

## P5 Town Hall at SLAC



Contribution ID: 60

Type: **Early Career Scientist**

# FACET-II Addresses Key Needs for a Plasma-Based Collider

*Thursday, 4 May 2023 15:55 (5 minutes)*

Plasma Wakefield Acceleration (PWFA) provides ultrahigh acceleration gradients of up to 10's of GeV/m, providing a novel path towards efficient, compact, 100+ GeV e-e+ and gamma-gamma linear colliders. The FACET-II National User Facility at SLAC National Accelerator Laboratory hosts a diverse experimental program that will investigate beam-driven plasma wakefield acceleration, injection, and control with the aim of demonstrating efficient multi-GeV/m PWFA while preserving emittance and narrow energy spread. The objectives and preliminary results from FACET-II towards applying PWFA to reach the beam parameters for a future linear collider will be discussed, including beam-driven acceleration, plasma lenses, and non-linear strong-field QED.

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**Session Classification:** Contributed Remarks