

## Science City Research Alliance – Energy Efficiency Project equipment/facilities Cleanroom for Energy Efficient Semiconductors, School of Engineering, University of Warwick

Equipment item	Equipment facility/group	Description	Location	Contact	Booking System	Status
SiC High temperature anneal furnace	Deposition equipment	A unique custom vertical designed furnace aimed at high quality Gate oxides on SiC in a new temperature regime up to 1500°C and implant annealing 100 mm wafers in Argon up to 1800°C	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Autumn 2010
LPCVD furnace	Deposition equipment	Low Pressure TEOS Deposition – an PC based furnace system which will deposit high quality oxides on 100mm wafers	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
Refurbished ebeam/sputterer system	Deposition equipment	A refurbished PC controlled CVC deposition tool. Utilising 4inch targets consisting of : Aluminium, Nickel/Vanadium, Titanium and Titanium Nitride	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
Mini-brute furnace	Deposition equipment	A metal contact formation furnace capable of 1000°C specifically for SiC processing	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
Inductively Coupled Plasma Dry Etcher	Etch equipment	Corial 200IL ICP system, with vacuum load locks dedicated to SiC, Si, SiO2 and Si3N4 etching using fluorinated gases on 100mm wafers.	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
Lithography tool set	Photolithography	Ultratech 1000 Stepper providing 1:1 imaging and associated coater and developer track system capable of 1.2 micron lithography	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
Plasma barrel asher	Etch equipment	Full PC controlled refurbished Plasma PRS880 stripping tool	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available

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Thick wire bonder	Assembly	Orthodyne model 20 ultrasonic wire bonder capable of 100-500 micron diameter wires, with Nikon x10 Microscope and fibre optic target system.	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
High Precision Microscope	Metrology equipment	A Reichart analytical microscope with a high quality CCD camera and image processing software	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
Mechanical Surface Profiler	Metrology equipment	Ambios XP-100 stylus profiler, sample stage 140mm with vertical resolution of 0.38 Angstroms and 1200 microns range	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available
Spectral Ellipsometer	Metrology equipment	Rudolf Auto EL IV ellipsometer film thickness measurement tool. 6inch capability, selectable wavelength between 405 to 650nm	Semiconductor cleanroom, School of Engineering, University of Warwick	Eugene Williams <a href="mailto:eugene.williams@warwick.ac.uk">eugene.williams@warwick.ac.uk</a> T: +44 (0) 24 761 51294	Online (in progress)	Available