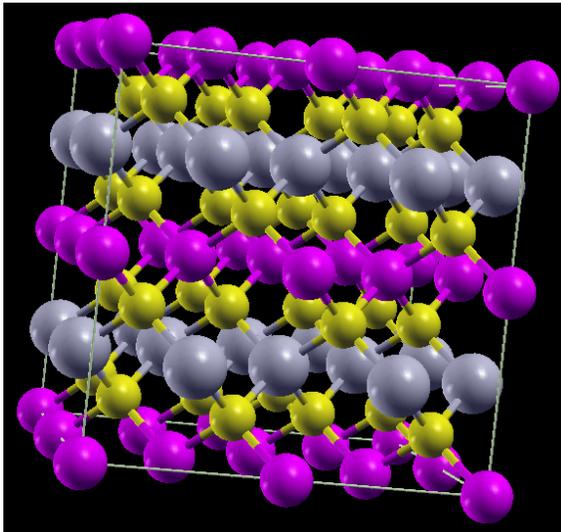
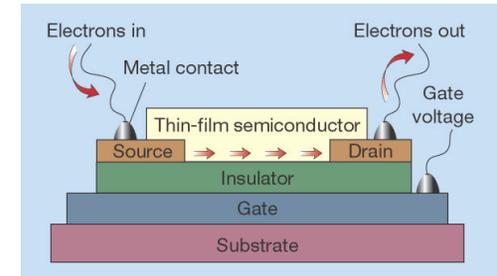


Clancy group: 2015 M.Eng. projects– Electronic materials

1. Next Generation Semiconductor Design- Doped III-V materials.



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



Background

- Further improvement in Si-based logic devices is limited.
- Recapture “Moore’s law” with ternary III/V materials ($\text{In}_{0.47}\text{Ga}_{0.53}\text{As}$) with Si as a dopant
- Collaboration with Thompson and industry
- **M.Eng. Project: Study diffusion of dopant atoms (Si) in InGaAs**

Computational Tools:

- **Electronic structure calculations**
 - **Molecular Dynamics**
 - **Kinetic Monte Carlo**