



**Project Title**

Advanced Light-Emitting Materials and Devices

**Project Reference Code:** DNDO-LLNL-Cherepy

**Hosting Site**

Lawrence Livermore National Laboratory  
Livermore, CA

**Project Description**

Our multidisciplinary research group is developing new scintillator materials for multiple applications in homeland security. Efforts range from growth of large scintillator transparent ceramics to photonic device integration. Scintillators are materials that emit light when excited by electrons (e.g., in a cathode raytube in a television) or other high-energy radiation. Transparent ceramics are prepared from nanocrystalline particles, sintered to the transparent shape and size of choice. We are working on integrating our new scintillator materials into improved scintillator detectors with optimized performance through detailed analysis of the optics, photodetector, and electronic noise. Students with background and interest in optics, device engineering, inorganic synthetic chemistry, ceramics processing, or optical spectroscopy are invited to participate.

**Disciplines**

Nuclear Engineering  
Nuclear Physics  
Chemical Engineering  
Material Science Engineering

**Mentor(s)**

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**Internship Coordinator**

Barry Goldman, [goldman1@llnl.gov](mailto:goldman1@llnl.gov), 925-422-5177

The name and contact information of the hosting site internship coordinator is provided for further assistance with questions regarding the hosting site; local housing availability, cost, or roommates; local transportation; security clearance requirements; internship start and end dates; and other administrative issues specific to that research facility. If you contact the internship coordinator, identify yourself as an applicant to the DNDO Summer Internship Program.

Interns will not enter into an employee/employer relationship with the Hosting Site, ORAU/ORISE, DHS, DNDO or DOE. No commitment with regard to later employment is implied or should be inferred.