

NanoEngineering Corp Secures Two NIH Grants to Advance Gene Therapy Analytics and Structural Biology Tools

Reducing the Cost of Drug Development

NEW HAVEN, CT, UNITED STATES, October 14, 2025 /EINPresswire.com/ -- NanoEngineering Corp (NEC) is proud to announce the award of two prestigious research grants from the National

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We are committed to advancing tools that support innovation in drug development and improve patient safety and therapeutic outcomes”

Jerry Schmitt

Institutes of Health (NIH). These awards mark a significant milestone for NEC, recognizing the quality, innovation, and broad utility of its high- resolution Electrospray Differential Mobility Analysis (ES-DMA) technology. The first grant supports the project titled “Development of a Viral Vector Sizing Tool to Improve Gene Therapy Analytics and Reduce the Cost of Drug Development.” (1R43TR005330-01A1) This initiative focuses on improving quality control analytics of viral vectors, essential delivery vehicles for gene therapy.

These complex biologic drugs suffer from a lack of analytical technologies capable of characterizing several key critical quality attributes (CQAs) in the intermediate nanoscale range (10–100 nm). Existing methods struggle to distinguish between desired full capsids and abundant impurities, such as empty, partially filled, and overfilled capsids.

The second NIH-funded project, in collaboration with the University of Michigan and titled “Soft-Landing of Size-Separated Macromolecules for Structural Analysis by Cryo-TEM,” (1R41GM157850-01) will push the limits of state-of-the-art structural biology tools. This project aims to make use of the high-resolution separation technologies developed by NanoEngineering to improve and facilitate sample preparation of previously intractable oligomeric protein complexes for cryo-electron microscopy.

Central to both projects is NEC’s flagship technology, the NanoRanger™ —a benchtop analytical instrument capable of measuring nanoparticle sizes from 1 to 250 nm with unprecedented angstrom-scale resolution. “These NIH grants validate the transformative potential of our technologies,” said Jerry Schmitt, Founder and CTO.

“We are committed to advancing tools that support innovation in drug development and

improve patient safety and therapeutic outcomes.” With these awards, NanoEngineering Corp will commercialize groundbreaking technologies to advance analytical precision in gene therapy quality control and macromolecular analysis.

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