

Physics bachelors find jobs despite recession

Physics bachelor's degree holders who entered the workforce in academic year 2008–09 earned starting salaries in the range of \$40 000–\$64 000. That puts them among the highest-earning new college graduates, according to data collected by the National Association of Colleges and Employers (see figure).

Roman Czujko, who heads the Statistical Research Center at the American Institute of Physics, says, "It's remarkable that during a tight economy campus recruiters were interviewing and offering physicists jobs, and that there were enough data to talk about. The fact that the data include physics is positive. The fact that physics salaries are among the top numbers is also positive."

Recessions, Czujko adds, "come at least once a decade, sometimes twice. At least 3 out of 10 graduating classes have the misfortune to graduate during a recession. This time physics bachelors

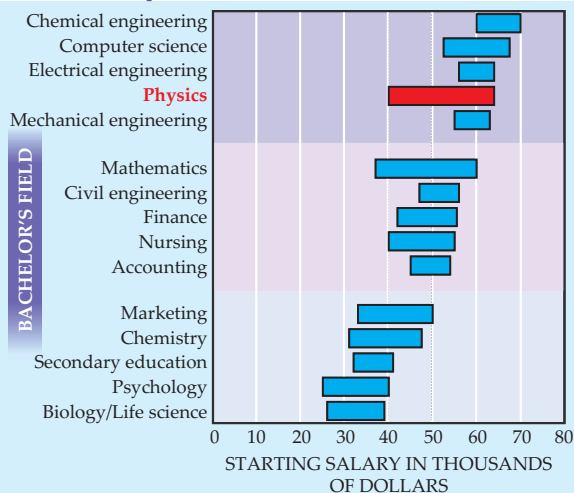
are doing well. But in general, I'd like to tell those kids to keep struggling. It will get better."

Roughly, physics majors and the other top earners are working as programmers and engineers, graduates in the middle group of majors in the table are in math-intensive jobs, and the bottom group, says Czujko, "shows that when you read reports about a shortage of scientists and engineers, they are twisting the data. There is no shortage at the bachelor's level. The 75 000 biology bachelors are going into the workforce with a set of knowledge and skills that are not valued. Biology majors do not do well in a strong or a poor economy. Their starting salaries are no better than secondary-school teachers'. It's okay if they go on to grad school or medical school."

Further evidence that the skills of physicists are valued can be found in the Statistical Research Center's recently updated state-by-state listing of who has hired physics bachelors in the past three years (<http://www.aip.org/statistics/whohires>). The jobs—only those that make use of a technical background are included—are largely in programming and engineering, and they span actuarial insurance companies, finance firms, startup companies, and large defense contractors. Says the center's Patrick Mulvey, "The range of fields in which bachelors are applying their skills and knowledge and problem-solving capabilities is very broad."

Toni Feder

Typical salary offers by campus recruiters, academic year 2008–09



Data reprinted from the fall 2009 *Salary Survey*, with permission of the National Association of Colleges and Employers, copyright holder.

fronts of motorcycles, act to deflect airflow around components that cause drag. A truck's boxlike configuration maximizes cargo space, but it is far from aerodynamically efficient. A truck's front end creates 66% of the total drag, according to the LLNL report, while the trailer axle and wheels contribute 18% and the trailer body 16%. Using its computational fluid dynamics modeling capabilities, the lab has developed improved designs for trailer underbody and wheel fairings, trailer skirts, and "boat-tail" rear plates, structures that reduce drag from low pressure at the rear of the trailer.

The fuel-economy improvements attained in the collaboration appear to surpass what the partners had first thought possible. Their goal, according to Salari, was to reduce by 25% the drag encountered by trucks at 65 miles per hour in order to achieve a fuel-efficiency gain of 10% to 15%. If that target were achieved and the improvements adopted by the entire US 18-wheeler fleet, the country's petroleum consumption could be reduced by the equivalent of 130 midsize tanker ships per year, according to the US Department of Energy.

A total of \$3.4 million has been spent

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