



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 2765

Type: **Invited Speaker / Conférencier(ère) invité(e)**

From Mott to not: phenomenology of overdoped cuprates

Tuesday 4 June 2019 13:15 (30 minutes)

Recently, the long-standing notion that the overdoped cuprate superconductors conform to a Landau-BCS description has been challenged strongly by new data on superfluid density and optical conductivity of high quality LSCO films. We show instead that a wide variety of experimental data on LSCO and Tl2201 (superfluid density, optics, heat capacity, thermal conductivity) can be explained by dirty d-wave theory, subject to significant Fermi-liquid renormalizations, provided that the starting point is an accurate parameterization of the electronic dispersion, and the sometimes nonintuitive effects of disorder are properly treated. Our conclusions have important implications for future research on overdoped materials, and the overall understanding of cuprate physics.

Author: BROUN, David (Simon Fraser University)

Presenter: BROUN, David (Simon Fraser University)

Session Classification: T3-5 Superconductivity (DCMMP) | Supraconductivité (DPMCM)

Track Classification: Symposia Day - Quantum Materials