
Advantage

- Key Academic Partnerships:
 - UVA: Prof. Joe Campbell, single photon detectors
 - UVA: Prof. Bradley Cox, high energy physics
 - UVA: Prof. Robert Hirosky, high energy physics
- Brain PET Consortium:
 - Upstate Medical: Prof. Andrzej Krol
 - Cornell University: Prof. Mike Thompson
 - MSCC: C. Ross Schmidlein, PhD
 - Binghamton Univ.: Jim Turner, Ph.D.
- Harvard University Center for Nanoscale Systems:
 - 10,500 ft² cleanroom with extensive device fabrication and processing equipment
- Key Patents covering manufacturing technology

LightSpin Technologies is developing the Photomultiplier Chip, a device that can detect single- and multi- photon signals with high internal gain, low noise, and multi-GHz bandwidths. LightSpin is the first company to demonstrate functional GaAs and GaInP devices, with preliminary experimental results indicating the potential to achieve multi-GHz bandwidths.

LightSpin's approach enables unique optimizations including speed, sensitivity, and radiation hardness for applications including:

- free space optical communications
- remote sensing
- underwater ladar
- medical imaging
- high energy physics
- detection of special nuclear materials

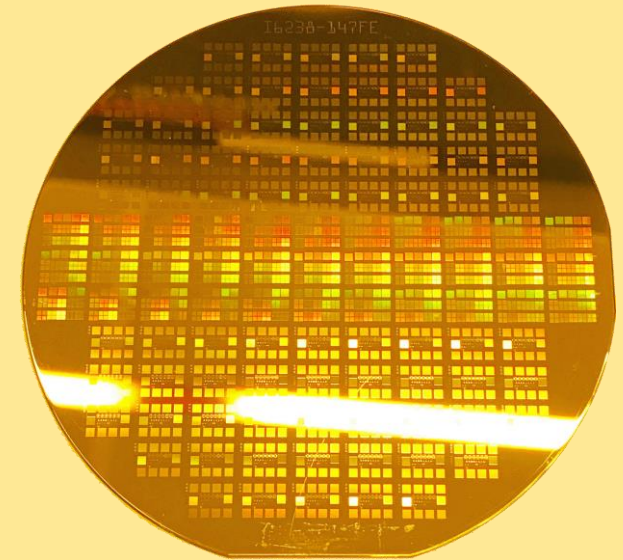
Contact Us

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LightSpin Technologies, Inc

Every photon is sacred



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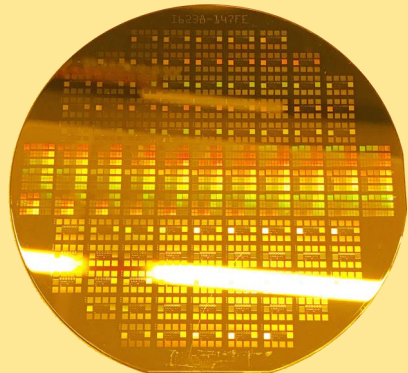
Company History

Light Spin Technologies, Inc. was founded 2002 as a spin out of Professor Jerry Woodall's group at Yale University. Professor Woodall has been on the forefront of compound semiconductor development over the past 40 years.

LightSpin Technologies, Inc. is developing Photomultiplier Chips, unique photodetectors capable of multi-GHz bandwidths and single photon sensitivity for 200 nm to 1700 nm wavelengths. Photomultiplier Chips are suitable for free space optical communication, remote sensing, and gamma-ray detection applications.

Mission/Vision Statement

- Developing the best solid-state single photon detector technology.
- Synergy between device innovation and materials science enables unprecedented performance.
- Better Technology for Healthcare, Security, and Physics.



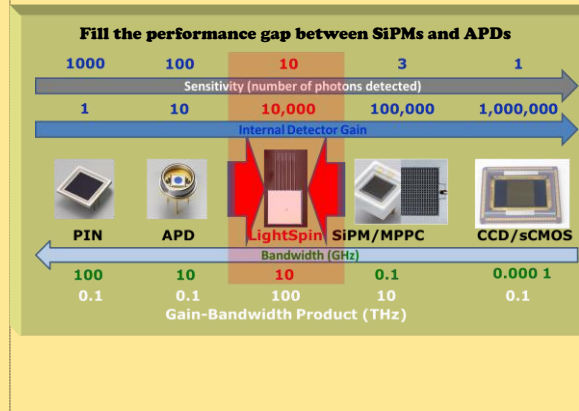
Core Competency

- Compound Semiconductors (GaAs, GaInP, InGaAs, GaN)
- Photodetector Array fabrication
 - 5 μm pitch demonstrated
 - 10s of thousands elements/array
 - Monolithic resistors/capacitors
- Planar Manufacturing Technology
- Custom Photodetector Arrays
- First Demonstration of SiPM-like performance in compound semiconductor SPAD arrays.

- Key patents:

US 9627569 Integrated Avalanche Photodiode Arrays

US 9076707 Integrated Avalanche Photodiode Arrays



Market/Customers

- Customer list – Navy, NIH, NASA, DOE
- Free Space Optical Communication
- Underwater lidar
- Gamma Ray Detection:
 - Positron Emission Tomography (PET)
 - Calorimeters (High Energy Physics)
- Remote Sensing

Contract Vehicles

- SBIR, BAA

