

Salary Growth Slows for Industrial Physicists

The rise in salaries earned by industrial physicists slowed between 2002 and 2004, according to data from a recent biennial survey conducted by the American Institute of Physics (AIP). The median salary reported by Ph.D. physicists in the private sector rose 4% between October 2002 and March 2004 (Figure 1).

Ph.D.'s working in industry and who belong to AIP's 10 Member Societies reported a median salary of \$104,000 in March 2004, up from \$100,000 in the October 2002 survey. The percentage growth in salaries for industrial Ph.D.'s continues to exceed the 3.3% inflation rate measured by the Consumer Price Index for All Urban Consumers (CPI-U) during the same 18-month period between the two surveys. Although the increase in median salary outpaced the inflation rate, the momentum of growth dropped off.

When the rates of salary change are adjusted to an annual basis, the increase is 2.7% a year between 2002 and 2004 compared to an annual increase of 4.3% between 2000 and 2002. For comparison, respondents to the 2004 survey of the American Chemical Society (ACS) also reported a smaller increase in industrial Ph.D. salaries—3.2% annualized between 2002 and 2004, which is down from 4.6% a year between 2000 and 2002.

Overall, the typical salaries for industrial physicists, which represent the 25th and 75th percentiles of the wages reported, ranged from \$85,000 to \$127,000. The typical salary range covers the middle portion of earnings, that is, one-quarter of the salaries fall below and one-quarter are above this range. Physicists in industry who earned their Ph.D.'s within the past five years had typical salaries ranging from \$72,000 to \$95,000. This group of recent Ph.D.'s reported the same median salary, \$82,000, as their counter-

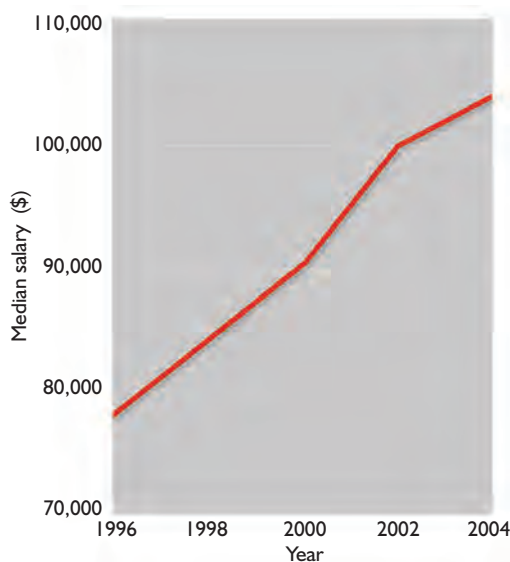


Figure 1. Industrial Ph.D. salaries, 1996 to 2004.

parts did in 2002.

The median salary of Ph.D. society members working in industry, \$104,000, continued to rank as the third-highest among the employment sectors surveyed. Hospitals and

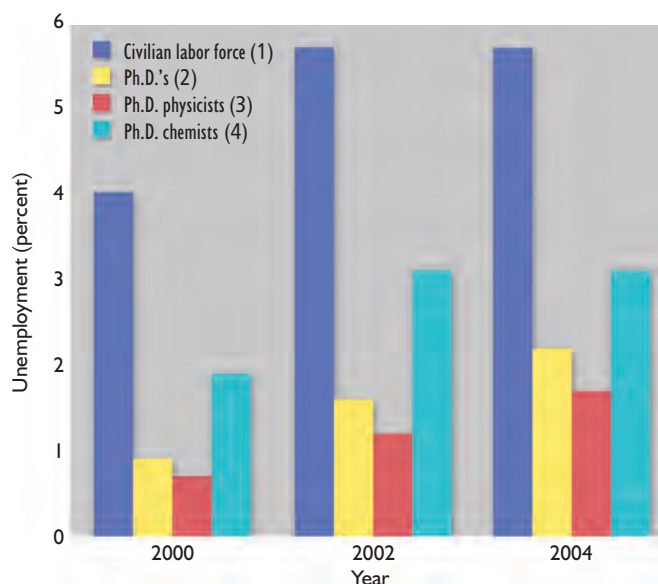


Figure 2. Unemployment in 2000, 2002, and 2004. All data refer to March of that year except where noted. 1. Source, Bureau of Labor Statistics (BLS); 2002 refers to October. 2. Source, BLS, annualized, except 2004, which is the March figure. 3. Source, AIP Membership Survey; 2002 refers to October. 4. Source, American Chemical Society salary survey.

medical services paid society members with Ph.D.'s a median salary of \$120,000 in 2004. Ph.D. respondents who worked at federally funded R&D centers reported a median salary of \$110,000. The median amount earned by Ph.D.'s on 9- or 10-month contracts at four-year colleges rose to \$56,000 from \$55,000 two years ago.

As salary growth slowed, the unemployment rate went up slightly. Unemployment among society members with Ph.D.'s rose to 1.7% in 2004, up from the 1.2% reported in 2002. Ph.D. members of AIP Member Societies continued to have stronger employment than Ph.D.'s in general, however. The Labor Department reported in its March 2004 Current Population Study that unemployment for Ph.D.'s that month was 2.2%, up from 1.6% in 2002. AIP survey respondents who earned their doctorates within the past 10 years reported an unemployment rate of 2.3%, up from 2.0% in 2002. Ph.D. chemists reported a 3.1% unemployment rate in the 2004 ACS salary survey, the same percentage as two years ago (Figure 2).

Earnings increased with educational attainment for AIP society members. Among members working in the private sector between the ages of 35 and 44, the median salary for Ph.D.'s was \$104,000. Those with master's degrees earned a median of \$94,000, and bachelor-level physicists had a median salary of \$72,000.

Geographically, the East and West coasts continued to report the highest typical salaries for industrially employed Ph.D.'s. Among the nine regions in the survey, the Middle Atlantic (New Jersey, New York, and Pennsylvania) and Pacific (Alaska, California, Hawaii, Oregon, and Washington) states had the highest typical salary ranges for industrial Ph.D.'s—\$90,000 to \$133,000 and \$92,000 to \$130,000, respectively. The

| Region | Typical salary range, \$ thousands | Median age | Number of respondents |
|--------------------|------------------------------------|------------|-----------------------|
| New England | 84.0–131.0 | 50 | 87 |
| Middle Atlantic | 90.0–133.0 | 46 | 162 |
| South Atlantic | 76.0–120.0 | 49 | 107 |
| East North Central | 85.0–114.0 | 44 | 100 |
| East South Central | * | * | * |
| West North Central | 84.0–115.0 | 48 | 41 |
| West South Central | 85.0–130.0 | 50 | 76 |
| Mountain | 81.0–120.0 | 45 | 88 |
| Pacific | 92.0–130.0 | 46 | 279 |
| Overall | 85.0–127.0 | 47 | 967 |


Industrial Ph.D. salaries by geographic region, 2004. *The number of respondents was too small to calculate reliable statistics. Postdoctorates are not included. Typical salary range includes the middle range salaries, i.e., between the 25th and 75th percentiles. Median age is the middle value when all the ages are ordered from lowest to highest.

New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) and West South Central (Arkansas, Louisiana, Oklahoma, and Texas) regions followed with typical salary ranges of \$84,000 to \$131,000 and \$85,000 to \$130,000, respectively. The Southern Atlantic region (Delaware, District of Columbia, Florida, Georgia, Maryland, North and South Carolina, Virginia, and West Virginia) reported the lowest typical salary range, \$76,000 to \$120,000 (see table).

Among Ph.D. respondents working in industry, nearly half worked in short-range research (45%, which includes short-range applied research, development, design, and engineering). Members working in long-range applied and basic research made up 21% of the Ph.D.'s in industry. Administrators accounted for 14% of industrial Ph.D.'s. Work activity had little impact on Ph.D. industrial salaries except for administrators, who reported higher salaries, in part because of their higher experience levels.

The 10 companies that employed the largest number of Ph.D. society members were Science Applications International Corporation, IBM, General Atomics, Lucent Technologies, Eastman Kodak, General Electric, Varian, Raytheon, Corning, and Bechtel. These companies employ nearly 20% of the Ph.D. physicists working in industry who belong to AIP Member Societies.

Detailed salary tables for the 2004 data

are available for purchase at <http://store.aip.org/salaries/>. The tables include the salary data by other employment sectors. Companies and academic departments have used the results of the AIP Membership Sample Survey to review organizational pay structures and in salary negotiations. Professionals, teachers, parents, and students have used the AIP survey results in making education and career decisions. 

SOURCE OF SURVEY DATA

The AIP Membership Sample Survey is the largest survey conducted by AIP's Statistical Research Center (SRC). More than 21,600 individuals, approximately one-fourth of the U.S. members of AIP's Member Societies, were selected on the basis of a stratified random sample and asked to report their salary and employment data as of March 2004. Nearly 12,300 responded after three e-mail requests, for an overall response rate of 57%. The data represent responses from members of 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, AVS Science and Technology Society, and American Geophysical Union.

BIOGRAPHY

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