

Summer School Schedule

2012 NCN Summer School
Electronics from the Bottom Up
July 16-20, 2012

Network for Computational Nanotechnology
Purdue University, West Lafayette, IN 47907
Lecture Room: Burton Morgan Building, Room 121

Questions? Contact Vicki Johnson: 765-494-7714 / vicki@purdue.edu

Monday, July 16

Rapid Application Deployment

8:00 AM Registration / Coffee (Burton Morgan Atrium)

8:30 Welcome and Introduction to 2012 Summer School

9:00 Lecture 1 (M. McLennan): "Introducing the Rappture Toolkit"

10:30 Break

11:00 Lecture 2 (M. McLennan): "Rappture: What's Under the Hood?"

12:00 LUNCH

1:30 Lecture 3 (M. McLennan): "More Rappture Objects"

3:00 Break

3.30 Lecture 4 (M. McLennan): "Uploading and Publishing New Tools"

5:00 Adjourn

6:00 Welcome Reception – Burton Morgan Café

Tuesday, July 17

Semiconductor Physics

8:00 Coffee and rolls

8:30 Lecture 5 (S. Datta): "Lessons of Nanoelectronics"

10:00 Break

SUMMER SCHOOL SCHEDULE

10:30 Lecture 6 (S. Datta): "Quantum Transport"

12:00 LUNCH

1:30 Lecture 7 (G. Klimeck): "Single Impurities"

3:00 Break

3:30 Lecture 8 (G. Klimeck): "Band to Band Tunneling"

5:00 Adjourn

Wednesday, July 18

8:00 Coffee and rolls

8:30 Lecture 9 (M. Lundstrom): "Introduction to Transistors"

10:00 Break

10:30 Lecture 10 (M. Lundstrom): "The Landauer Approach to Transport"

12:00 LUNCH

1:30 Lecture 11 (M. Lundstrom): "The Ballistic Nanotransistor"

3:00 Break

3:30 Lecture 12 (M. Lundstrom): "Scattering in Nanotransistors"

5:00 Adjourn

Thursday, July 19

8:00 Coffee and rolls

8:30 Lecture 13 (M. Lundstrom): "MOSFET Below 10 nm Channel Lengths"

Device Modeling with NEMO5

10:00 Break

10:30 Lecture 14 (NEMO5 Team): "NEMO5 Introduction"

12:00 LUNCH

1:30 Tutorial 1 (NEMO5 Team): "NEMO5 Technical Overview"

SUMMER SCHOOL SCHEDULE

3:00 Break

3:30 Tutorial 2 (NEMO5 Team): “NEMO5 Input and Visualization”

5:00 Adjourn

Friday, July 20

8:00 Coffee and rolls

8:30 Tutorial 3 (NEMO5 Team): “NEMO5 Models”

10:00 Break

10:30 Tutorial 4 (NEMO5 Team): “Device Simulation – Graphene”

12:00 LUNCH

1:30 Tutorial 5 (NEMO5 Team): “Device Simulation – Quantum Dots”

3:00 Break

3:30 Tutorial 6 (NEMO5 Team) : “Device Simulation – Transistor”

5:00 2012 Summer School Adjourns

LUNCH and DINNER are on your own – except for the Monday evening Welcome Reception.
Suggestions for Lunch and Dinner:

- “Purdue West” (turn west on State Street) has a number of eating places including Subway and Dairy Queen
- [Venture Cafe](#)
- [Purdue Memorial Union](#) has a number of restaurants
- There are also a number of restaurants in the State Street – Chauncey Hill Area