

Detailed Programme

Functional Materials and Devices

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Lecture 1 (May 9th, Tue 10am-1pm)

Recap of atomistic materials buildup, crystal structures and systems, and phase diagrams.

Lecture 2 (May 10th, Wed 10am-1pm)

Major characterization techniques: XRD, XPS, IR, CV.

Lecture 3 (May 11th, Thurs 10am-1pm)

Electrochemical power sources: batteries, fuel cells and key related materials types & properties

Lecture 4 (May 15th, Mon 10am-1pm)

Materials and devices based on light-matter interactions: different types of solar cells and LED

Lecture 5 (May 16th, Tue 10am-1pm)

Calculations of properties reviewed in prior lectures: I. Structures, energetics, kinetics

Lecture 6 (May 17th, Wed 10am-1pm)

Calculations of properties reviewed in prior lectures: II. Spectra. Final remarks.