

Industrial Salaries Surge Again

Salaries paid to industrial physicists and related scientists continued their robust rise during the past two years, according to new data from the American Institute of Physics (AIP). The salary surge began in 1996 after a notable slowdown in the first part of the 1990s. Preliminary numbers from the 2000 AIP Membership Sample Survey put the median salary 7% higher than reported two years ago for AIP society members with Ph.D.'s who are employed in the private sector.

Salaries for these scientists rose 17% between 1996 and 2000, compared with a 7% increase between 1992 and 1996. The pay level of industrial scientists who received their doctorates within the last five years reached a median of \$74,000 last year, an 8% increase over the median reported in 1998 by society members in the first half-decade of their careers.

The distribution of highest academic degrees held by industrial scientists remained almost the same as that reported in the survey two years ago (see *The Industrial Physicist*, August 1999, pp. 10–12). Private-sector companies employed nearly one-quarter of the working respondents. Among society members, almost two-thirds of those working in industry have Ph.D.'s; 22% have master's degrees; and the remaining 14% have a bachelor's, associate's, or professional degree.

Several factors influence the wide range of salaries reported by private-sector scientists—degree level, experience, and the industry sector and geographic region of employment. Degree level has the most impact on salary: the higher the level of education attained, the higher the salary earned. Overall, Ph.D.'s in industry earned a median salary of \$90,200, compared with \$80,000 for master's level scientists and \$71,000 for those with a bachelor's degree.

Among the nine geographic areas surveyed by the AIP, industrial salaries were

higher along the West and East coasts than in other areas. The Pacific and the Middle Atlantic regions employed nearly half of the respondents working in industry

profit research centers. Median salaries of Ph.D.'s working in industry slipped from second to third highest (\$90,200) among the major employment sectors. Society member

Ph.D.'s employed in hospitals or medical services reported the highest median salary, \$100,000, followed by those at FFR&DCs, \$96,000. Respondents working at the federally funded centers reported the same or higher median salaries for each career stage than did respondents working in industry. The industrial and FFR&DC employment sectors have alternated rank for most of the last six surveys. Ph.D.'s employed at FFR&DCs account for 9% of AIP society members with doctorates.

In the academic sector, the median salary for university employees with Ph.D.'s on 11-

or 12-month contracts was \$77,000; those with 9- or 10-month contracts averaged \$68,000. The lowest median salary, \$50,000, was reported by Ph.D.'s on 9- to 10-month contracts at four-year colleges.

As the number of years of experience and diversity in career path increase, so does the range of salaries. Ph.D.'s working in industry reported median salaries ranging from \$74,000 for recent graduates (0 to 4 years after Ph.D.) to \$110,000 for late-career members (25 or more years after Ph.D.) (Figure 2). Median salaries of master's degree scientists in industry ranged from \$60,000 for recent graduates to \$92,000 for late-career members (Figure 3).

Society members working in industry predominantly do research, either short-range or long-range, early in their careers. Short-range research includes design, development, engineering, and short-term applied research. Long-range research includes basic research and applied research on a 10-year time frame. Respondents reported nearly the same salary structure regardless of the applied

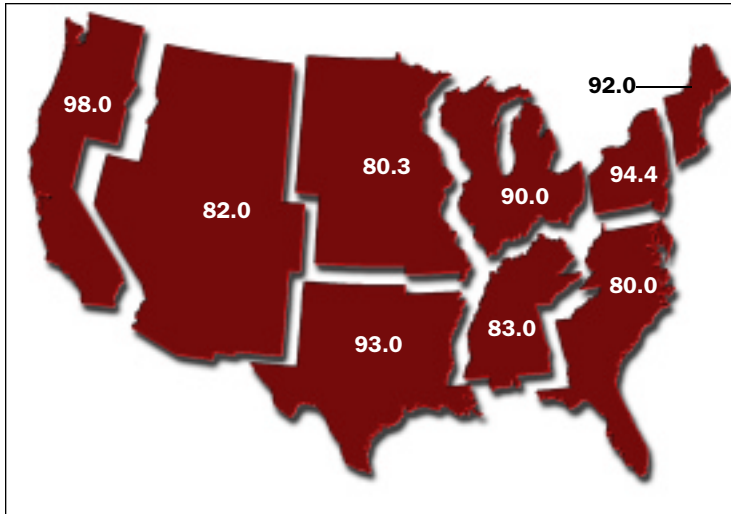


Figure 1. Median salaries (\$ thousand) in 2000 for surveyed Ph.D. physical scientists in industry were 2% to 14% higher than in 1998, and highest in the Pacific and Middle Atlantic regions.

and, thus, have higher competitive salaries than other regions. Across the United States, Ph.D.'s in industry earned median salaries in 2000 that were 2% to 14% higher than those reported in 1998 (Figure 1).

The highest median salary among Ph.D.'s working in the private sector, \$98,000, was reported in the Pacific states. Median salaries in the other regions were: Middle Atlantic, \$94,400; West South Central, \$93,000; New England, \$92,000; East North Central, \$90,000; East South Central, \$83,000; Mountain, \$82,000; West North Central, \$80,300; and South Atlantic, \$80,000. The East South Central region (Alabama, Kentucky, Mississippi, and Tennessee) continues to post the largest increases in the median salary for Ph.D.'s—14% above that reported in 1998.

Salaries in industry fell behind the pay of scientists working in Federally Funded Research and Development Centers (FFR&DCs), which include some national laboratories, other facilities managed by companies under federal contract, and non-

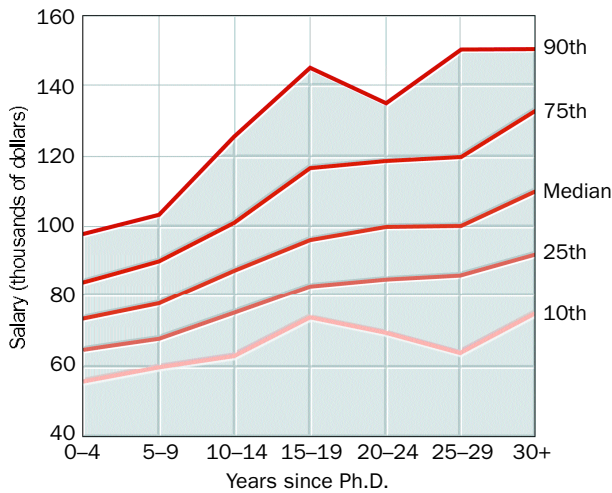


Figure 2. Median industrial salaries in 2000 vs years since Ph.D. (with percentiles), show that experience counts, starting at \$74,000 and rising to \$110,000 after 30 years.

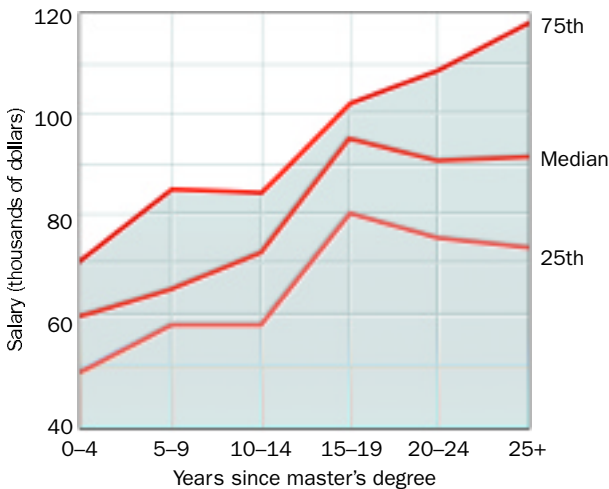


Figure 3. Median industrial salaries in 2000 vs years since master's degree (with percentiles) were lower than those of Ph.D.s, starting at \$60,000 and rising to \$92,000 in late career.

research they conducted. This finding departs from recent years, when those in short-range research earned slightly higher salaries than those working on long-range projects early in their careers.

Members working in design, development, and engineering represent a quarter of the responding industrial scientists with a Ph.D. Another 21% of society members report that their principal work activity is short-range applied research. Combined as short-range research, the two categories make up 46% of the Ph.D.'s in industry. Twenty-one percent of respondents were involved in long-range applied research, and another 16% worked in

administration. The remaining 17% worked in areas such as consulting, clinical medicine, and computer applications.

Accepting administrative responsibilities can lead to higher salaries. After primarily doing research in their early careers, society members often move into administrative and management positions. Ph.D.'s with administrative duties in industry garner the highest salaries. Those working in management during their midcareer (10 to 14 years after Ph.D.) reported a median salary of \$95,000, and those with 25 years or more of experience had a median salary of \$129,000. Because most Ph.D.'s do not move into management until after 10 years or more in the work force, there were not enough responses to calculate reliable median salaries for those working in administration early in their careers.


Overall, the report shows the sustained, robust growth in salaries and the diversity of employment in the industrial sector. More detailed salary data by other employment sectors, geographical breakdowns, and female and male salary comparisons are available in the full report. Data from the *AIP Membership Sample Survey* have been used to evaluate organizational pay structures, support salary negotiations by job applicants, aid in fair-wage cases for people seeking foreign-worker visa applicants, and inform prospective physics and science students and professionals about careers in the field.

Behind the survey numbers

The data presented here are based on a stratified random sample of one-sixth of the U.S. membership of the 10 AIP Member

Societies. In the spring of 2000, 15,200 society members were mailed a brief two-page questionnaire. The form contained demographic and employment-related questions on subjects such as work activity, level of highest degree, salary, and employer. Respondents had the option of completing the paper questionnaire and returning it in a postage-paid envelope, or filling out the same questionnaire online. Several weeks after the initial mailing, questionnaires were again mailed to those who had not yet returned a completed form. Of those members who were mailed a questionnaire, 9,350 responded, which represents 62%.

AIP's Statistical Research Center, formerly the Education and Employment Statistics Division, has monitored salary, employment, and demographic data on individuals belonging to the AIP Member Societies for more than 20 years. These societies include the American Physical Society, Optical Society of America, Acoustical Society of America, The Society of Rheology, American Association of Physics Teachers, American Crystallographic Association, American Astronomical Society, American Association of Physicists in Medicine, American Vacuum Society, and American Geophysical Union. Because a large percentage of society members hold doctoral degrees, most of the analyses in this report focus on Ph.D.'s.

A preliminary report containing 12 salary tables is available at a cost of \$15 for a single copy and \$10 each for multiple copies. Purchase of this preliminary report entitles you to receive the full report at no additional charge when it becomes available in the spring. The full report, which will contain additional data, can be purchased at the same prices. Place orders online at <https://webster.aip.org/forms/statorder.htm>, or by telephone at 301-209-3070. 

B I O G R A P H Y

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