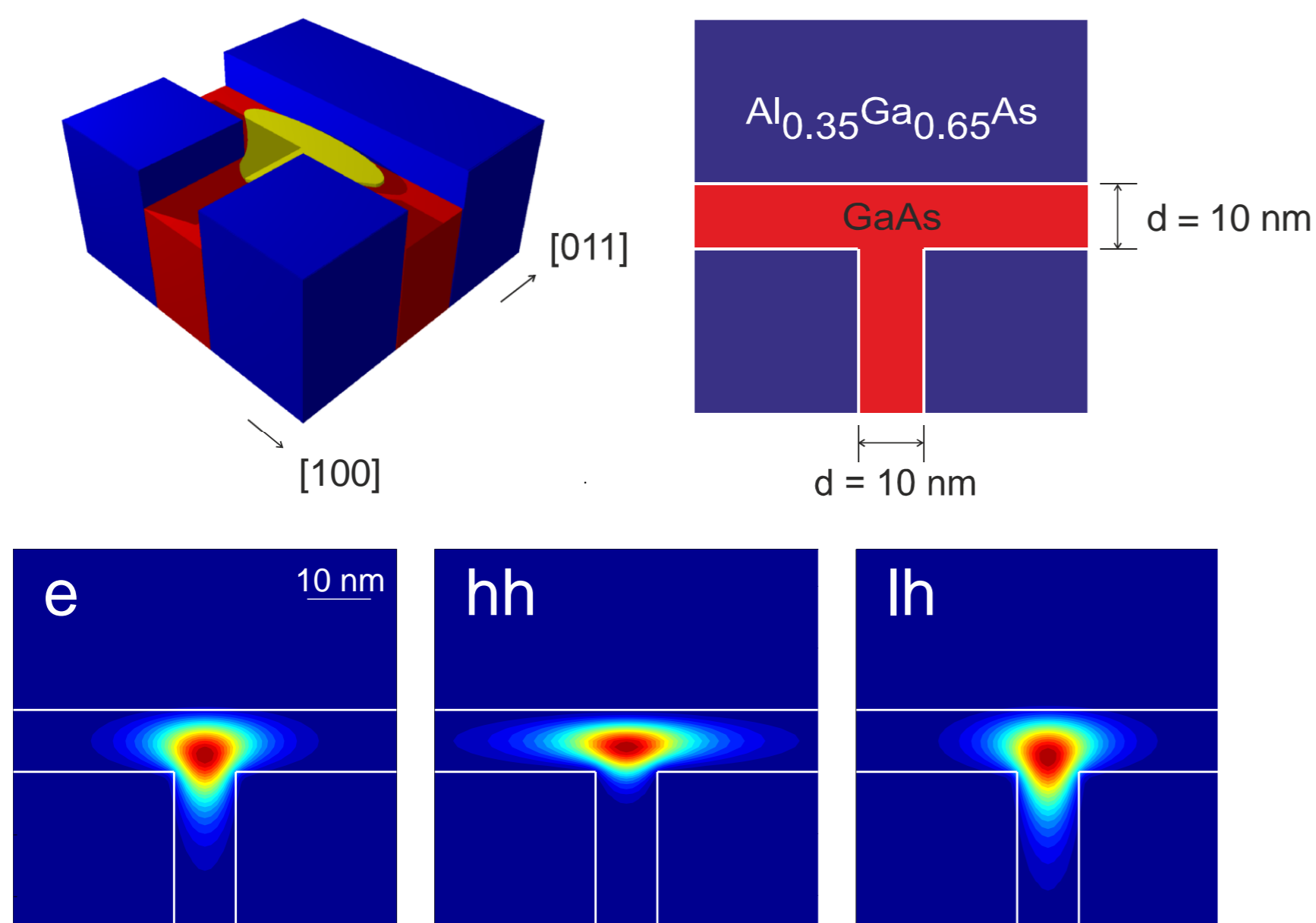
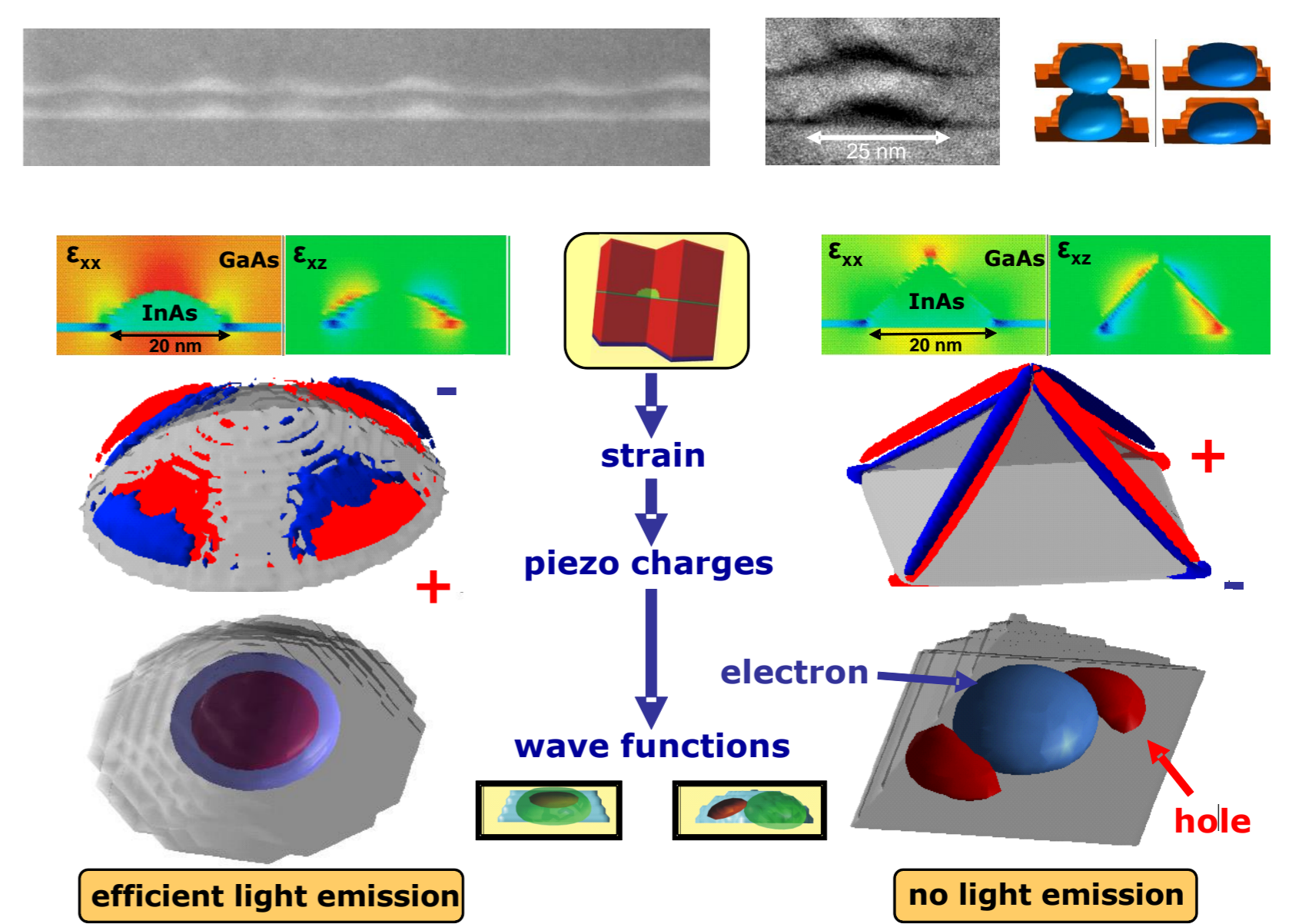


# Software for the Simulation of Electronic and Optoelectronic Semiconductor Nanodevices

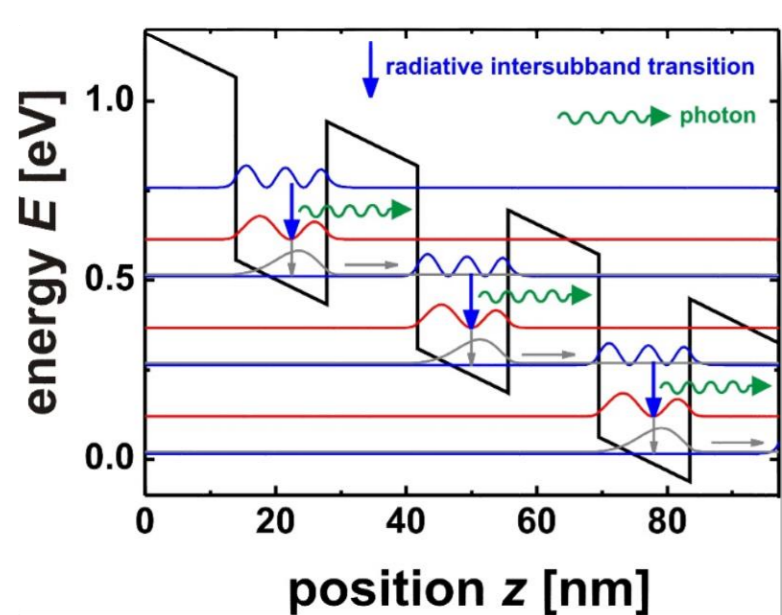
## Quantum wires



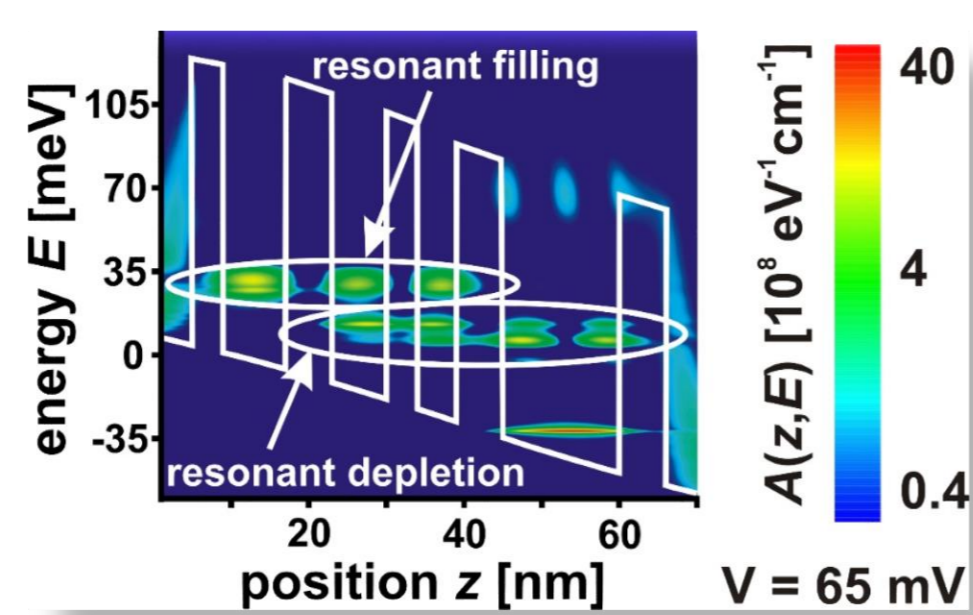
## Quantum dots



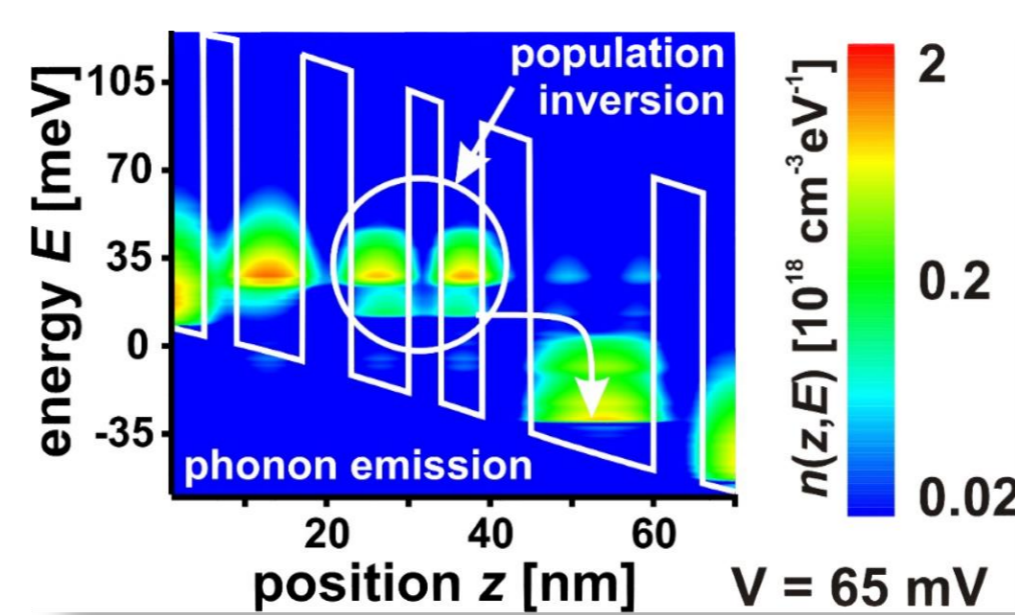
## Quantum cascade lasers



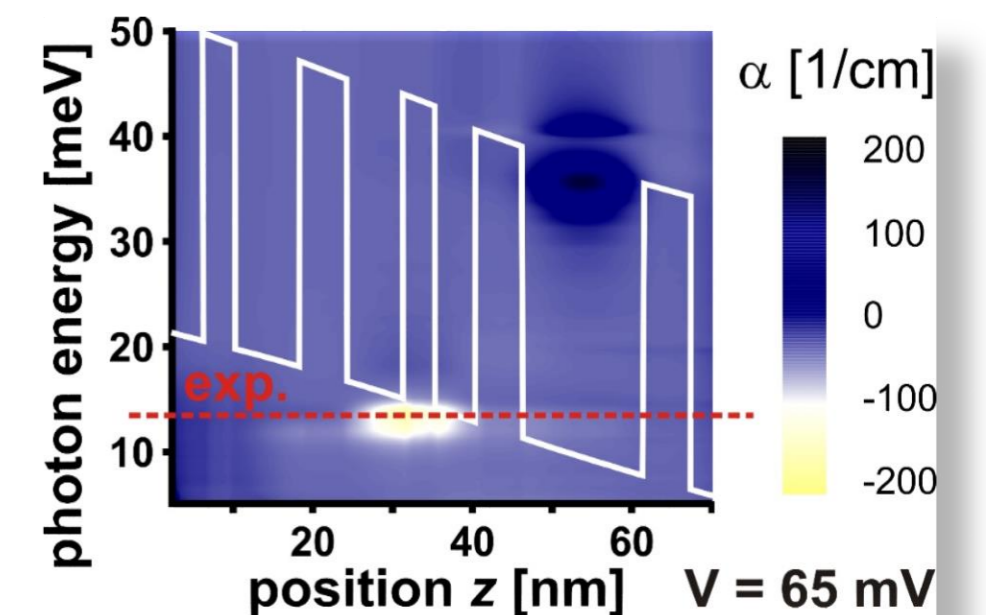
Scheme



Local density of states



Electron density



Gain

- Materials: Group IV, III-V, II-VI (Zinc blende & Wurtzite)
- Schrödinger-Poisson-Current Solver in 1D, 2D & 3D
- Effective-mass, 8-band  $\mathbf{k} \cdot \mathbf{p}$ , Quantum Transport (NEGF)
- Strain, Piezo- & Pyroelectricity
- Applications: LED, Laser Diode, Nano-MOSFET, RTD, HEMT, Nanowire, Biosensor, Type-II Superlattice, ...

