



S A T O P

SPACE ALLIANCE TECHNOLOGY OUTREACH PROGRAM

News release

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No-Go Nozzle answers multimillion-dollar dilemma San Jac professor helps prevent drive-off gas theft

BAY AREA HOUSTON, TEXAS – Technical assistance provided by Hugh Rogers, professor of Electrical Technology, San Jacinto College North, through the Space Alliance Technology Outreach Program, has helped in the development of a device to prevent drive-off theft at gas stations.

Locally, SATOP is a State of Texas funded program designed to transfer the knowledge and technology of the U.S. Space Program to small businesses. Small business owners faced with a technical challenge can receive up to 40 hours of free assistance from a scientist or engineer. SATOP is administered by the Bay Area Houston Economic Partnership and is made possible through a consortium of Space Alliance Partners, which include NASA-Johnson Space Center, aerospace companies, and colleges.

So, how big is the dilemma of drive-off theft and how did Rogers get involved? The National Association of Convenience Stores reports hundreds of millions of dollars in gasoline theft just since 2004. There is no way to determine what the loss was at stores that do not require prepay, which raises the amount of theft even higher, according to an April 2008 fact sheet on the NACS Web site.

When Jim McCommons, a Florida entrepreneur, became aware of the magnitude of this problem, he decided to act on it. McCommons began to develop a fuel nozzle that would lock in place into the filler pipe of a vehicle until the customer paid for the gas and the cashier and/or the “pay at the pump” system deactivated the lock. However, he found that his design had a flaw that could cause the nozzle to unlock prematurely. That’s when he submitted a Request for Technical Assistance with SATOP in Florida. Ryan Greenough, a senior program engineer in that office, matched his request with Rogers.

After he was contacted and asked to provide assistance, Rogers initially presented the problem to his Electrical Designing class as a project. The class and he came up with an electrical solution that should have worked, but further communication with McCommons made it clear that the problem needed a mechanical solution.

Rogers explained, “Although seemingly outside of my discipline, a successful systems troubleshooter must have a working knowledge in other areas such as pneumatics or hydraulics. In principle, the device was hydraulic. So, it was in the hydraulics arena that I focused my attention and objectively sought a solution. Basically, the piston in the device needed another device for control. The dashpot timer proved to be what was needed. The dashpot operates principally on the flow of a fluid and controls the timing of events by utilizing various sized orifices. Combining the dashpot with a check valve looked good on paper and should work in theory. Jim added the dashpot and check valve to his prototype and achieved the desired results.” McCommons is now moving forward with plans to bring his revolutionary nozzle to market nationwide. For more information visit <http://www.no-gonozzle.com/index.html>.

Commenting on his involvement in the project, Rogers said, “Dr. Sarah Janes, Dean of Academics, is the driving force behind the San Jacinto College North SATOP alliance. Without her valuable input, I would not have known about this project, and without her support, the success story never would have happened. San Jacinto College is a great place to receive an education, and SJCN is also a wonderful place to work. SATOP is an excellent organization as well – one with which I’m proud to be associated.”

For more information on SATOP, visit www.spacetechnolutions.com/bahep or contact Nick Gardner, SATOP project engineer, at 281.486.5535.

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Bay Area Houston Economic Partnership is a member-driven organization that provides the leadership to stimulate regional economic development and employment in southeast Texas. Its members include aerospace, petrochemical, and healthcare companies, developers, bankers and real estate brokers, 13 cities and Galveston and Harris Counties. Visit www.bayareahouston.com.

Space Alliance Technology Outreach Program is administered by the Bay Area Houston Economic Partnership. It is a State of Texas funded initiative designed to transfer the knowledge and technology of the U.S. Space Program to small businesses to solve technical challenges they are unable to solve themselves. Visit www.spacetechnolutions.com/bahep.