



## News from the Savannah River National Laboratory

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### FOR IMMEDIATE RELEASE

#### SRNL WINS PRESTIGIOUS R&D 100 AWARD

Aiken, SC (June 22) -- A research team led by the U.S. Department of Energy's Savannah River National Laboratory (SRNL) has been selected to win a prestigious 2011 R&D 100 award in an annual competition conducted by R&D Magazine. The award recognizes the SRNL-invented Porous Walled Hollow Glass Microspheres as one of the 100 most technologically significant products of the past year.

Porous Walled Hollow Glass Microspheres have potential for use in targeted drug delivery, hydrogen storage and other applications. SRNL's partners in the winning technology include Toyota, the Georgia Health Sciences University (GHSU), and Mo-Sci Corporation, a Rolla, Missouri, specialty glass provider that has been licensed by SRNL to manufacture and market the microspheres.

The SRNL research and development team included Dr. George Wicks, Dr. Leung Heung, Dr. Ray Schumacher, Dr. Steven Serkiz, and Dr. David Peeler. Other honorees included Dr. Rana Mohtadi of Toyota; Dr. Bill Dynan of GHSU; and, Ted Day of Mo-Sci Corporation.

"I want to congratulate this year's R&D 100 award winners. The Department of Energy's national laboratories and sites are at the forefront of innovation, and it is gratifying to see their work recognized once again," said Energy Secretary Steven Chu. "The cutting-edge research and development done in our national labs and facilities is helping to meet our energy challenges, strengthen our national security and enhance our economic competitiveness."

(more)

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Hollow glass microspheres have been used for years in lightweight filler material, insulation, abrasives and other applications. SRNL's Porous Walled Hollow Glass Microspheres are unique because of a network of interconnected pores in the microsphere walls, which allow the tiny microspheres to be filled with, hold and release gases and other materials. Because the glass microspheres provide a protective environment, or cocoon, for their contents, they can be used to hold reactive or flammable absorbents or stored materials, including solids, liquids or gases. This has the potential to provide a safe method of handling, storing or transporting a variety of materials.

Each microsphere is about 50 microns in diameter, about half the width of a human hair. SRNL originally developed the microspheres as a solid-state storage method for hydrogen as part of the Lab's support of DOE's nuclear defense mission.

SRNL is partnering with Toyota to explore applications for storage and handling of hydrogen gas in hydrogen-based vehicles. The joint program with the Georgia Health Sciences University has investigated drug-delivery systems and Magnetic Resonance Imaging contrast agents. Overall, the research has already led to five separate patent filings. Other uses are expected to be identified as additional research projects are completed.

"This recognition underscores the world-class quality of the science being performed by our people," said Dr. Terry Michalske, Director of SRNL. "This is an excellent example of how fundamental knowledge at the National Laboratory can drive partnerships with industry and academia that have far-reaching implications in a variety of markets and applications. That's the value of a National Lab, and it's great for SRNL to be recognized in such a meaningful way."

SRNL is DOE's Office of Environmental Management's national laboratory at SRS. SRNL puts science to work to support DOE and the nation in the areas of environmental management, national and homeland security, and clean energy. The management and operating contractor for SRS and SRNL is Savannah River Nuclear Solutions, LLC.