

Wednesday, February 18 at 2 pm (BBS auditorium)

## Roles and mechanisms of RNA G-quadruplex structures in cancer

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Discover the critical role of RNA G-quadruplexes (RG4s)—four-stranded RNA structures—in regulating gene expression and cancer cell survival. Using an integrative approach combining omics, molecular, and structural analyses, we identified key RNA-binding proteins and helicases that dynamically modulate RG4 formation within untranslated regions. These interactions orchestrate ‘regulons’ that control the expression of proteins vital for tumor growth and adaptation to genotoxic stress. Together, our work positions RG4 structures and their regulatory machinery at the heart of cancer cell resilience, offering new avenues for targeted therapeutic intervention.

Host: Cameron Mackereth, ARNA laboratory