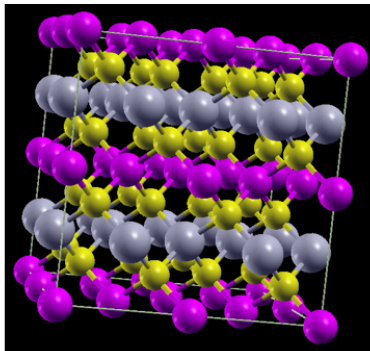
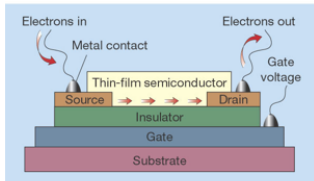


Clancy group: 2016 PhD projects– Electronic materials

2. III-V Semiconductor Design (Sorg, Wang, Reveil).



Purple, green, grey:
Alternating layers of In,
Ga, As

- “Beyond CMOS” materials of considerable industrial interest
- Recapture “Moore’s law” with ternary III/V materials?
- We are studying thermo and kinetics of processing
 - $\text{In}_{0.47}\text{Ga}_{0.53}\text{As}$ with Si as dopant
 - GaN
- Collaboration with Mike Thompson and Grace Xing (experiments) and industry (IBM)

New:

- Modeling laser annealing of GaN
- Modeling structure and properties of III/V interfaces with metal contacts
- Experimental project possible

Computational Tools:

- **Electronic structure calculations**
- **Kinetic Monte Carlo**
- **Nudged Elastic Band**