



Introduction to the Photonics CAT

What is Photonics?

Photonics is the study of light, including its generation, propagation, and interaction with matter, where “light” includes more than just the visible wavelengths. In photonics, energy and information are carried by photons (particles of light), rather than by electrons, as in electronics. Photonics uses the wave/particle nature of light to create novel, high technology, optical materials and devices.

Mission:

The New York State Center for Advanced Technology in Photonics Applications (CAT) at the City University of New York (CUNY) develops and disseminates knowledge in photonics technology in order to promote New York economic development for the medical, biological, industrial, homeland defense and military sectors.

The CAT Program

The CAT has recently completed its 10th year of funding through the New York State Office of Science, Technology and Academic Research (NYSTAR). Since its inception in 1993 the CAT at CUNY has leveraged NYSTAR funding with Industrial and federal support to accomplish the mission of the program. To fulfill its mission, the CAT carries out cutting edge photonics research, develops technological innovations and applications, and facilitates product development. It supports New York State industry through licensing of intellectual property, technology transfer, project collaboration, and training of technicians and students.

CAT Capabilities

The CUNY CAT draws on CUNY’s outstanding photonics research faculty and staff and its impressive photonics facilities. About 15 senior faculty researchers, 60 post doctorate associates and graduate students, and 12 technical and administrative staff participate in the CAT and CAT leveraged activities. CAT capabilities and activities are leveraged to obtain major federally funded research grants and Centers that focus on technological innovation in photonics. CAT researchers have published over 250 papers in refereed journals and generated over 50 patents.

CAT Achievements

The attached fact sheets summarize the CAT’s extraordinary achievements in economic development, technology and education.