

2000-2001 Taulbee Survey

2000-2001 Preliminary Taulbee Data on Faculty Salaries

By Randy Bryant and Moshe Y. Vardi

Each September the Computing Research Association surveys academic departments in the United States and Canada that offer the Ph.D. in computer science or computer engineering. The annual CRA Taulbee Survey collects data on enrollment in the undergraduate, master's, and Ph.D. computing programs; employment of Ph.D. graduates of these programs; and number and salaries of faculty in these programs.

This is the 31st year that CRA has tracked the production and employment of Ph.Ds in the computer science field. For the past 15 years, computer engineering data have also been incorporated into the survey. The traditionally high response rate to the survey makes the data especially useful; the data are used widely, not only by CRA's members but also by other organizations and institutions.

Each January, as a service to our members, CRA publishes a preliminary report of the survey's faculty salary data. We believe these preliminary results comprise enough data to be valuable and valid as tools for planning for the spring faculty-recruiting season. The full survey results—including updated salary data; enrollment, production, and employment data; and trend

analyses—will appear in the March 2002 issue of *CRN*.

Tables 1 through 9 show the results in a format comparable to that used in previous CRA surveys. We have included the data for computer engineering departments (Table 6), although the low return rate (9 responses of 27) reduces their reliability. In the tables that group the departments by rank, the groupings are based on the 1993 National Research Council ranking of research-doctorate programs in the United States, released in 1995 (<http://cra.org/statistics/nrcstudy2/>).

Each department was asked to report the minimum, mean, and maximum salary for each rank (full, associate, and assistant professors and non-tenure-track teaching faculty) and the number of persons at each rank. The salaries are those in effect on January 1, 2002. For U.S. departments, nine-month salaries are reported in U.S. dollars. For Canadian departments, twelve-month salaries are reported in Canadian dollars. Respondents were asked to include salary supplements such as salary monies from endowed positions.

The minimum and maximum of the reported salary minima (and maxima) is self-explanatory. The range of salaries in a given rank among departments that reported

data for that rank is the interval ["minimum of the minima," "maximum of the maxima"]. The mean of the reported salary minima (maxima) in a given rank is computed by summing the departmental reported minimum (maximum) and dividing by the number of departments reporting data at that rank. The average salary at each rank is computed by summing the individual means reported at each rank and dividing by the number of departments reporting at that rank.

For comparison with last year's data, Table 9 shows, separately, the overall average computer science salaries for U.S. departments and for Canadian departments. The preliminary data from 2000 are those published in the January 2001 *CRN*, and the final data from 2000 are those published in the March 2001 *CRN*. When compared with the final 1999-2000 data, the U.S. average salaries have increased by:

- 2.8 percent (7.0 last year) for non-tenure-track teaching faculty;
- 6.9 percent (7.0 last year) for assistant professors;
- 6.0 percent (7.0 last year) for associate professors; and
- 5.8 percent (4.0 last year) for full professors.

Canadian average salaries have increased by:

- 18.3 percent (4.0 last year) for non-tenure-track teaching faculty;
- 5.5 percent (8.0 last year) for assistant professors;
- 3 percent (7.0 last year) for associate professors; and
- 4.0 percent (3.0 last year) for full professors.

The large (18.3 percent) increase for non-tenure-track teaching faculty in Canada is due in part to one relatively high salary reported. If that figure is excluded from the calculation, the increase is still substantial at 12.3 percent.

Tables 2, 3, and 4 report the data for the same set of schools reporting last year. In the group of U.S. computer science departments ranked 1 through 36, the average salaries for tenure-track faculty increases ranged from a low of 2.4 percent (associates in departments ranked 25-36) to a high of 9.8 percent (associates in those ranked 13-24). The average increase was 5.8 percent.

Randy Bryant (*Carnegie Mellon University*) and Moshe Y. Vardi (*Rice University*) co-chair CRA's Taulbee Survey Committee. ■

Table 1. Nine-month Salaries, 128 Responses of 166 US CS Computer Science Departments

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Non-Tenure Teaching Faculty	556	\$24,000	\$48,567	\$96,084	\$56,368	\$35,000	\$66,394	\$130,000
Assistant	651	\$49,500	\$69,202	\$86,829	\$73,367	\$57,672	\$77,161	\$116,390
Associate	696	\$49,936	\$74,255	\$117,000	\$81,645	\$67,064	\$90,644	\$141,500
Full	997	\$49,500	\$85,040	\$139,000	\$105,496	\$82,225	\$137,951	\$264,892

Table 2. Nine-month Salaries, 11 Responses of 12 US CS Computer Science Departments Ranked 1-12

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Non-Tenure Teaching Faculty	69	\$31,500	\$56,384	\$96,084	\$68,852	\$64,800	\$84,111	\$100,404
Assistant	105	\$49,500	\$72,419	\$78,500	\$78,250	\$78,304	\$83,045	\$88,000
Associate	91	\$60,825	\$81,462	\$102,800	\$88,232	\$77,700	\$96,265	\$120,000
Full	216	\$49,500	\$88,106	\$106,400	\$119,665	\$138,000	\$166,364	\$188,800

Table 3. Nine-month Salaries, 12 Responses of 12 US Computer Science Departments Ranked 13-24

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Non-Tenure Teaching Faculty	54	\$46,542	\$59,936	\$81,840	\$69,019	\$61,000	\$80,233	\$130,000
Assistant	76	\$69,200	\$75,956	\$84,000	\$80,324	\$78,381	\$84,748	\$93,600
Associate	63	\$74,700	\$84,601	\$95,000	\$91,756	\$83,000	\$99,231	\$141,500
Full	195	\$74,590	\$89,190	\$108,100	\$121,580	\$147,500	\$174,470	\$264,892

Table 4. Nine-month Salaries, 12 Responses of 12 US Computer Science Departments Ranked 25-36

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Non-Tenure Teaching Faculty	47	\$38,480	\$52,520	\$73,712	\$59,901	\$47,500	\$71,705	\$129,150
Assistant	84	\$64,400	\$71,690	\$80,000	\$75,051	\$68,000	\$78,555	\$87,188
Associate	87	\$62,963	\$77,809	\$86,536	\$84,456	\$83,600	\$94,139	\$112,500
Full	146	\$68,199	\$86,729	\$99,350	\$114,218	\$109,200	\$161,186	\$245,575

Table 5. Nine-month Salaries, 93 Responses of 130 US Computer Science Departments Ranked Higher than 36 or Unranked

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Non-Tenure Teaching Faculty	393	\$24,000	\$45,249	\$80,000	\$52,019	\$34,901	\$60,495	\$114,480
Assistant	496	\$45,996	\$67,228	\$86,829	\$71,098	\$50,004	\$74,774	\$116,390
Associate	591	\$45,624	\$71,149	\$117,000	\$78,753	\$67,064	\$87,812	\$145,750
Full	640	\$59,660	\$84,680	\$139,000	\$100,951	\$82,225	\$127,139	\$194,893

Table 6. Nine-month Salaries, 9 Responses of 27 US Computer Engineering Departments

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Non-Tenure Teaching Faculty	11	\$35,000	\$54,247	\$67,194	\$63,778	\$50,688	\$74,253	\$92,700
Assistant	61	\$55,000	\$68,058	\$80,100	\$72,268	\$68,000	\$75,984	\$82,500
Associate	69	\$60,200	\$70,622	\$79,006	\$75,446	\$60,200	\$82,972	\$98,000
Full	117	\$70,168	\$84,160	\$95,000	\$97,170	\$80,220	\$130,181	\$180,000

Table 7. Twelve-month Salaries, 19 Responses of 23 Canadian Computer Science Departments (Canadian Dollars)

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Non-Tenure Teaching Faculty	62	\$44,097	\$58,404	\$108,000	\$62,874	\$46,809	\$68,184	\$108,000
Assistant	180	\$54,019	\$68,078	\$95,000	\$73,898	\$57,368	\$81,167	\$117,000
Associate	190	\$60,319	\$75,130	\$111,000	\$85,560	\$78,684	\$95,651	\$125,000
Full	272	\$50,211	\$84,454	\$109,000	\$102,783	\$91,557	\$127,429	\$178,426

Table 8. Nine-month Salaries for New Ph.Ds, Responding US CS and CE Departments

Faculty Rank	Number of Faculty	Reported Salary Minimum			Average of all Salaries	Reported Salary Maximum		
		Minimum	Mean	Maximum		Minimum	Mean	Maximum
Tenure-Track	99	\$45,996	\$73,573	\$85,000	\$74,178	\$45,996	\$74,868	\$86,000
Researcher	8	\$27,000	\$53,830	\$93,000	\$54,187	\$27,000	\$54,544	\$93,000
Non-Tenure Teaching Faculty	9	\$35,000	\$51,741	\$63,000	\$52,416	\$35,000	\$54,967	\$72,785
Postdoc	22	\$28,500	\$46,475	\$60,000	\$47,776	\$28,500	\$49,665	\$60,000

Table 9. Average Salary Comparison with 2000 Survey

	US CS Departments			Canadian CS Departments		
	Preliminary 2000	Final 2000	Preliminary 2001	Preliminary 2000	Final 2000	Preliminary 2001
No. Reporting/Surveyed	136 / 163	142 / 163	128 / 166	18 / 23	19 / 23	19 / 23
Non-Tenure Teaching	\$52,304	\$51,909	\$53,368	\$51,037	\$53,162	\$62,874
Assistant	\$68,671	\$68,628	\$73,367	\$68,134	\$70,056	\$73,898
Associate	\$77,156	\$76,997	\$81,645	\$81,021	\$82,874	\$85,560
Full	\$99,811	\$99,690	\$105,496	\$96,535	\$98,844	\$102,783