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FOR IMMEDIATE RELEASE

NEI CORPORATION, RUTGERS LAUNCH NANOTECHNOLOGY PROGRAM FOCUSING ON ORGANIC MEMORY DEVICES

Five-year effort funded by a grant from NSF to collaborate on a program entitled "Organic Memory Devices Based on Insulating Polymers and C₆₀ Fullerene Molecules"

PISCATAWAY/NEW BRUNSWICK, N.J - NEI Corporation, a proven provider of nanoengineered materials, and Rutgers, The State University of New Jersey, have signed a five year cooperative research agreement designed to conduct primary R&D and apply it to the commercial marketplace. The organizations will explore ways to create organic memory devices based on C₆₀ Fullerene molecules. The program will involve students at Rutgers and scientists and engineers at NEI.

The project will commence on April 1, 2006 and run through March 30, 2011 with initial funding coming from a \$400,000 grant from the National Science Foundation, NSF.

The primary objective of the program is to investigate the fundamental properties of C₆₀/insulating polymer nanocomposites as organic memory materials. In addition, the research will provide insights into the deposition of metal nanowires onto polymer thin films. Finally, information regarding power dissipation by the metal nanowires and impedance in crosspoint architecture organic memory devices will also be obtained.

This fundamental knowledge will be essential for the future development of realistic organic memory devices from C₆₀/polymer nanocomposites. The intellectual merit of the proposal firstly arises from its materials science impact – a realistic all organic memory device has yet to be demonstrated. Secondly, the use of C₆₀ fullerene molecules as the memory element within an insulating polymer offers intriguing possibilities arising from the fact that the storage medium is brought down to molecular dimensions. This combined with the potential ease of fabrication of organic electronics allows progress towards next generation of molecular-scale functional memory devices.

The broader impacts of the project arise from the development of a fast switching, low power consuming and non-volatile memory which would encourage more standby operations, save energy and extend battery life. The organic memories would also provide instant boot up and faster processing. The research will also provide knowledge regarding the chemistry of transfer and adhesion of metal contacts onto organic materials.



Dr. Manish Chhowalla of Rutgers will serve as the Principal Investigator and advisor on behalf of Rutgers University. “We are pleased to reach out beyond our pure R&D capabilities. We believe there is tremendous value in being able to work with a commercial partner like NEI to give our graduate students early exposure to business practices they will experience upon graduation. As we push the frontiers of nanoscience, we are keenly aware of the need to find practical applications for our work product.”

Nanotechnology is a quickly maturing science and set to have a major impact on the world's economic and industrial growth. Within the past two years we have seen the commercial introduction of nano-based products and many more are in the pipeline. Until recently, economically scaling production processes has been a challenge. By collaborating with a commercial partner from the very beginning of a research program, it is possible to incorporate manufacturing considerations into the fundamental research. This in turn results in cost-effective manufacturing capabilities which are necessary to address the industry demands.

“We have a long standing business relationship with Rutgers and look forward to working with Dr Chhowalla and his students in this latest project.” said Dr Ganesh Skandan, CEO, NEI. “We have more than a decade of experience in nanotechnology R&D and successfully bringing products to market. This program complements our industry focus and we are confident that we can accelerate the knowledge generated by research activities into practical applications.”

About NEI Corporation

NEI Corporation develops, manufactures, and distributes nanoscale materials for a broad range of industrial and government customers around the world. Their products incorporate proprietary nanotechnology and advanced materials science to create significant performance improvements in high-volume manufactured goods. The company's products include advanced protective coatings, high performance heat transfer fluids and ultra-high performance battery materials. Established in 1997, the company is based in Somerset, NJ, NEI has created a strong foundation in the emerging field of nanotechnology that has led the company to become a leader in selected markets.

For more information, contact NEI at 732-868-3141 or www.neicorporation.com.

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