Professor Eric Potma receives $1.3 million grant from NIH

The funding will support Potma’s research into biosensing technologies.

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Lucas Van Wyk Joel
UC Irvine Physical Sciences Communications



The work could lead to devices that can identify molecules at incredibly fast rates.

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S. Mahmoodi

Professor Eric Potma of the UC Irvine Department of Chemistry has received a $1.3 million grant from the National Institute of Health to support research into biosensing technologies. The project is a collaboration between Potma and Professor Maxim Shcherbakov of the UC Irvine School of Engineering, aimed at developing sensors that can detect and identify individual molecules at speeds of up to one million measurements per second. “Currently, there are no existing techniques that can reach such detection limits,” said Potma, who explained how the technology stands to revolutionize many different fields, from drug development to genetic screening. “Our platform enables the discovery of enzymatic reaction dynamics, which can be leveraged to engineer enzymes for producing drugs. It could also pave the way for faster sequencing of DNA, introducing new possibilities for accelerating genomic screening.” Initially, the funding will help Potma and Shcherbakov design the new platform using computer simulations, followed by the fabrication and testing of sensor materials. “We will extensively test and characterize the performance of our fabricated silicon metasurfaces, and iteratively optimize them so that the desired performance is reached,” Potma said.

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