Contact: Diane Neff
Marketing Communication Specialist
Universal Laser Systems, Inc.
7845 E Paradise Lane
Scottsdale, Arizona 85260
Phone: 480-483-1214 x 225
Email: dneff@ulsinc.com ▪ www.ulsinc.com

PRESS RELEASE

For Immediate Release

Universal Laser Systems Installs Laser System at Rice University

ULS Multiwave Hybrid™ technology enables futuristic Graphene research.

August 7, 2015-Scottsdale, AZ - Universal Laser Systems, Inc. the world's leader in laser materials processing, has installed an XLS10 Multiwave Hybrid™ laser system at Rice University's Richard E. Smalley Institute for Nanoscale Science and Technology in Houston, TX. ULS and Rice are actively collaborating on advanced research on Laser Induced Graphene (LIG) synthesis and refinement.

The Rice University research group is led by Professor James M. Tour, whose group initially discovered Laser Induced Graphene in 2014. The LIG process is done under ambient conditions, meaning no high temperature furnaces or vacuum chambers are necessary. This dramatically reduces the cost of graphene production. The process involves exposing a sheet of commercial polyimide film to a laser beam. The laser energy converts the top 20 microns of the polyimide to a porous graphene structure. Graphene produced by the LIG technique has broad application in fields such as energy storage and catalysis.

The Multiwave Hybrid™ technology provided by the Universal laser system can combine multiple laser beams with different wavelengths into a single coaxial beam. This unique capability will enable the research group to combine multiple laser wavelengths and energies, and study the effect on the structure and properties of the resulting graphene.

On the practical side, this process can be used to produce portable, flexible electronics and "wearable" electronics that configure to a smartphone. Additionally, the production of laser induced graphene is a one-step process which could allow for rapid manufacture of roll-to-roll flexible electronics in the future. Joe Hillman, Materials Science Engineer and Strategic Development Manager for Universal Laser Systems states that "the unique ability of the XLS10MWH to combine the beams from several different lasers provides an ideal system for studying and optimizing the interaction of light with matter."

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When asked about the collaboration between Universal Laser and Rice University, Dr. Tour said "The ability to explore multiple wavelengths and reaction environments is expected to lead to great advancements in the field."

About Mr. Joseph Hillman

Mr. Hillman has a degree in Materials Science and Engineering from the Massachusetts Institute of Technology. He has over 20 years of experience in development of advanced fabrication processes, with the past five years dedicated to laser processing techniques. He has published more than 100 technical papers and holds over 50 patents. He joined Universal Laser Systems in 2009.

About Universal Laser Systems

Universal Laser Systems, Inc. is an engineering and manufacturing company founded in 1988 and headquartered in Scottsdale, Arizona, with operating offices in Vienna, Austria and Yokohama, Japan. Universal Laser Systems is a leading global provider of CO_2 and fiber laser systems and recognized experts in laser-materials interactions and advanced material processing. The laser systems are widely used in small businesses to Fortune 500 companies throughout the automotive, aerospace, awards, electronics, packaging and manufacturing industries to produce a variety of goods ranging from custom items to identical mass-produced parts and products. Universal Laser supports R&D at various universities around the word to further the field of laser materials processing through research. Universal Laser Systems are used to cut, mark and engrave plastics, metals, wood, glass, stone, ceramics rubber, acrylics, textiles, composites and unique materials. For more information visit our website at www.ulsinc.com, or contact Diane Neff at 480-483-1214 X225 or dneff@ulsinc.com.

About James Tour

James Tour is the T.T. and W.F. Chao Professor of Chemistry and a professor of computer science and of materials science and nanoengineering at Rice University. In 2009, the UK-based Times Higher Education found Tour was among the 10 most-cited chemists of the previous decade. His research encompasses nanoscale electronics, environmentally friendly oil and gas extraction, battery technology, water purification, medical applications, composite materials, hydrogen storage and the synthesis of single-molecule nanomachines, including molecular motors and nanocars. He holds 75 U.S. patents and has published more than 550 research papers.

About Rice University

Located on a 300-acre forested campus in Houston, Rice University is consistently ranked among the nation's top 20 universities by U.S. News & World Report. Rice has highly respected schools of Architecture, Business, Continuing Studies, Engineering, Humanities, Music, Natural Sciences and Social Sciences and is home to the Baker Institute for Public Policy. With 3,888 undergraduates and 2,610 graduate students, Rice's undergraduate student-to-faculty ratio is 6-to-1. Its residential college system builds close-knit communities and lifelong friendships, just one reason why Rice is ranked among some of the top schools for best quality of life by the Princeton Review and for best value among private universities by Kiplinger's Personal Finance. To read "What they're saying about Rice," go to http://tinyurl.com/AboutRiceU.

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