

**Group 1 Research Center for Advanced Science and Technology(RCAST),
The University of Tokyo**

Title	Organization
Post-Silicon Solar Cells for Ultra-High Efficiencies	RCAST, the University of Tokyo
Super-High Efficiency Concentrator Multi-Junction Solar Cells	Toyota Technological Institute
CBE Growth and Characterization of (In)GaAsN Materials for 4-Junction Solar Cells	Toyota Technological Institute
In-Situ Study of Strain Relaxation during InGaAs/GaAs Growth for Lattice-Mismatched Multi-Junction Solar Cells	Toyota Technological Institute
Control of In Composition in InGaN Thin Films for Multi-Junction Solar Cells	RIAM, Kyushu University
Development of Simulator for Analysis of Concentrator Photovoltaic System	University of Miyazaki
Growth and Conductivity Control of High-Quality GaInN for the Realization of High-Efficiency Photovoltaic Devices	Meijo University
Improvement on Invert Triple Junction Solar Cells	SHARP Corporation
Improvement on High Concentration Solar Cells	SHARP Corporation
High Efficiency Quantum Structure Tandem Solar Cells and Their Manufacturing Technologies	RCAST, the University of Tokyo
Predicting Reactor-Scale Profiles of Growth Rate and Composition of InGaAsP Layers by Metal-Organic Vapor Phase Epitaxy	RCAST, the University of Tokyo
<i>In Situ</i> Growth Monitoring of Strain-Balanced Quantum-Well Solar Cells by Metal-Organic Vapor Phase Epitaxy	RCAST, the University of Tokyo
Characteristics of InGaN/ZnO Structures for Nitride Solar Cells	IIS, the University of Tokyo
InAs/GaNAs Strain-Compensated Quantum Dot Solar Cells	RCAST, the University of Tokyo
Growth of GaInNAs(Sb) Films for Use in III-V Tandem Solar Cells	RCAST, the University of Tokyo
Uniform Formation of High-Density InAs Quantum Dots by Using Nanoholes	Department of Electronic Engineering, The University of Electro-Communications
Ultra-High Efficiency Multiple-Junction Solar Cells with Hybrid Materials	RCAST, the University of Tokyo
Novel Solar Cells Based on Interfacial Charge-Transfer Transitions from Surface-Bound Dicyanomethylene Compounds to TiO ₂	RCAST, the University of Tokyo
Construction of Near-Infrared Nanomaterials by Self-Organization of Dye Molecules	RCAST, the University of Tokyo
Energy-Storable Solar Cells with Tungsten Oxide Charge-Storage Electrode	RCAST, the University of Tokyo
Electrochemical Deposition of Compound Semiconductors for Thin-Film Solar Cells	Osaka University
Light Trapping in Thin Film Solar Cells Using Light Scattering from Metal Nanoparticles	Nippon Oil Corporation
Plasmon Resonance-Assisted Photovoltaic Devices Based on Au Nanoparticle-TiO ₂ Nanocomposites	IIS, the University of Tokyo
Study for Materials of Narrow-Band Gap Solar Cells	University Hyogo

Group 2 National Institute of Advanced Industrial Science and Technology (AIST)

Title	Organization
Spectral Changes of Polysilane Thin Films by Heat Treatment	National Institute of Advanced Industrial Science Technology
Fabrication of Self-Standing Wide-Gap Nanocrystalline Silicon Layers	Tokyo University of Agriculture and Technology
SiGe Solar Cells with Precisely Controlled Heterojunctions	National Institute of Advanced Industrial Science Technology
Development of Si-Ge-Sn Thin Film Solar Cells	National Institute of Advanced Industrial Science Technology
Seed Layer Growth of Narrow-Gap Single Crystal on Silicon-on-Glass and Related Substrates	Corning Holding Japan G.K.
Crystal Growth of SiGe and Ge Thin Films on Si-Substrates with Fluorinated Source Materials	Tokyo Institute of Technology
Neutral Beam Enhanced Chemical Vapor Deposition	Tohoku University
Development of High-Quality Crystalline SiGe Films by Metal-Induced Crystallization	Tokai University
Novel Concept of Si-Based Solar Cells with Heterojunction	National Institute of Advanced Industrial Science Technology, Kyocera Corporation, Mitsubishi Heavy Industries, Ltd.
Wide-Gap Compound Solar Cells with Designed Structure	Panasonic Electric Works Co., Ltd.
Fabrication of InAs Quantum Dots for Solar Cell Applications	National Institute of Advanced Industrial Science Technology
Development of Top Solar Cell Using III-V Nitride Thin Film	National Institute for Materials Science
Carrier Transport Properties of p-Type Oxide Semiconductors, Cu ₂ O and SnO	Tokyo Institute of Technology
Bandgap-Controlled p-CuO Semiconductors Prepared by Electrochemical Reaction	Toyohashi University of Technology
Silicon Nanocrystals and Conjugated Polymers Based Bulk-Heterojunction	National Institute of Advanced Industrial Science Technology
Semiconducting Single Wall Carbon Nanotubes Applied to Organic Bulk-Heterojunction PV Cells	National Institute of Advanced Industrial Science Technology
Production of Si nano-particles in gas phase using plasmas and their application to third generation photovoltaics	Kyushu University
New-Concept Narrow-Gap Solar Cells Based on pn-Junction Housed Carbon Nanotubes	Tohoku University
Nano-Engineering of Ionic Liquids in Vacuum for Further Extension of Flux-Mediated Epitaxy to the Organic Thin Film Growth	Tokyo Institute of Technology
Low-Photon-Energy Conversion with Narrow-Gap Molecular Donor-Acceptor Compounds	National Institute of Advanced Industrial Science Technology
Band Lineup of Correlated Electron Oxides Probed by n+ SrTiO ₃	RIKEN
Plasmon-Induced Electron Transfer at Au/TiO ₂ Nanoparticle Interface for Solar Cell Application	National Institute of Advanced Industrial Science Technology
Bonding Technology for Thin-Film Multi-Junction Solar Cells	National Institute of Advanced Industrial Science Technology
Multi-Junction Techniques using Transparent Conductors for High Efficiency Solar Cells Fabrication	Tokyo University of Agriculture and Technology
Advanced Light Management Technology for Thin-Film Multi-Junction Solar Cells	National Institute of Advanced Industrial Science Technology
Optical Managements in Thin Film Solar Cells by Localized Surface Plasmon	Osaka University
Near-Infrared Transparent Conductive Oxide for Thin-Film Multi-Junction Solar Cells	National Institute of Advanced Industrial Science Technology
Crystal Growth Control of Electrically Conductive Thin Films on the Nanopatterned Substrate	Tokyo Institute of Technology

Group 3 Tokyo Institute of Technology (Tokyo-Tech)

Title	Organization
Fabrication of p-i-n Structure Using Si Quantum Dots/Amorphous Si Carbide Superlattice	Tokyo Institute of Technology
Enhancement of Multiexciton Generation Using Epitaxial Silicon/Fluoride Quantum-Dot Concepts of Fabrication Method for Quantum Nano Dots Film	Tokyo Institute of Technology SANYO Electric Corporation
Growth and Characterization of Strain-Induced Ge as a Novel Low Bandgap Absorber	Tokyo Institute of Technology
Development of Novel Si Based and Amorphous Alloy Thin Films	Gifu University
Materials Design of Wide or Narrow Band Gap Absorber Materials for Thin Film Full Spectrum Solar Cells	Ryukoku University
Performance of Silicon-Based Thin Film Solar Cells under Various Sunlight Concentration Ratios	Tokyo Institute of Technology
Spectral Analysis of Electroluminescence towards Tomography	Nara Institute of Science and Technology (NAIST)
Deposition of Wide Bandgap Silicon Based Thin Film	SHARP Corporation
Study of Tunnel Recombination Junction in Tandem Cells	Mitsubishi Electric Corporation
High-Quality Chalcopyrite-Based Materials for Tandem-Type Solar Cells	Tokyo Institute of Technology
Chalcopyrite-Based Thin Film Concentrator Solar Cells on Metal Substrates	Aoyama Gakuin University
Design of Thin-Film Full Spectrum Solar Cells and Development of Cu(In,Al) ₂ S ₂ Top Cells	Ritsumeikan University
The Design of Optical Coupler for Mechanical Stack of Thin Film Silicon and Compound Semiconductor Solar Cells	Kaneka Corporation
Effects of CdCl ₂ Addition to Source Material in CSS Deposition of CdTe Solar Cells	Kisarazu National College of Technology
Fabrication of Thin Films with Metal Nanoparticles to Develop a Solar Cell Using Surface Plasmon	Tokyo Institute of Technology
Development of p-type TCO Films for Thin Film Full Spectrum Solar Cells	Ryukoku University
P-type Transparent Conductive Oxide Films Prepared by Solution Method and Sputtering Method	Niigata University
Full Spectrum TCO – Electron Transport in SnO ₂ :F Films	Asahi Glass Corporation
Fabrication of Graphene Sheets by Chemical Exfoliation Method	Fuji Electric Advanced Technology Corporation