

## NCN-NEEDS Summer Schools

As the limits of device scaling approach, new ways to advance electronic technology must be pursued. 21st century electronics will be more diverse, less predictable, and driven by new problems. The impact of electronics on society is likely to be even greater than it was in the 20th century, and the changes for companies, working engineers, and for students will be profound. Engineers and students preparing for this new era of electronics will need depth in their technical specialty, an understanding related disciplines, an end to end understanding of technologies, and the ability to quickly learn, adapt, and contribute.

The [Network for Computational Nanotechnology](#) and [NEEDS](#) aim to help students and working engineers contribute to 21st Century electronics. Summer Schools are designed to be a resource for educators and self-learners. While earlier summer schools focused on fundamental physics, materials, and devices, NEEDS aims to add a circuits and systems perspective.

[2015 Summer School](#): Uncertainty Quantification

[2014 Summer School](#): Spintronics: Science, Circuits, and Systems

2013 Summer School: conducted in Dalian and Cheng-du China.

[2012 Summer School](#): Nanotransistors and quantum transport with NEMO

[2011 Summer School](#): Charge, spin, and thermal transport. Solar cells atomistic properties of materials

[2010 Summer School](#): Materials simulation with DFT, far from equilibrium quantum transport

[2009 Summer School](#): Percolation and reliability, graphene science and devices

[2008 Summer School](#): The new Ohm's Lab, nano-MOSFETs, electronic transport by percolation

Comments or questions should be directed to [Mark Lundstrom](#).

For a closely-related educational initiative, see [nanoHUB-U](#).

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