DASHEN SHEN

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DEGREES

Aug. 1988	Ph.D., Princeton University, Electrical Materials and Devices
May 1986	MS, Princeton University, Electrical Materials and Devices
Jan. 1982	BS, Shanghai University of Technology, Applied physics

PROFESSIONAL EMPLOYMENT

Aug.2000 - present — Professor

Aug.1995-Aug.2000 — Associate Professor

Mar.1991-Aug.1995 — Assistant Professor

Dept. of Electrical and Computer Engineering,
The University of Alabama in Huntsville
Huntsville, Alabama

- Taught undergraduate & graduate courses:
  - Electrical Circuits
  - Digital Electronics
  - Electronics I & II
  - Solid State Devices
  - Digital Logic Design
  - Electromagnetic Fields
  - Advanced Technologies in Microelectronics
  - VLSI Design
  - Analog Circuit Design
- Supervised numerous PhD & MS graduate student thesis
- Developed thin film materials and devices research lab

Sep.1988- March 1991	**Staff Scientist** Glasstech Solar, Inc, Wheat Ridge, Colorado. In charge of following research programs: • Thin film transistors and image sensors Integrated image sensor / thin film transistor array for FAX Integrated linear amplifier using poly-Si thin film transistors • Solar cells: Single junction high efficiency amorphous silicon solar cells High efficiency amorphous silicon tandem solar cells High-deposition-rate amorphous silicon solar cells • Device modeling: Effect of material properties on the performance of the devices • Plasma-enhanced CVD materials deposition and characterization: A-Si:H; a-Si,Ge:H; a-SiC:H; a-SiC:H,B; SiO_2; SiN; μc-Si:H,B; poly-Si • Sputtered or evaporated thin film materials: TiOx; NbOx; TaOx; ZnO; ITO Participated in following research and development programs: Plasma etching; magnetron sputtering and e-beam evaporation; amorphous silicon spatial light modulator; particle detector; large area PECVD production line
Sep.1984- Aug.1988	**Research Assistant** Princeton University, Princeton, New Jersey • Infrared detectors with SiGe alloys; • Electronic transport properties of a-Si:H and SiGe alloys; • Modeling of electron transport in materials with high trap density; • Microcrystallinity in SiGe alloys
Jan. 1987 - June 1987 Jan. 1988 - June 1988	**Teaching Assistant** Princeton University, Princeton, New Jersey • Silicon device physics and fabrication course • Digital electronics and integrated circuit design course
Jan. 1982 – Aug. 1984	**Lecturer** College of Shanghai Electrical Instrument and Communication Equipment Bureau Teaching General Physics

FUNDED RESEARCH RECORD

May 2001 – Apr 2005	"Novel Silicon-on-Insulator using Amorphous AlN and Amorphous Diamond as Insulating Layers, US-China Cooperative Research", NSF, **PI**, $126,465
Feb 2001 – Jan 2004	"Integrated MEMS Photonics for Computer and Communications Systems", NSF-Alabama EPSCoR, **Co-PI** (of 5), $4,738,651
May 1998- May 2001	"Information Science and Technology - Integrated Research Environment for Intermeshed Optoelectronics", NSF-Alabama EPSCoR, **Co-PI** (of 10), $3,744,047
Aug. 1998 – July 2000	"International Research Cooperation with Shanghai Institute of Metallurgy: Thin Film SiC and AlN", NSF, **PI**, $3,731
July 1994 – Jan. 1998	"Low Cost Flat Panel Display Fabrication", DARPA/Wright-Patterson AFB, **PI**, $932,746
Sep. 1992 – Feb. 1997	"Analysis of Hard Thin Film Coating", NASA Marshall Space Flight Center, **PI**, $19,000
Oct. 1992 – Oct. 1995	"A Quantitative Method for Measuring the Amorphous Silicon p-i Interface Defect Density", NATO International Scientific Exchange Program, ~$15,000, **Co-PI**
May 1992 – Oct. 1992	"Thin Film Photodetector for Optical Connection", Mini-grant Research, Research Institute of UAH, **PI**, $1,500
Jan. 1992 – April 1992	"Laser Pulse Process of Thin Film Silicon and SiC, SiGe Alloy", Mini-grant Research, Research Institute of UAH, **PI**, $2,000
July 1990 – Feb. 1991	"Initial Exploration of Amorphous and Polycrystalline Silicon Thin Film Transistors as Preamplifiers for Particle Detector Application", US DOE SBIR grant # DE-FG03-90 ER 81023, **PI**, $50,000
Aug. 1990 – Dec. 1991	"Research on Stable, High-Efficiency Amorphous Silicon Multijunction Modules" US DOE SERI subcontract ZM-0-19033-3, **Co-Investigator**, ~$1M/yr
July 1989 – June 1990	"Material Properties of Device Quality Amorphous Silicon Deposited at High Deposition Rates Using High Order Silane", US DOE SERI subcontract # ZB-7-06002-1, **Program Manager** ~$200,000/yr

Jan. 1989 – April 1989	"Photoconductive Type Amorphous Silicon Image Sensor", contract research for Asahi Glass, **Co-PI**, ~$60,000

PATENT

"Electrophotographic Patterning of Thin Film Circuits", US patent 6,080,606, H. Gleskova, D. Shen, and S. Wagner

OTHER

US citizen
Foreign Languages: Chinese, Japanese