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FIU NSF I-Corps Team Working on Commercialization of a Blood Alcohol Monitoring system

Every two minutes a person is injured in a drunk driving-related crash. Drunk driving costs the United States \$199 billion a year, and 50 to 75% of convicted drunk drivers continue to drink and drive on suspended licenses. According to data released in March 2016 by the National Highway Traffic Safety Administration (NHTSA), 32,675 people died in traffic crashes on the nation's roads in 2014, 31% of whom were categorized as alcohol-impaired-driving fatalities. In a survey conducted by the Centers for Disease Control and Prevention (CDC) in 2012, 29.1 million people admitted to driving under the influence of alcohol. According to the CDC, the average drunk driver has driven drunk an astonishing 80 times before first arrest. The statistics also show that about one-third of all drivers arrested or convicted of drunk driving are repeat offenders.

To address this very serious public health problem, a research team at FIU is developing an exciting tool, the Transdermal Alcohol Monitoring System (TAMS). Based on a fuel cell type alcohol sensor developed at FIU, TAMS technology has the potential to revolutionize the wearable alcohol monitoring market and to reduce significantly the incidence and prevalence of drunk driving, which will, in turn, decrease the number of people who perish annually due to alcohol-impaired-driving fatalities.

To explore the commercial viability and value of the TAMS technology, the FIU researchers applied – successfully - to the Na-

tional Science Foundation's (NSF) Innovation Corps (I-Corps™) training program. Their I-Corps team, comprising Principal Investigator Dr. Shekhar Bhansali, chair of the Electrical and Computer Engineering (ECE) Department; Entrepreneurial Lead Dr. Yogeswaran Umasankar, a postdoctoral associate in the ECE department; and Mentor Peter Hernandez, Director of Technology Management and Commercialization at FIU, completed I-Corps training at the NSF I-Corps node at Georgia Institute of Technology. Over the next seven weeks of the I-Corps training program, the TAMS team conducted nearly 140 customer discovery interviews to determine the most appropriate customer segments and value propositions for their wearable transdermal blood alcohol monitoring technology.

Dr. Umasankar described participation in the NSF I-Corps training program as “an amazing learning experience that transformed my view of commercialization.” The team learned many valuable lessons, particularly how to conduct proper customer discovery interviews, develop value propositions based on the information gathered from potential customers, and apply the business model canvas (part of the Lean LaunchPad methodology) that helps visualize the components needed to turn the customer needs and problems (or pains) into a profitable company. “The customer discovery process led us to a deep understanding of societal norms, opportunities and challenges with alcohol. It showed us the potential for our product,” said Dr. Bhansali.

The team members plan to continue the commercialization of the TAMS technology with the knowledge and experience they gained through participation in the I-Corps program. For more information on how to apply for the NSF I-Corps teams program, please contact Peter Hernandez, Director of the Office of Technology Management and Commercialization at (305) 348-30151 or via email at pphernan@fiu.edu.



L to R: Dr. Shekhar Bhansali; NSF Program Officer Mr. Rathindra DasGupta; NSF Program Officer Ms. Lydia V. McClure; Dr. Yogeswaran Umasankar and Mr. Peter Hernandez