One favored way to study unconventional superconductivity today is to investigate the preceding phase. Indeed, before they pair to form a superconducting state, electrons interact so strongly that they defy the standard theory of metals in a phase we call “strange metal”. Recent experiments have shown that strange metals host a scattering time between electron collisions that reaches a universal value known as the “Planckian limit” [2, 3]. To determine the origin of the Planckian limit, the aim of the project will be to measure and model the transport properties of unconventional high-temperature superconductors such as cuprates or more recently discovered nickelates under extreme temperature and magnetic field conditions.

References: