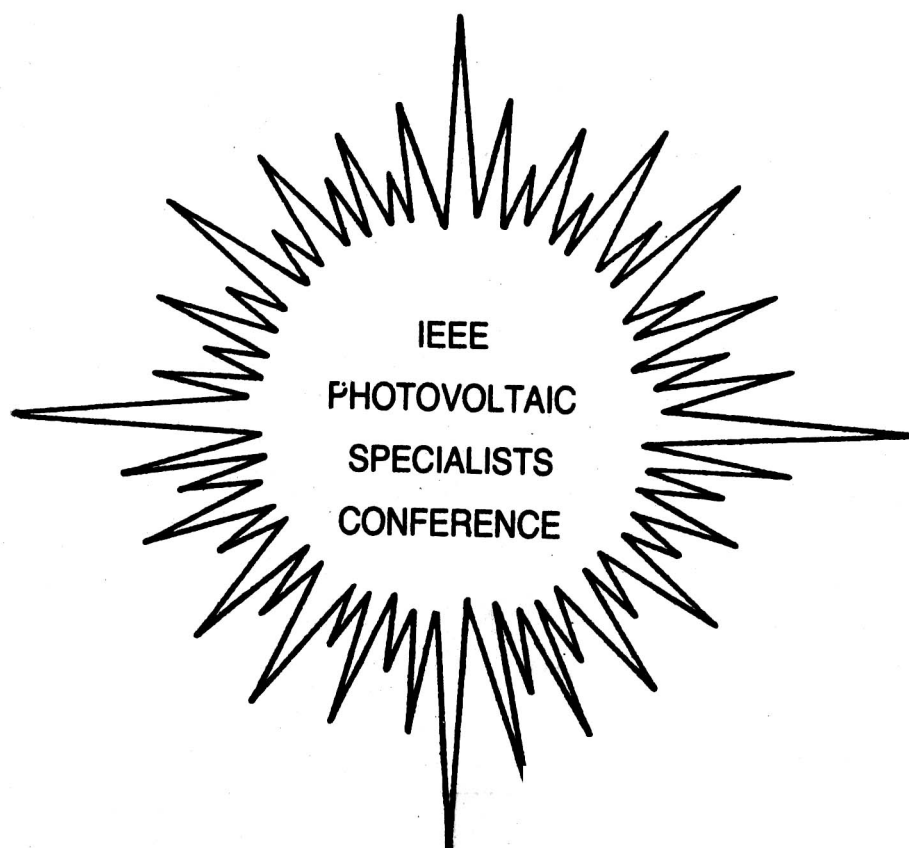


THE CONFERENCE RECORD OF THE

TWENTY SECOND IEEE PHOTOVOLTAIC SPECIALISTS CONFERENCE — 1991 VOLUME II

**Riviera Hotel
Las Vegas, Nevada
October 7-11, 1991**



IEEE

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0160-8371**

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IEEE Catalog No.: 91CH2953-8

ISBN Number: 0-87942-635-7—Softbound Edition
0-87942-636-5—Casebound Edition
0-87942-637-3—Microfiche Edition

Library of Congress No.: 84-640812

ISSN Catalog No.: 0160-8371

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CHAIRMAN'S MESSAGE

Representatives from the world community assembled for the 22nd Photovoltaic Specialists Conference (PVSC) held at the Riviera Hotel in Las Vegas, Nevada October 7-11, 1991. The conference community included 675 people, representing 25 countries. This conference is the longest existing and the most comprehensive in the field. It is sponsored by the Institute of Electrical and Electronics Engineers (IEEE) Electron Devices Society. The conference is organized by committees of volunteers and its success depends upon support from the world community including professionals and others.

The highly successful features of past conferences were continued. There were four tutorial lectures on Monday attended by 289 people. Tuesday began with the presentation of the William R. Cherry Award to Mr. Peter Iles. For the remainder of the week there were 299 technical presentations (134 oral and 165 poster) and many other activities. The major technical areas (and the number of papers in each) were: High Efficiency (85), Polycrystalline (74), Amorphous Silicon (40), Space Systems (36), and Terrestrial Systems (64).

There were 39 exhibitors with displays that once again added to the scope of the conference. The centerpiece of the exhibits area was the solar powered car built by students from Arizona State University for the 1990 GM Sunrayce USA. There were high school PV science projects and a student PV powered model car race. These all enhanced the excitement of the conference, provided educational opportunities and excellent publicity. Local and national television and newspaper coverage was achieved and as a result the public learned more about the field of photovoltaics and about our conference.

A full agenda of social activities was an integral part of the conference and provided informal opportunities for people to interact. Receptions were sponsored by the conference committees, the exhibitors, the Riviera Hotel, and the PV industry. A luncheon attended by 220 people featured speaker Richard King from the U.S. Department of Energy. He gave an excellent talk entitled "Students Go Solar". He described the GM Sunrayce USA for colleges and the Junior Solar Sprint model car competition for high school students. His talk was informative and entertaining and set the stage for the first PVSC sponsored model car race for the PV community. It was held on the tennis courts and was very interesting. Six cars competed and, as you will see from the pictures on the following pages, everyone was enthralled. The 7th PVSC Fun Run was conducted early Wednesday morning. Sixty participants ran a course around the hotel. Times for individuals and teams were recorded. Awards were given for the Fun Run as well as the best exhibits, the best posters, the student projects, the student car race, and the PV Specialists car race. The final social event was a night in Old Nevada, an authentic western mining town. PV Specialists enjoyed a barbecue dinner and dancing. They saw western badmen roaming the streets and the sheriff and his deputy conduct a trial and a hanging!! A good time was had by all, especially the man who was hanged. The pictures on the following pages capture some of the special moments during the conference. I sincerely hope they hold memories of good friends and good times in a framework of professional accomplishment.

Richard Schwartz, the General Chairman of the 23rd PVSC, is already planning the meeting for Louisville in May of 1993. Begin your preparations now, and I look forward to seeing you in Kentucky.

I extend my warmest thanks to all authors and attendees who provided the technical excellence, the stimulating discussions, the relaxed socializing, and the spark to make this a rewarding and exciting meeting. To the conference committees whose organizational talents, unselfish hard work and attention to detail made this conference a success, I give my sincere appreciation and thanks. Your most valuable contribution - the time you spent - will always be remembered.

Cosmo R. Baraona

PROGRAM OVERVIEW

Monday, October 7, 1991

Time	Room	Session		Room
8:30 12:00	9	Session I Update/Review of Polycrystalline Thin Film Solar Cells	Session II The PV Market Through the 90's	10
12:00 1:30		Lunch		
1:30 5:00	9	Session III III-V Solar Cells: Physics, Processing and Reality	Session IV PV Modules: Reliability, Test- ing and Lifetime Prediction	10
6:00 7:30	Sky Room	Reception		Sky Room

TUESDAY, October 8, 1991

Time	Room	Session		Room
7:00 8:00	9-10	Presenter's Briefing (Turn in Manuscripts)		9-10
8:15 9:15	B	Opening Session William Cherry Award Presentation		B
9:15 10:45	B	Plenary Session 1 Overview of Recent Developments		B
10:45 11:00		Coffee Break		
11:00 12:00	B	Plenary Session 1 (Cont'd)		B
12:00 1:30		Lunch		
1:30 3:30	A	Oral Session 1A High Efficiency Tandem Cells	Oral Session 1B Polycrystalline Silicon	B
3:30 3:45		Break		
3:45 5:45	A Oral C-D View	Poster Session 1A High Efficiency Concepts I	Poster Session 1B Polycrystalline Thin Films	B Oral 1-4 View
6:00 7:30	E - H	Reception (Hosted by Exhibitors)		E - H

WEDNESDAY, October 9, 1991

Time	Room	Session		Room
6:45 7:45	9-10	Presenter's Briefing (Turn in Manuscripts)		9-10
8:00 9:00	B	Plenary Session 2 High Efficiency Cells		B
9:05 10:35	A	Oral Session 2A Single Crystal Silicon Solar Cells	Oral Session 2B Terrestrial Concentrator Systems	B
		Coffee Break		
10:50 12:05	A	Oral Session 3A High Efficiency GaAs Cells	Oral Session 3B CuInSe ₂ Films and Devices	B
12:05 1:30		Lunch		
1:30 3:00	A Oral C-D View	Poster Session 2A Terrestrial Systems I	Poster Session 2B Polycrystalline Silicon	B Oral 1-4 View
3:00 4:00	B	Plenary Session 3 Polycrystalline Solar Cells		B
		Coffee Break		
4:15 5:45	A	Oral Session 4A Terrestrial Systems Testing and Reliability I	Oral Session 4B Polycrystalline Materials and Device Modeling	B
6:00 7:30	Sky Room	Reception		Sky Room

THURSDAY, October 9, 1991

Time	Room	Session		Room
6:45 7:45	9-10	Presenter's Briefing (Turn in Manuscripts)		9-10
8:00 9:00	B	Plenary Session 4 Space Solar Array Technology		B
9:05 10:35	A	Oral Session 5A Space Environ- mental Effects and Modelling	Oral Session 5B Amorphous Silicon Materials and Stability	B
		Coffee Break		
10:50 12:05	A	Oral Session 6A Indium Phosphide Solar Cells	Oral Session 6B Single and Multi- junction a-Si Cells	B
12:05 1:30		Lunch		
1:30 3:00	A Oral C-D View	Poster Session 3A Terrestrial Systems II	Poster Session 3B a-Si Materials and Applications	B Oral 1-4 View
3:00 4:00	B	Plenary Session 5 Amorphous Silicon Technology		B
		Coffee Break		
4:15 5:45	A	Oral Session 7A Space Solar Array, Cell and Compon- ent Technology	Oral Session 7B Amorphous Silicon Modules and Processing	B
5:30 6:30	E - H	Reception		E - H

FRIDAY, October 11, 1991

Time	Room	Session		Room
6:45 7:45	9-10	Presenter's Briefing (Turn in Manuscripts)		9-10
8:00 9:00	B	Plenary Session 6 Terrestrial Systems		B
9:05 10:50	A Oral C-D View	Poster Session 4A High Efficiency Concepts II	Poster Session 4B Space Technology and Applications	B Oral 1-4 View
10:50 12:05	A	Oral Session 8A High Efficiency Modelling and Characterization I	Oral Session 8B Terrestrial Applications I	B
12:05 1:30		Lunch		
1:30 2:45	A	Oral Session 9A High Efficiency Modelling and Characterization II	Oral Session 9B Terrestrial Systems Testing and Reliability II	B
2:50 4:20	A	Oral Session 10A CdTe Films and Devices	Oral Session 10B Terrestrial Applications II	B

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