

Indian Nanoelectronics User Program – Idea to Innovation (MeiT)



Ministry of Electronics &
Information Technology,
Government of India

Hands-on Training
on

Fabrication & Characterization of Nanoelectronic Devices



Date	Time (in hours)	Session (Day 1)	Venue
22-07-22 FN	09:30 – 09:45	Registration	CARE Seminar Room Block 3
	09:45– 10:15	Introduction of Hands on Training Workshop Prof. Neeraj Khare/Prof. Samaresh Das/Prof. Vamsi K Komarala	
10:15– 10:30		Tea Break	
Theme: Clean Room			
22-07-22 FN	10:30– 13:00	Clean Room – Safety Prof. Bhaskar Mitra & Dr. Uday Dadwal/Manjeet	CARE Seminar Room Block 3
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
22-07-22 AN	14:30 – 17:00	NRF Visit Dr. Sourav Mandal & Dr. Uday Dadwal	NRF Facility Block 6
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 2)	Venue
Theme: Lecture			
23-07-22 FN	09:30– 10:00	Gathering at CARE Seminar Room	CARE Seminar Room Block 3
	10:00– 13:00	Device Structure & Process Flow Prof. Samaresh Das & Mr. Sumit Sharm	
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
23-07-22 AN	14:30 – 17:00	Mask Design Software (L-Edit/K-Layout) Training in computer Mr. Sumit Sharma/Mr. Khanjan	CARE Seminar Room Block 3
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 3)	Venue
Theme: Presentation			
24-07-22 FN	09:30– 10:00	Gathering at CARE Seminar Room	CARE Seminar Room Block 3
	10:00-11:30	NRF Videos	
	11:30-12:00	Tea Break	
	12:00– 13:00	Interaction with TA’s	
Lunch Break (13:00 -14:00)			

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Date	Time (in hours)	Session (Day 4)	Venue
Theme: Lecture			
25-07-22 FN	09:30– 10:00	Gathering at CARE Seminar room	CARE Seminar Room Block 3
	10:00– 13:00	Wafer/Subtract Cleaning & Oxidation/ Ellipsometry Prof. Bhaskar Mitra & Prof. Vamsi K. Komarala/Prof. Anuj Dhawan	
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
25-07-22 AN	14:30 – 17:00	Wafer/Subtract Cleaning Thermal-Oxidation Growth Miss. Shrestha/Mr. Satish Verma	NRF Facility Block 6
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 5)	Venue
Theme: Lecture			
26-07-22 FN	09:30– 10:00	Gathering at CARE Seminar Room	CARE Seminar Room Block 3
	10:00– 13:00	Introduction to XRD/FTIR (Prof. Neeraj Khare/Prof. Prashant Mishra) Mr. Amish/Dr. Senthil Guru	
Lunch Break (13:00 -14:00)			
Theme: Lecture			
26-07-22 AN	14:30 – 17:00	Lithography & Sputtering Prof. Samaresh Das/Prof. Vamsi Krishna Komarala	CARE Seminar Room Block 3
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 6)	Venue
Theme: Lecture			
27-07-22 FN	09:30– 10:00	Gathering at CARE Seminar Room	CARE Seminar Room Block 3
	10:00– 13:00	Lithography 1 st level: Spin Coating, Oven, Mask Aligner Mr. Nadeem Tariq/Mr. Sandeep	NRF Facility Block 6
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
27-07-22 AN	14:30 – 17:00	ZnO Deposition-rf sputtering on Si/SiO ₂ and Quartz Substrate Mr. Ashutosh/Dr. Sourav Manda	NRF Facility Block 6
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 7)	Venue
Theme: Lab Session			
28-07-22 FN	09:30– 10:00	Gathering at NRF, Block 6	NRF Facility Block 6
	10:00– 13:00	Characterization by FTIR/XRD Dr.Senthilguru/Mr. Amish	
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
28-07-22 AN	14:30 – 17:00	Lithography 2 nd level: Spin coating oven, Mask Aliner Mr. Nadeem Tariq/Mr. Sandeep	NRF Facility Block 6
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 8)	Venue
Theme: Lab Session			
29-07-22 FN	09:30– 10:00	Gathering at NRF, Block 6	NRF Facility Block 6
	10:00– 13:00	Metallization Mr. Aamir Saud Khan	
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
29-07-22 AN	14:30 – 17:00	a. Lift off/Inspection b. Inspection: Microscope Mr. Nadeem Tariq/Mr. Sandeep	NRF Facility Block 6
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 9)	Venue
Theme: Lab Session			
30-07-22 FN	09:30– 10:00	Gathering at NRF, Block 6	NRF Facility Block 6
	10:00– 13:00	E-beam Evaporation Lecture & Demonstration Dr. Deepanshu Sharma/Mr. Arun	
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
30-07-22 AN	14:30 – 17:00	Electrical Characterization Part 1(MOS/TLM Structure) (Prof. Rajendra Singh) Mr. Hardhyan/Mr. Anant Johari	NRF Facility Block 6
Tea (17:00 onwards)			

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Date	Time (in hours)	Session (Day 10)	Venue
Theme: Lab Session			
31-07-22 FN	09:30– 10:00	Gathering at NRF, Block 6	NRF Facility Block 6
	10:00– 13:00	Electrical Characterization 2 (FET/Photodetector) Prof. Rajendra Singh Mr. Hardhyan/Mr. Anant Johari	
Lunch Break (13:00 -14:00)			
Theme: Lab Session			
31-07-22 AN	14:30 – 17:00	Discussion	NRF Facility Block 6
Tea (17:00 onwards)			