



TOWN OF RIVERHEAD NEWS

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WADING RIVER RESIDENT RECOGNIZED AS PART OF BNL'S 50TH MAGLEV ANNIVERSARY

Riverhead, NY - This year marks the 50th anniversary of the seminal publication by Dr. Gordon T. Danby, Physicist, and Dr. James R. Powell, Nuclear Engineer, on superconducting maglev. To celebrate this important achievement in engineering and science, the Stakeholder and Community Relations Office at Brookhaven is hosting a talk, "Powell and Danby's Grand Idea: 50 Years of MagLev History" on Wednesday, March 16, at 4:00 p.m. in Berkner Hall Auditorium that will highlight the story of the two inventors, Brookhaven National Laboratory's and Long Island's important history in maglev technology, as well as how maglev can revitalize Long Island, maglev as a major mode of transportation for people and freight, and the importance of maglev to reduce global greenhouse emissions and promote smart urban development. The talk will be given by Jesse Powell, son of retired Brookhaven Lab researcher Dr. James Powell. The talk is free and open to the public. Please share the attached flyer with your students, teachers and parents. The lecture will be preceded by the 2016 MagLev Student contest from 9a.m.-1:30 p.m.

Dr. Danby's and Dr. Powell's initial research appeared in the April 1967 issue of Mechanical Engineering. (See attached reprint). It stated that "magnetic suspension" is "suitable for 300 mph trains" and "can suspend a 100-ft-long, 100-passenger train six inches with no mechanical contact... The suspension is self-stabilizing, and the train always returns to its equilibrium position if displaced by external forces. The concept is technically and economically feasible with present materials."

With the recent announcement of a Baltimore to Washington D.C. maglev train and new Tokyo to Osaka maglev in Japan, superconducting maglev transportation is finally about to enter commercial service. The trip from Baltimore and Washington D.C. is expected to take less than 15 minutes and in the not too distant future New York City to Washington D.C. will take about one hour.

Suffolk County Executive Steve Bellone said, "I commend Brookhaven National Laboratory for continuing to set the standard in the science and technology fields and for providing a forum for our students to explore their interests and talents. In order for our region to thrive and to create an innovation economy, we must keep our young, highly-skilled workers home on Long Island, and programs such as MagLev are essential to doing just that. This year's contest honors the similar vision that has been shared by two of our region's greatest scientists, Dr. Danby and Dr. Powell, for 50 years. We are forever grateful for their contributions to our communities and the researched-based industries."



“Brookhaven National Lab is a leader not only in advancing science and technology worldwide, but also by encouraging and inspiring students to have an interest in the ever-changing world we live in,” said Suffolk County Legislator Al Krupski, who serves on BNL’s Community Advisory Council. “The Maglev Student contest is a great way to keep young people engaged and involved and a wonderful way to honor ‘Powell and Danby’s Grand Idea’ on the 50th anniversary of their important work.”

Supervisor Sean M. Walter said, “I am proud to preside over the town where Gordon Danby resided when he created this monumental concept. Mr. Danby and James Powell are two local scientists that are long overdue for some well-deserved accolades. These two Long Island scientist have brought the world magnetic levitation. I hope now - 50 years after they conceived this innovation mode of transportation - that we see maglev finally be made widely available in the United States for the betterment of the economy and the environment.”

Brookhaven Town Supervisor Ed Romaine said, "What appeared to be a revolutionary, far off mode of travel in 1967 is now a reality, and it was developed right here in Brookhaven Town. I am honored to recognize the life work of Dr. Danby and Dr. Powell. Their legacy goes far beyond developing MagLev technology. It will have a huge impact on how we move from place to place in a more energy efficient and environmentally friendly manner."

In 2000, Dr. Powell and Dr. Danby were awarded the ‘Benjamin Franklin Medal in Engineering’ by the Franklin Institute for their invention of maglev (fellow awardees include Albert Einstein, Nikola Tesla, Thomas Edison, and Stephen Hawking).

Dr. Gordon Danby, a retired Brookhaven Lab physicist, was cited for "seminal contributions to magnet technology, including superconductive magnets for accelerators, the ultra-high precision g-2 magnet, magnets for MRI and magnetically levitated trains." Dr. Danby assisted in the design and construction of high-performance and superconducting magnets for the AGS, the world's largest particle accelerator when it began operating in 1960. His most recognized contribution to accelerator magnet technology is the idea of using separate bending and focusing magnets for the Tevatron collider at Fermilab. All newly built accelerators use this type of magnet technology. Dr. Danby also played a major role in designing a superconducting magnet that is the world's largest in diameter for the muon g-2 experiment at Brookhaven, in which an international team of physicists made one of high-energy physics' most precise measurements: how the spin motion of subatomic particles called muons is affected as they move through a magnetic field.

On a more practical level, Dr. Danby's work with the Long Island-based Fonar Corporation led to the first use of magnetic resonance imaging in open and upright medical scanners. Together with Dr. Powell, a retired Brookhaven Lab nuclear engineer, Dr. Danby invented the concept of superconducting magnetically levitated (Maglev) trains. These trains have been built in Japan and Germany and may be used for high-speed transport in the U.S.

A native of Canada, Gordon T. Danby received a Ph.D. in nuclear physics from McGill University in 1956. He joined Brookhaven Lab in 1957 as an assistant physicist, and he was a senior physicist when he retired in 1999.



The talk is free and open to the public. For more information you can follow this link <https://www.bnl.gov/newsroom/news.php?a=11820> Brookhaven National Laboratory (BNL) is located on William Floyd Parkway, Country Road 46, 1.5 miles north of exit 68 of the LIE. A photo ID is required for any person over the age of 16 to gain entry to the Laboratory.

For more information about the technology conceived by James Powell and Gordon Danby please visit: <http://www.magneticglide.com/>.

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