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Nathan Mueggenburg of Godfrey, Ill.
**Goldwater Scholarship Awarded to
Illinois Wesleyan Physics-Math Major**

SPECIAL TO THE ALTON TELEGRAPH

BLOOMINGTON, Ill.--A prestigious Barry M. Goldwater Foundation scholarship--a federally endowed award valued at up to \$7,500--has been awarded to an Illinois Wesleyan University junior, majoring in physics and mathematics.

Nathan Mueggenburg of Godfrey, Ill., a graduate of Alton High School, is among 282 college sophomores and juniors nationally to win a Goldwater scholarship this year. The applicant pool contained 1,164 science, math, and engineering students from campuses in all 50 states. The scholarship is named for former U.S. Sen. Barry Goldwater (R-Ariz.), the Republican party's 1964 presidential nominee.

The awards were made by the Barry M. Goldwater Scholarship and Excellence in Education Foundation, based in Springfield, Va., a Washington, D.C. suburb. Goldwater Scholars are selected based on academic merit. Scholarship winners were nominated by faculty members nationwide. The scholarships are considered the premier undergraduate award of their type in mathematics, the natural sciences, and engineering.

Mueggenburg and Jeremy Kotter, a junior majoring in physics from Springfield, Ill., were the two IWU recipients for 1997-98. Eleven Goldwater scholarships were awarded to students from Illinois.

"I was very excited and surprised," Mueggenburg said about winning the Goldwater scholarship. "I didn't expect to win. I was very honored to be nominated. It will be a great help to me financially."

"I'd like to think I was nominated," Mueggenburg said, "because they respect what I do and consider me to be a good student."

Mueggenburg's nomination was based, in part, on research he has conducted as an undergraduate in physics and math.

Last year, he began working a research project aimed at studying polyelectrolyte gels, materials that might some day be used in developing artificial muscles. Mueggenburg's research continued work began a few years ago by 1995 IWU graduates Dana Deardorff, a

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physics and art major from Elgin, Ill., and Kimberly Branshaw, a chemistry and physics major from New Lenox, Ill. As a byproduct of that research, a curious phenomenon took place when a glob of the gel was left in a lab beaker. Over a weekend, the quarter-sized gel was transformed into a curvaceous, transparent, crystal-like object, blending art and science. Mueggenburg's research focuses on the underlying physics triggering these unusual structures. Among other things, he's writing a computer program simulating the gel's expansion process. Mueggenburg will present his research later this month at IWU's annual John Wesley Powell Undergraduate Research Conference. He's conducting his research in conjunction with Narendra Jaggi, associate professor and chairperson of physics, and Gabriel Spalding, assistant professor of physics.

Mueggenburg's math research focuses on the relatively new field of wavelet analysis, which allows complicated functions to be simplified, making them easier to work with. Mueggenburg is working with Tian-Xiao He, associate professor of mathematics, on the project.

"I like research," Mueggenburg said, "because you don't know where it's going. It's very open ended, in fact, it doesn't necessarily have an end. Research can be frustrating when you're not getting anywhere, but it can be very rewarding when you get something."

Mueggenburg is eyeing graduate school and a doctorate in physics after he wraps up his career at IWU next year. Ultimately, he wants to conduct research in a university setting.

"I'd like to be a student for the rest of my life," Mueggenburg muses, noting "it's a wonderful atmosphere getting knowledge for knowledge's sake."

Mueggenburg is the son of Walter and Kay Mueggenburg of 805 Enos Lane, Godfrey, Ill.

The one- and two-year Goldwater scholarships cover the cost of tuition, fees, books, and room and board up to a maximum of \$7,500 a year.

Among 1997-98 Goldwater scholarship winners are 160 men and 122 women, virtually all of whom intend to obtain doctorates. Seventeen scholars are math majors, 186 are science majors, 10 are majoring in engineering, and 69 have dual majors in various math, science, and engineering disciplines.

The Goldwater Foundation is a federally endowed agency established by Public Law 99-661 on Nov. 14, 1986. The program was designed to spur outstanding students to pursue careers in the fields of math, the natural sciences, and engineering.

The nine-year old Goldwater Foundation has awarded 2,091 scholarships, valued at

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about \$22 million. The trustees plan to award about 250 scholarships for the 1998-99 school year.

Last year, IWU biology major Kurt Galbreath of Evergreen Park, Ill., received a Goldwater scholarship. Galbreath will graduate in May.

IWU, founded in 1850, enrolls about 1,900 students in a College of Liberal Arts, College of Fine Arts, and a four-year professional School of Nursing. A \$15 million athletics and recreation center opened in the fall of 1994; and a \$25 million science building opened in the fall of 1995. The \$4.6 million Center for Liberal Arts--a facility housing 60 faculty offices, six classrooms, and other facilities for social science, humanities, business and economics, and interdisciplinary studies' faculty--is slated to open next fall, as well as a \$6.8 million residence hall, accommodating about 118 students. The Carnegie Commission for the Advancement of Teaching promoted Illinois Wesleyan to a "Baccalaureate I" institution in 1994, a classification that places it among 161 highly selective National Liberal Arts Colleges in the annual *U.S. News & World Report* rankings. *Barron's Profiles of American Colleges*, another respected college guide, rated IWU "highly competitive (+)" in its latest edition.