

**Table 8-5**  
**Personnel engaged in research and development by field of science or technology**

	2010	2011 <sup>P</sup>
	number	
<b>Total</b>	<b>140,324<sup>A</sup></b>	<b>140,423<sup>A</sup></b>
<b>Natural and formal sciences</b>	<b>19,367<sup>A</sup></b>	<b>19,391<sup>A</sup></b>
<b>Mathematics</b>	<b>594<sup>A</sup></b>	<b>514<sup>A</sup></b>
Computer and information sciences	11,724 <sup>A</sup>	11,761 <sup>A</sup>
Physical sciences	1,418 <sup>A</sup>	1,154 <sup>B</sup>
Chemical sciences	2,829 <sup>A</sup>	2,643 <sup>A</sup>
Earth and related environmental sciences	1,192 <sup>A</sup>	1,583 <sup>A</sup>
Biological sciences	1,479 <sup>A</sup>	1,595 <sup>A</sup>
Other natural sciences	132 <sup>A</sup>	141 <sup>A</sup>
<b>Engineering and technology</b>	<b>106,532<sup>A</sup></b>	<b>106,497<sup>A</sup></b>
Civil engineering	1,740 <sup>A</sup>	1,736 <sup>A</sup>
Software engineering	16,378 <sup>A</sup>	26,451 <sup>A</sup>
Electrical engineering, electronic engineering and information technology	36,298 <sup>A</sup>	27,849 <sup>A</sup>
Mechanical engineering	25,783 <sup>A</sup>	24,062 <sup>A</sup>
Chemical engineering	2,483 <sup>A</sup>	2,820 <sup>A</sup>
Materials engineering	8,602 <sup>A</sup>	7,536 <sup>A</sup>
Medical engineering	896 <sup>A</sup>	951 <sup>A</sup>
Environmental engineering	2,921 <sup>A</sup>	2,919 <sup>A</sup>
Environmental biotechnology	200 <sup>A</sup>	175 <sup>B</sup>
Industrial biotechnology	691 <sup>A</sup>	393 <sup>A</sup>
Nano-technology	129 <sup>A</sup>	147 <sup>A</sup>
Other engineering and technologies	10,410 <sup>A</sup>	11,457 <sup>A</sup>
<b>Medical and health sciences</b>	<b>11,108<sup>A</sup></b>	<b>11,335<sup>A</sup></b>
Basic medicine	4,265 <sup>A</sup>	3,404 <sup>A</sup>
Clinical medicine	2,378 <sup>A</sup>	2,310 <sup>A</sup>
Health sciences	658 <sup>A</sup>	933 <sup>A</sup>
Medical biotechnology	1,693 <sup>A</sup>	2,340 <sup>A</sup>
Other medical sciences	2,113 <sup>A</sup>	2,348 <sup>A</sup>
<b>Agricultural sciences</b>	<b>3,316<sup>A</sup></b>	<b>3,200<sup>A</sup></b>
Agriculture, forestry, and fisheries	1,899 <sup>A</sup>	1,779 <sup>A</sup>
Animal and dairy science	579 <sup>A</sup>	508 <sup>A</sup>
Veterinary science	77 <sup>A</sup>	76 <sup>A</sup>
Agricultural biotechnology	427 <sup>A</sup>	492 <sup>A</sup>
Other agricultural sciences	335 <sup>A</sup>	344 <sup>A</sup>