How do experiences in adolescence shape the developing brain?

Adolescence is an age of increased vulnerability to mental illness, but we still know very little about the cellular and molecular process ongoing during adolescent brain development and how they are impacted by experience, including drugs of abuse and stressors. This talk focuses on the emerging role of axonal guidance cues in the maturation of the prefrontal cortex in adolescence and its implications for psychiatric susceptibility and resilience. I will discuss findings from rodent and human studies showing that risk and protective factors target guidance cue systems in adolescence, altering the organization of prefrontal cortex connectivity and cognitive function in adulthood. I will emphasize that the direction, magnitude, and consequences of these effects vary between males and females and depend on the specific adolescent period.