Foundation Scholarship at Cameron University
Marcos J. Montes, Xerox Foundation Scholarship at New Mexico State University
Ronald D. Redwing, Exxon Scholarship at the University of Missouri, Rolla
Cleo R. Truss, Allied Corporation Foundation Scholarship at Talladega College
Mark D. Vaughn, Eastman Kodak Scholarship at Rochester Institute of Technology
Timothy M. Watson, Hewlett–Packard Scholarship at Virginia State University
Angela D. Williams, Chevron Scholarship at Alabama A&M University
Keith R. Williams, General Electric Foundation Scholarship at South Carolina State University.

This scholarship program was organized by the APS Committee on Minorities in Physics in collaboration with the Corporate Associates of the American Institute of Physics. The program will be continued next year, with the number of scholarships determined by the number of contributing corporations (see box). Any Black, Hispanic or Native American US citizen who plans to major in physics and is a high-school senior or college freshman or sophomore may apply. Application forms and information about this program may be obtained from APS Minorities Scholarship Program, 335 East 45th Street, New York, NY 10017. The deadline for receipt of applications is 31 March 1986.

Contributors sought

APS welcomes new corporate contributors to the Minority Scholarship Program. For further information please contact Harry Lustig, Treasurer, American Physical Society, 335 East 45th Street, New York, NY 10017; telephone (212) 682-7341.

Hsu wins award for college achievement

An APS selection committee has chosen Julia Wan-Ping Hsu as the 1985 Apker Award winner.

The Apker Award recognizes outstanding achievement in physics by an undergraduate student who demonstrates great potential for future scientific accomplishment. The Apker Award is the only national prize given to a student in recognition of undergraduate achievement in physics

Hsu performed her research while an undergraduate at Princeton University, where she was awarded the James Hayes–Edgar Palmer Prize in engineering and the Allen G. Shenstone Prize in physics. Her major was chemical engineering. She is a member of the Tau Beta Pi National Engineering Society and the society of Sigma Xi. The citation on her award certificate says she is honored "for her accomplishments as an undergraduate student at Princeton University, including her experimental research on the spin-exchange behavior in the cesium–xenon system."

Experiments prior to Hsu's had shown that the spin-relaxation rate of xenon-129 in rubidium vapor is the same whether nitrogen or helium is used as the third body to conserve energy and momentum, provided that the gas pressures are appropriately adjusted. This result agrees with that obtained from the Ramsey universal theoretical formula, which describes the spin relaxation as a function of the third-body gas pressure. Because cesium, like rubidium, is a Group IA element, one would expect the spin-exchange behavior in the Cs–Xe system to be similar to that in the Rb–Xe system. However, a Russian group reported qualitatively different results showing a much faster Cs–Xe spin-exchange rate with hydrogen than with helium.

Hsu, with the guidance of Zhen Wu and William Happer, but working on her own, decided to repeat the spin-exchange experiment for the Cs^{133}–Xe^{129} system. According to her sponsors, she assembled her experimental apparatus, coped with the usual malfunctions and necessary modifications, accumulated data with thoughtfulness and care, anticipated systemic errors and intelligently arranged her experimental procedure to minimize them.

HSU

Her thesis shows that she understood and correctly applied the available theory to her experiment. Her results confirm that the spin-exchange rate between Cs^{133} and Xe^{129} *is* described by the universal function and that the Soviet results appear to be spurious.

Hsu will receive the Apker Award during the Ceremonial Session of the APS–AAPT Annual Meeting in Atlanta on 28 January 1986, and will present an invited paper on her work at the meeting. This year the amount of the award was increased from $2000 to $3000. Hsu is currently a graduate student in physics at Stanford University.

The Selection Committee, chaired by Robert E. Marshak (Virginia Polytechnic Institute and State University), also congratulated the other three finalists and presented each with a certificate and an honorarium of $500 at an interview on 28 September 1985 in New York. The other three finalists are William J. Bruno, James B. Costales and Mark Kasevich.

Bruno, an undergraduate at MIT, wrote a paper presenting a proof of a generalized reciprocity theorem for ohmic resistive media in a magnetic field. His proof has direct application to Hall-effect experiments. Bruno is now a graduate student at the University of California at Berkeley.

Costales did his undergraduate work at the University of California at Berkeley and is studying experimental nuclear physics as a graduate student at MIT. His original research contribution involved a comprehensive study of microwave emission from the Earth's atmosphere, which he began while working with the astrophysics group at Lawrence Berkeley Laboratory. He continued part of this work as his senior thesis project, in which he studied the correlations among the atmospheric emissions at 10, 33 and 90 GHz.

Kasevich, as an undergraduate at Dartmouth College, wrote a theoretical paper on "Electron motion in an rf-heated magnetic mirror." He graduated from Dartmouth *summa cum laude* with High Honors in Physics, was elected to Phi Beta Kappa and received the Hazeltine Prize as the top physics student. As a Rhodes Scholar he is currently spending the first of two years studying physics and philosophy at Oxford, after which he plans to return to the United States to complete his PhD in physics.

Each student nominated for the Apker Award receives a free one-year student membership in APS. □