

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>KIRK RANDAL J</u> (Last) (First) (Middle) <u>C/O THIRD SECURITY, LLC</u> <u>1881 GROVE AVENUE</u> (Street) <u>RADFORD VA 24141</u> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>INTREXON CORP [XON]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner <input checked="" type="checkbox"/> Officer (give title below) <input type="checkbox"/> Other (specify below) <p style="text-align: center;">Chief Executive Officer</p>
	3. Date of Earliest Transaction (Month/Day/Year) <u>08/13/2013</u>	
4. If Amendment, Date of Original Filed (Month/Day/Year)		

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	08/13/2013		C		4,616,002 ⁽⁴⁾	A	\$0	4,616,002	I	by Kapital Joe ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		192,665 ⁽⁶⁾	A	\$16	4,808,667	I	by Kapital Joe ⁽²⁾⁽³⁾
Common Stock	08/13/2013		P		937,500 ⁽¹⁾	A	\$16	5,746,167	I	by Kapital Joe ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		4,385,317 ⁽⁴⁾	A	\$0	4,385,317	I	by Mascara Kaboom ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		105,584 ⁽⁶⁾	A	\$16	4,490,901	I	by Mascara Kaboom ⁽²⁾⁽³⁾
Common Stock	08/13/2013		P		937,500 ⁽¹⁾	A	\$16	5,428,401	I	by Mascara Kaboom ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		108,844 ⁽⁴⁾	A	\$0.00	108,844	I	by Alana Czypinski ⁽³⁾
Common Stock	08/13/2013		C		6,290 ⁽⁶⁾	A	\$16	115,134	I	by Alana Czypinski ⁽³⁾
Common Stock	08/13/2013		P		12,500 ⁽¹⁾	A	\$16	127,634	I	by Alana Czypinski ⁽³⁾
Common Stock	08/13/2013		C		4,392,717 ⁽⁴⁾	A	\$0	4,392,717	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		319,135 ⁽⁶⁾	A	\$16	4,711,852	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		11,861,008 ⁽⁴⁾	A	\$0	12,704,440	I	by NRM VI Holdings ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		636,205 ⁽⁶⁾	A	\$16	13,340,645	I	by NRM VI Holdings ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		19,743,741 ⁽⁴⁾	A	\$0	21,275,607	I	by NRM V ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		1,360,445 ⁽⁶⁾	A	\$16	22,636,052	I	by NRM V ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		1,266,795 ⁽⁴⁾	A	\$0	1,266,795	I	by Senior Staff 2008 ⁽²⁾⁽³⁾
Common Stock	08/13/2013		C		89,853 ⁽⁶⁾	A	\$16	1,356,648	I	by Senior Staff 2008 ⁽²⁾⁽³⁾

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)				5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares						
Series F Convertible Preferred Stock	(5)	08/13/2013		C			3,054,236	(5)	(5)	Common Stock	1,745,277	(5)	0	I	by Kapital Joe ⁽²⁾⁽³⁾		
Series F Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	35,193	\$16 ⁽⁶⁾	0	I	by Kapital Joe ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock	(5)	08/13/2013		C			5,023,770	(5)	(5)	Common Stock	2,870,725	(5)	0	I	by Kapital Joe ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	157,472	\$16 ⁽⁶⁾	0	I	by Kapital Joe ⁽²⁾⁽³⁾		
Series F Convertible Preferred Stock	(5)	08/13/2013		C			3,054,236	(5)	(5)	Common Stock	1,745,277	(5)	0	I	by Mascara Kaboom ⁽²⁾⁽³⁾		
Series F Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	35,193	\$16 ⁽⁶⁾	0	I	by Mascara Kaboom ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock	(5)	08/13/2013		C			4,620,071	(5)	(5)	Common Stock	2,640,040	(5)	0	I	by Mascara Kaboom ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	70,391	\$16 ⁽⁶⁾	0	I	by Mascara Kaboom ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock	(5)	08/13/2013		C			190,477	(5)	(5)	Common Stock	108,844	(5)	0	I	by Alana Czypinski ⁽³⁾		
Series E Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	6,290	\$16 ⁽⁶⁾	0	I	by Alana Czypinski ⁽³⁾		
Series E Convertible Preferred Stock	(5)	08/13/2013		C			2,976,756	(5)	(5)	Common Stock	1,701,003	(5)	0	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	135,550	\$16 ⁽⁶⁾	0	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾		
Series D Convertible Preferred Stock	(5)	08/13/2013		C			4,053,784	(5)	(5)	Common Stock	2,316,448	(5)	0	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾		
Series D Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	161,942	\$16 ⁽⁶⁾	0	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾		
Series C Convertible Preferred Stock	(5)	08/13/2013		C			656,716	(5)	(5)	Common Stock	375,266	(5)	0	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾		
Series C Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	21,643	\$16 ⁽⁶⁾	0	I	by R.J. Kirk DOT ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock	(5)	08/13/2013		C			3,047,620	(5)	(5)	Common Stock	1,741,497	(5)	0	I	by NRM VI Holdings ⁽²⁾⁽³⁾		
Series E Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	100,651	\$16 ⁽⁶⁾	0	I	by NRM VI Holdings ⁽²⁾⁽³⁾		

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Series D Convertible Preferred Stock	(5)	08/13/2013		C			4,437,870	(5)	(5)	Common Stock	2,535,925	(5)	0	I	by NRM VI Holdings ⁽²⁾⁽³⁾
Series D Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	166,147	\$16 ⁽⁶⁾	0	I	by NRM VI Holdings ⁽²⁾⁽³⁾
Series C-3 Convertible Preferred Stock	(5)	08/13/2013		C			13,271,277	(5)	(5)	Common Stock	7,583,586	(5)	0	I	by NRM VI Holdings ⁽²⁾⁽³⁾
Series C-3 Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	369,407	\$16 ⁽⁶⁾	0	I	by NRM VI Holdings ⁽²⁾⁽³⁾
Series C-2 Convertible Preferred Stock	(5)	08/13/2013		C			18,617,020	(5)	(5)	Common Stock	10,638,297	(5)	0	I	by NRM V ⁽²⁾⁽³⁾
Series C-2 Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	704,551	\$16 ⁽⁶⁾	0	I	by NRM V ⁽²⁾⁽³⁾
Series C-1 Convertible Preferred Stock	(5)	08/13/2013		C			15,934,528	(5)	(5)	Common Stock	9,105,444	(5)	0	I	by NRM V ⁽²⁾⁽³⁾
Series C-1 Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	655,894	\$16 ⁽⁶⁾	0	I	by NRM V ⁽²⁾⁽³⁾
Series F Convertible Preferred Stock	(5)	08/13/2013		C			299,532	(5)	(5)	Common Stock	171,161	(5)	0	I	by Senior Staff 2008 ⁽²⁾⁽³⁾
Series F Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	2,544	\$16 ⁽⁶⁾	0	I	by Senior Staff 2008 ⁽²⁾⁽³⁾
Series E Convertible Preferred Stock	(5)	08/13/2013		C			1,917,360	(5)	(5)	Common Stock	1,095,634	(5)	0	I	by Senior Staff 2008 ⁽²⁾⁽³⁾
Series E Convertible Preferred Stock Dividend	\$16 ⁽⁶⁾	08/13/2013		C			0 ⁽⁶⁾	(6)	(6)	Common Stock ⁽⁶⁾	87,309	\$16 ⁽⁶⁾	0	I	by Senior Staff 2008 ⁽²⁾⁽³⁾

Explanation of Responses:

- The indicated shares were purchased in the Issuer's initial public offering.
- Randal J. Kirk controls each of Kapital Joe, LLC ("Kapital Joe"), Mascara Kaboom, LLC ("Mascara Kaboom"), the R.J. Kirk Declaration of Trust ("R.J. Kirk DOT"), NRM VI Holdings I, LLC ("NRM VI Holdings"), New River Management V, LP ("NRM V") and Third Security Senior Staff 2008 LLC ("Senior Staff 2008").
- The indicated shares may be deemed to be indirectly beneficially owned (as defined under Rule 13d-3 promulgated under the Securities Exchange Act of 1934, as amended) by Mr. Kirk. Mr. Kirk disclaims beneficial ownership of such shares, except to the extent of any pecuniary interest therein.
- The indicated shares represent the number of shares received upon conversion of the Issuer's Convertible Preferred Stock, indicated by Series in Table II.
- Effective upon the closing of the Issuer's firm commitment underwritten initial public offering of its Common Stock, the shares of Convertible Preferred Stock automatically converted at a ratio of 1.75-to-1 into the number of shares of Common Stock shown in column 7. The shares of Convertible Preferred Stock had no expiration date.
- Effective upon the closing of the Issuer's firm commitment underwritten initial public offering all accrued dividends with respect to the shares of Convertible Preferred Stock were converted into shares of Common Stock at the then current fair market value, or \$16.00 per share. Payment for partial shares was issued in the form of a monetary refund by the Issuer.

Remarks:

/s/ Randal J. Kirk

08/15/2013

** Signature of Reporting Person

Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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