

## EDUCATION, SCIENCE AND TRAINING

### SENATE LEGISLATION COMMITTEE – QUESTIONS ON NOTICE 2005-2006 BUDGET ESTIMATES HEARING

**Outcome:** CSIRO  
**Output Group:** CSIRO

#### DEST Question No. E216\_06

Senator Carr provided in writing.

#### Question:

Please provide an age profile of research staff employed by CSIRO.

How does this compare to the age profile 5 years ago, 10 years ago, 15 years ago and 20 years ago?

Is there an issue of an ageing of the research workforce and if so what action is being taken to address it?

#### Answer:

CSIRO has provided the following response.

#### *Age profile of research staff*

The attached table shows the numbers and percentages of Research Scientists in CSIRO (in 5 year age cohorts) for the years 1986, 1990, 1995, 2000, 2005. Over this period there has been both an increase (of 179 or 12.4%) in the total number of Research Scientists as well as an increase in those in the younger age groups. The percentage of Research Scientists under the age of 35 has increased from 13% of the total number in 1986 to 18% in 2005, while over the same period the percentage over the age of 55 has dropped from 20% to 15%.

CSIRO is aware that current projections of Australia's science, engineering and technology professionals indicate a significant workforce shortage as fewer students and even fewer young professionals are entering these fields.

CSIRO's is developing strategies to actively boost the level and calibre of the next generation of Australia's scientific/innovation community. Supporting undergraduates, post-graduates and post-doctoral students is fundamental to the development and strengthening of the Australian innovation system.

In 2001, CSIRO established targets and provided additional funding to increase the number of Post Doctoral Fellows we employed and Post Graduate Students we sponsored or co-supervised. As a result the respective numbers increased from 183 Post Doctoral Fellows in 2001/02 to 283 Post Doctoral Fellows in 2004/05. The Post Graduate students sponsored and co-supervised also increased from 718 to 783 during this period.

The recently launched Flagship Collaborative Research Program aims to further strengthen collaboration with universities and other publicly funded research agencies. A contestable funding pool is available for collaborative research programs, Visiting fellowships and postgraduate scholarships. Visiting fellowships are available for both Australian-based researchers and international visitors to work for a period of time in CSIRO. Up to ten fellowships are being offered per semester. The post graduate scholarships are available for students to enrol in a PhD at an Australian university and work directly on a project relevant to one of the Flagship programs. Up to 50 scholarships are to be offered each year.

Other long standing initiatives in place within CSIRO to help retain the tacit knowledge of researchers are the Post-Retirement Fellowship and Honorary Fellowship schemes. The Post Retirement Fellowship has a dual purpose, to assist scientists who are considering retirement by providing a graduated path to leave the workforce, at the same time enabling the transfer of the knowledge and skills of such staff. Honorary Fellowships are also available to research staff who have already retired from CSIRO. As at the end of June 2005 there are 37 Post Retirement Fellows and 126 Honorary Fellows.

Significant work to attract young people to science also takes place through CSIRO's Education and Outreach team which reached a record 219 263 students in 2003-04. There are many components to the Education and Outreach program including CSIRO's Double Helix Science Club with 15 500 members and the top-rating national science TV program (Totally Wild) which reaches an average of over 400 000 viewers providing a positive and entertaining approach to science. Our three millionth student has just come through CSIRO's Science Education Centre programs. In addition CSIRO's Student Research Scheme provides places for senior secondary students to undertake research, with 390 students completing the requirements of the scheme in 2003. The success of the trial has seen the project expand to a national one with places being offered nationally in 2004.

The CEO's Science Leader Scheme aims to attract up to 25 of the best young scientists from across the globe. The scheme is directed towards high-performing scientists with between five and ten years post doctoral experience, not yet at the Federation Fellow level. The scheme is differentiated from the CSIRO Post Doctoral Fellowship Program and other Australian Research Council Fellowships, offering significantly more operating funding to facilitate the development of a world class research team. This is consistent with our strong belief that most fields of modern science require a team approach and a critical mass of exceptional researchers in order to have the greatest impact.

**AGE PROFILE OF RESEARCH SCIENTISTS IN CSIRO - 1986 to 2005**

Age	20-24		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60+		TOTAL
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
June 1986		0%	38	2.63%	155	10.73%	251	17.37%	289	20.00%	258	17.85%	171	11.83%	191	13.22%	92	6.37%	1445
June 1990		0%	39	2.77%	151	10.72%	221	15.68%	294	20.87%	289	20.51%	215	15.26%	119	8.45%	81	5.75%	1409
June 1995	1	0.07%	52	3.61%	169	11.74%	282	19.58%	271	18.82%	273	18.96%	212	14.72%	125	8.68%	55	3.82%	1440
June 2000		0%	53	3.38%	163	10.4%	315	20.09%	337	21.49%	252	16.07%	234	14.92%	143	9.12%	71	4.53%	1568
June 2005	1	0.06%	79	4.86%	217	13.36%	270	16.63%	300	18.47%	302	18.6%	210	12.93%	150	9.24%	95	5.85%	1624