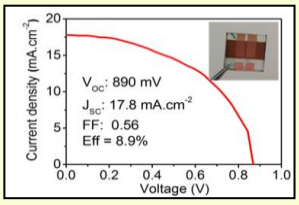
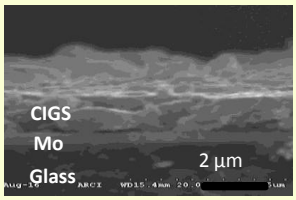
INTERNATIONAL ADVANCED RESEARCH CENTRE FOR POWDER METALLURGY AND NEW MATERIALS (ARCI)

(An autonomous R&D Centre of Department of Science and Technology, Govt. of India)

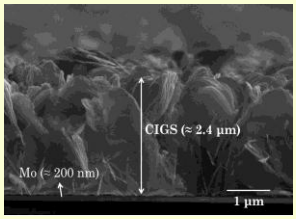
CENTRE FOR SOLAR ENERGY MATERIALS (CSEM)



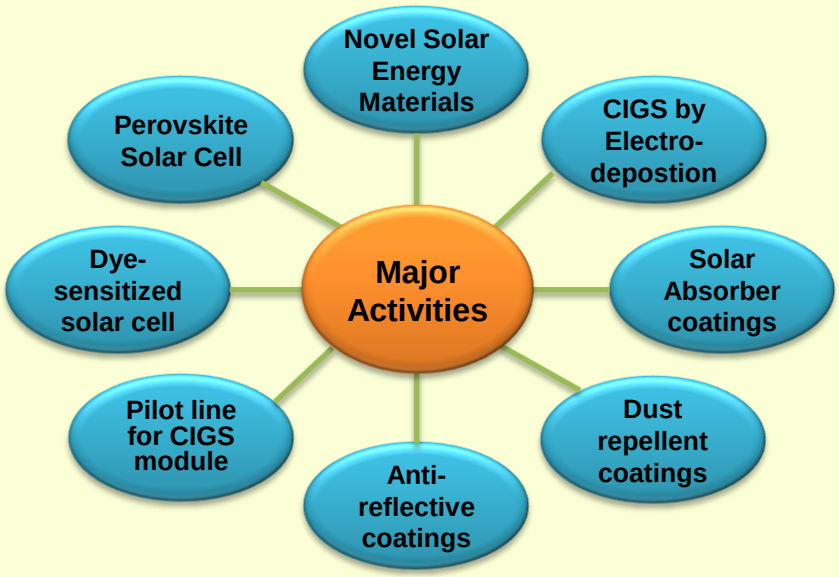
IV curve of PSC

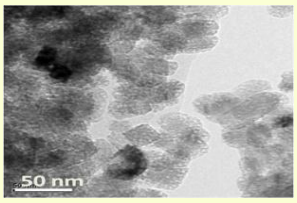


Sputter deposited CIGS

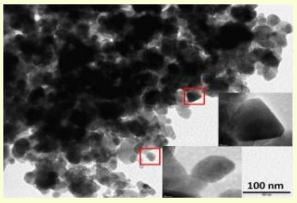


Electrodeposited CIGS

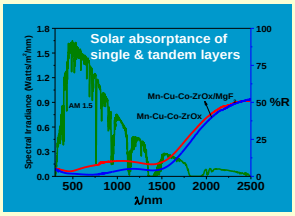




Mesoporous MgF_2 Nanoparticles



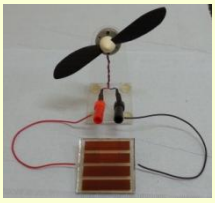
Mn-Cu-Co-ZrOx nanocomposites



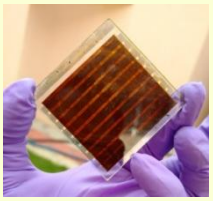
- Design and development of novel solar energy materials
- Film deposition and Device Fabrication
- Performance Assessment through Characterization and Testing
- Scale-up and Prototype Development
- Technology Transfer

MAJOR PROCESSING CAPABILITIES

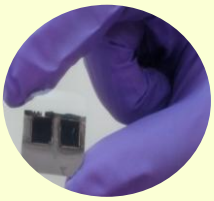
- Nanoparticles & nanocomposites
- Thin film deposition
- Thick film coating
- Thermal evaporation
- Dip coating
- Chemical Bath Deposition
- Chemical Oxidation
- Electrodeposition
- Spray coating
- Chemical oxidation
- Sol-gel/Slurry coatings
- Screen Printing
- Solar Cell Encapsulation
- Laser scriber
- Long-term stability test



DSSC module



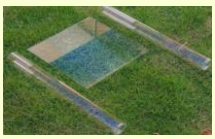
Prototype PSC



CIGS film on Flexi glass

Dust repellent coating on PV panel

Solar absorber tubes



Antireflective coating on PV & CSP glasses

MAJOR FACILITIES

- CIGS Pilot Line
- Evaporator-RTP
- Thermal Evaporator
- Glove Box
- Box &Tubular Furnaces
- Vacuum furnace & oven
- Pulse Power Supply
- Environmental Chamber

CHARACTERIZATION

- Solar Cell Tester
- Quantum Efficiency Unit
- X-ray Fluorescence
- UV-Vis-NIR spectrometer
- FTIR for thermal emittance
- Four probe
- Stylus Profilometer
- Contact angle & Tensiometer
- Electrochemical work station

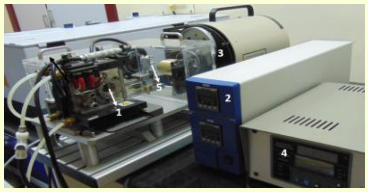
Screen Printer

Evaporator-RTP

Ink-jet Printer

CIGS Pilot Line

UV-Vis-NIR spectrometer



FTIR with Thermal Emittance Accessories

Quantum Efficiency

Solar Simulator

Thermal Evaporator

Environmental chamber

Contact Details: Dr. S. Sakthivel, Scientist 'F' & Team Leader-CSEM, ARCI, Balapur PO., Hyderabad 500005, Telangana, India
Phone: +91 40 24452454, E-mail: ssakthivel@arci.res.in, Website: www.arci.res.in