Thin Film Technology Laboratory

https://www.imperial.ac.uk/materials/eqpmt/tft/

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The Thin Film Technology Laboratory was established in 2001. Since 2007, it is located in the Dept. of Materials, Imperial College London. As part of LCN and A2D theme (Sir Henry Royce Institute) it provides IC, LCN and many others academic and industrial partners with facilities for thin film deposition, device patterning and electrical characterisation.
Thin Film Technology Laboratory

**Deposition**
- Neocera Pulsed Laser Deposition System
- Combined Mantis Magnetron Sputtering and E-Beam Deposition
- Mantis Nitrides E-beam Epitaxy Deposition System
- Mantis Oxides E-Beam Epitaxy Deposition System
- VG Scienta Nanoedge 100, PVD/ CVD Graphene Deposition
- Korvus Hex Deposition System

**Patterning**
- Photolithography Suite
- OAR IM150 Ion Milling System
- Sentech Etchlab 200 Reactive Ion Etching

**Thin Film Testing**
- Janis Microwave Cryo Probe Station
- Signatone S-1160 Room Temperature Probe Station
- Veeco Dektak 150
- Filmetric F20-UV Thin Film Analyser
- Electrical Testing

http://www.imperial.ac.uk/materials/about/eqpmt/tft/
To get access

The access to the TFT Lab facilities is managed via PPMS (click here):

or

follow the link below

https://teams.microsoft.com/#/school/files/General?threadId=19%3Adfffd5f904a4240cd84e1d8daf6c531d2%40thread.skype&ctx=channel&context=General&rootfolder=%252Fsites%252FTFTLab%252FShared%2520Documents%252FGeneric

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**RHEED assisted (MBE-like) PLD system**

![HR-TEM image](image1)

![SAED image](image2)

![Graph](image3)

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Combined Magnetron sputtering/ E-beam deposition system
Device Patterning

Photolithography suite

OAR Ion Milling system

Tuneable MW capacitor structures

500 nm InSb quantum well Hall device

40nm thick Al film nanowires
MW cryo-probe station (77K – 450K) for on-wafer measurements under external electrical bias and magnetic field (up to 0.15T).

Electrical measurements of a Organic thin film based Field Effect Transistor

Electrical characteristics of a 10nm thick BSTO capacitor structure
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Questions?