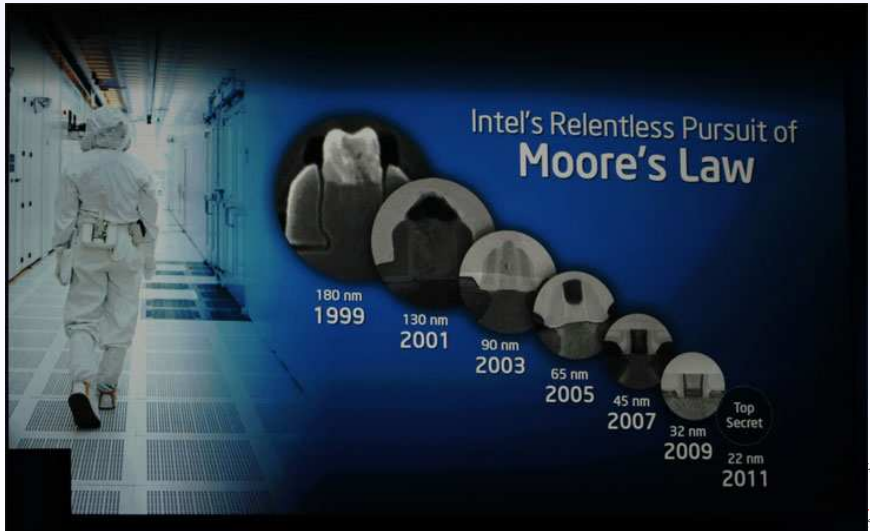




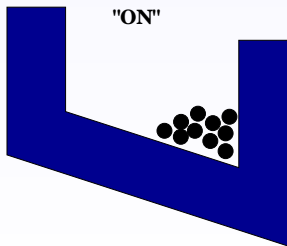
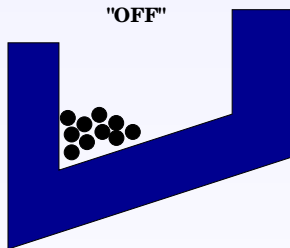
THE FUTURE OF ELECTRONICS

SIGURÐUR INGI ERLINGSSON, ASSISTANT PROFESSOR

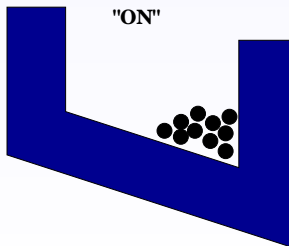
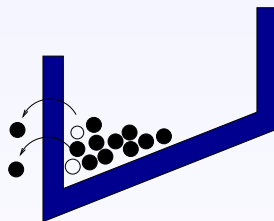
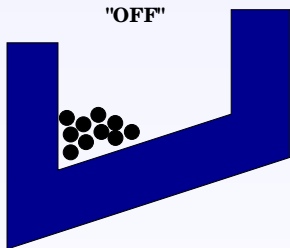
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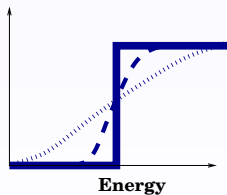
Field effects transistor - switching



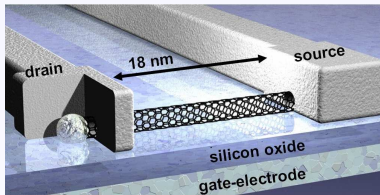
Field effects transistors-foreseeable problems



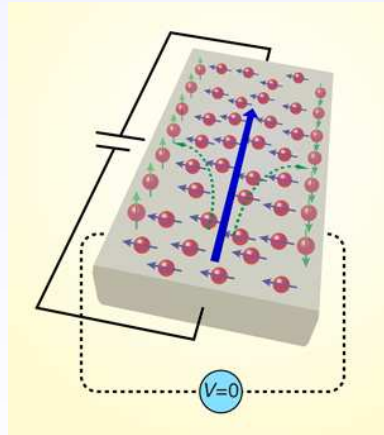
Tunneling



New directions - new challenges



- Bottom-up approach



- Spintronics

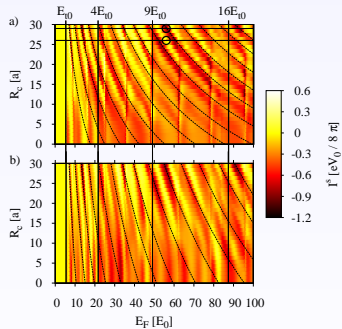
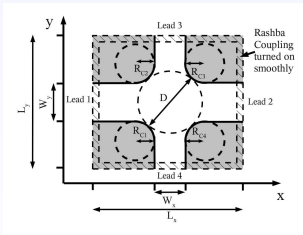


Dynamics and transport of spin and charge in nanostructures

- **Theoretical/computational physics**
 - Spintronics
 - Spin-orbit interaction in semiconductor nanostructures
 - Transport in ferromagnet/normal metal systems
 - Spin Hall effect in four-terminal systems
 - Quantum dynamics and quantum computation
 - Spin dynamics in GaAs quantum dots
 - Non-markovian effects in CPT



Transport in four terminal systems with SO coupling



- Calculations done by Gunnar Þorgilsson, PhD student at RU



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Takk fyrir!

