## **Approaches to the sign problem**

## **New-variables methods**

Special HS-transforms (Section 2.2)

Dual variables (Sections 2.4 & 2.5)

Fermion bags (Section 2.5)

Majorana fermions (Section 2.6)

## **Statistical methods**

Re-weighting (Section 2.1)

Density-of-states (Section 2.3)

## **Complex-plane methods**

Imaginary asymmetry (Section 2.7)

Lefschetz thimbles (Section 2.8)

Complex Langevin (Section 3)

Constructive approaches