Ascent Solar Technologies, Inc. Form SC 13D September 04, 2007

CUSIP No. 043635101

UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

SCHEDULE 13D

UNDER THE SECURITIES EXCHANGE ACT OF 1934

Ascent Solar Technologies, Inc.

(Name of Issuer)

Common Stock, par value \$0.0001

(Title of Class of Securities)

043635101

(CUSIP Number)

Joseph P. Bartlett, Esq. Greenberg Glusker Fields Claman & Machtinger LLP 1900 Avenue of the Stars, Suite 2100 Los Angeles, CA 90067 (310) 201-7481

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

August 22, 2007 (Date of Event which Requires Filing of this Statement)

If the reporting person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Sections 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box //.

NOTE: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Section 240.13d-7(b) for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1.	Name of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).						
	David Gelbaum, Trustee, The Quercus Trust						
2.	Check the (a) [X] (b) [_]	Appr	opriate Box If a Member of a Group (See Instructions)			
3.	SEC Use Or	nly					
4.	Source of Funds (See Instructions) PF						
5.	Check If Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) [_]						
6.	Citizensh U.S.	ip or	Place of Organization				
	IBER OF	7.	Sole Voting Power -0-				
BENER OWNE	SHARES BENEFICIALLY OWNED BY		 Shared Voting Power 699,763 				
REI PI	EACH PORTING ERSON	9. Sole Dispositive Power -0-					
V	VITH	10. Shared Dispositive Power 699,763					
11.	Aggregate 699,763	Amou	nt Beneficially Owned by Each Reporting Person				
12.	Check Box (See Inst:		he Aggregate Amount in Row (11) Excludes Certain Sha ons)	res _]			
13.	Percent of 6.4%(1)	E Cla	ss Represented by Amount in Row (11)				
14.	. Type of Reporting Person (See Instructions) IN						
(1)	as report	ced i perio	09,602 shares of Common Stock, par value \$0.0001 per n the Issuer's Quarterly Report on Form 10-QSB for t d ended June 30, 2007 and Current Report on Form 8K 07.	he			
1.		~	ing Persons. ication Nos. of above persons (entities only).				
	Monica Cha	avez	Gelbaum, Trustee, The Quercus Trust				

2.	Check the (a) [X] (b) [_]	App:	copriate Box If a Member of a Group (See Instructions)				
3.	SEC Use C	nly					
4.	Source of Funds (See Instructions) PF						
5.	Check If Items 2(d		losure of Legal Proceedings Is Required Pursuant to [_]				
6.	Citizensh U.S.	ip o:	r Place of Organization				
	IMBER OF	7.	Sole Voting Power -0-				
SHARES BENEFICIALLY OWNED BY EACH REPORTING		8.	Shared Voting Power 699,763				
	PORTING	9.	Sole Dispositive Power -0-				
	WITH	H10. Shared Dispositive Power 699,763					
11.	Aggregate 699,763	 Amoi	ant Beneficially Owned by Each Reporting Person				
12.	Check Box (See Inst		the Aggregate Amount in Row (11) Excludes Certain Shares				
13.	Percent o 6.4%(1)	of Cla	ass Represented by Amount in Row (11)				
14.	Type of R IN	eport	ing Person (See Instructions)				
(1)	as repor	ted perio	009,602 shares of Common Stock, par value \$0.0001 per share, in the Issuer's Quarterly Report on Form 10-QSB for the od ended June 30, 2007 and Current Report on Form 8K dated 007.				
1.		-	ting Persons. Fication Nos. of above persons (entities only).				
	The Querc	us T	cust				
2.	Check the (a) [X] (b) [_]	App:	copriate Box If a Member of a Group (See Instructions)				
3.	SEC Use C	nly					

4.	Source of Funds (See Instructions) PF						
5.	Check If I Items 2(d)		osure of Legal Proceedings Is Required Pursuant to 2(e) [_]				
6.	Citizensh: U.S.	ip or	Place of Organization				
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		7.	Sole Voting Power -0-				
		8.	Shared Voting Power 699,763				
		9.	Sole Dispositive Power -0-				
		10.	10. Shared Dispositive Power 699,763				
11.	Aggregate 699,763	Amou	nt Beneficially Owned by Each Reporting Person				
12.	Check Box If the Aggregate Amount in Row (11) Excludes Certain Shares [_]						
13.	Percent of Class Represented by Amount in Row (11) 6.4%(1)						
14.	Type of Reporting Person (See Instructions) OO						

(1) Based on 11,009,602 shares of Common Stock, par value \$0.0001 per share, as reported in the Issuer's Quarterly Report on Form 10-QSB for the quarter period ended June 30, 2007 and Current Report on Form 8K dated August 16, 2007.

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Item 1. Security and Issuer

Issuer: Ascent Solar Technologies, Inc.

Security: Common Stock, par value \$0.0001 per share ("Common Stock")

Item 2. Identity and Background

(a) This Statement is being filed by The Quercus Trust (the "Trust"), David Gelbaum, an individual, as co-trustee of the Trust, and Monica Chavez Gelbaum, an individual, as co-trustee of the Trust (collectively, the "reporting persons").

(b) The reporting persons' business address is 2309 Santiago Drive, Newport Beach, California 92660.

(c) David Gelbaum and Monica Chavez Gelbaum are investors; the Trust is a revocable trust formed for estate planning purposes.

(d) None of the reporting persons has, during the last five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) None of the reporting persons has, during the past five years, been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) Each of Mr. and Ms. Gelbaum is a citizen of the United States of America. The Trust is a California statutory trust.

Item 3. Source and Amount of Funds or Other Consideration

All shares of Common Stock were purchased using personal funds.

Item 4. Purpose of Transaction

The shares of Common Stock were purchased by the Trust for investment purposes. The reporting persons have no plans or proposals which relate to or which would result in any of the actions specified in clauses (a) through (j) of Item 4 of Schedule 13D. However, the reporting persons retain their rights to modify their plans with respect to the transactions described in this Schedule 13D, to vote, acquire or dispose of securities of the Issuer and to formulate plans and proposals which could result in the occurrence of any such events, subject to applicable laws and regulations.

Item 5. Interest in Securities of the Issuer

(a) As of the date of this Schedule 13D, each reporting person beneficially owns 699,763 shares of Common Stock, which are held of record by the Trust.

(b) Each of David Gelbaum and Monica Chavez Gelbaum, acting alone, has the power to exercise voting and investment control over the shares of Common Stock owned by the Trust.

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(c) Since June 22, 2007, the Trust has purchased shares of Common Stock in brokered transactions as follows:

Date	Number of Shares	Price Per Share			
7/24/2007	83,455	\$ 9.5301			
7/25/2007	66,545	\$ 9.2733			
8/14/2007	18,300	\$ 7.5156			
8/15/2007	20,500	\$ 7.4198			
8/16/2007	78,800	\$ 6.8445			
8/17/2007	7,400	\$ 7.3210			
8/20/2007	20,000	\$ 7.6251			
8/21/2007	19,963	\$ 7.6404			
8/22/2007	30,000	\$ 7.5715			
8/23/2007	49,000	\$ 7.8128			

8/24/2007	18,500	\$ 8.0910
8/27/2007	20,000	\$ 8.0645
8/28/2007	16,500	\$ 7.8130
8/29/2007	8,200	\$ 7.8429
8/30/2007	21,000	\$ 8.1380

(d) Not applicable.

- (e) Not applicable.
- Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer

Pursuant to the Power of Attorney filed as Exhibit "B" to Amendment No. 1 to Schedule 13D filed on August 24, 2007 with respect to the issuer Emcore Corp., David Gelbaum has been appointed as Monica Chavez Gelbaum's Attorney-In-Fact.

Item 7. Material to Be Filed as Exhibits

Exhibit A: Agreement Regarding Joint Filing of Schedule 13D.

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SIGNATURE

Dated: August 31, 2007

After reasonable inquiry and to the best of its knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct and agrees that this statement may be filed jointly with the other undersigned parties.

/s/ David Gelbaum						
David	Gelbaum,	Co-Trustee	of	The	Quercus	Trust

/s/ David Gelbaum, as Attorney-In-Fact for Monica Chavez Gelbaum

Monica Chavez Gelbaum, Co-Trustee of The Quercus Trust

/s/ David Gelbaum

The Quercus Trust, David Gelbaum, Co-Trustee of The Quercus Trust

CUSIP No. 043635101

EXHIBIT A

AGREEMENT REGARDING JOINT FILING OF SCHEDULE 13D

The undersigned agree that the Schedule 13D with respect to the Common Stock of Ascent Solar Technologies, Inc. is a joint filing being made on their behalf.

Dated: August 31, 2007

/s/ David Gelbaum

David Gelbaum, Co-Trustee of The Quercus Trust

/s/ David Gelbaum

The Quercus Trust, David Gelbaum, Co-Trustee of The Quercus Trust