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Five GS Students Win Georgia Engineering Foundation Scholarships

February 21, 2023

For over 50 years, the [Georgia Engineering Foundation](#) has sponsored a program that awards college scholarships to worthy Georgia students who are preparing for a career in engineering or engineering technology. Since 1985, over 1000 students have been awarded scholarships ranging from \$1,000 to \$5,000.

All scholarships are competitively awarded based on the student's demonstrated competence in academics, interest in developing a career in engineering, financial need, and school and community involvement. Note that based on the direction of our scholarship donors, not all scholarships are awarded each academic year or the amount of the scholarship may be changed. Typically between 40 and 50 scholarships are awarded for a total value between \$70,000 and \$85,000.

This year, the GEF awarded 56 scholarships, with five going to Georgia Southern students: Benjamin Brazel (Electrical Engineering); Michael Jones (Manufacturing Engineering); Aidan Parsons, Caleb Williams, and Dylan Wyatt (Mechanical Engineering). The GEF Scholarships will host a virtual event on Thursday, March 2 via Microsoft Teams to honor the recipients.

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JDRF Grant for Cesmeci to Develop Artificial Pancreas System

February 21, 2023

[Dr. Sevki Cesmeci](#), assistant professor in the [Department of Mechanical Engineering](#), has recently been awarded an Innovative Grant Award from [JDRF](#), the leading global type 1 diabetes (T1D) research and advocacy organization, for \$200K. JDRF's Innovative Award program provides seed funding for highly innovative, high-risk-high-reward research with significant potential to accelerate the mission of JDRF. In his project, Dr. Cesmeci will lead the efforts to develop an artificial pancreas system that could potentially help T1D patients live a higher quality of life.

Automated Insulin Delivery (AID) systems, also known as Hybrid Closed Loop (HCL) systems or Artificial Pancreas (AP) systems are used to monitor and control blood glucose levels, which

would otherwise cause serious health problems for diabetic patients, including damage to the heart, kidneys, eyes, and nerves. According to the T1D Index – a recent first-of-its-kind data management tool that measures the impact of T1D across the globe – there are about 8.7 million people living with T1D around the world, and not only having access to but also use of AP systems could save 673,000 more people by 2040. Despite the demonstrated clinical benefits, T1D patients avoid taking advantage of such AP systems because of the burden of wearing an on-body insulin pump. Also, the patients need to wear two different devices separately, i.e., (i) a continuous glucose monitoring system and (ii) insulin pumps, which only contribute to the physical and psychological burdens on the patients. Thus, there is a pressing need for insulin delivery systems with reduced “form-factors” and other “user-centric” features to increase a greater adoption of such devices in the T1D community.

To offer a potential solution, Dr. Cesmeçi, the Principal Investigator (PI), proposes a novel Microelectromechanical system (MEMS) that has not been studied previously to offer an efficient, miniature, lightweight, portable, wirelessly controllable, and low-power MEMS for insulin delivery.

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