

TG5: Optical Scintillators/Crystals

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Optical Scintillators/Crystals

Training the next generation of HEP instrumentalists

- This topical group studies fundamental properties and characterization methods for scintillators, including:
 - scintillator light yield
 - electronic and nuclear response
 - temporal response
 - emission wavelength
 - attenuation length
 - pulse shape discrimination properties
- Scintillator characterization is critical to inform the **design, development, and interpretation of data from scintillator-based detection systems**



Key Personnel – *University Mentors*



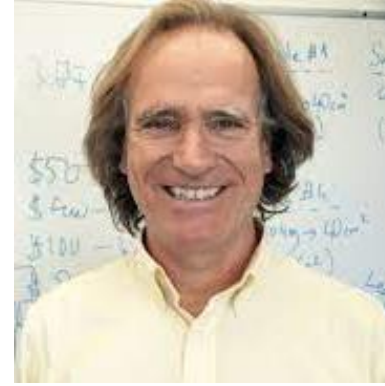
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Thibault Laplace
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Kevin Lesko
UC Berkeley



Harry Nelson
UC Santa Barbara



Harvey Newman
CalTech



**Juan Pedro
Ochoa-Ricoux**
UC Irvine



Bob Svoboda
UC Davis



Mani Tripathi
UC Davis



Ren-Yuan Zhu
CalTech



Matthew Citron
UC Davis

Laboratory Partners



Nathaniel Bowden
LLNL



Erik Brubaker
SNL



Steve Dazeley
LLNL



Kranti Gunthoti
LANL



Gabriel Orebi Gann
LBNL



Ming Xiong Liu
LANL



Pete Marleau
SNL



Melinda Sweany
SNL

TG5 Graduate Fellows



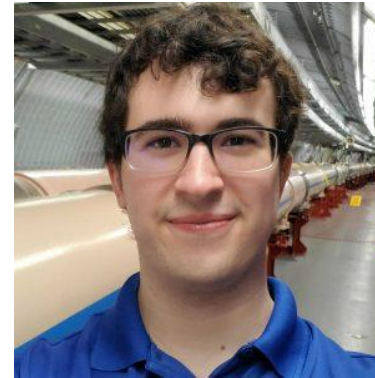
2024 Cohort
Samantha Kelly

Advisor:
Matthew Citron



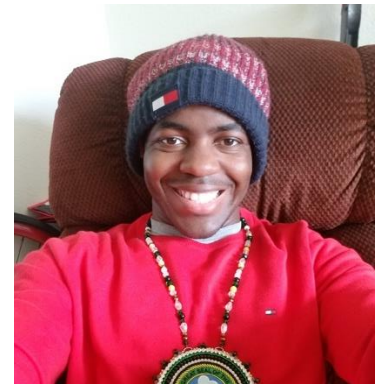
2024 Cohort
Zachary McGuire

Advisor:
Bethany Goldblum



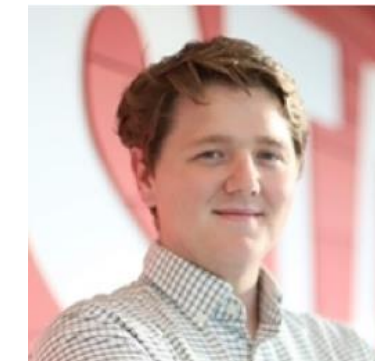
2023 Cohort
Sean Preins

Advisor:
Miguel Arratia



2023 Cohort
DeAngelo Wooley

Advisor:
Bob Svoboda



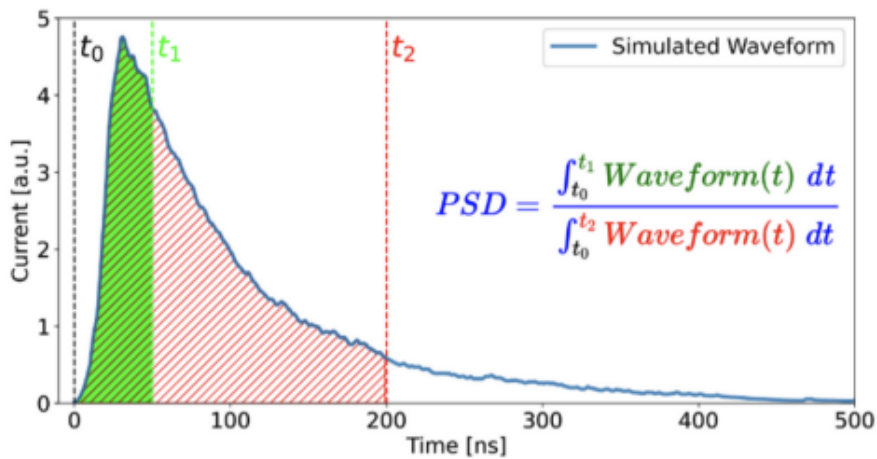
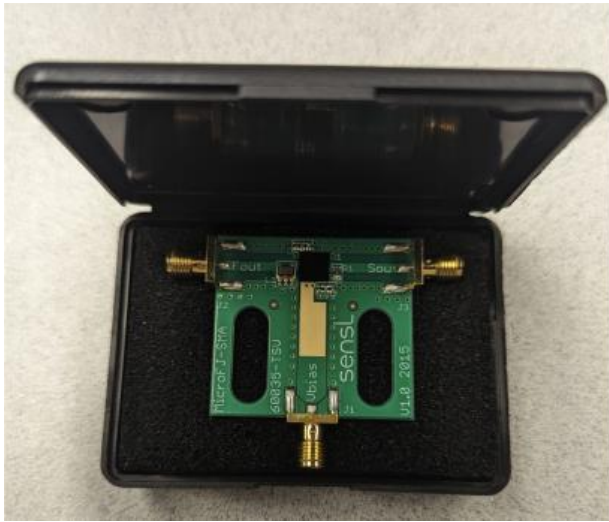
2022 Cohort
Jacob Sebastian

Advisor:
Bethany Goldblum

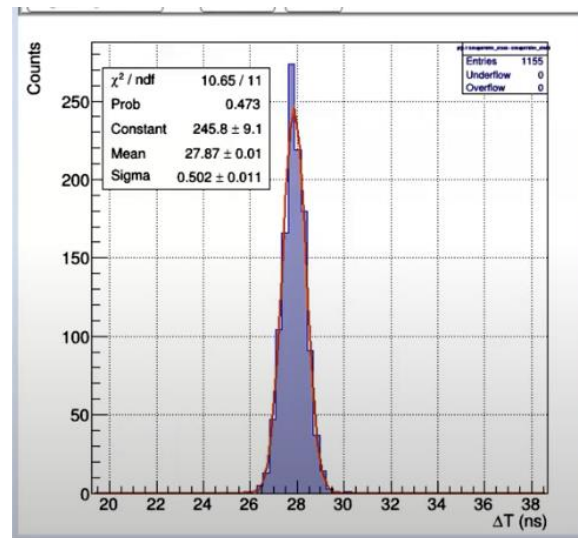
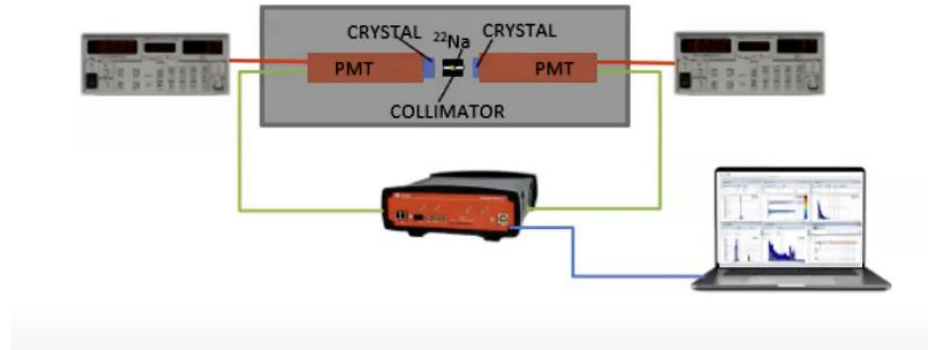


2024 HEPCAT Summer School at Stanford

PSD with SiPMs and Organic Scintillators
Kingston, UC Davis



Ultrafast Scintillators/Coincident Time Resolution
Borrel, Caltech

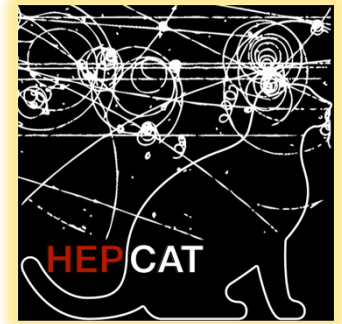


Scintillators under study:

- CsI
- Undoped BaF₂
- BaF₂:Y

Looking Forward

- Training in scintillator fabrication, instrumentation (HPGe, MCP-PMT, PMT, SiPM), beam experiments (88-Inch Cyclotron, LANSCE WNR)
- Beyond scintillator properties?



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