MEDIFAST INC Form SC 13G/A February 12, 2010

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No. 1)*

		MEDIFAST, INC.	
	(Na	me of Issuer)	
		Common stock, \$.001	par value per share
	(Title of C	lass of Securities)	
		58470H101	
	(CUS	IP Number) December 31, 2009	
	(Date of Event Which	Requires Filing of this	Statement)
	the appropriate box to designa le is filed:	te the rule pursuant to	which this
[2	K] Rule 13d-1(b)		
[_	_] Rule 13d-1(c)		
[_	_] Rule 13d-1(d)		
initia and fo	emainder of this cover page sh al filing on this form with re or any subsequent amendment co isclosures provided in a prior	spect to the subject cla ntaining information whi	ss of securities,
deemed Act of of the	formation required in the rema to be "filed" for the purpose 1934 ("Act") or otherwise sub Act but shall be subject to a e Notes).	of Section 18 of the Se ject to the liabilities	curities Exchange of that section
CUSIP 1	NO. 58470H101	13G	Page 2 of 8 Pages
(1)	NAMES OF REPORTING PERSONS. I.R.S. IDENTIFICATION NOS. OF	ABOVE PERSONS (entities	only).
Ι	Renaissance Technologies LLC	26-0385758	
	HECK THE APPROPRIATE BOX IF A (a) [_] (b) [_]	MEMBER OF A GROUP (SEE I	NSTRUCTIONS):

4)	CITIZENSHIP OR PLACE OF OF		
	Delaware		
		(5) SOLE	VOTING POWER
	NUMBER OF SHARES BENEFICIALLY OWNED		106,800
BY EACH REPORTING PERSON WITH:	(6) SHARE	D VOTING POWER	
		0	
		(7) SOLE	DISPOSITIVE POWER
			289,225
		(8) SHAF	RED DISPOSITIVE POWER
			275 , 875
9)	AGGREGATE AMOUNT BENEFIC	ALLY OWNED BY EACH REPORTIN	IG PERSON
,		565 , 100	
10)		E AMOUNT IN ROW (9) EXCLUDE	
10)	CHECK BOX IF THE AGGREGAT (SEE INSTRUCTIONS)	E AMOUNT IN ROW (9) EXCLUDE	
			S CERTAIN SHARES
	(SEE INSTRUCTIONS)		S CERTAIN SHARES
 11)	(SEE INSTRUCTIONS)	NTED BY AMOUNT IN ROW (9)	S CERTAIN SHARES
 11)	(SEE INSTRUCTIONS) PERCENT OF CLASS REPRESE TYPE OF REPORTING PERSON	NTED BY AMOUNT IN ROW (9) 3.67% (SEE INSTRUCTIONS) Page 2 of 8 pages	S CERTAIN SHARES
 11) 12)	(SEE INSTRUCTIONS) PERCENT OF CLASS REPRESE TYPE OF REPORTING PERSON	NTED BY AMOUNT IN ROW (9) 3.67% (SEE INSTRUCTIONS) Page 2 of 8 pages	S CERTAIN SHARES
 11) 12) CUS	(SEE INSTRUCTIONS) PERCENT OF CLASS REPRESI TYPE OF REPORTING PERSON IA IP NO. 58470H101 NAMES OF REPORTING PERSON	NTED BY AMOUNT IN ROW (9) 3.67% (SEE INSTRUCTIONS) Page 2 of 8 pages	Page 3 of 8 Page
 11) 12)	(SEE INSTRUCTIONS) PERCENT OF CLASS REPRESI TYPE OF REPORTING PERSON IA IP NO. 58470H101 NAMES OF REPORTING PERSON	NTED BY AMOUNT IN ROW (9) 3.67% (SEE INSTRUCTIONS) Page 2 of 8 pages 13G	Page 3 of 8 Page
11) 12) CUS (1)	(SEE INSTRUCTIONS) PERCENT OF CLASS REPRESI TYPE OF REPORTING PERSON IA IP NO. 58470H101 NAMES OF REPORTING PERSON I.R.S. IDENTIFICATION NO James H. Simons	NTED BY AMOUNT IN ROW (9) 3.67% (SEE INSTRUCTIONS) Page 2 of 8 pages 13G	Page 3 of 8 Paces (ES ONLY).

	(5) SOLE	VOTING POWER	
NUMBER OF SHARES	(3) 3022	106,800	
BENEFICIALLY OWNED BY EACH REPORTING			
PERSON WITH:	(6) SHARE	D VOTING POWER	
		0	
	(7) SOLE	DISPOSITIVE POWER	
		289,225	
	(8) SHAF	ED DISPOSITIVE POWER	
		275,875	
(9) AGGREGATE AMOUNT BENE	FICTALLY OWNED BY EACH REPORTIN	C DEDGON	
	565,100	IG PERSON	
(10) CHECK BOX IF THE AGGR (SEE INSTRUCTIONS)			
(SEE INSTRUCTIONS)	565,100 EGATE AMOUNT IN ROW (9) EXCLUDE		
(SEE INSTRUCTIONS)	565,100 EGATE AMOUNT IN ROW (9) EXCLUDE [_]		
(SEE INSTRUCTIONS)	565,100 EGATE AMOUNT IN ROW (9) EXCLUDE [_] RESENTED BY AMOUNT IN ROW (9) 3.67 %		
(SEE INSTRUCTIONS) (11) PERCENT OF CLASS REP	565,100 EGATE AMOUNT IN ROW (9) EXCLUDE [_] RESENTED BY AMOUNT IN ROW (9) 3.67 % SON (SEE INSTRUCTIONS)		
(SEE INSTRUCTIONS) (11) PERCENT OF CLASS REP	565,100 EGATE AMOUNT IN ROW (9) EXCLUDE [_] RESENTED BY AMOUNT IN ROW (9) 3.67 % SON (SEE INSTRUCTIONS) IN		
(SEE INSTRUCTIONS) (11) PERCENT OF CLASS REP. (12) TYPE OF REPORTING PER	565,100 EGATE AMOUNT IN ROW (9) EXCLUDE [_] RESENTED BY AMOUNT IN ROW (9) 3.67 % SON (SEE INSTRUCTIONS) IN Page 3 of 8 pages	S CERTAIN SHARES	
(SEE INSTRUCTIONS) 11) PERCENT OF CLASS REP. 12) TYPE OF REPORTING PER CUSIP NO. 58470H101	565,100 EGATE AMOUNT IN ROW (9) EXCLUDE [_] RESENTED BY AMOUNT IN ROW (9) 3.67 % SON (SEE INSTRUCTIONS) IN Page 3 of 8 pages	S CERTAIN SHARES	

11445 Cronhill Drive, Owings Mills, MD 21117

Item 2.

(a) Name of Person Filing:

This Schedule 13G is being filed by Renaissance Technologies LLC ("RTC") and James H. Simons ("Simons").

(b) Address of Principal Business Office or, if none, Residence.

The principal business address of the reporting persons is:

800 Third Avenue New York, New York 10022

(c) Citizenship.

Dr. Simons is a United States citizen and RTC is a Delaware limited liability company.

(d) Title of Class of Securities.

Common stock, \$.001 par value per share

(e) CUSIP Number.

58470H101

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- Item 3. If this statement is filed pursuant to Rule 13d-1 (b) or 13-d-2 (b) or (c), check whether the person filing is a:
- (a) [_] Broker or dealer registered under section 15 of the Act.
- (b) [_] Bank as defined in section 3(a)(6) of the Act.
- (c) [_] Insurance Company as defined in section 3(a)(19) of the Act.
- (d) [_] Investment Company registered under section 8 of the Investment Company Act.
- (e) [x] Investment Adviser in accordance with Sec.240.13d-1(b)(1)(ii)(E).
- (f) [_] Employee Benefit Plan or Endowment Fund in accordance with Sec. 240.13d-1(b)(1)(ii)(F).
- (g) [_] Parent holding company, in accordance with Sec.240.13d-1(b)(1)(ii)(G).
- (h) $[_]$ A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act.
- (i) [_] A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940.
- (j) [_] Group, in accordance with Sec.240.13d-1(b)(1)(ii)(J).
- Item 4. Ownership.
 - (a) Amount beneficially owned.

RTC: 565,100 shares

Simons: 565,100 shares, comprising the shares beneficially owned by RTC, because of Dr. Simons' position as control person of RTC.

(b) Percent of Class.

RTC: 3.67 % Simons: 3.67 %

- (c) Number of shares as to which the person has:
 - (i) sole power to vote or to direct the vote:

RTC: 106,800 Simons: 106,800

(ii) Shared power to vote or to direct the vote: 0

(iii) sole power to dispose or to direct the disposition of:

RTC: 289,225 Simons: 289,225

(iv) Shared power to dispose or to direct the disposition of:

RTC: 275,875 Simons: 275,875

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Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following: [X]

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Certain funds and accounts managed by RTC have the right to receive dividends and proceeds from the sale of the securities which are the subject of this report.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company.

Not applicable

Item 8. Identification and Classification of Members of the Group.

Not applicable

Item 9. Notice of Dissolution of a Group.

Not applicable

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Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: February 12, 2010

James H. Simons

Renaissance Technologies LLC

By: Mark Silber
Executive Vice President

Attention: Intentional misstatements or omissions of fact constitute Federal criminal violations (See 18 U.S.C. 1001).

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EXHIBIT 99.1

AGREEMENT REGARDING JOINT FILING

UNDER RULE 13D-1(K) OF THE EXCHANGE ACT

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, each of the undersigned agrees to the filing on behalf of each of a Statement on Schedule 13G, and all amendments thereto, with respect to the shares of Common stock, \$.001 par value per share of MEDIFAST, INC.

Date: February 12, 2010

James H. Simons

Renaissance Technologies LLC

By: Mark Silber
Executive Vice President

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