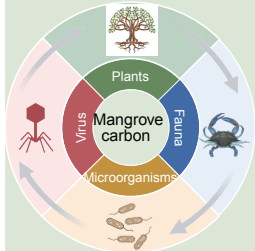


Core questions

How do cross-kingdom interactions quantitatively regulate the mangrove carbon balance?



Testable hypotheses

1. Carbon sequestration efficiency is influenced by tree species, mediated by their root exudates/litter



2. Net effect of bioturbation on carbon burial follows a particular relationship



3. Efficiency of the MCP is inversely related to viral-induced mortality



Integrated methodology

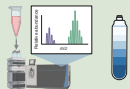
Field mesocosm



Laboratory incubations



^{13}C isotopic DNA-SIP



Multi-omics approach



Bioinformatic analysis



Process-based models

Data generated from these hypothesis-driven studies must be integrated into process-based biogeochemical models.

