Berkeley Lab Physics Division

Contacts for Research Opportunities for Graduate Students 2026

Physics Division Director

Nathalie Palanque-Delabrouille (Npalanque-delabrouille@lbl.gov)

Collider physics at the CERN LHC: ATLAS (web) High-energy Physics; AI/ML for data curation and analyses; HL-LHC Upgrades	
Simone Pagan Griso (SPaganGriso@lbl.gov)	

Neutrino Physics: DUNE (web) Neutrino oscillations; AI/ML for simulation & data analysis**;** Near and Far detector construction	
Dan Dwyer (DADwyer@lbl.gov)	

Lepton Flavor Violation: Mu2e (web) BSM physics; Precision measurements; Straw trackers; Track reconstruction	
Dave Brown (Dave_Brown@lbl.gov)	

Cosmology: Large Scale Structure, Supernovae, CMB (web) Redshift surveys (DESI), imaging surveys (Rubin), supernovae (Rubin+Roman+DESI), CMB (Simons Observatory, SPO), Dark Ages (DOE/NASA LuSEE-Night). Detector R&D for CMB, Line Intensity Mapping, advanced CCDs, miniaturized fiber robots. Development of AI Universe for data-intensive AI projects using the DESI and Rubin datasets.	
David Schlegel (djSchlegel@lbl.gov)	

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Dark Matter: TESSERACT, LZ, Axions (web)
Design, construction, operation, data analysis of direct dark matter search experiments

Dan McKinsey (UCB & LBNL) (DMckinsey@lbl.gov)

Particle Theory (web)
Theoretical particle physics: precision calculations, physics beyond the standard model, string theory. Engagement with LBNL experimental groups.

Christian Bauer (CWBauer@lbl.gov)

Quantum Information (web)
Quantum Invisible Particle Sensor (QuIPS) experiment
Optomechanics probes of gravity
Development of superconducting phonon sensors using kinetic inductance and Josephson Junctions
Simulation of QCD on quantum computers

Maurice Garcia-Sciveres: Quantum Sensors (MGarcia-Sciveres@lbl.gov)
Dan Carney: Quantum Measurements (carney@lbl.gov)
Christian Bauer: Quantum Simulation (CWBauer@lbl.gov)

Detector R&D, Instrumentation (web)
Sensors and readout for cosmology experiments, including new TES architectures, Josephson Junction sensors, fundamental studies of noise sources, readout
Pixel sensors, including 4D tracking and thin film sensors, SiC LGAD sensors
R&D toward liquid noble element detector systems
QuIPS detector development (with QIS Group)
Nanoscale hybrids: a new paradigm for energy efficient optoelectronics
Network intelligence for scalable fault tolerant architecture (Hardware AI)

Peter Sorensen (PFSorensen@lbl.gov)