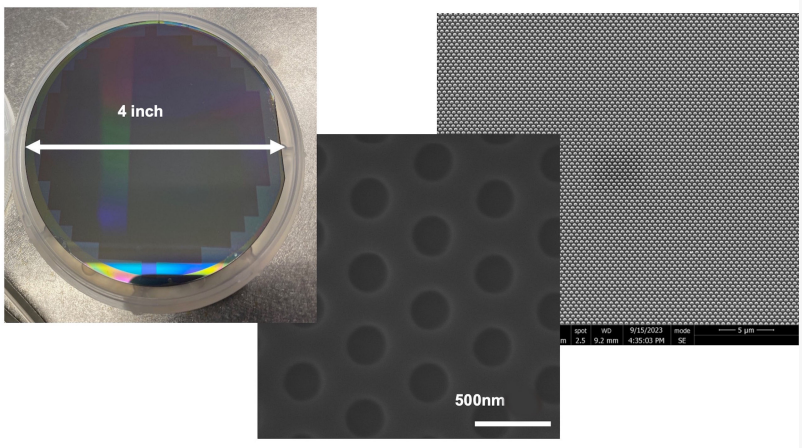
NS Nanotech Awarded $1 Million Grant from NSERC for Nanoscale LEDs and Lasers

Collaboration with McGill University will help grow company's Canadian R&D operations



Researchers at McGill University and NS Nanotech Canada utilized a standard deep ultraviolet (DUV) optical lithography process on a 4-inch wafter (left) to create a patterned mask (center), enabling uniform growth of submicron-scale gallium-nitride (GaN)

MONTREAL, QUEBEC, CANADA, October 26, 2023 /EINPresswire.com/ -- NS Nanotech Canada today announced it has been awarded a two-year Alliance Grant from the Natural Sciences and Engineering Research Council of Canada (NSERC) for research into the development of nanoscale light emitting diodes (LEDs) and lasers. NSERC and NS Nanotech have committed a total of $1 million (CAD) in funding and in-kind contributions. The company co-applied for the grant with McGill University Professor Songrui Zhao.

NS Nanotech scientists are collaborating with researchers in Prof. Zhao's laboratory in the Department of Electrical and Computer Engineering at McGill University to fabricate a new generation of nanoscale gallium-nitride (GaN) LEDs. Prof. Zhao, one of the world's leading nanoLED researchers, holds numerous patents and is advancing the state of the art in molecular beam epitaxy and other foundational technologies designed to enable orders-of-magnitude improvements in costs and efficiency over today's LEDs.

> Together we are on a mission to develop the world's first efficient sub-micron-scale nanoLEDs that will have the potential to disrupt the $120-billion global display market."
>
> *Seth Coe-Sullivan, NS Nanotech CEO and Co-Founder*

"We appreciate this substantial support from the Canadian government for the groundbreaking work initiated by Prof. Zhao and McGill University in the fast-moving worlds of nanotechnology, LEDs, and lasers," said Seth Coe-Sullivan, CEO and Co-Founder of NS Nanotech. "Together we are on a mission to develop the world's first efficient sub-micron-

scale nanoLEDs that will have the potential to disrupt the $120-billion global display market."

NS Nanotech Canada's recently established R&D Centre is leveraging exclusive licenses to a portfolio of groundbreaking patents owned by the University of Michigan and McGill University to develop the world's first efficient sub-micron nanoLEDs and nano-lasers. Commercialization of the laboratory technologies will help enable next-generation displays for televisions, mobile phones, smart watches, augmented-reality glasses, and other applications including disinfection with ultraviolet light.

In the summer of 2023, the combined team successfully fabricated nanowires on semiconductor wafers, demonstrating the potential for growth of nanoscale LEDs using standard commercial manufacturing processes. It was the first time deep ultraviolet (DUV) optical lithography process had been utilized to grow uniform GaN nanowires on an optically patterned substrate.

"Our collaboration with NS Nanotech's R&D Centre is accelerating our laboratory work developing an entirely new way of creating light emitting diodes through growth of nanostructures on semiconductor materials," said Prof. Zhao. "The NSERC Alliance Grant will help enable additional breakthroughs that our combined team expects to deliver over the next two years."

The NSERC Alliance Grant is the latest milestone in the joint R&D program. Senior students from Prof. Zhao's laboratory and NS Nanotech scientists have been collaborating since early 2023 following incorporation of NS Nanotech Canada, Inc. In March, NS Nanotech received matching funding from McGill University's I&P Partnership Program to support its work with the scientists in Prof. Zhao's laboratory. And in September, NS Nanotech Canada opened its first office adjacent to the McGill campus.

"McGill University and Montreal are emerging as important centers of advanced high-technology research, development, and commercialization," said NS Nanotech Canada's Chief Operating Officer Derrick Wong. "Academic-industrial collaborations like ours will be an important means of ensuring that groundbreaking semiconductor technologies move successfully 'from lab-to-fab' and into commercial markets."

NSERC is a Canadian government funding organization that supports Canada's research community, including universities, colleges, businesses, and not-for-profits, with Alliance Grants designed to remove barriers to technological breakthroughs and provide pathways to commercialization.

ABOUT NS NANOTECH

NS Nanotech, Inc., founded in Ann Arbor, Michigan in 2017, incorporated NS Nanotech Canada in November 2022 to collaborate with McGill University scientists on nanoLED research. The company is developing the world's first efficient sub-micron-scale nanoLEDs that have the

potential to disrupt the $120-billion global display market. In Michigan, NS Nanotech collaborates with University of Michigan researchers and has a prototype production facility to develop nitride semiconductors for UVC disinfection applications. It holds exclusive licenses to portfolios of nanoLED patents held by both McGill University and the University of Michigan.

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