

DIRAC FERMIONS IN FREESTANDING AND EPITAXIAL GRAPHENE**A. Lanzara**^{a*}^aDepartment of Physics, University California, Berkeley

and Materials Sciences Division, Lawrence Berkeley National Laboratory, 321 Birge Hall, Berkeley (CA), USA

*Corresponding author: *alanzara@lbl.gov*

In this talk I will present a summary of our experimental work in the emerging field of graphene using high-resolution angle resolved photoemission spectroscopy.

I'll present our study of many body interactions and how they evolve away from half filling and provide compelling evidence of the departure from a Fermi liquid picture. Finally, by comparing our results on epitaxial and freestanding graphene I'll discuss how the substrate can affect many body interactions, screening and the general electronic structure of Dirac fermions. The evolution of many-body interaction with doping, defects and quantum confinement are also discussed.