 2 hour commute anymore and am less distracted by people coming to my office to ask questions or chat. My work prior to COVID-19 involved a lot of telecons anyway, so there was not much gained from in-person interactions other than the social aspect which is less important for productivity.
Same level of work but more pleasant/relaxed being at home.

TABLE 7 – COMMENTS – NEGATIVE ASPECTS OF FLEXIBILITY AND WORKING FROM HOME ARRANGEMENTS

My productivity working from home is much lower than working on site. This seems to be accepted by my employer.
Difficulties in receiving documents and slower coordination.
Several projects have had to be put on hold and new projects initiated instead. This will affect productivity and funding and so my future job opportunities.
Finding that technology and other issues mean I am working the same or longer hours but achieving less.
Workflow modified to provide risk management however at cost of productivity.
Disruption to supply and support systems and restrictions to laboratory access have diminished productivity as a synthetic chemist.
Undertaking work from home is limited by the needs of others residing with me – IT capacity and workspace are insufficient to work effectively.
It's hard to be as productive intellectually from home.
Very hard to concentrate.

LIMITS ON TRAVEL, FACE-TO-FACE INTERACTION AND PHYSICAL DISTANCING

The pandemic shut down laboratories, major research facilities and archives, and curbed access to conferences and collaborative teams. It also restricted fieldwork and international placements.

The Rapid Research Information Forum report found these physical distancing and travel restrictions were hindering some research. This survey confirmed this impact in the science workforce.

Six in 10 scientists surveyed (61.1%) said non-essential travel and international travel had been ruled out by their employer. Other changes included the following.

TABLE 8 – COMMENTS – IMPACT OF TRAVEL RESTRICTIONS

All domestic and international travel ruled out.
It has mainly affected the pipeline of new work and ability to travel for my job. I normally work from home when not travelling for business. The global oil price drop may have a massive impact on geoscientists going forward. I may be forced to look for full-time work elsewhere if unable to continue consulting.
Clients are holding off jobs due to costs of travel restrictions.
Following a holiday overseas, I had to take unpaid leave when taking forced home isolation due to possible COVID-19 exposure as I had no annual leave or sick leave.
My job involves visiting suppliers and using my knowledge. I can't do that now, and it makes my job harder.
Interstate projects cancelled. Government grants and contracts deferred, projects involving students and community cancelled.
Much of my work involves working remotely. These projects have been impacted by movement constraints.

Almost one in three scientists in the survey (29.8%) said physical distancing was limiting their work due to reasons including restrictions on lab and field work.

Some respondents also raised concerns about whether physical distancing requirements was always being practised in the workplace.

TABLE 9 – COMMENTS – IMPACT OF PHYSICAL DISTANCING

I am very concerned about the lack of adherence to physical distancing requirements while at work.
It is adding stress and difficulty to daily work due to social distancing and also fear of getting sick when this is not being adhered to.

Three in four scientists surveyed (75.9%) said face-to-face work meetings had been replaced. Some said they were concerned about the impact of this on their relationships with colleagues.

TABLE 10 – COMMENTS – IMPACT OF LACK OF FACE-TO-FACE INTERACTION

Social interaction and collaboration with co-workers is different when not in person.
Bit depressing to not be able to talk to colleagues in other areas face-to-face.
Lack of social interaction with colleagues including incidental chats and catch ups.
I'm a little bored/down without regular and varied human contact.
Lack of face-to-face encounters is affecting my mental health.
Adjusting to having to consciously make effort to interact socially with colleagues during the day – small talk is really important as well as the actual business conversations.
Lack of cohesion and trust within the team is exacerbated during COVID-19.
Managing a divided team that alternates between on site and home is mentally challenging for me.
Increased workload and created issues with managing my team's well-being – some like working from home and others do not and it is difficult to have a personal conversation via video link.
Lack of work contacts difficult; working in lab requires social distancing and surface disinfecting. Remote meetings (Teams -Zoom) not as good as face to face mostly.

REDEPLOYMENT

For many in publicly-funded research agencies such as the CSIRO, AIMS and ANSTO, one of the most significant effects of the pandemic has been the redeployment of staff, as the RRIF report noted.

One in seven scientists in this survey (15.7%) had their role or responsibilities at work altered.

Comments suggest the reasons for role redeployment varied widely.

TABLE 11 – COMMENTS - REDEPLOYMENT

Have been redeployed to hospital response – increased workload, reduced academic productivity.
My Department head has been absent from work since before a pandemic was called. I have additional responsibilities, though they are not recognized since he is not officially on leave.
Planned fieldwork has been cancelled, postponed, or dramatically changed.

ROSTER/SHIFT ARRANGEMENTS

Rostering arrangements had changed for some to allow for physical distancing, sometimes with limited consultation.

TABLE 12 – COMMENTS – ROSTER/SHIFT ARRANGEMENTS

Work arrangements have changed to a 4 days on 4 days off cycle to reduce numbers in the lab.
Rostered workers on 9-5 have been moved to 7-7 to reduce contact between crews.
We have implemented shifts to maximise social distancing and so I am now working 3pm to 11pm rather than 9am to 5pm.
Major changes to shift times without consultation or even attempting to ask if it is OK.
We have changed to shift work to maximise social distancing. Hours have changed from 9am to 5pm to 3pm to 11pm.
Split shift work – start at 5am and finish at 1pm Monday to Thursday and 5am-11pm on Fridays.
Longer swings on site. 3 weeks on, 3 weeks off. Plus working from home while back from an exploration camp.
We have been working 12-hour split shifts.
Lab staff have been split into 2 teams that are not in the lab at the same time. At work hours reduced and work from home to make up hours.
We are divided into teams rotating working from home and onsite.

FACILITY SHUTDOWNS

Facility and lab shutdowns had affected fieldwork and data collection.

TABLE 13 – COMMENTS – EFFECTS OF FACILITY SHUTDOWNS

Access to research resources has been delayed or eliminated. Inability to conduct medium to long-term research due to ongoing uncertainty of further facility shutdowns.
Planned fieldwork has been cancelled, postponed or dramatically changed.
Lab projects have had to be delayed until the labs reopen.
Research has been impacted by flow on events with milestones not being met due to restrictions on lab and field access and having to make realistic decisions on future research with limited data on the duration or extent of COVID-19 restrictions.
Lack of access to labs is a downside.
Not able to conduct fieldwork to meet the aims of funded projects.
Research labs shut down – can't collect grant data.

NEW WORK/PROJECTS

Just over one in 10 of the scientists surveyed (11.4%) said the pipeline of new work had dried up.

Full-time salaried scientists were least likely to report this issue, and part-time salaried scientists less likely to report it than hourly contract employees.

New work drying up was also more commonly cited by smaller employers.

FIGURE 5 – PREVALENCE OF NEW WORK DRYING UP BY EMPLOYMENT STATUS

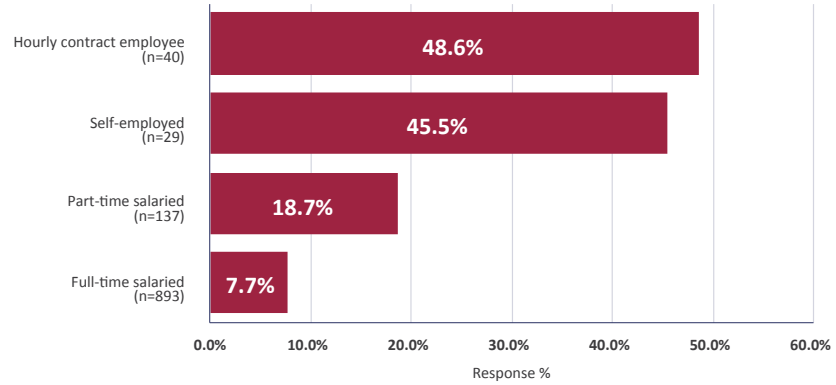
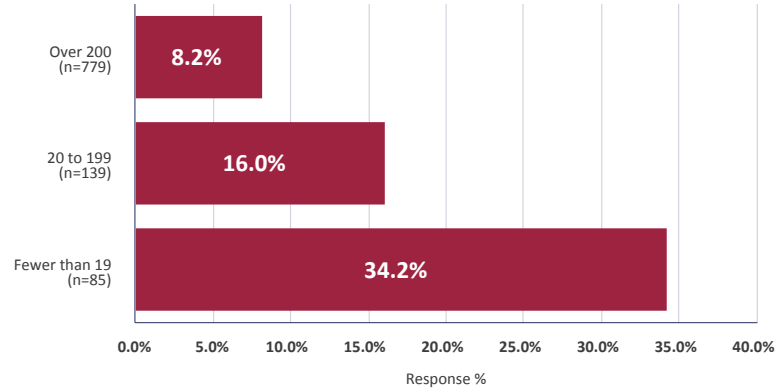


FIGURE 6 – PREVALENCE OF NEW WORK DRYING UP BY SIZE OF EMPLOYER



HEALTH AND WELL-BEING

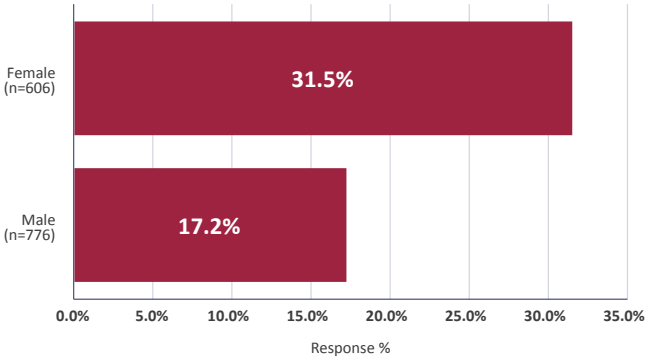
"There is an increasing sense of anxiety meeting deadlines while working from home."

PSYCHOSOCIAL/MENTAL HEALTH

Almost one in four scientists in the survey (23.2%) said anxiety/mental distress due to the pandemic was affecting their ability to work.

Women were much more likely than men to report anxiety/mental distress due to the pandemic affecting their ability to work – and the recent RRIF report on the impact of the pandemic on women in the STEM workforce notes this may be linked to women's greater share of caring responsibilities.

FIGURE 7 – PREVALENCE OF ANXIETY/MENTAL DISTRESS DUE TO COVID-19 BY GENDER



Many scientists in the survey reported higher stress levels and poorer well-being due to social isolation, a greater workload, challenges in juggling work and family responsibilities, a limited ability to exercise and poor sleep.

TABLE 14 – COMMENTS - MENTAL HEALTH, STRESS AND WELL-BEING

There is anxiety and uncertainty about the future.
Redundancies have been announced in terms that they will occur but we don't know or who with major mental health impacts.
Stress due to uncertainty – do not receive Government support because of working visa.
Massive extra workload managing people under stress has increased my own stress.
Stressed, working from home on my own with little support from the employer, worked extra as load increases – with no compensation.
In single lockdown so going a bit crazy.
Lack of cohesion and trust within the team is exacerbated during COVID-19.
There is uncertainty about future funding and anxiety in the team.
It has meant I focus more on my well-being and take actions to care for myself.
There is an increasing sense of anxiety meeting deadlines while working from home.
Added strain of trying to run a lab and care for workers and students' mental health, keeping a lab together. Feeling devalued by government exclusion of higher education from access to JobKeeper payments.
My work is small project-based and fluctuates normally. Can't tell if it has decreased and if so what might have caused it. But the less I do the less I am motivated.
There is increased anxiety over possibility of contract not being renewed.
Isolation not helping metal health-wise.
Increased engagement and interest due to learning new techniques for SARS-CoV2 testing. Some low level anxiety regarding infection and transmission.
Sleeping less due to worrying about sending my child to day care as my employer won't allow me to work from home.
My mental health has deteriorated.

LACK OF JOB SECURITY

"There is an ever-increasing concern of unemployment."

Lack of job security was noted as a key source of stress by many respondents.

TABLE 15 – COMMENTS – LACK OF JOB SECURITY

There is mental stress from the higher risk of losing job.
The possibility of losing current job is increasing.
There is an ever-increasing concern of unemployment.
There is added stress around job security.

PHYSICAL HEALTH

Scientists reported both positive and negative effects on their physical health. Some respondents said there had been greater physical strain and risk of workplace injury and had found it harder to exercise. Others said it had created opportunities for more physical activity.

TABLE 16 – COMMENTS – PHYSICAL HEALTH

Positive
Being able to work from home has increased my productivity and decreased significant time and costs associated with commuting. I can now sleep and exercise more, leading to a greater sense of well-being.
I love working from home. I get more exercise, more time outside, more time with my family.
Still busy with work, getting more exercise, doing more cooking, maintaining contact with children and grandchildren via What'sApp. Generally doing well.
Negative
Too much work on a computer has impacted my health – I've had a repetitive strain injury relapse.
Restricted socialising and exercise options.
Lack of social interactions with friends and also exercise classes cancelled.
Being kept busy, physical exercise and keeping in contact with friends through social media has helped avoid difficulties.
Decreased physical fitness.

WORK/LIFE BALANCE AND CAREGIVING

With the closure of schools, many parents have been juggling working from home with supervising their children's distance learning.

ABS data also shows women carry a far greater share of unpaid workload in households for caregiving, meal preparation, cleaning and laundry.[7]

However, for some scientists in this survey, the time saved on commuting gave them an additional block of time to help balance work/life responsibilities.

One in five scientists surveyed (19.6%) said caring for parents and caring for children/ home schooling had reduced their ability to work.

TABLE 17 – COMMENTS – WORK/LIFE BALANCE, CAREGIVING AND HOME SCHOOLING

Workers with children have a higher workload trying to balance paid work with home schooling responsibilities.
Caring for my parents interstate means I can't work except for attending weekly meetings.
The biggest impact has been the extended hours of work due to remote learning of primary school children. As well as the major encroachment of work into life.
Home schooling takes up a lot of time but we are not sending our kids to school (though we probably could but encouraged not to) since sending them doesn't feel like the socially responsible thing to do.
Pandemic has not impacted my well-being. I have sufficient flexibility in how I manage m time and responsibilities. Main challenge is adjusting my weekly schedule around home schooling my two primary school aged children.
My work-life balance has been adversely affected because I can no longer go on holidays or participate in my recreational activities.
Both my wife and I are migrants with no other family here except our 7-year-old daughter and we are both essential workers. Although I can work from home, my daughter's school and after hours care is closed. My wife needs to be at work on the front line but how am I expected to maintain the same level of productivity or focus in online meetings as a full-time worker at home whilst also being a parent and teacher to our daughter?
Lack of social interactions with friends and also exercise classes cancelled.
Being kept busy, physical exercise and keeping in contact with friends through social media has helped avoid difficulties.
Decreased physical fitness.

IMPACT ON WOMEN

"I have been working longer hours to deliver the same product due to also looking after the household and caring for children at the same time."

The RRIF report found women were likely to be disproportionately set back by the pandemic.

Prior to COVID-19, women were already under-represented in STEM fields, and the early evidence suggests hard-won gains to lift this representation are now at risk.

Many of the impacts of the pandemic for women in STEM will not be unique to the STEM workforce.

Early evidence suggests an increase in reports of domestic violence,[8] and higher levels of job losses in female-dominated sectors, some of which have not had access to Government relief payments.[9]

A study of male/female nuclear families suggests that of the extra six hours additional work generated by the pandemic, four hours are being done by women and two by male partners.[10] The Workplace Gender Equality Agency's study of the impact of COVID-19 also suggests the impact of the pandemic on single parents – the majority of whom are women – was affecting women's capacity to undertake paid work.[11]

The fourth ABS Household Impacts of COVID-19 Survey found women were three times as likely as men to have stayed at home to look after their children on their own (46.0% compared with 17.0%). This has been to juggle work and caring for children and supervise learning at home.[12]

Women have lost more jobs and working hours, losing 11.5 per cent of the hours worked in March, compared to men who lost 7.5 per cent.

In the past month the labour force participation rate fell by 2.5 percentage points and again, the impact has been greater on women with an extra 2.9 per cent of women out of the labour force compared to an extra 2.1 per cent of men.[13]

In universities, women are more likely be part of the increasingly casualised academic workforce. The impact is twofold because university workers are not eligible for the JobKeeper subsidy.

There remains limited data on the specific effects on women from diverse backgrounds.

In this survey, male and female professional scientists reported similar effects on their employment due to the pandemic.

The largest gender differential was in the experience of anxiety/mental distress due to the pandemic. It is likely this is linked to women's greater caring responsibilities and stronger likelihood of being in less secure job roles including casual and short-term contract roles.

TABLE 18– COMMENTS – IMPACT ON WOMEN

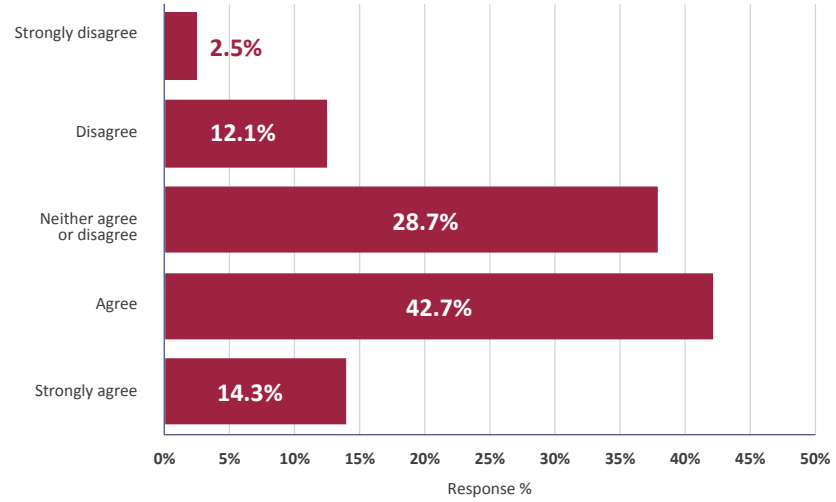
My teaching workload has substantially increased with the transition to remote delivery to the extent that it has taken up all of my time (including additional hours) (I am a 40/40/20 research/teaching role). As a result, I have had very limited ability to engage in research and have had to postpone research projects. As I have just started maternity leave this has the flow on effect where I will not be able to pick up these research projects until later in 2021, which I'm concerned will have a negative effect on my competitiveness for future positions when my current contract expires.
I'm demotivated, depressed that this pandemic is having a disproportionate effect on women.
More stress at home with my husband having to work from home AND home school kids.
I am finding it difficult to balance work time with health/well-being/exercise time without a sense of guilt.
I am having to work of an evening to be able to home school three children during the day. In my position it's OK to do this but it is exhausting.
Caring for parents has reduced by ability to work.
I have been working longer hours to deliver the same product due to also looking after the household and caring for children at the same time.
Juggling work and home-schooling at the same time and then at weekends to make up for lost time during the week for work and/or school.
Sleeping less due to worrying about sending my child to day care as my employer won't allow me to work from home.
University hiring freezes – all positions applied for are currently on hold – unable to renew my current contract.
As a full-time student and casual employee at a university paid from grant funds for a project involving human testing, I have received no support whatsoever from either the government or the university and am struggling financially.
The expectation has been that I should be able to get all of my hours done since I work part-time whereas full-time staff with children at home have been told to do the best they can. So I have been looking after my kids during the day and then working at night. It has been exhausting.
I see how some of my colleagues are getting a lot of work done right now. Those that don't have carer responsibilities, and those that are parents but are not the 'primary parent' seen ti be very productive. I just cannot keep up.

VALUE OF SCIENCE AND SCIENCE PROFESSIONALS TO THE COMMUNITY

Almost six in 10 of the scientists in the survey (56.7%) said Australians place greater value on science and our nation's professional scientific workforce as a result of the COVID-19 pandemic.

At the same time, respondents showed a degree of scepticism about attitudinal change toward science beyond medical science over the longer-term.

FIGURE 8 – EXTENT TO WHICH RESPONDENTS AGREE OR DISAGREE THAT AUSTRALIANS PLACE GREATER VALUE ON SCIENCE AND SCIENTISTS AS A RESULT OF COVID-19



Note: n=910.

TABLE 19 – COMMENTS – POSITIVE ATTITUDINAL CHANGE

Only now do I think the Government and the public are developing an appreciation for how much we are needed.
It is an important role, generally recognised by the community.
I think the pandemic has raised the profile and perceived importance of some scientific fields.
Sometimes it takes a pandemic to truly value scientists – particularly with the push to develop a vaccine.
People see the work scientists are doing as essential to finding a pathway forward.

TABLE 20 – COMMENTS – ATTITUDES TO SCIENTIFIC EXPERTISE OVER THE LONGER-TERM

Our individual expertise is poorly understood but we are somehow valued as the "boffins we go to in times of crisis".
I don't think there has been any change in the attitude of Australians towards science or professional scientists as there is a lack of basic understanding of the nature of science in the community. Many community members don't understand that science is based on the best information that is available at that time but can change in the future when new information becomes available. People want definitive answers in a time of rapidly changing situations where the data collection and data analysis cannot keep up with rapidly changing events.
I think Australians place a higher value on medical science than before as a result of the pandemic, but I'm not sure this necessarily translates to other areas of science, climate science being the obvious example.
There will be increased community support for science but it will not be backed up by support from the government and there will not be an increase in funding or job security.
I believe people are valuing medical professionals but I don't think they regard the scientific community as much.
There is a current boost to the value of science but I am sceptical that it will be long-lived given the economic bottom line.
I think that as a result of the pandemic greater value will be placed on medical science, not science in general.

CONCLUSION

Scientists and researchers have been at the frontline of the nation's public health response to the pandemic and the global hunt for a vaccine.

Yet during this time, scientists in Australia are also reporting they have taken pay cuts and had fewer paid working hours and have higher levels of anxiety and stress.

And many have taken on heavier workloads to keep their jobs and minimise the impact of the crisis on their organisations and research programs.

Our scientists undertake vital work in industry and health and medical research that lead to new technologies, discoveries, treatments and therapies.

Now, more than ever, Australian scientists have a powerful contribution to make.

Science and technology must play a crucial role in our national economic recovery.

A stronger investment in the science and technology workforce as part of our economic reconstruction efforts would help to set our economy up for growth and job creation.

Organisations that retain and revitalise their scientific, technical and research workforces for the challenges and opportunities ahead will emerge strongest from the COVID-19 crisis.

This survey shows many Australian scientists now sense an even stronger level of support from the Australian public for their crucial work.

The morale-boost of this strong public support is helping to propel our scientists to new successes, even amidst the vast challenges posed by this pandemic.

Now we must back our nation's scientists by giving them greater job security, support and resourcing.

Science and research are crucial to create new jobs, boost productivity and grow smart new technology-enabled industries here in Australia.

Our capacity to rebuild a growing, competitive Australian economy depends on it.

APPENDIX 1 - ABOUT THE SURVEY

SUMMARY

This report presents data collected in the 2020 Professional Scientists Employment and Remuneration Survey. The survey was conducted during May 2020. Participants were recruited from Professional Scientists Australia and Science & Technology Australia's contacts by email and social media with a small incentive offered to complete the survey. Overall, the survey had 1,467 respondents and the COVID-19 questions had 1,059 respondents. Participants were slightly more likely to be male (56.2 per cent) and employed in the education and training industry (32.4 per cent). New South Wales was the state with the highest proportion of respondents (28.8 per cent), followed by Victoria (24.0 per cent) and Queensland (14.5 per cent). Participants were most likely to be qualified in chemistry (21.7 per cent), biology (16.2 per cent) and/or medical science (14.8 per cent). In the graphs presented in this report, the sample size (n-value) is included in brackets alongside the category labels to indicate how many responses are included in the analysis.

Gender	Male	776	56.2%
	Female	606	43.8%
Age	Less than 30	204	15.1%
	30 - 39yrs	434	32.1%
	40 - 49yrs	311	23.0%
	50 - 59yrs	227	16.8%
	60 years or more	178	13.1%
State	NSW	410	29.5%
	VIC	342	24.6%
	QLD	207	14.9%
	SA	126	9.1%
	WA	175	12.6%
	TAS	33	2.4%
	NT	12	0.9%
	ACT	87	6.3%
Location	Capital city/suburb	1164	83.6%
	Rural/Regional	228	16.4%
Status	Full-time salaried	893	81.3%
	Part-time salaried	137	12.5%
	Self-employed	29	2.6%
	Hourly contract employee	40	3.6%
Job Function	Analysis & Testing	134	14.3%
	Quality Control & Production	24	2.6%
	Research & Development	371	39.5%
	Management	146	15.5%
	Sales/Marketing	13	1.4%
	Teaching or Training	142	15.1%
	Exploration (inc. Mining)	62	6.6%
	Quality Assurance	28	3.0%
	Computing	19	2.0%

Industry	Consulting & Technical Services	109	11.0%
	Medical Research Institutes	61	6.1%
	Mining (inc. Oil/Gas extraction)	99	9.9%
	Electricity, Gas, Water & Waste	45	4.5%
	Defence	13	1.3%
	Public Administration and Safety	18	1.8%
	Health	173	17.4%
	Education and Training	326	32.8%
	Manufacturing (inc. Chemical)	65	6.5%
	Agricultural	22	2.2%
	Other	64	6.4%
Sector	Private sector	327	32.1%
	Public sector	182	17.8%
	Education sector	376	36.9%
	Other sectors	135	13.2%
Employees at organisation	Fewer than 19	85	8.5%
	20 to 199	139	13.9%
	Over 200	779	77.7%
Discipline	Agricultural Science	29	2.1%
	Biology	224	16.4%
	Biochemistry	116	8.5%
	Botany	15	1.1%
	Chemistry	291	21.3%
	Computer Science	42	3.1%
	Engineering	73	5.3%
	Environmental Science	153	11.2%
	Food Science/Technology	66	4.8%
	Geology	177	12.8%
	Marine Science	65	4.8%
	Materials/Metallurgy	30	2.2%
	Microbiology	65	4.8%
	Medical Science	201	14.7%
	Pharmacology	18	1.3%
	Physics	146	10.7%
	Mathematics	155	11.4%
	Veterinary Science	11	0.8%
	Nutrition	42	3.1%

APPENDIX 2 - SURVEY QUESTIONNAIRE

2020 Professional Scientists Employment and Remuneration Survey questions

The following are the sections of the 2020 Professional Scientists Employment and Remuneration Survey from which data has been used for the purpose of this report.

The 2020 Professional Scientist Remuneration Survey (conducted by Professionals Australia in conjunction with Science & Technology Australia) is currently underway and open to all science professionals. help us benchmark market rates and workplace conditions for scientists like yourself.

The COVID-19 pandemic is having an unprecedented effect on Australian jobs. Where possible, when answering the survey give consideration to your circumstances before your employment was affected by the crisis. We have a question specifically about how your work has been impacted by COVID-19 at the end of the survey.

Please take a few minutes to assist the scientific community by completing the questionnaire. All survey participants can enter the draw to win one of two $500 JB HiFi vouchers. The entry form is at the end of the survey.

A summary of the survey results will be available on the Professionals Australia website later in the year. The closing date for the submission of completed survey questionnaires is the 24th of May 2020. No identifying details are required. All responses are confidential and will be handled in accordance with Professionals Australia's privacy policy.

What is your age?

_____

Gender

- ☐ Male
- ☐ Female
- ☐ I do not identify as either of the above

In which state or territory are you based?

- ☐ NSW
- ☐ VIC
- ☐ QLD
- ☐ SA
- ☐ WA
- ☐ TAS
- ☐ NT
- ☐ ACT
- ☐ Overseas

Location

- ☐ Capital city/suburb
- ☐ Rural/Regional

What is your highest science tertiary qualification

- ☐ Diploma
- ☐ Bachelor Degree (inc. Hons)
- ☐ Graduate Diploma
- ☐ Masters Degree (inc. MBA)
- ☐ Doctorate/PhD
- ☐ None
- ☐ Other (please specify)

In which branch(s) of science did you qualify? (tick all that apply)

- ☐ Agricultural Science
- ☐ Biology
- ☐ Biochemistry
- ☐ Botany
- ☐ Chemistry
- ☐ Computer Science
- ☐ Engineering
- ☐ Environmental Science
- ☐ Food Science/Technology
- ☐ Forestry
- ☐ Geology/Geosciences
- ☐ Marine Science
- ☐ Materials/Metallurgy
- ☐ Manufacturing
- ☐ Microbiology
- ☐ Medical Science
- ☐ Pharmacology
- ☐ Physics
- ☐ Mathematics
- ☐ Surveying
- ☐ Veterinary Science
- ☐ Other (please specify)

What status is your current main scientific job?

- ☐ Full-time salaried
- ☐ Part-time salaried
- ☐ Independent contractor/consultant
- ☐ Self-employed proprietor
- ☐ Hourly contract employee
- ☐ Studying full-time
- ☐ Unemployed
- ☐ Retired
- ☐ Other (please specify)

Which of the following best describes your main job responsibility?

- ☐ Analysis & Testing
- ☐ Quality Control & Production
- ☐ Research & Development (inc. product development)
- ☐ Management
- ☐ Sales/Marketing
- ☐ Teaching or Training
- ☐ Exploration (inc. mining)
- ☐ Quality Assurance
- ☐ Computing
- ☐ General Veterinary Practice
- ☐ Other (please specify)

In which employment sector are you employed?

- ☐ Private sector – employee
- ☐ Private sector – proprietor/director
- ☐ Australian Public Service
- ☐ State Public Service
- ☐ Government Business Enterprise
- ☐ Local Government
- ☐ Education
- ☐ Hospitals
- ☐ Research Agencies (e.g. CSIRO, ANSTO)
- ☐ Other (please specify)

How many employees are employed by your organisation?

- ☐ 19 or less
- ☐ 20 to 199
- ☐ Over 200

Which of the following best describes the industry in which you are mainly engaged?

- ☐ Consulting & Technical Services
- ☐ Medical Research Institutes
- ☐ Construction
- ☐ Mining (inc. Oil/Gas extraction)
- ☐ Electricity, Gas, Water & Waste
- ☐ Information Media and Telecommunications
- ☐ Defence
- ☐ Public Administration and Safety
- ☐ Health
- ☐ Education and Training
- ☐ Manufacturing (inc. Chemical)
- ☐ Forestry
- ☐ Agriculture
- ☐ Other (please specify)

How has the COVID-19 pandemic impacted your current, or most recent employment? (tick all that apply)

- ☐ My employer instructed me to work from home
- ☐ I have opted to work from home
- ☐ My weekly hours have been reduced
- ☐ My weekly hours have been increased
- ☐ I've taken a pay cut (independent of working less hours)
- ☐ I have been stood down with pay by my employer
- ☐ I have been stood down without pay by my employer
- ☐ My employment was terminated by my employer
- ☐ The pipeline of new work has dried up
- ☐ I have had to take special/pandemic leave
- ☐ I have been required to use sick/carers leave
- ☐ I have been required to use annual leave
- ☐ Non-essential domestic and international travel has been ruled out
- ☐ Face-to-face work meetings have been replaced with other options
- ☐ My contract has not been renewed
- ☐ My role/responsibilities at work have been altered
- ☐ Caring for children/home schooling has reduced my ability to work
- ☐ Anxiety/mental distress due to the pandemic is impacting my ability to work
- ☐ Social distancing is directly interfering with my work
- ☐ None of the above apply

How else had the pandemic impacted your employment or well-being?

_____

Notes on the survey

Where a question has 'other' as an option, responses marked as other where a respondent provided more detail were reclassified into one of the existing options presented in the question if the detail made it clear the response fit as a sub-category of that existing option. Where interpretation was not clear, the response was left as 'other'.

Unless otherwise stated, questions only allowed for one option to be selected by respondents.

Responses to the question 'In which employment sector are you employed?' are lumped together for the purpose of analysis. In order, option 1 and 2 are lumped together as 'private sector', option 3 to 6 are lumped together as 'public sector', option 7 stands alone as 'education sector', and the remaining options are lumped together as 'other sectors'.

Where only a small number of respondents self-identified into a category, that category tended not to be reported on, although those responses were included in the overall figures.

ABOUT PROFESSIONAL SCIENTISTS AUSTRALIA

Professional Scientists Australia represents several thousand professional scientists from a broad range of specialisations including health science, biomedical science, ecology, veterinary science, neuroscience, mental health, genetics and genomics, astronomy, biochemistry, mineral processing, environmental science, fertility science, defence research, synchrotron science, environmental science, immunology, water science and automotive design.

Professional Scientists Australia is a division of Professionals Australia (formerly the Association of Professional Engineers, Scientists and Managers, Australia) which is an organisation registered under the Fair Work Act 2009 representing over 25,000 Professional Engineers, Professional Scientists, Veterinarians, Architects, Pharmacists, Information Technology Professionals, Managers, Transport Industry Professionals and Translating and Interpreting Professionals throughout Australia. Professionals Australia is the only industrial association representing exclusively the industrial and professional interests of these groups.

Professional Scientists Australia has four key objectives:

- to ensure members' interests are protected when government policies, outsourcing and offshoring, management decisions, new technologies or, as in this case, a large-scale health crisis lead to workplace change;
- to provide a strong voice for professional scientists. This involves considering the kind of support, policies and practices at the enterprise and structural levels needed to create a sustainable and diverse science workforce capable of realising optimal levels of innovation and productivity;
- to play a leading role in encouraging dialogue between industry, government and the higher education sector. This means advocating for investment and structural reforms, building the platforms for cooperation and change and initiating and leading projects to foster collaboration; and
- to promote public understanding of science and the key role professional scientists play in ensuring Australia's future. This involves influencing public policy and resource allocation decisions and promoting the value of science to decision-makers and the wider community. We seek to highlight the critical role science plays in enabling productivity and innovation, promoting economic prosperity, protecting the environment, improving human welfare and quality of life, preventing, diagnosing and treating human disease and protecting national security. In doing so, we raise the status of the profession and the professionals who work in it.

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ABOUT SCIENCE & TECHNOLOGY AUSTRALIA

Science & Technology Australia is the peak body representing more than 80,000 scientists and technologists across Australia.

Our mission is to advance the public good and strengthen civil society through education, outreach, and programs by bringing together scientists, technologists, governments, industry and the broader community.

We do so to advance the role and impact of science and technology to help solve some of humanity's greatest challenges, including saving and improving lives.

The organisation contributes to discussions at the highest levels in policy-making in Australia and communicates with the highest level of Government.

To amplify the voices of STEM professionals, STA runs major events and programs including:

- **Science meets Parliament -** STA's annual flagship event, connects hundreds of scientists and technologists directly with Federal Parliamentarians each year;
- **Superstars of STEM -** A program that aims to smash society's gender assumptions about scientists and increase the public visibility of women in STEM. Designed to create a critical mass of visible role models for young women and girls, the program is helping achieve equal representation in the media of women and men working in all fields in STEM; and
- **STEM Ambassador Program -** linking STEM professionals with their local Member of Parliament, participants act as a conduit between local STEM communities and the decisionmakers that represent them in Parliament.

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Professional Scientists Australia

Science & Technology AUSTRALIA

THE INITIAL EMPLOYMENT IMPACT OF THE COVID-19 PANDEMIC ON AUSTRALIA'S SCIENCE WORKFORCE