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Part III

Statement of Program Service Accomplishments

Check if Schedule O contains a response or note to any line in this Part III

1

Briefly describe the organization's mission

MEDICAL RESEARCH ORGANIZATION VAN ANDEL RESEARCH INSTITUTE IS AN INDEPENDENT BIOMEDICAL RESEARCH ORGANIZATION COMMITTED TO IMPROVING THE HEALTH AND ENHANCING THE LIVES OF CURRENT AND FUTURE GENERATIONS

2

Did the organization undertake any significant program services during the year which were not listed on the prior Form 990 or 990-EZ?

Yes

No

If "Yes," describe these new services on Schedule O

3

Did the organization cease conducting, or make significant changes in how it conducts, any program services?

Yes

No

If "Yes," describe these changes on Schedule O

4

Describe the organization's program service accomplishments for each of its three largest program services, as measured by expenses Section 501(c)(3) and 501(c)(4) organizations are required to report the amount of grants and allocations to others, the total expenses, and revenue, if any, for each program service reported

4a

(Code) (Expenses \$ 9,445,653 including grants of \$ 162,442) (Revenue \$ 998,737)

CENTER FOR CANCER AND CELL BIOLOGY SCHEDULE O PROVIDES FURTHER INFORMATION REGARDING THIS PROGRAM'S ACCOMPLISHMENTS

4b

(Code) (Expenses \$ 3,648,152 including grants of \$ 39,465) (Revenue \$ 54,077)

CENTER FOR EPIGENETICSSCHEDULE O PROVIDES FURTHER INFORMATION REGARDING THIS PROGRAM'S ACCOMPLISHMENTS

4c

(Code) (Expenses \$ 3,523,348 including grants of \$) (Revenue \$)

CENTER FOR NEURODEGENERATIVE SCIENCESSEE SCHEDULE O FOR FURTHER INFORMATION ABOUT THIS PROGRAM'S ACCOMPLISHMENTS

(Code) (Expenses \$ 27,399,460 including grants of \$) (Revenue \$ 407,719)

4d

Other program services (Describe in Schedule O)

(Expenses \$ 27,399,460 including grants of \$) (Revenue \$ 407,719)

4e

Total program service expenses

44,016,613

Form 990 (2013)

Part IV Checklist of Required Schedules

	Yes	No
1 Is the organization described in section 501(c)(3) or 4947(a)(1) (other than a private foundation)? If "Yes," complete Schedule A 	1 Yes	
2 Is the organization required to complete Schedule B, Schedule of Contributors (see instructions)? 	2 Yes	
3 Did the organization engage in direct or indirect political campaign activities on behalf of or in opposition to candidates for public office? If "Yes," complete Schedule C, Part I 	3	No
4 Section 501(c)(3) organizations. Did the organization engage in lobbying activities, or have a section 501(h) election in effect during the tax year? If "Yes," complete Schedule C, Part II 	4 Yes	
5 Is the organization a section 501(c)(4), 501(c)(5), or 501(c)(6) organization that receives membership dues, assessments, or similar amounts as defined in Revenue Procedure 98-19? If "Yes," complete Schedule C, Part III 	5	No
6 Did the organization maintain any donor advised funds or any similar funds or accounts for which donors have the right to provide advice on the distribution or investment of amounts in such funds or accounts? If "Yes," complete Schedule D, Part I 	6	No
7 Did the organization receive or hold a conservation easement, including easements to preserve open space, the environment, historic land areas, or historic structures? If "Yes," complete Schedule D, Part II 	7	No
8 Did the organization maintain collections of works of art, historical treasures, or other similar assets? If "Yes," complete Schedule D, Part III 	8	No
9 Did the organization report an amount in Part X, line 21 for escrow or custodial account liability, serve as a custodian for amounts not listed in Part X, or provide credit counseling, debt management, credit repair, or debt negotiation services? If "Yes," complete Schedule D, Part IV 	9	No
10 Did the organization, directly or through a related organization, hold assets in temporarily restricted endowments, permanent endowments, or quasi-endowments? If "Yes," complete Schedule D, Part V 	10	No
11 If the organization's answer to any of the following questions is "Yes," then complete Schedule D, Parts VI, VII, VIII, IX, or X as applicable		
a Did the organization report an amount for land, buildings, and equipment in Part X, line 10? If "Yes," complete Schedule D, Part VI 	11a Yes	
b Did the organization report an amount for investments—other securities in Part X, line 12 that is 5% or more of its total assets reported in Part X, line 16? If "Yes," complete Schedule D, Part VII 	11b	No
c Did the organization report an amount for investments—program related in Part X, line 13 that is 5% or more of its total assets reported in Part X, line 16? If "Yes," complete Schedule D, Part VIII 	11c	No
d Did the organization report an amount for other assets in Part X, line 15 that is 5% or more of its total assets reported in Part X, line 16? If "Yes," complete Schedule D, Part IX 	11d Yes	
e Did the organization report an amount for other liabilities in Part X, line 25? If "Yes," complete Schedule D, Part X 	11e Yes	
f Did the organization's separate or consolidated financial statements for the tax year include a footnote that addresses the organization's liability for uncertain tax positions under FIN 48 (ASC 740)? If "Yes," complete Schedule D, Part X 	11f Yes	
12a Did the organization obtain separate, independent audited financial statements for the tax year? If "Yes," complete Schedule D, Parts XI and XII 	12a	No
b Was the organization included in consolidated, independent audited financial statements for the tax year? If "Yes," and if the organization answered "No" to line 12a, then completing Schedule D, Parts XI and XII is optional 	12b Yes	
13 Is the organization a school described in section 170(b)(1)(A)(ii)? If "Yes," complete Schedule E	13	No
14a Did the organization maintain an office, employees, or agents outside of the United States?	14a Yes	
b Did the organization have aggregate revenues or expenses of more than \$10,000 from grantmaking, fundraising, business, investment, and program service activities outside the United States, or aggregate foreign investments valued at \$100,000 or more? If "Yes," complete Schedule F, Parts I and IV 	14b Yes	
15 Did the organization report on Part IX, column (A), line 3, more than \$5,000 of grants or other assistance to or for any foreign organization? If "Yes," complete Schedule F, Parts II and IV 	15	No
16 Did the organization report on Part IX, column (A), line 3, more than \$5,000 of aggregate grants or other assistance to or for foreign individuals? If "Yes," complete Schedule F, Parts III and IV 	16	No
17 Did the organization report a total of more than \$15,000 of expenses for professional fundraising services on Part IX, column (A), lines 6 and 11e? If "Yes," complete Schedule G, Part I (see instructions)	17	No
18 Did the organization report more than \$15,000 total of fundraising event gross income and contributions on Part VIII, lines 1c and 8a? If "Yes," complete Schedule G, Part II	18	No
19 Did the organization report more than \$15,000 of gross income from gaming activities on Part VIII, line 9a? If "Yes," complete Schedule G, Part III	19	No
20a Did the organization operate one or more hospital facilities? If "Yes," complete Schedule H	20a	No
b If "Yes" to line 20a, did the organization attach a copy of its audited financial statements to this return?	20b	

Part IV

Checklist of Required Schedules (continued)

21	Did the organization report more than \$5,000 of grants or other assistance to any domestic organization or government on Part IX, column (A), line 1? <i>If "Yes," complete Schedule I, Parts I and II</i>	21		No
22	Did the organization report more than \$5,000 of grants or other assistance to individuals in the United States on Part IX, column (A), line 2? <i>If "Yes," complete Schedule I, Parts I and III</i>	22	Yes	
23	Did the organization answer "Yes" to Part VII, Section A, line 3, 4, or 5 about compensation of the organization's current and former officers, directors, trustees, key employees, and highest compensated employees? <i>If "Yes," complete Schedule J</i>	23	Yes	
24a	Did the organization have a tax-exempt bond issue with an outstanding principal amount of more than \$100,000 as of the last day of the year, that was issued after December 31, 2002? <i>If "Yes," answer lines 24b through 24d and complete Schedule K. If "No," go to line 25a</i>	24a	Yes	
b	Did the organization invest any proceeds of tax-exempt bonds beyond a temporary period exception?	24b		No
c	Did the organization maintain an escrow account other than a refunding escrow at any time during the year to defease any tax-exempt bonds?	24c		No
d	Did the organization act as an "on behalf of" issuer for bonds outstanding at any time during the year?	24d		No
25a	Section 501(c)(3) and 501(c)(4) organizations. Did the organization engage in an excess benefit transaction with a disqualified person during the year? <i>If "Yes," complete Schedule L, Part I</i>	25a		No
b	Is the organization aware that it engaged in an excess benefit transaction with a disqualified person in a prior year, and that the transaction has not been reported on any of the organization's prior Forms 990 or 990-EZ? <i>If "Yes," complete Schedule L, Part I</i>	25b		No
26	Did the organization report any amount on Part X, line 5, 6, or 22 for receivables from or payables to any current or former officers, directors, trustees, key employees, highest compensated employees, or disqualified persons? <i>If so, complete Schedule L, Part II</i>	26	Yes	
27	Did the organization provide a grant or other assistance to an officer, director, trustee, key employee, substantial contributor or employee thereof, a grant selection committee member, or to a 35% controlled entity or family member of any of these persons? <i>If "Yes," complete Schedule L, Part III</i>	27		No
28	Was the organization a party to a business transaction with one of the following parties (see Schedule L, Part IV instructions for applicable filing thresholds, conditions, and exceptions)			
a	A current or former officer, director, trustee, or key employee? <i>If "Yes," complete Schedule L, Part IV</i>	28a		No
b	A family member of a current or former officer, director, trustee, or key employee? <i>If "Yes," complete Schedule L, Part IV</i>	28b		No
c	An entity of which a current or former officer, director, trustee, or key employee (or a family member thereof) was an officer, director, trustee, or direct or indirect owner? <i>If "Yes," complete Schedule L, Part IV</i>	28c	Yes	
29	Did the organization receive more than \$25,000 in non-cash contributions? <i>If "Yes," complete Schedule M</i>	29	Yes	
30	Did the organization receive contributions of art, historical treasures, or other similar assets, or qualified conservation contributions? <i>If "Yes," complete Schedule M</i>	30		No
31	Did the organization liquidate, terminate, or dissolve and cease operations? <i>If "Yes," complete Schedule N, Part I</i>	31		No
32	Did the organization sell, exchange, dispose of, or transfer more than 25% of its net assets? <i>If "Yes," complete Schedule N, Part II</i>	32		No
33	Did the organization own 100% of an entity disregarded as separate from the organization under Regulations sections 301.7701-2 and 301.7701-3? <i>If "Yes," complete Schedule R, Part I</i>	33	Yes	
34	Was the organization related to any tax-exempt or taxable entity? <i>If "Yes," complete Schedule R, Part II, III, or IV, and Part V, line 1</i>	34	Yes	
35a	Did the organization have a controlled entity within the meaning of section 512(b)(13)?	35a	Yes	
b	If 'Yes' to line 35a, did the organization receive any payment from or engage in any transaction with a controlled entity within the meaning of section 512(b)(13)? <i>If "Yes," complete Schedule R, Part V, line 2</i>	35b	Yes	
36	Section 501(c)(3) organizations. Did the organization make any transfers to an exempt non-charitable related organization? <i>If "Yes," complete Schedule R, Part V, line 2</i>	36		No
37	Did the organization conduct more than 5% of its activities through an entity that is not a related organization and that is treated as a partnership for federal income tax purposes? <i>If "Yes," complete Schedule R, Part VI</i>	37		No
38	Did the organization complete Schedule O and provide explanations in Schedule O for Part VI, lines 11b and 19? Note. All Form 990 filers are required to complete Schedule O	38	Yes	

Part V

Statements Regarding Other IRS Filings and Tax Compliance

Check if Schedule O contains a response or note to any line in this Part V

☐

		Yes	No
1a	Enter the number reported in Box 3 of Form 1096. Enter -0- if not applicable.	119	
1b	Enter the number of Forms W-2G included in line 1a. Enter -0- if not applicable.	0	
1c			
2a		402	
2b		Yes	
3a		Yes	
3b		Yes	
4a			No
b			
5a			No
5b			No
5c			
6a			No
6b			
7			
7a			No
7b			
7c			No
7d			
7e			No
7f			No
7g			
7h			
8			
9			
9a			
9b			
10			
10a			
10b			
11			
11a			
11b			
12a			
12b			
13			
13a			
13b			
13c			
14a			No
14b			

Part VI

Governance, Management, and Disclosure

For each "Yes" response to lines 2 through 7b below, and for a "No" response to lines 8a, 8b, or 10b below, describe the circumstances, processes, or changes in Schedule O. See instructions.

Check if Schedule O contains a response or note to any line in this Part VI

Section A. Governing Body and Management

		Yes	No
1a	Enter the number of voting members of the governing body at the end of the tax year	5	
	If there are material differences in voting rights among members of the governing body, or if the governing body delegated broad authority to an executive committee or similar committee, explain in Schedule O		
1b	Enter the number of voting members included in line 1a, above, who are independent	3	
2	Did any officer, director, trustee, or key employee have a family relationship or a business relationship with any other officer, director, trustee, or key employee?	2	Yes
3	Did the organization delegate control over management duties customarily performed by or under the direct supervision of officers, directors or trustees, or key employees to a management company or other person?	3	No
4	Did the organization make any significant changes to its governing documents since the prior Form 990 was filed?	4	No
5	Did the organization become aware during the year of a significant diversion of the organization's assets?	5	No
6	Did the organization have members or stockholders?	6	No
7a	Did the organization have members, stockholders, or other persons who had the power to elect or appoint one or more members of the governing body?	7a	Yes
7b	Are any governance decisions of the organization reserved to (or subject to approval by) members, stockholders, or persons other than the governing body?	7b	No
8	Did the organization contemporaneously document the meetings held or written actions undertaken during the year by the following		
8a	a The governing body?	8a	Yes
8b	b Each committee with authority to act on behalf of the governing body?	8b	Yes
9	Is there any officer, director, trustee, or key employee listed in Part VII, Section A, who cannot be reached at the organization's mailing address? If "Yes," provide the names and addresses in Schedule O	9	No

Section B. Policies (This Section B requests information about policies not required by the Internal Revenue Code.)

		Yes	No
10a	Did the organization have local chapters, branches, or affiliates?	10a	No
10b	b If "Yes," did the organization have written policies and procedures governing the activities of such chapters, affiliates, and branches to ensure their operations are consistent with the organization's exempt purposes?	10b	
11a	Has the organization provided a complete copy of this Form 990 to all members of its governing body before filing the form?	11a	Yes
	b Describe in Schedule O the process, if any, used by the organization to review this Form 990		
12a	Did the organization have a written conflict of interest policy? If "No," go to line 13	12a	Yes
12b	b Were officers, directors, or trustees, and key employees required to disclose annually interests that could give rise to conflicts?	12b	Yes
12c	c Did the organization regularly and consistently monitor and enforce compliance with the policy? If "Yes," describe in Schedule O how this was done	12c	Yes
13	Did the organization have a written whistleblower policy?	13	Yes
14	Did the organization have a written document retention and destruction policy?	14	Yes
15	Did the process for determining compensation of the following persons include a review and approval by independent persons, comparability data, and contemporaneous substantiation of the deliberation and decision?		
15a	a The organization's CEO, Executive Director, or top management official	15a	Yes
15b	b Other officers or key employees of the organization	15b	Yes
	If "Yes" to line 15a or 15b, describe the process in Schedule O (see instructions)		
16a	Did the organization invest in, contribute assets to, or participate in a joint venture or similar arrangement with a taxable entity during the year?	16a	No
16b	b If "Yes," did the organization follow a written policy or procedure requiring the organization to evaluate its participation in joint venture arrangements under applicable federal tax law, and take steps to safeguard the organization's exempt status with respect to such arrangements?	16b	

Section C. Disclosure

17	List the States with which a copy of this Form 990 is required to be filed▶MI
18	Section 6104 requires an organization to make its Form 1023 (or 1024 if applicable), 990, and 990-T (501(c)(3)s only) available for public inspection. Indicate how you made these available. Check all that apply. ☐ Own website ☐ Another's website ☒ Upon request ☐ Other (explain in Schedule O)
19	Describe in Schedule O whether (and if so, how) the organization made its governing documents, conflict of interest policy, and financial statements available to the public during the tax year
20	State the name, physical address, and telephone number of the person who possesses the books and records of the organization ▶TIMOTHY J MYERS CFO 333 BOSTWICK AVENUE NE GRAND RAPIDS,MI 495032518 (616) 234-5368

Part VII Compensation of Officers, Directors, Trustees, Key Employees, Highest Compensated Employees, and Independent Contractors

Check if Schedule O contains a response or note to any line in this Part VII

Section A. Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees

- 1a Complete this table for all persons required to be listed Report compensation for the calendar year ending with or within the organization's tax year
- List all of the organization's **current** officers, directors, trustees (whether individuals or organizations), regardless of amount of compensation Enter -0- in columns (D), (E), and (F) if no compensation was paid

List all of the organization's **current** key employees, if any See instructions for definition of "key employee "

List the organization's five **current** highest compensated employees (other than an officer, director, trustee or key employee) who received reportable compensation (Box 5 of Form W-2 and/or Box 7 of Form 1099-MISC) of more than \$100,000 from the organization and any related organizations

List all of the organization's **former** officers, key employees, or highest compensated employees who received more than \$100,000 of reportable compensation from the organization and any related organizations

List all of the organization's **former directors or trustees** that received, in the capacity as a former director or trustee of the organization, more than \$10,000 of reportable compensation from the organization and any related organizations

List persons in the following order individual trustees or directors, institutional trustees, officers, key employees, highest compensated employees, and former such persons

Check this box if neither the organization nor any related organization compensated any current officer, director, or trustee

(A) Name and Title	(B) Average hours per week (list any hours for related organizations below dotted line)	(C) Position (do not check more than one box, unless person is both an officer and a director/trustee)						(D) Reportable compensation from the organization (W- 2/1099-MISC)	(E) Reportable compensation from related organizations (W- 2/1099-MISC)	(F) Estimated amount of other compensation from the organization and related organizations
		Individual trustee or director	Institutional Trustee	Officer	Key employee	Highest compensated employee	Former			
(1) DAVID VAN ANDEL CHAIRMAN / CEO	36 00 17 00	X		X				416,751	0	133,745
(2) DR GEORGE VANDE WOUDE TRUSTEE/ INVESTIGATOR	50 00 0 00	X						300,227	0	26,792
(3) DR JAMES FAHNER TRUSTEE	1 00 1 00	X						10,000	2,000	0
(4) DR GARY TARPLEY TRUSTEE	1 00 0 00	X						10,000	0	0
(5) DR RALPH WEICHELBAUM TRUSTEE	1 00 0 00	X						4,500	0	0
(6) TIMOTHY MYERS V P & CHIEF FINANCIAL OFFICER	50 00 3 00			X				235,524	0	79,088
(7) DAVID WHITESCARVER SECRETARY/V P & CHIEF LEGAL OFFICER	50 00 3 00			X				356,220	0	128,674
(8) DR JANA HALL CHIEF OPERATIONS OFFICER	50 00 3 00			X				316,987	0	99,279
(9) DR H ERIC XU INVESTIGATOR	45 00 0 00					X		296,596	0	53,125
(10) DR SCOTT JEWELL INVESTIGATOR	45 00 0 00					X		317,294	0	66,139
(11) LOVE COLLINS III V P OF DEVELOPMENT, COMM & MKTNG	45 00 0 00					X		292,750	0	89,544
(12) DR PATRIK BRUNDIN VARI ASSOCIATE DIRECTOR OF RESEARCH	45 00 0 00					X		475,233	0	112,798
(13) GERALD CALLAHAN V P OF BUSINESS DEVELOPMENT	45 00 0 00					X		231,554	0	85,150
(14) R JACK FRICK DONE 121111 CHIEF ADMINISTRATIVE OFFICER -FORMER	0 00 0 00						X	187,705	0	0

Part VII

1b	Sub-Total			
c	Total from continuation sheets to Part VII, Section A			
d	Total (add lines 1b and 1c)	3,451,341	2,000	874,334

2 Total number of individuals (including but not limited to those listed in Item 1) who received more than \$100,000 of reportable compensation from the organization. 44

		Yes	No
3	Did the organization list any former officer, director or trustee, key employee, or highest compensated employee on line 1a? <i>If "Yes," complete Schedule J for such individual</i>	3 Yes	
4	For any individual listed on line 1a, is the sum of reportable compensation and other compensation from the organization and related organizations greater than \$150,000? <i>If "Yes," complete Schedule J for such individual</i>	4 Yes	
5	Did any person listed on line 1a receive or accrue compensation from any unrelated organization or individual for services rendered to the organization? <i>If "Yes," complete Schedule J for such person</i>	5	No

Section B. Independent Contractors

1 Complete this table for your five highest compensated independent contractors that received more than \$100,000 of compensation from the organization. Report compensation for the calendar year ending with or within the organization's tax year.

(A) Name and business address	(B) Description of services	(C) Compensation
DK SECURITY INC 5160 FALCONVIEW AVE SE KENTWOOD MI49512	SECURITY SERVICES	384,716
HONIGMAN MILLER SCHWARTZ LLC 130 SOUTH FIRST ST 4TH FLANN ARBOR MI482263506	LEGAL/ CONSULTING	271,701
FEDERAL EXPRESS PO BOX 223125 PITTSBURGH PA152512125	SHIPPING	227,088
OLYMPIA ENTERTAINMENT INC 2211 WOODWARD AVE 5TH DETROIT MI48201	ADVERTISING	225,300
FAIRLY PAINLESS ADVERTISING 44 EAST EIGHTH STREET HOLLAND MI49423	ADVERTISING	218,702

2 Total number of independent contractors (including but not limited to those listed above) who received more than \$100,000 of compensation from the organization ►19

Part VIII

Statement of Revenue

Check if Schedule O contains a response or note to any line in this Part VIII

			(A) Total revenue	(B) Related or exempt function revenue	(C) Unrelated business revenue	(D) Revenue excluded from tax under sections 512-514
Contributions, Gifts, Grants and Other Similar Amounts	1a	Federated campaigns	1a			
	b	Membership dues	1b			
	c	Fundraising events	1c			
	d	Related organizations	1d	54,244,758		
	e	Government grants (contributions)	1e	8,081,101		
	f	All other contributions, gifts, grants, and similar amounts not included above	1f	4,683,283		
	g	Noncash contributions included in lines 1a-1f \$		152,911		
	h	Total. Add lines 1a-1f		67,009,142		
Program Service Revenue	2a	RESEARCH BILLED REV	Business Code 541700	1,460,533	851,139	609,394
	b					
	c					
	d					
	e					
	f	All other program service revenue				
	g	Total. Add lines 2a-2f		1,460,533		
Other Revenue	3	Investment income (including dividends, interest, and other similar amounts)		255,626		255,626
	4	Income from investment of tax-exempt bond proceeds				
	5	Royalties		491,283		491,283
	6a	Gross rents	(i) Real 1,487,416	(ii) Personal		
	b	Less rental expenses	1,468,592			
	c	Rental income or (loss)	18,824			
	d	Net rental income or (loss)		18,824	18,824	
	7a	Gross amount from sales of assets other than inventory	(i) Securities 33,818	(ii) Other		
	b	Less cost or other basis and sales expenses	29,010			
	c	Gain or (loss)	4,808			
	d	Net gain or (loss)		4,808	4,808	
	8a	Gross income from fundraising events (not including \$ _____ of contributions reported on line 1c) See Part IV, line 18	a			
	b	Less direct expenses	b			
	c	Net income or (loss) from fundraising events				
	9a	Gross income from gaming activities See Part IV, line 19	a			
	b	Less direct expenses	b			
	c	Net income or (loss) from gaming activities				
	10a	Gross sales of inventory, less returns and allowances	a			
	b	Less cost of goods sold	b			
	c	Net income or (loss) from sales of inventory				
		Miscellaneous Revenue	Business Code			
	11a	REL PARTY ADMIN SUPPO	561000	5,401,058		5,401,058
	b	REIMBURSED EXPENSES	900099	271,487		271,487
	c	STATE TAX REFUNDS	900099	36,719	36,719	
	d	All other revenue		106,502		106,502
	e	Total. Add lines 11a-11d		5,815,766		
	12	Total revenue. See Instructions		75,055,982	874,771	646,113
					646,113	6,525,956

Part IX

Statement of Functional Expenses

Section 501(c)(3) and 501(c)(4) organizations must complete all columns. All other organizations must complete column (A).

Check if Schedule O contains a response or note to any line in this Part IX

Do not include amounts reported on lines 6b, 7b, 8b, 9b, and 10b of Part VIII.		(A) Total expenses	(B) Program service expenses	(C) Management and general expenses	(D) Fundraising expenses
1	Grants and other assistance to governments and organizations in the United States. See Part IV, line 21.				
2	Grants and other assistance to individuals in the United States. See Part IV, line 22.	201,907	201,907		
3	Grants and other assistance to governments, organizations, and individuals outside the United States. See Part IV, lines 15 and 16.				
4	Benefits paid to or for members.				
5	Compensation of current officers, directors, trustees, and key employees.	2,384,297	769,206	1,615,091	
6	Compensation not included above, to disqualified persons (as defined under section 4958(f)(1)) and persons described in section 4958(c)(3)(B).				
7	Other salaries and wages.	21,012,535	11,883,978	8,420,804	707,753
8	Pension plan accruals and contributions (include section 401(k) and 403(b) employer contributions).	1,716,490	1,035,265	628,557	52,668
9	Other employee benefits.	2,903,422	1,751,315	1,061,301	90,806
10	Payroll taxes.	1,216,141	733,574	444,428	38,139
11	Fees for services (non-employees):				
a	Management.				
b	Legal.	407,217	63,881	343,336	
c	Accounting.	105,100		105,100	
d	Lobbying.	262,848		262,848	
e	Professional fundraising services. See Part IV, line 17.				
f	Investment management fees.				
g	Other (If line 11g amount exceeds 10% of line 25, column (A) amount, list line 11g expenses on Schedule O).	2,711,964	2,024,936	558,301	128,727
12	Advertising and promotion.	1,226,668	4,637	1,079,977	142,054
13	Office expenses.	99,650	49,654	49,689	307
14	Information technology.	361,357	142,065	203,435	15,857
15	Royalties.				
16	Occupancy.	2,511,541	2,235,158	274,077	2,306
17	Travel.	875,355	436,370	387,963	51,022
18	Payments of travel or entertainment expenses for any federal, state, or local public officials.				
19	Conferences, conventions, and meetings.	195,902	133,428	59,489	2,985
20	Interest.	8,633,669	7,182,829	1,450,840	
21	Payments to affiliates.				
22	Depreciation, depletion, and amortization.	9,128,908	7,880,962	1,247,946	
23	Insurance.	438,396	268,277	170,119	
24	Other expenses. Itemize expenses not covered above (List miscellaneous expenses in line 24e. If line 24e amount exceeds 10% of line 25, column (A) amount, list line 24e expenses on Schedule O):				
a	LAB SUPPLIES & SERVICES	3,223,883	3,214,501	9,382	
b	EQUIPMENT & SOFTWARE	2,607,673	1,276,892	1,312,073	18,708
c	OTHER SCIENTIFIC	1,303,572	1,295,845	7,727	
d	BAD DEBT EXPENSE	523,400		523,400	
e	All other expenses	2,522,872	1,431,933	1,027,827	63,112
25	Total functional expenses. Add lines 1 through 24e.	66,574,767	44,016,613	21,243,710	1,314,444
26	Joint costs. Complete this line only if the organization reported in column (B) joint costs from a combined educational campaign and fundraising solicitation. Check here ☐ if following SOP 98-2 (ASC 958-720).				

Part X

Balance Sheet

Check if Schedule O contains a response or note to any line in this Part X

				(A)		(B)
				Beginning of year		End of year
Assets	1	Cash—non-interest-bearing			1	
	2	Savings and temporary cash investments		487,783	2	12,177,780
	3	Pledges and grants receivable, net		2,496,299	3	2,575,159
	4	Accounts receivable, net		1,841,254	4	2,523,497
	5	Loans and other receivables from current and former officers, directors, trustees, key employees, and highest compensated employees Complete Part II of Schedule L		18,355	5	9,657
	6	Loans and other receivables from other disqualified persons (as defined under section 4958(f)(1)), persons described in section 4958(c)(3)(B), and contributing employers and sponsoring organizations of section 501(c)(9) voluntary employees' beneficiary organizations (see instructions) Complete Part II of Schedule L			6	
	7	Notes and loans receivable, net		1,596,595	7	1,555,278
	8	Inventories for sale or use			8	
	9	Prepaid expenses and deferred charges		1,127,550	9	1,522,498
	10a	Land, buildings, and equipment cost or other basis Complete Part VI of Schedule D	10a269,164,333			
	b	Less accumulated depreciation	10b75,691,793	197,287,670	10c	193,472,540
	11	Investments—publicly traded securities			11	
	12	Investments—other securities See Part IV, line 11		943,113	12	1,268,817
	13	Investments—program-related See Part IV, line 11			13	
	14	Intangible assets			14	
	15	Other assets See Part IV, line 11		18,991,154	15	36,620,206
	16	Total assets. Add lines 1 through 15 (must equal line 34)		224,789,773	16	251,725,432
Liabilities	17	Accounts payable and accrued expenses		26,805,514	17	44,640,472
	18	Grants payable			18	
	19	Deferred revenue		474,750	19	2,206,247
	20	Tax-exempt bond liabilities		220,000,000	20	220,000,000
	21	Escrow or custodial account liability Complete Part IV of Schedule D			21	
	22	Loans and other payables to current and former officers, directors, trustees, key employees, highest compensated employees, and disqualified persons Complete Part II of Schedule L			22	
	23	Secured mortgages and notes payable to unrelated third parties			23	
	24	Unsecured notes and loans payable to unrelated third parties			24	
	25	Other liabilities (including federal income tax, payables to related third parties, and other liabilities not included on lines 17-24) Complete Part X of Schedule D		43,175,903	25	60,850,903
	26	Total liabilities. Add lines 17 through 25		290,456,167	26	327,697,622
Net Assets or Fund Balances	Organizations that follow SFAS 117 (ASC 958), check here ☒ and complete lines 27 through 29, and lines 33 and 34.					
	27	Unrestricted net assets		-66,813,709	27	-78,281,142
	28	Temporarily restricted net assets		1,143,715	28	2,215,852
	29	Permanently restricted net assets		3,600	29	93,100
	Organizations that do not follow SFAS 117 (ASC 958), check here ☐ and complete lines 30 through 34.					
	30	Capital stock or trust principal, or current funds			30	
	31	Paid-in or capital surplus, or land, building or equipment fund			31	
	32	Retained earnings, endowment, accumulated income, or other funds			32	
	33	Total net assets or fund balances		-65,666,394	33	-75,972,190
	34	Total liabilities and net assets/fund balances		224,789,773	34	251,725,432

Part XI Reconciliation of Net Assets

Check if Schedule O contains a response or note to any line in this Part XI

1	Total revenue (must equal Part VIII, column (A), line 12)	1	75,055,982
2	Total expenses (must equal Part IX, column (A), line 25)	2	66,574,767
3	Revenue less expenses Subtract line 2 from line 1	3	8,481,215
4	Net assets or fund balances at beginning of year (must equal Part X, line 33, column (A))	4	-65,666,394
5	Net unrealized gains (losses) on investments	5	34,742
6	Donated services and use of facilities	6	
7	Investment expenses	7	
8	Prior period adjustments	8	
9	Other changes in net assets or fund balances (explain in Schedule O)	9	-18,821,753
10	Net assets or fund balances at end of year Combine lines 3 through 9 (must equal Part X, line 33, column (B))	10	-75,972,190

Part XII Financial Statements and Reporting

Check if Schedule O contains a response or note to any line in this Part XII

		Yes	No
1	Accounting method used to prepare the Form 990 ☐ Cash ☒ Accrual ☐ Other If the organization changed its method of accounting from a prior year or checked "Other," explain in Schedule O		
2a	Were the organization's financial statements compiled or reviewed by an independent accountant? If "Yes," check a box below to indicate whether the financial statements for the year were compiled or reviewed on a separate basis, consolidated basis, or both ☐ Separate basis ☐ Consolidated basis ☐ Both consolidated and separate basis	2a	No
b	Were the organization's financial statements audited by an independent accountant? If "Yes," check a box below to indicate whether the financial statements for the year were audited on a separate basis, consolidated basis, or both ☐ Separate basis ☒ Consolidated basis ☐ Both consolidated and separate basis	2b	Yes
c	If "Yes," to line 2a or 2b, does the organization have a committee that assumes responsibility for oversight of the audit, review, or compilation of its financial statements and selection of an independent accountant? If the organization changed either its oversight process or selection process during the tax year, explain in Schedule O	2c	Yes
3a	As a result of a federal award, was the organization required to undergo an audit or audits as set forth in the Single Audit Act and OMB Circular A-133?	3a	Yes
b	If "Yes," did the organization undergo the required audit or audits? If the organization did not undergo the required audit or audits, explain why in Schedule O and describe any steps taken to undergo such audits	3b	Yes

SCHEDULE A

(Form 990 or 990EZ)

Department of the
Treasury
Internal Revenue Service

Public Charity Status and Public Support

Complete if the organization is a section 501(c)(3) organization or a section 4947(a)(1) nonexempt charitable trust.

▶ Attach to Form 990 or Form 990-EZ. ▶ See separate instructions.

▶ Information about Schedule A (Form 990 or 990-EZ) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public Inspection

Name of the organization VAN ANDEL RESEARCH INSTITUTE	Employer identification number 52-2000823
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Part I

Reason for Public Charity Status (All organizations must complete this part.) See instructions.

The organization is not a private foundation because it is (For lines 1 through 11, check only one box)

- 1

☐

A church, convention of churches, or association of churches described in **section 170(b)(1)(A)(i).**
- 2

☐

A school described in **section 170(b)(1)(A)(ii).** (Attach Schedule E)
- 3

☐

A hospital or a cooperative hospital service organization described in **section 170(b)(1)(A)(iii).**
- 4

☒

A medical research organization operated in conjunction with a hospital described in **section 170(b)(1)(A)(iii).** Enter the hospital's name, city, and state

SPECTRUM HEALTH,
GRAND RAPIDS, MI
TRINITY HEALTH,
GRAND RAPIDS, MI

- 5

☐

An organization operated for the benefit of a college or university owned or operated by a governmental unit described in **section 170(b)(1)(A)(iv).** (Complete Part II)
- 6

☐

A federal, state, or local government or governmental unit described in **section 170(b)(1)(A)(v).**
- 7

☐

An organization that normally receives a substantial part of its support from a governmental unit or from the general public described in **section 170(b)(1)(A)(vi).** (Complete Part II)
- 8

☐

A community trust described in **section 170(b)(1)(A)(vi)** (Complete Part II)
- 9

☐

An organization that normally receives (1) more than 33 1/3% of its support from contributions, membership fees, and gross receipts from activities related to its exempt functions—subject to certain exceptions, and (2) no more than 33 1/3% of its support from gross investment income and unrelated business taxable income (less section 511 tax) from businesses acquired by the organization after June 30, 1975 See **section 509(a)(2).** (Complete Part III)
- 10

☐

An organization organized and operated exclusively to test for public safety See **section 509(a)(4).**
- 11

☐

An organization organized and operated exclusively for the benefit of, to perform the functions of, or to carry out the purposes of one or more publicly supported organizations described in section 509(a)(1) or section 509(a)(2) See **section 509(a)(3).** Check the box that describes the type of supporting organization and complete lines 11e through 11h
- a

☐

Type I

b

☐

Type II

c

☐

Type III - Functionally integrated

d

☐

Type III - Non-functionally integrated
- e

☐

By checking this box, I certify that the organization is not controlled directly or indirectly by one or more disqualified persons other than foundation managers and other than one or more publicly supported organizations described in section 509(a)(1) or section 509(a)(2)
- f

☐

If the organization received a written determination from the IRS that it is a Type I, Type II, or Type III supporting organization, check this box
- g

☐

Since August 17, 2006, has the organization accepted any gift or contribution from any of the following persons?
- (i)

A person who directly or indirectly controls, either alone or together with persons described in (ii) and (iii) below, the governing body of the supported organization?
- (ii)

A family member of a person described in (i) above?
- (iii)

A 35% controlled entity of a person described in (i) or (ii) above?
- h

☐

Provide the following information about the supported organization(s)

	Yes	No
11g(i)		
11g(ii)		
11g(iii)		

(i) Name of supported organization	(ii) EIN	(iii) Type of organization (described on lines 1- 9 above or IRC section (see instructions))	(iv) Is the organization in col (i) listed in your governing document?		(v) Did you notify the organization in col (i) of your support?		(vi) Is the organization in col (i) organized in the U S ?		(vii) Amount of monetary support
			Yes	No	Yes	No	Yes	No	
Total									

Part II

Support Schedule for Organizations Described in Sections 170(b)(1)(A)(iv) and 170(b)(1)(A)(vi)
(Complete only if you checked the box on line 5, 7, or 8 of Part I or if the organization failed to qualify under Part III. If the organization fails to qualify under the tests listed below, please complete Part III.)

Section A. Public Support						
Calendar year (or fiscal year beginning in) ▶	(a) 2009	(b) 2010	(c) 2011	(d) 2012	(e) 2013	(f) Total
1 Gifts, grants, contributions, and membership fees received (Do not include any "unusual grants.")						
2 Tax revenues levied for the organization's benefit and either paid to or expended on its behalf						
3 The value of services or facilities furnished by a governmental unit to the organization without charge						
4 Total. Add lines 1 through 3						
5 The portion of total contributions by each person (other than a governmental unit or publicly supported organization) included on line 1 that exceeds 2% of the amount shown on line 11, column (f)						
6 Public support. Subtract line 5 from line 4						

Section B. Total Support						
Calendar year (or fiscal year beginning in) ▶	(a) 2009	(b) 2010	(c) 2011	(d) 2012	(e) 2013	(f) Total
7 Amounts from line 4						
8 Gross income from interest, dividends, payments received on securities loans, rents, royalties and income from similar sources						
9 Net income from unrelated business activities, whether or not the business is regularly carried on						
10 Other income Do not include gain or loss from the sale of capital assets (Explain in Part IV)						
11 Total support (Add lines 7 through 10)						
12 Gross receipts from related activities, etc (see instructions)					12	
13 First five years. If the Form 990 is for the organization's first, second, third, fourth, or fifth tax year as a 501(c)(3) organization, check this box and stop here ▶						

Section C. Computation of Public Support Percentage						
14 Public support percentage for 2013 (line 6, column (f) divided by line 11, column (f))		14				
15 Public support percentage for 2012 Schedule A, Part II, line 14		15				
16a 33 1/3% support test—2013. If the organization did not check the box on line 13, and line 14 is 33 1/3% or more, check this box and stop here. The organization qualifies as a publicly supported organization						▶
b 33 1/3% support test—2012. If the organization did not check a box on line 13 or 16a, and line 15 is 33 1/3% or more, check this box and stop here. The organization qualifies as a publicly supported organization						▶
17a 10%-facts-and-circumstances test—2013. If the organization did not check a box on line 13, 16a, or 16b, and line 14 is 10% or more, and if the organization meets the "facts-and-circumstances" test, check this box and stop here. Explain in Part IV how the organization meets the "facts-and-circumstances" test The organization qualifies as a publicly supported organization						▶
b 10%-facts-and-circumstances test—2012. If the organization did not check a box on line 13, 16a, 16b, or 17a, and line 15 is 10% or more, and if the organization meets the "facts-and-circumstances" test, check this box and stop here. Explain in Part IV how the organization meets the "facts-and-circumstances" test The organization qualifies as a publicly supported organization						▶
18 Private foundation. If the organization did not check a box on line 13, 16a, 16b, 17a, or 17b, check this box and see instructions						▶

Part IIISupport Schedule for Organizations Described in Section 509(a)(2)
(Complete only if you checked the box on line 9 of Part I or if the organization failed to qualify under Part II. If the organization fails to qualify under the tests listed below, please complete Part II.)

Section A. Public Support						
Calendar year (or fiscal year beginning in) ▶	(a) 2009	(b) 2010	(c) 2011	(d) 2012	(e) 2013	(f) Total
1 Gifts, grants, contributions, and membership fees received (Do not include any "unusual grants.")						
2 Gross receipts from admissions, merchandise sold or services performed, or facilities furnished in any activity that is related to the organization's tax-exempt purpose						
3 Gross receipts from activities that are not an unrelated trade or business under section 513						
4 Tax revenues levied for the organization's benefit and either paid to or expended on its behalf						
5 The value of services or facilities furnished by a governmental unit to the organization without charge						
6 Total. Add lines 1 through 5						
7a Amounts included on lines 1, 2, and 3 received from disqualified persons						
b Amounts included on lines 2 and 3 received from other than disqualified persons that exceed the greater of \$5,000 or 1% of the amount on line 13 for the year						
c Add lines 7a and 7b						
8 Public support (Subtract line 7c from line 6.)						

Section B. Total Support						
Calendar year (or fiscal year beginning in) ▶	(a) 2009	(b) 2010	(c) 2011	(d) 2012	(e) 2013	(f) Total
9 Amounts from line 6						
10a Gross income from interest, dividends, payments received on securities loans, rents, royalties and income from similar sources						
b Unrelated business taxable income (less section 511 taxes) from businesses acquired after June 30, 1975						
c Add lines 10a and 10b						
11 Net income from unrelated business activities not included in line 10b, whether or not the business is regularly carried on						
12 Other income. Do not include gain or loss from the sale of capital assets (Explain in Part IV.)						
13 Total support. (Add lines 9, 10c, 11, and 12.)						
14 First five years. If the Form 990 is for the organization's first, second, third, fourth, or fifth tax year as a 501(c)(3) organization, check this box and stop here ▶						

Section C. Computation of Public Support Percentage		
15 Public support percentage for 2013 (line 8, column (f) divided by line 13, column (f))	15	
16 Public support percentage from 2012 Schedule A, Part III, line 15	16	

Section D. Computation of Investment Income Percentage		
17 Investment income percentage for 2013 (line 10c, column (f) divided by line 13, column (f))	17	
18 Investment income percentage from 2012 Schedule A, Part III, line 17	18	
19a 33 1/3% support tests—2013. If the organization did not check the box on line 14, and line 15 is more than 33 1/3%, and line 17 is not more than 33 1/3%, check this box and stop here. The organization qualifies as a publicly supported organization ▶		
b 33 1/3% support tests—2012. If the organization did not check a box on line 14 or line 19a, and line 16 is more than 33 1/3% and line 18 is not more than 33 1/3%, check this box and stop here. The organization qualifies as a publicly supported organization ▶		
20 Private foundation. If the organization did not check a box on line 14, 19a, or 19b, check this box and see instructions ▶		

Part IV **Supplemental Information.** Provide the explanations required by Part II, line 10; Part II, line 17a or 17b; and Part III, line 12. Also complete this part for any additional information. (See instructions).

Facts And Circumstances Test

Return Reference	Explanation	
------------------	-------------	--

SCHEDULE C

(Form 990 or 990-EZ)

Department of the Treasury
Internal Revenue Service

Political Campaign and Lobbying Activities

For Organizations Exempt From Income Tax Under section 501(c) and section 527
▶ **Complete if the organization is described below. ▶ Attach to Form 990 or Form 990-EZ.**
▶ **See separate instructions. ▶ Information about Schedule C (Form 990 or 990-EZ) and its instructions is at *www.irs.gov/form990*.**

OMB No 1545-0047

2013

Open to Public Inspection

If the organization answered "Yes" to Form 990, Part IV, Line 3, or Form 990-EZ, Part V, line 46 (Political Campaign Activities), then

- Section 501(c)(3) organizations Complete Parts I-A and B Do not complete Part I-C
- Section 501(c) (other than section 501(c)(3)) organizations Complete Parts I-A and C below Do not complete Part I-B
- Section 527 organizations Complete Part I-A only

If the organization answered "Yes" to Form 990, Part IV, Line 4, or Form 990-EZ, Part VI, line 47 (Lobbying Activities), then

- Section 501(c)(3) organizations that have filed Form 5768 (election under section 501(h)) Complete Part II-A Do not complete Part II-B
- Section 501(c)(3) organizations that have NOT filed Form 5768 (election under section 501(h)) Complete Part II-B Do not complete Part II-A

If the organization answered "Yes" to Form 990, Part IV, Line 5 (Proxy Tax) or Form 990-EZ, Part V, line 35c (Proxy Tax), then

- Section 501(c)(4), (5), or (6) organizations Complete Part III

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number
52-2000823

Part I-A Complete if the organization is exempt under section 501(c) or is a section 527 organization.

- 1 Provide a description of the organization’s direct and indirect political campaign activities in Part IV
- 2 Political expenditures ▶ \$
- 3 Volunteer hours

Part I-B Complete if the organization is exempt under section 501(c)(3).

- 1 Enter the amount of any excise tax incurred by the organization under section 4955 ▶ \$
- 2 Enter the amount of any excise tax incurred by organization managers under section 4955 ▶ \$
- 3 If the organization incurred a section 4955 tax, did it file Form 4720 for this year? ☐ Yes ☐ No
- 4a Was a correction made? ☐ Yes ☐ No
- b If "Yes," describe in Part IV

Part I-C Complete if the organization is exempt under section 501(c), except section 501(c)(3).

- 1 Enter the amount directly expended by the filing organization for section 527 exempt function activities ▶ \$
- 2 Enter the amount of the filing organization's funds contributed to other organizations for section 527 exempt function activities ▶ \$
- 3 Total exempt function expenditures Add lines 1 and 2 Enter here and on Form 1120-POL, line 17b ▶ \$
- 4 Did the filing organization file **Form 1120-POL** for this year? ☐ Yes ☐ No
- 5 Enter the names, addresses and employer identification number (EIN) of all section 527 political organizations to which the filing organization made payments For each organization listed, enter the amount paid from the filing organization’s funds Also enter the amount of political contributions received that were promptly and directly delivered to a separate political organization, such as a separate segregated fund or a political action committee (PAC) If additional space is needed, provide information in Part IV

(a) Name	(b) Address	(c) EIN	(d) Amount paid from filing organization's funds If none, enter -0-	(e) Amount of political contributions received and promptly and directly delivered to a separate political organization If none, enter -0-

Part II-A Complete if the organization is exempt under section 501(c)(3) and filed Form 5768 (election under section 501(h)).

- A** Check ☐ if the filing organization belongs to an affiliated group (and list in Part IV each affiliated group member's name, address, EIN, expenses, and share of excess lobbying expenditures)
- B** Check ☐ if the filing organization checked box A and "limited control" provisions apply

Limits on Lobbying Expenditures (The term "expenditures" means amounts paid or incurred.)		(a) Filing organization's totals	(b) Affiliated group totals												
1a Total lobbying expenditures to influence public opinion (grass roots lobbying)															
b Total lobbying expenditures to influence a legislative body (direct lobbying)		367,563													
c Total lobbying expenditures (add lines 1a and 1b)		367,563													
d Other exempt purpose expenditures		66,207,204													
e Total exempt purpose expenditures (add lines 1c and 1d)		66,574,767													
f Lobbying nontaxable amount Enter the amount from the following table in both columns		1,000,000													
<table><tr><th>If the amount on line 1e, column (a) or (b) is:</th><th>The lobbying nontaxable amount is:</th></tr><tr><td>Not over \$500,000</td><td>20% of the amount on line 1e</td></tr><tr><td>Over \$500,000 but not over \$1,000,000</td><td>\$100,000 plus 15% of the excess over \$500,000</td></tr><tr><td>Over \$1,000,000 but not over \$1,500,000</td><td>\$175,000 plus 10% of the excess over \$1,000,000</td></tr><tr><td>Over \$1,500,000 but not over \$17,000,000</td><td>\$225,000 plus 5% of the excess over \$1,500,000</td></tr><tr><td>Over \$17,000,000</td><td>\$1,000,000</td></tr></table>		If the amount on line 1e, column (a) or (b) is:	The lobbying nontaxable amount is:	Not over \$500,000	20% of the amount on line 1e	Over \$500,000 but not over \$1,000,000	\$100,000 plus 15% of the excess over \$500,000	Over \$1,000,000 but not over \$1,500,000	\$175,000 plus 10% of the excess over \$1,000,000	Over \$1,500,000 but not over \$17,000,000	\$225,000 plus 5% of the excess over \$1,500,000	Over \$17,000,000	\$1,000,000		
If the amount on line 1e, column (a) or (b) is:	The lobbying nontaxable amount is:														
Not over \$500,000	20% of the amount on line 1e														
Over \$500,000 but not over \$1,000,000	\$100,000 plus 15% of the excess over \$500,000														
Over \$1,000,000 but not over \$1,500,000	\$175,000 plus 10% of the excess over \$1,000,000														
Over \$1,500,000 but not over \$17,000,000	\$225,000 plus 5% of the excess over \$1,500,000														
Over \$17,000,000	\$1,000,000														
g Grassroots nontaxable amount (enter 25% of line 1f)		250,000													
h Subtract line 1g from line 1a If zero or less, enter -0-		0													
i Subtract line 1f from line 1c If zero or less, enter -0-		0													
j If there is an amount other than zero on either line 1h or line 1i, did the organization file Form 4720 reporting section 4911 tax for this year?		☐ Yes ☐ No													

4-Year Averaging Period Under Section 501(h)
(Some organizations that made a section 501(h) election do not have to complete all of the five columns below. See the instructions for lines 2a through 2f on page 4.)

Lobbying Expenditures During 4-Year Averaging Period					
Calendar year (or fiscal year beginning in)	(a) 2010	(b) 2011	(c) 2012	(d) 2013	(e) Total
2a Lobbying nontaxable amount		1,000,000	1,000,000	1,000,000	3,000,000
b Lobbying ceiling amount (150% of line 2a, column(e))					4,500,000
c Total lobbying expenditures		68,133	85,680	367,563	521,376
d Grassroots nontaxable amount		250,000	250,000	250,000	750,000
e Grassroots ceiling amount (150% of line 2d, column (e))					1,125,000
f Grassroots lobbying expenditures					

Part II-B

Complete if the organization is exempt under section 501(c)(3) and has NOT filed Form 5768 (election under section 501(h)).

For each "Yes" response to lines 1a through 1i below, provide in Part IV a detailed description of the lobbying activity.		(a)		(b)
		Yes	No	Amount
1	During the year, did the filing organization attempt to influence foreign, national, state or local legislation, including any attempt to influence public opinion on a legislative matter or referendum, through the use of			
a	Volunteers?			
b	Paid staff or management (include compensation in expenses reported on lines 1c through 1i)?			
c	Media advertisements?			
d	Mailings to members, legislators, or the public?			
e	Publications, or published or broadcast statements?			
f	Grants to other organizations for lobbying purposes?			
g	Direct contact with legislators, their staffs, government officials, or a legislative body?			
h	Rallies, demonstrations, seminars, conventions, speeches, lectures, or any similar means?			
i	Other activities?			
j	Total. Add lines 1c through 1i.			
2a	Did the activities in line 1 cause the organization to be not described in section 501(c)(3)?			
b	If "Yes," enter the amount of any tax incurred under section 4912.			
c	If "Yes," enter the amount of any tax incurred by organization managers under section 4912.			
d	If the filing organization incurred a section 4912 tax, did it file Form 4720 for this year?			

Part III-A

Complete if the organization is exempt under section 501(c)(4), section 501(c)(5), or section 501(c)(6).

1	Were substantially all (90% or more) dues received nondeductible by members?	1	Yes	No
2	Did the organization make only in-house lobbying expenditures of \$2,000 or less?	2		
3	Did the organization agree to carry over lobbying and political expenditures from the prior year?	3		

Part III-B

Complete if the organization is exempt under section 501(c)(4), section 501(c)(5), or section 501(c)(6) and if either (a) BOTH Part III-A, lines 1 and 2, are answered "No" OR (b) Part III-A, line 3, is answered "Yes."

1	Dues, assessments and similar amounts from members	1	
2	Section 162(e) nondeductible lobbying and political expenditures (do not include amounts of political expenses for which the section 527(f) tax was paid).		
a	Current year	2a	
b	Carryover from last year	2b	
c	Total	2c	
3	Aggregate amount reported in section 6033(e)(1)(A) notices of nondeductible section 162(e) dues	3	
4	If notices were sent and the amount on line 2c exceeds the amount on line 3, what portion of the excess does the organization agree to carryover to the reasonable estimate of nondeductible lobbying and political expenditure next year?	4	
5	Taxable amount of lobbying and political expenditures (see instructions)	5	

Part IV

Supplemental Information

Provide the descriptions required for Part I-A, line 1, Part I-B, line 4, Part I-C, line 5, Part II-A (affiliated group list), Part II-A, line 2, and Part II-B, line 1. Also, complete this part for any additional information.

Return Reference	Explanation

[illegible]

SCHEDULE D
(Form 990)

Department of the Treasury
Internal Revenue Service

Supplemental Financial Statements

▶ **Complete if the organization answered "Yes," to Form 990, Part IV, line 6, 7, 8, 9, 10, 11a, 11b, 11c, 11d, 11e, 11f, 12a, or 12b**
▶ **Attach to Form 990.** ▶ **See separate instructions.** ▶ **Information about Schedule D (Form 990) and its instructions is at www.irs.gov/form990.**

OMB No 1545-0047

2013

Open to Public Inspection

Name of the organization

VAN ANDEL RESEARCH INSTITUTE

Employer identification number

52-2000823

Part I Organizations Maintaining Donor Advised Funds or Other Similar Funds or Accounts. Complete if the organization answered "Yes" to Form 990, Part IV, line 6.

	(a) Donor advised funds	(b) Funds and other accounts
1	Total number at end of year	
2	Aggregate contributions to (during year)	
3	Aggregate grants from (during year)	
4	Aggregate value at end of year	
5	Did the organization inform all donors and donor advisors in writing that the assets held in donor advised funds are the organization's property, subject to the organization's exclusive legal control? ☐ Yes ☐ No	
6	Did the organization inform all grantees, donors, and donor advisors in writing that grant funds can be used only for charitable purposes and not for the benefit of the donor or donor advisor, or for any other purpose conferring impermissible private benefit? ☐ Yes ☐ No	

Part II Conservation Easements. Complete if the organization answered "Yes" to Form 990, Part IV, line 7.

1

Purpose(s) of conservation easements held by the organization (check all that apply)

☐ Preservation of land for public use (e g , recreation or education)

☐ Preservation of an historically important land area

☐ Protection of natural habitat

☐ Preservation of a certified historic structure

☐ Preservation of open space

2

Complete lines 2a through 2d if the organization held a qualified conservation contribution in the form of a conservation easement on the last day of the tax year

	Held at the End of the Year
2a	
2b	
2c	
2d	

3

Number of conservation easements modified, transferred, released, extinguished, or terminated by the organization during the tax year ▶ _____

4

Number of states where property subject to conservation easement is located ▶ _____

5

Does the organization have a written policy regarding the periodic monitoring, inspection, handling of violations, and enforcement of the conservation easements it holds?

☐ Yes ☐ No

6

Staff and volunteer hours devoted to monitoring, inspecting, and enforcing conservation easements during the year ▶ _____

7

Amount of expenses incurred in monitoring, inspecting, and enforcing conservation easements during the year ▶ \$ _____

8

Does each conservation easement reported on line 2(d) above satisfy the requirements of section 170(h)(4)(B)(i) and section 170(h)(4)(B)(ii)?

☐ Yes ☐ No

9

In Part XIII, describe how the organization reports conservation easements in its revenue and expense statement, and balance sheet, and include, if applicable, the text of the footnote to the organization's financial statements that describes the organization's accounting for conservation easements

Part III Organizations Maintaining Collections of Art, Historical Treasures, or Other Similar Assets. Complete if the organization answered "Yes" to Form 990, Part IV, line 8.

1a

If the organization elected, as permitted under SFAS 116 (ASC 958), not to report in its revenue statement and balance sheet works of art, historical treasures, or other similar assets held for public exhibition, education, or research in furtherance of public service, provide, in Part XIII, the text of the footnote to its financial statements that describes these items

1b

If the organization elected, as permitted under SFAS 116 (ASC 958), to report in its revenue statement and balance sheet works of art, historical treasures, or other similar assets held for public exhibition, education, or research in furtherance of public service, provide the following amounts relating to these items

(i) Revenues included in Form 990, Part VIII, line 1

▶ \$ _____

(ii) Assets included in Form 990, Part X

▶ \$ _____

2

If the organization received or held works of art, historical treasures, or other similar assets for financial gain, provide the following amounts required to be reported under SFAS 116 (ASC 958) relating to these items

a

Revenues included in Form 990, Part VIII, line 1

▶ \$ _____

b

Assets included in Form 990, Part X

▶ \$ _____

For Paperwork Reduction Act Notice, see the Instructions for Form 990.

Cat No 52283D

Schedule D (Form 990) 2013

Part III

Organizations Maintaining Collections of Art, Historical Treasures, or Other Similar Assets (continued)

- 3

Using the organization's acquisition, accession, and other records, check any of the following that are a significant use of its collection items (check all that apply)

a

☐ Public exhibition

b

☐ Scholarly research

c

☐ Preservation for future generations

d

☐ Loan or exchange programs

e

☐ Other
- 4

Provide a description of the organization's collections and explain how they further the organization's exempt purpose in Part XIII
- 5

During the year, did the organization solicit or receive donations of art, historical treasures or other similar assets to be sold to raise funds rather than to be maintained as part of the organization's collection?

☐ Yes

☐ No

Part IV

Escrow and Custodial Arrangements. Complete if the organization answered "Yes" to Form 990, Part IV, line 9, or reported an amount on Form 990, Part X, line 21.

- 1a

Is the organization an agent, trustee, custodian or other intermediary for contributions or other assets not included on Form 990, Part X?

☐ Yes

☐ No
- b

If "Yes," explain the arrangement in Part XIII and complete the following table

	Amount
1c	
1d	
1e	
1f	
- 2a

Did the organization include an amount on Form 990, Part X, line 21?

☐ Yes

☐ No
- b

If "Yes," explain the arrangement in Part XIII Check here if the explanation has been provided in Part XIII

☐

Part V

Endowment Funds. Complete if the organization answered "Yes" to Form 990, Part IV, line 10.

	(a)Current year	(b)Prior year	b (c)Two years back	(d)Three years back	(e)Four years back
1a Beginning of year balance					
b Contributions					
c Net investment earnings, gains, and losses					
d Grants or scholarships					
e Other expenditures for facilities and programs					
f Administrative expenses					
g End of year balance					

- 2

Provide the estimated percentage of the current year end balance (line 1g, column (a)) held as

a

Board designated or quasi-endowment

b

Permanent endowment

c

Temporarily restricted endowment

The percentages in lines 2a, 2b, and 2c should equal 100%

3a

Are there endowment funds not in the possession of the organization that are held and administered for the organization by

(i) unrelated organizations

3a(i)

Yes

No

(ii) related organizations

3a(ii)

Yes

No

b

If "Yes" to 3a(ii), are the related organizations listed as required on Schedule R?

3b

Yes

No

4

Describe in Part XIII the intended uses of the organization's endowment funds

Part VI

Land, Buildings, and Equipment. Complete if the organization answered 'Yes' to Form 990, Part IV, line 11a. See Form 990, Part X, line 10.

Description of property	(a) Cost or other basis (investment)	(b)Cost or other basis (other)	(c) Accumulated depreciation	(d) Book value
1a Land		5,288,315		5,288,315
b Buildings		219,768,174	43,371,435	176,396,739
c Leasehold improvements				
d Equipment		41,304,971	32,310,457	8,994,514
e Other		2,802,873	9,901	2,792,972
Total. Add lines 1a through 1e (Column (d) must equal Form 990, Part X, column (B), line 10(c).)				193,472,540

Schedule D (Form 990) 2013

Part XI

Reconciliation of Revenue per Audited Financial Statements With Revenue per Return

Complete if the organization answered 'Yes' to Form 990, Part IV, line 12a.

1	Total revenue, gains, and other support per audited financial statements	1	71,409,773
2	Amounts included on line 1 but not on Form 990, Part VIII, line 12		
a	Net unrealized gains on investments	2a	321,600
b	Donated services and use of facilities	2b	
c	Recoveries of prior year grants	2c	
d	Other (Describe in Part XIII)	2d	1,468,592
e	Add lines 2a through 2d	2e	1,790,192
3	Subtract line 2e from line 1	3	69,619,581
4	Amounts included on Form 990, Part VIII, line 12, but not on line 1		
a	Investment expenses not included on Form 990, Part VIII, line 7b	4a	
b	Other (Describe in Part XIII)	4b	5,436,401
c	Add lines 4a and 4b	4c	5,436,401
5	Total revenue Add lines 3 and 4c. (This must equal Form 990, Part I, line 12)	5	75,055,982

Part XII

Reconciliation of Expenses per Audited Financial Statements With Expenses per Return.

Complete if the organization answered 'Yes' to Form 990, Part IV, line 12a.

1	Total expenses and losses per audited financial statements	1	81,715,569
2	Amounts included on line 1 but not on Form 990, Part IX, line 25		
a	Donated services and use of facilities	2a	
b	Prior year adjustments	2b	
c	Other losses	2c	
d	Other (Describe in Part XIII)	2d	20,577,203
e	Add lines 2a through 2d	2e	20,577,203
3	Subtract line 2e from line 1	3	61,138,366
4	Amounts included on Form 990, Part IX, line 25, but not on line 1:		
a	Investment expenses not included on Form 990, Part VIII, line 7b	4a	
b	Other (Describe in Part XIII)	4b	5,436,401
c	Add lines 4a and 4b	4c	5,436,401
5	Total expenses Add lines 3 and 4c. (This must equal Form 990, Part I, line 18)	5	66,574,767

Part XIII

Supplemental Information

Provide the descriptions required for Part II, lines 3, 5, and 9, Part III, lines 1a and 4, Part IV, lines 1b and 2b, Part V, line 4, Part X, line 2, Part XI, lines 2d and 4b, and Part XII, lines 2d and 4b. Also complete this part to provide any additional information.

Return Reference	Explanation
PART X, LINE 2	PART X, LINE 1(1) AND LINE 2 THERE ARE NO UNCERTAIN TAX POSITIONS RELATED TO VARI
PART XI, LINE 2D - OTHER ADJUSTMENTS	RENTAL EXPENSES 1,468,592
PART XI, LINE 4B - OTHER ADJUSTMENTS	NET ALLOCATED 5,401,058 STATE TAX REFUNDS 35,343
PART XII, LINE 2D - OTHER ADJUSTMENTS	LOSS ON INTERST RATE SWAP 19,108,611 RENTAL EXPENSES 1,468,592
PART XII, LINE 4B - OTHER ADJUSTMENTS	NET ALLOCATED 5,401,058 STATE TAX REFUNDS 35,343
PART V	THE VAN ANDEL INSTITUTE (A RELATED ORGANIZATION) MAINTAINS ENDOWED FUNDS FOR THE BENEFIT OF BOTH VARI AND THE VAN ANDEL EDUCATION INSTITUTE (A RELATED ORGANIZATION) TO FUND OPERATING EXPENSES
PART XI AND XII, LINE 4B	EXPENSE ALLOCATIONS PRESENTED WITHIN REVENUE

[illegible]

SCHEDULE F

(Form 990)

Department of the Treasury
Internal Revenue Service

Statement of Activities Outside the United States

▶ Complete if the organization answered "Yes" to Form 990,
Part IV, line 14b, 15, or 16.

▶ Attach to Form 990. ▶ See separate instructions.

▶ Information about Schedule F (Form 990) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public
Inspection

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number

52-2000823

Part I

General Information on Activities Outside the United States. Complete if the organization answered "Yes" to Form 990, Part IV, line 14b.

1 For grantmakers. Does the organization maintain records to substantiate the amount of its grants and other assistance, the grantees' eligibility for the grants or assistance, and the selection criteria used to award the grants or assistance? ☐ Yes ☐ No

2 For grantmakers. Describe in Part V the organization's procedures for monitoring the use of its grants and other assistance outside the United States.

3 Activities per Region (The following Part I, line 3 table can be duplicated if additional space is needed)

(a) Region	(b) Number of offices in the region	(c) Number of employees, agents, and independent contractors in region	(d) Activities conducted in region (by type) (e g , fundraising, program services, investments, grants to recipients located in the region)	(e) If activity listed in (d) is a program service, describe specific type of service(s) in region	(f) Total expenditures for and investments in region
(1) EAST ASIA & THE PACIFIC	0	1	PROGRAM SERVICES	RESEARCH COLLABORATION - RESEARCH SERVICES	382,768
(2) EUROPE	0	0	PROGRAM SERVICES	REVIEW OF PAPER	2,000
(3) EUROPE	0	0	UNRELATED TRADE OR BUSINESS	FEE FOR SERVICES	
(4) EUROPE	0	0	RESEARCH SERVICES	LICENSING FEES	
(5)					
3a Sub-total	0	1			384,768
b Total from continuation sheets to Part I	0	0			0
c Totals (add lines 3a and 3b)	0	1			384,768

Part II

Grants and Other Assistance to Organizations or Entities Outside the United States. Complete if the organization answered "Yes" to Form 990, Part IV, line 15, for any recipient who received more than \$5,000. Part II can be duplicated if additional space is needed.

1	(a) Name of organization	(b) IRS code section and EIN (if applicable)	(c) Region	(d) Purpose of grant	(e) Amount of cash grant	(f) Manner of cash disbursement	(g) Amount of non-cash assistance	(h) Description of non-cash assistance	(i) Method of valuation (book, FMV, appraisal, other)
(1)									
(2)									
(3)									
(4)									

- 2 Enter total number of recipient organizations listed above that are recognized as charities by the foreign country, recognized as tax-exempt by the IRS, or for which the grantee or counsel has provided a section 501(c)(3) equivalency letter ▶
- 3 Enter total number of other organizations or entities ▶

Part III

Grants and Other Assistance to Individuals Outside the United States. Complete if the organization answered "Yes" to Form 990, Part IV, line 16.
Part III can be duplicated if additional space is needed.

(a) Type of grant or assistance	(b) Region	(c) Number of recipients	(d) Amount of cash grant	(e) Manner of cash disbursement	(f) Amount of non-cash assistance	(g) Description of non-cash assistance	(h) Method of valuation (book, FMV, appraisal, other)
(1)							
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							
(11)							
(12)							
(13)							
(14)							
(15)							
(16)							
(17)							
(18)							

Part IV Foreign Forms

- 1

Was the organization a U S transferor of property to a foreign corporation during the tax year? *If "Yes," the organization may be required to file Form 926, Return by a U.S. Transferor of Property to a Foreign Corporation (see Instructions for Form 926)*

☐

Yes

☒

No
- 2

Did the organization have an interest in a foreign trust during the tax year? *If "Yes," the organization may be required to file Form 3520, Annual Return to Report Transactions with Foreign Trusts and Receipt of Certain Foreign Gifts, and/or Form 3520-A, Annual Information Return of Foreign Trust With a U.S. Owner (see Instructions for Forms 3520 and 3520-A)*

☐

Yes

☒

No
- 3

Did the organization have an ownership interest in a foreign corporation during the tax year? *If "Yes," the organization may be required to file Form 5471, Information Return of U.S. Persons with Respect to Certain Foreign Corporations. (see Instructions for Form 5471)*

☐

Yes

☒

No
- 4

Was the organization a direct or indirect shareholder of a passive foreign investment company or a qualified electing fund during the tax year? *If "Yes," the organization may be required to file Form 8621, Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund. (see Instructions for Form 8621)*

☐

Yes

☒

No
- 5

Did the organization have an ownership interest in a foreign partnership during the tax year? *If "Yes," the organization may be required to file Form 8865, Return of U.S. Persons with Respect to Certain Foreign Partnerships. (see Instructions for Form 8865)*

☐

Yes

☒

No
- 6

Did the organization have any operations in or related to any boycotting countries during the tax year? *If "Yes," the organization may be required to file Form 5713, International Boycott Report (see Instructions for Form 5713).*

☐

Yes

☒

No

Additional Data

Software ID:

Software Version:

EIN: 52-2000823

Name: VAN ANDEL RESEARCH INSTITUTE

Part V Supplemental Information

Provide the information required by Part I, line 2 (monitoring of funds); Part I, line 3, column (f) (accounting method; amounts of investments vs. expenditures per region); Part II, line 1 (accounting method); Part III (accounting method); and Part III, column (c) (estimated number of recipients), as applicable. Also complete this part to provide any additional information (see instructions).

Schedule I
(Form 990)

Department of the Treasury
Internal Revenue Service

Grants and Other Assistance to Organizations,
Governments and Individuals in the United States

Complete if the organization answered "Yes," to Form 990, Part IV, line 21 or 22.
▶ Attach to Form 990

▶ Information about Schedule I (Form 990) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public
Inspection

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number
52-2000823

Part I

General Information on Grants and Assistance

1

Does the organization maintain records to substantiate the amount of the grants or assistance, the grantees' eligibility for the grants or assistance, and the selection criteria used to award the grants or assistance?

☒ Yes ☐ No

2

Describe in Part IV the organization's procedures for monitoring the use of grant funds in the United States

Part II

Grants and Other Assistance to Governments and Organizations in the United States. Complete if the organization answered "Yes" to Form 990, Part IV, line 21, for any recipient that received more than \$5,000. Part II can be duplicated if additional space is needed.

(a) Name and address of organization or government	(b) EIN	(c) IRC Code section if applicable	(d) Amount of cash grant	(e) Amount of non-cash assistance	(f) Method of valuation (book, FMV, appraisal, other)	(g) Description of non-cash assistance	(h) Purpose of grant or assistance

2

Enter total number of section 501(c)(3) and government organizations listed in the line 1 table

▶

3

Enter total number of other organizations listed in the line 1 table

▶

Part III

Grants and Other Assistance to Individuals in the United States. Complete if the organization answered "Yes" to Form 990, Part IV, line 22.
Part III can be duplicated if additional space is needed.

(a)Type of grant or assistance	(b)Number of recipients	(c)Amount of cash grant	(d)Amount of non-cash assistance	(e)Method of valuation (book, FMV, appraisal, other)	(f)Description of non-cash assistance
(1) GRADUATE STUDENT STIPENDS FOR MICHIGAN STATE UNIVERSITY STUDENTS	5	141,319	0		
(2) FOREIGN NATIONAL STIPENDS	12	60,588			

Part IV

Supplemental Information. Provide the information required in Part I, line 2, Part III, column (b), and any other additional information.

Return Reference	Explanation
PART I, LINE 2	STIPENDS ARE PROVIDED TO THE RESEARCH STUDENTS FOR LIVING AND INSURANCE ASSISTANCE

Schedule J
(Form 990)

Department of the Treasury
Internal Revenue Service

Compensation Information

For certain Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees

▶ Complete if the organization answered "Yes" to Form 990, Part IV, line 23.
▶ Attach to Form 990. ▶ See separate instructions.

▶ Information about Schedule J (Form 990) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public Inspection

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number
52-2000823

Part I

Questions Regarding Compensation

		Yes	No
1a	Check the appropriate box(es) if the organization provided any of the following to or for a person listed in Form 990, Part VII, Section A, line 1a. Complete Part III to provide any relevant information regarding these items. ☒ First-class or charter travel ☐ Travel for companions ☐ Tax idemnification and gross-up payments ☐ Discretionary spending account ☐ Housing allowance or residence for personal use ☐ Payments for business use of personal residence ☐ Health or social club dues or initiation fees ☐ Personal services (e g , maid, chauffeur, chef)		
b	If any of the boxes in line 1a are checked, did the organization follow a written policy regarding payment or reimbursement or provision of all of the expenses described above? If "No," complete Part III to explain	1b Yes	
2	Did the organization require substantiation prior to reimbursing or allowing expenses incurred by all directors, trustees, officers, including the CEO/Executive Director, regarding the items checked in line 1a?	2 Yes	
3	Indicate which, if any, of the following the filing organization used to establish the compensation of the organization's CEO/Executive Director. Check all that apply. Do not check any boxes for methods used by a related organization to establish compensation of the CEO/Executive Director, but explain in Part III. ☒ Compensation committee ☒ Independent compensation consultant ☐ Form 990 of other organizations ☒ Written employment contract ☒ Compensation survey or study ☒ Approval by the board or compensation committee		
4	During the year, did any person listed in Form 990, Part VII, Section A, line 1a with respect to the filing organization or a related organization: a Receive a severance payment or change-of-control payment? b Participate in, or receive payment from, a supplemental nonqualified retirement plan? c Participate in, or receive payment from, an equity-based compensation arrangement? If "Yes" to any of lines 4a-c, list the persons and provide the applicable amounts for each item in Part III.	4a Yes	
		4b	No
		4c	No
5	For persons listed in Form 990, Part VII, Section A, line 1a, did the organization pay or accrue any compensation contingent on the revenues of: a The organization? b Any related organization? If "Yes," to line 5a or 5b, describe in Part III.	5a	No
		5b	No
6	For persons listed in Form 990, Part VII, Section A, line 1a, did the organization pay or accrue any compensation contingent on the net earnings of: a The organization? b Any related organization? If "Yes," to line 6a or 6b, describe in Part III.	6a	No
		6b	No
7	For persons listed in Form 990, Part VII, Section A, line 1a, did the organization provide any non-fixed payments not described in lines 5 and 6? If "Yes," describe in Part III.	7 Yes	
8	Were any amounts reported in Form 990, Part VII, paid or accrued pursuant to a contract that was subject to the initial contract exception described in Regulations section 53.4958-4(a)(3)? If "Yes," describe in Part III.	8	No
9	If "Yes" to line 8, did the organization also follow the rebuttable presumption procedure described in Regulations section 53.4958-6(c)?	9	

Part II **Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees.** Use duplicate copies if additional space is needed.

For each individual whose compensation must be reported in Schedule J, report compensation from the organization on row (i) and from related organizations, described in the instructions, on row (ii) Do not list any individuals that are not listed on Form 990, Part VII

Note. The sum of columns (B)(i)-(iii) for each listed individual must equal the total amount of Form 990, Part VII, Section A, line 1a, applicable column (D) and (E) amounts for that individual

(A) Name and Title		(B) Breakdown of W-2 and/or 1099-MISC compensation			(C) Retirement and other deferred compensation	(D) Nontaxable benefits	(E) Total of columns (B)(i)-(D)	(F) Compensation reported as deferred in prior Form 990
		(i) Base compensation	(ii) Bonus & incentive compensation	(iii) Other reportable compensation				
See Additional Data Table								

Part III Supplemental Information

Provide the information, explanation, or descriptions required for Part I, lines 1a, 1b, 3, 4a, 4b, 4c, 5a, 5b, 6a, 6b, 7, and 8, and for Part II

Also complete this part for any additional information

Return Reference	Explanation
PART I, LINE 1A	VARI ALLOWS FOR FIRST-CLASS OR CHARTER TRAVEL FOR OFFICERS AND TRUSTEES
PART I, LINE 4A	R JACK FRICK RECEIVED SEVERANCE PAYMENTS OF \$161,120 DURING CALENDAR YEAR 2013
PART I, LINE 7	THREE NON-FIXED BONUSES WERE PAID AT THE DISCRETION OF THE CEO

Additional Data

Software ID:
Software Version:
EIN: 52-2000823
Name: VAN ANDEL RESEARCH INSTITUTE

Form 990, Schedule J, Part II - Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees

(A) Name		(B) Breakdown of W-2 and/or 1099-MISC compensation			(C) Deferred compensation	(D) Nontaxable benefits	(E) Total of columns (B)(i)-(D)	(F) Compensation reported in prior Form 990 or Form 990-EZ
		(i) Base Compensation	(ii) Bonus & incentive compensation	(iii) Other compensation				
DAVID VAN ANDEL CHAIRMAN / CEO	(i) (ii)	310,965 0	85,054 0	20,732 0	133,230 0	515 0	550,496 0	85,054 0
DR GEORGE VANDE WOUDE TRUSTEE/ INVESTIGATOR	(i) (ii)	280,255 0	0 0	19,972 0	25,500 0	1,292 0	327,019 0	0 0
TIMOTHY MYERS V P & CHIEF FINANCIAL OFFICER	(i) (ii)	202,295 0	32,779 0	450 0	70,760 0	8,328 0	314,612 0	32,779 0
DAVID WHITESCARVER SECRETARY/V P & CHIEF LEGAL OFFICER	(i) (ii)	261,267 0	76,243 0	18,710 0	120,346 0	8,328 0	484,894 0	51,243 0
DR JANA HALL CHIEF OPERATIONS OFFICER	(i) (ii)	285,763 0	15,000 0	16,224 0	97,544 0	1,735 0	416,266 0	0 0
DR H ERIC XU INVESTIGATOR	(i) (ii)	275,613 0	20,533 0	450 0	44,797 0	8,328 0	349,721 0	20,533 0
DR SCOTT JEWELL INVESTIGATOR	(i) (ii)	275,109 0	40,205 0	1,980 0	57,812 0	8,327 0	383,433 0	25,795 0
LOVE COLLINS III V P OF DEVELOPMENT, COMM & MKTNG	(i) (ii)	251,626 0	39,834 0	1,290 0	81,217 0	8,327 0	382,294 0	39,834 0
DR PATRIK BRUNDIN VARI ASSOCIATE DIRECTOR OF RESEARCH	(i) (ii)	395,776 0	65,000 0	14,457 0	105,165 0	7,633 0	588,031 0	43,763 0
GERALD CALLAHAN V P OF BUSINESS DEVELOPMENT	(i) (ii)	221,140 0	0 0	10,414 0	83,859 0	1,291 0	316,704 0	0 0
R JACK FRICK DONE 121111 CHIEF ADMINISTRATIVE OFFICER -FORMER	(i) (ii)	0 0	26,585 0	161,120 0	0 0	0 0	187,705 0	26,585 0

Schedule K
(Form 990)

Department of the Treasury
Internal Revenue Service

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Supplemental Information on Tax Exempt Bonds

▶ Complete if the organization answered "Yes" to Form 990, Part IV, line 24a. Provide descriptions, explanations, and any additional information in Part VI.
▶ Attach to Form 990. ▶ See separate instructions.
▶ Information about Schedule K (Form 990) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public Inspection

Employer identification number
52-2000823

Part I

Bond Issues

(a) Issuer name	(b) Issuer EIN	(c) CUSIP #	(d) Date issued	(e) Issue price	(f) Description of purpose	(g) Defeased		(h) On behalf of issuer		(i) Pool financing	
						Yes	No	Yes	No	Yes	No
A MICHIGAN STRATEGIC FUND	52-1417332		04-01-2013	220,000,000	REFUND BOND ISSUE 4/10/08		X		X		X

Part II

Proceeds

		A		B		C		D	
1	Amount of bonds retired								
2	Amount of bonds legally defeased								
3	Total proceeds of issue	220,000,000							
4	Gross proceeds in reserve funds								
5	Capitalized interest from proceeds								
6	Proceeds in refunding escrows								
7	Issuance costs from proceeds								
8	Credit enhancement from proceeds								
9	Working capital expenditures from proceeds								
10	Capital expenditures from proceeds								
11	Other spent proceeds	220,000,000							
12	Other unspent proceeds								
13	Year of substantial completion								
		Yes	No	Yes	No	Yes	No	Yes	No
14	Were the bonds issued as part of a current refunding issue?	X							
15	Were the bonds issued as part of an advance refunding issue?		X						
16	Has the final allocation of proceeds been made?	X							
17	Does the organization maintain adequate books and records to support the final allocation of proceeds?	X							

Part III

Private Business Use

					A		B		C		D	
					Yes	No	Yes	No	Yes	No	Yes	No
1	Was the organization a partner in a partnership, or a member of an LLC, which owned property financed by tax-exempt bonds?					X						
2	Are there any lease arrangements that may result in private business use of bond-financed property?				X							

Part III

Private Business Use (Continued)

		A		B		C		D	
		Yes	No	Yes	No	Yes	No	Yes	No
3a	Are there any management or service contracts that may result in private business use of bond-financed property?	X							
b	If "Yes" to line 3a, does the organization routinely engage bond counsel or other outside counsel to review any management or service contracts relating to the financed property?	X							
c	Are there any research agreements that may result in private business use of bond-financed property?	X							
d	If "Yes" to line 3c, does the organization routinely engage bond counsel or other outside counsel to review any research agreements relating to the financed property?	X							
4	Enter the percentage of financed property used in a private business use by entities other than a section 501(c)(3) organization or a state or local government								
5	Enter the percentage of financed property used in a private business use as a result of unrelated trade or business activity carried on by your organization, another section 501(c)(3) organization, or a state or local government	0 950 %							
6	Total of lines 4 and 5	0 950 %							
7	Does the bond issue meet the private security or payment test?		X						
8a	Has there been a sale or disposition of any of the bond financed property to a nongovernmental person other than a 501(c)(3) organization since the bonds were issued?		X						
b	If "Yes" to line 8a, enter the percentage of bond-financed property sold or disposed of								
c	If "Yes" to line 8a, was any remedial action taken pursuant to Regulations sections 1.141-12 and 1.145-2?								
9	Has the organization established written procedures to ensure that all nonqualified bonds of the issue are remediated in accordance with the requirements under Regulations sections 1.141-12 and 1.145-2?	X							

Part IV

Arbitrage

		A		B		C		D	
		Yes	No	Yes	No	Yes	No	Yes	No
1	Has the issuer filed Form 8038-T?		X						
2	If "No" to line 1, did the following apply?								
a	Rebate not due yet?		X						
b	Exception to rebate?		X						
c	No rebate due?	X							
	If you checked "No rebate due" in line 2c, provide in Part VI the date the rebate computation was performed								
3	Is the bond issue a variable rate issue?	X							
4a	Has the organization or the governmental issuer entered into a qualified hedge with respect to the bond issue?		X						
b	Name of provider								
c	Term of hedge								
d	Was the hedge superintegrated?								
e	Was the hedge terminated?								

Part IV

Arbitrage (Continued)

		A		B		C		D	
		Yes	No	Yes	No	Yes	No	Yes	No
5a	Were gross proceeds invested in a guaranteed investment contract (GIC)?		X						
b	Name of provider								
c	Term of GIC								
d	Was the regulatory safe harbor for establishing the fair market value of the GIC satisfied?								
6	Were any gross proceeds invested beyond an available temporary period?		X						
7	Has the organization established written procedures to monitor the requirements of section 148?	X							

Part V

Procedures To Undertake Corrective Action

	A		B		C		D	
	Yes	No	Yes	No	Yes	No	Yes	No
Has the organization established written procedures to ensure that violations of federal tax requirements are timely identified and corrected through the voluntary closing agreement program if self-remediation is not available under applicable regulations?	X							

Part VI

Supplemental Information. Provide additional information for responses to questions on Schedule K (see instructions).

Return Reference	Explanation
DATE REBATE COMPUTATION PERFORMED	ISSUER NAME MICHIGAN STRATEGIC FUND DATE THE REBATE COMPUTATION WAS PERFORMED 11/30/2013

Schedule L
(Form 990 or 990-EZ)

Transactions with Interested Persons

OMB No 1545-0047

2013

Open to Public Inspection

▶ Complete if the organization answered "Yes" on Form 990, Part IV, lines 25a, 25b, 26, 27, 28a, 28b, or 28c, or Form 990-EZ, Part V, line 38a or 40b.

▶ Attach to Form 990 or Form 990-EZ. ▶ See separate instructions.

▶ Information about Schedule L (Form 990 or 990-EZ) and its instructions is at www.irs.gov/form990.

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number
52-2000823

Part I Excess Benefit Transactions (section 501(c)(3) and section 501(c)(4) organizations only).

Complete if the organization answered "Yes" on Form 990, Part IV, line 25a or 25b, or Form 990-EZ, Part V, line 40b

1	(a) Name of disqualified person	(b) Relationship between disqualified person and organization	(c) Description of transaction	(d) Corrected?	
				Yes	No

2

Enter the amount of tax incurred by organization managers or disqualified persons during the year under section 4958 ▶ \$

3

Enter the amount of tax, if any, on line 2, above, reimbursed by the organization ▶ \$

Part II Loans to and/or From Interested Persons.

Complete if the organization answered "Yes" on Form 990-EZ, Part V, line 38a, or Form 990, Part IV, line 26, or if the organization reported an amount on Form 990, Part X, line 5, 6, or 22

(a) Name of interested person	(b) Relationship with organization	(c) Purpose of loan	(d) Loan to or from the organization?		(e) Original principal amount	(f) Balance due	(g) In default?		(h) Approved by board or committee?		(i) Written agreement?	
			To	From			Yes	No	Yes	No	Yes	No
(1) PATRIK BRUNDIN	HIGHEST COMPENSATION EMPLOYEE	CONTRACT		X	25,000	9,657		No		No	Yes	
Total ▶ \$							9,657					

Part III Grants or Assistance Benefitting Interested Persons.

Complete if the organization answered "Yes" on Form 990, Part IV, line 27.

(a) Name of interested person	(b) Relationship between interested person and the organization	(c) Amount of assistance	(d) Type of assistance	(e) Purpose of assistance

Part IV Business Transactions Involving Interested Persons.

Complete if the organization answered "Yes" on Form 990, Part IV, line 28a, 28b, or 28c.

(a) Name of interested person	(b) Relationship between interested person and the organization	(c) Amount of transaction	(d) Description of transaction	(e) Sharing of organization's revenues?	
				Yes	No
(1) JVAE FOUNDATION	COMMON TRUSTEE	155,123	IT SVCS		No

Part V Supplemental Information

Provide additional information for responses to questions on Schedule L (see instructions)

Return Reference	Explanation
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SCHEDULE M
(Form 990)

Department of the Treasury
Internal Revenue Service

Noncash Contributions

▶Complete if the organizations answered "Yes" on Form 990, Part IV, lines 29 or 30.
▶ Attach to Form 990.

▶Information about Schedule M (Form 990) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public Inspection

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number
52-2000823

Part I Types of Property

	(a) Check if applicable	(b) Number of contributions or items contributed	(c) Noncash contribution amounts reported on Form 990, Part VIII, line 1g	(d) Method of determining noncash contribution amounts
1 Art—Works of art				
2 Art—Historical treasures				
3 Art—Fractional interests				
4 Books and publications				
5 Clothing and household goods				
6 Cars and other vehicles				
7 Boats and planes				
8 Intellectual property				
9 Securities—Publicly traded				
10 Securities—Closely held stock				
11 Securities—Partnership, LLC, or trust interests				
12 Securities—Miscellaneous				
13 Qualified conservation contribution—Historic structures				
14 Qualified conservation contribution—Other				
15 Real estate—Residential				
16 Real estate—Commercial				
17 Real estate—Other				
18 Collectibles				
19 Food inventory				
20 Drugs and medical supplies				
21 Taxidermy				
22 Historical artifacts				
23 Scientific specimens				
24 Archeological artifacts				
25 Other ▶ (CAPITAL EQUIP)	X	1	152,458	FMV
26 Other ▶ (EQUIPMENT)	X	1	400	FMV
27 Other ▶ (FOOD)	X	1	53	FMV
28 Other ▶ ()				
29 Number of Forms 8283 received by the organization during the tax year for contributions for which the organization completed Form 8283, Part IV, Donee Acknowledgement	29			0
30a During the year, did the organization receive by contribution any property reported in Part I, lines 1 through 28, that it must hold for at least three years from the date of the initial contribution, and which is not required to be used for exempt purposes for the entire holding period?				Yes No
b If "Yes," describe the arrangement in Part II				
31 Does the organization have a gift acceptance policy that requires the review of any non-standard contributions?				Yes No
32a Does the organization hire or use third parties or related organizations to solicit, process, or sell noncash contributions?				Yes No
b If "Yes," describe in Part II				
33 If the organization did not report an amount in column (c) for a type of property for which column (a) is checked, describe in Part II				

Part II

Supplemental Information.

Provide the information required by Part I, lines 30b, 32b, and 33, and whether the organization is reporting in Part I, column (b), the number of contributions, the number of items received, or a combination of both. Also complete this part for any additional information.

Return Reference	Explanation
PART I, COLUMN (B)	NUMBER OF CONTRIBUTIONS IS BASED ON NUMBER OF GIFTS

SCHEDULE O

(Form 990 or 990-EZ)

Department of the Treasury
Internal Revenue Service

Supplemental Information to Form 990 or 990-EZ

Complete to provide information for responses to specific questions on
Form 990 or to provide any additional information.
▶ Attach to Form 990 or 990-EZ.
▶ Information about Schedule O (Form 990 or 990-EZ) and its instructions is at
www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public
Inspection

Name of the organization VAN ANDEL RESEARCH INSTITUTE	Employer identification number 52-2000823
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Return Reference	Explanation
FORM 990, PART III, LINE 2	IN 2014, VARI STARTED THE CENTER FOR EPIGENETICS THE CENTER IS DEDICATED TO THE STUDY OF EPIGENETICS AND EPIGENOMICS IN HEALTH AND DISEASE, WITH THE ULTIMATE GOAL OF DEVELOPING NOVEL THERAPIES TO TREAT CANCER AND NEURODEGENERATIVE DISEASES

Return Reference	Explanation
FORM 990, PART VI, SECTION A, LINE 2	VARI AND VAEI SHARE COMMON MANAGEMENT AS OFFICERS OF VARI, DAVID VAN ANDEL, DR JANA HALL, TIMOTHY MYERS AND DAVID WHITESCARVER INTERACT AND WORK TOGETHER WITH DR STEVE TRIEZENBERG, AN OFFICER OF VAEI

Return Reference	Explanation
FORM 990, PART VI, SECTION A, LINE 7A	THE TRUSTEES OF VAN ANDEL INSTITUTE HAVE THE AUTHORITY TO ELECT ONE OR MORE MEMBERS OF VARI'S GOVERNING BODY

Return Reference	Explanation
FORM 990, PART VI, SECTION B, LINE 11	FOLLOWING COMPLETION OF THE FINANCIAL STATEMENT AUDIT, THE FORM 990 IS PREPARED AND REVIEWED BY MANAGEMENT IT IS THEN CIRCULATED TO THE FULL BOARD FOR REVIEW AND FINAL APPROVAL PRIOR TO FILING WITH THE IRS

Return Reference	Explanation
FORM 990, PART VI, SECTION B, LINE 12C	VARI HAS WRITTEN CONFLICT OF INTEREST ("COI") POLICIES AND PROCEDURES (ADMINISTERED BY VAN ANDEL INSTITUTE) WHICH ADMINISTER AND ENFORCE A PROCESS TO IDENTIFY , EVALUATE, AND MANAGE POTENTIAL CONFLICTS OF INTEREST. THESE POLICIES HAVE BEEN BOARD APPROVED. VAI ADMINISTERS THE COI POLICIES AND PROCEDURES THROUGH TWO COMMITTEES: THE CONFLICTS COMMITTEE ("CC") AND THE INSTITUTIONAL COI COMMITTEE ("ICOIC"). THE COI POLICIES AND PROCEDURES APPLY TO AND SERVE AS A GUIDE FOR EVERYONE IN THE ORGANIZATION. THEY 1) PROVIDE A USEFUL RESOURCE WHEN DEVELOPING ACTIVITIES OR RELATIONSHIPS WITH OUTSIDE ENTITIES OR PERSONS, AND 2) ESTABLISH COMMITTEES TO REVIEW AND MANAGE POTENTIAL CONFLICTS OF INTEREST AS THEY MAY ARISE. THE CC, CHAIRED BY THE CHIEF LEGAL OFFICER, REQUIRES ANNUAL AND UPDATED DISCLOSURES BY COVERED PERSONS AND REVIEWS AND APPROVES MANAGEMENT PLANS. THE INSTITUTIONAL COI POLICIES AND PROCEDURES SERVE AS A GUIDE FOR MEMBERS OF THE BOARDS OF TRUSTEES AND SENIOR EXECUTIVES. IN THE EVENT A POTENTIAL COI ARISES AT THE BOARD OR SENIOR EXECUTIVE LEVEL, THE ICOIC MEETS TO REVIEW AND DECIDE HOW TO MANAGE SUCH POTENTIAL CONFLICTS OF INTEREST IN ACCORDANCE WITH THE COI POLICIES AND PROCEDURES.

Return Reference	Explanation
FORM 990, PART VI, SECTION B, LINE 15	COMPARABILITY DATA FROM EXPERT THIRD PARTY IS OBTAINED AND REVIEWED BY THE INDEPENDENT, JOINT COMPENSATION COMMITTEE OF VAN ANDEL RESEARCH INSTITUTE AND RELATED ORGANIZATIONS TO DETERMINE APPROPRIATE COMPENSATION FOR THE CEO, EXECUTIVE MANAGEMENT OFFICIALS, OFFICERS, AND KEY EMPLOYEES, ON BEHALF OF VAN ANDEL RESEARCH INSTITUTE

Return Reference	Explanation
FORM 990, PART VI, SECTION C, LINE 19	THE CONFLICT OF INTEREST POLICY AND FINANCIAL STATEMENTS ARE AVAILABLE TO THE PUBLIC UPON REQUEST

Return Reference	Explanation
FORM 990, PART XI, LINE 9	LOSS ON INTEREST RATE SWAP -19,108,611 CHANGE IN BALANCE SHEET PRESENTATION OF TMS 286,858

Return Reference	Explanation
FORM 990, PART III, LINE 2	VAN ANDEL RESEARCH INSTITUTE (VARI) IS DEDICATED TO DETERMINING THE EPIGENETIC, GENETIC, MOLECULAR, AND CELLULAR ORIGINS OF CANCER, PARKINSON'S DISEASE, AND OTHER ILLNESSES AND TRANSLATING THOSE FINDINGS INTO EFFECTIVE THERAPIES. THE INSTITUTE'S SCIENTISTS WORK IN ON-SITE LABORATORIES AND PARTICIPATE IN COLLABORATIONS THAT SPAN THE GLOBE. THE INSTITUTE IS ORGANIZED INTO THE CENTER FOR CANCER AND CELL BIOLOGY, THE CENTER FOR EPIGENETICS, AND THE CENTER FOR NEURODEGENERATIVE SCIENCE. THE CORE TECHNOLOGIES AND SERVICES GROUP PROVIDES VALUABLE ON-SITE CAPABILITIES IN IMAGING, PATHOLOGY, BIOINFORMATICS, FLOW CYTOMETRY, A VIVARIUM, AND A BIOREPOSITORY. RESEARCH BY VARI SCIENTISTS IS PUBLISHED IN MAJOR PEER-REVIEWED JOURNALS, INCLUDING, IN 2014, AMERICAN JOURNAL OF CANCER RESEARCH, AMERICAN JOURNAL OF PATHOLOGY, ARTHRITIS RESEARCH AND THERAPY, CANCER CELL, CANCER RESEARCH, GENOME RESEARCH, JOURNAL OF BONE AND MINERAL RESEARCH, JOURNAL OF PARKINSON'S DISEASE, MOLECULAR AND CELLULAR BIOLOGY, MOLECULAR ONCOLOGY, NATURE MEDICINE, NEOPLASIA, NEURO-ONCOLOGY, NEUROSCIENCE, ONCOGENE, PLOS ONE, PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES U S A, PSYCHONEUROENDOCRINOLOGY, AND TRANSLATIONAL RESEARCH, AMONG OTHERS. IN 2014, PETER A. JONES, PH.D., D.Sc., BECAME THE RESEARCH DIRECTOR AND CHIEF SCIENTIFIC OFFICER OF VAN ANDEL RESEARCH INSTITUTE. DR. JONES WAS BORN IN SOUTH AFRICA, RAISED AND ATTENDED COLLEGE IN RHODESIA (NOW ZIMBABWE), AND RECEIVED HIS PH.D. FROM THE UNIVERSITY OF LONDON. HE JOINED THE UNIVERSITY OF SOUTHERN CALIFORNIA IN 1977, ATTAINING THE RANK OF PROFESSOR IN 1985 AND DISTINGUISHED PROFESSOR IN 1999. HE ALSO SERVED AS DIRECTOR OF THE USC NORRIS COMPREHENSIVE CANCER CENTER BETWEEN 1993 AND 2011. HIS LABORATORY DISCOVERED THE EFFECTS OF 5-AZACYTIDINE ON DNA METHYLATION AND LINKED THIS PROCESS TO THE ACTIVATION OF SILENCED GENES. HE IS KNOWN FOR HIS STUDIES ON THE MOLECULAR BIOLOGY OF CANCER AND OF BASIC MECHANISMS OF DNA METHYLATION AND ITS ROLE IN CANCER AND DIFFERENTIATION. DR. JONES IS A PAST PRESIDENT OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH AND WAS ELECTED AS A FELLOW OF THE ACADEMY OF THE AACR IN 2013. HE HAS PUBLISHED MORE THAN 300 SCIENTIFIC PAPERS AND RECEIVED SEVERAL HONORS, INCLUDING THE OUTSTANDING INVESTIGATOR GRANT FROM THE NATIONAL CANCER INSTITUTE. HE AND HIS COLLEAGUE DR. STEPHEN BAYLIN SHARED BOTH THE KIRK A. LANDON AWARD FOR BASIC CANCER RESEARCH FROM THE AACR IN 2009 AND THE MEDAL OF HONOR FROM THE AMERICAN CANCER SOCIETY IN 2011.

Return Reference	Explanation	
	FORM 990, PART III, LINE 4A	LINE 4A - PROGRAM SERVICE ACTIVITY #1 CENTER FOR CANCER AND CELL BIOLOGY THE CENTER FOR CA NCER AND CELL BIOLOGY , DIRECTED BY BART WILLIAMS, PH D , COMPRISES 14 LABORATORIES ENGAGED IN BASIC RESEARCH IN MOLECULAR AND STRUCTURAL BIOLOGY AND IN TRANSLATIONAL RESEARCH ON CA NCERS, THE TUMOR MICROENVIRONMENT, AND SKELETAL DISEASES INVESTIGATORS WITHIN THE CENTER IN 2014 RECEIVED AN R01 RENEWAL FROM THE NATIONAL INSTITUTES OF HEALTH, A NEW AWARD FROM T HE DEPARTMENT OF DEFENSE, A RENEWAL AWARD FROM THE MICHAEL J FOX FOUNDATION, A NEW AWARD FROM THE COFFMAN CHARITABLE TRUST, AND TWO AWARDS FROM THE MICHIGAN ECONOMIC DEVELOPMENT C ORPORATION (MEDC) THE VAN ANDEL RESEARCH INSTITUTE PATHWAY OF HOPE INITIATIVE PROGRESSED IN 2014 UNDER THE DIRECTION OF JEFFREY MACKEIGAN, ASSOCIATE PROFESSOR AND HEAD OF THE LABO RATORY OF SYSTEMS BIOLOGY TUBEROUS SCLEROSIS COMPLEX (TSC) CAUSES NON-CANCEROUS TUMORS IN MAJOR ORGANS, AND PATIENTS AFFLICTED WITH DISEASE OFTEN SUFFER FROM EPILEPSY , LEARNING DI SABILITIES AND OTHER COMPLICATIONS VARI S PATHWAY OF HOPE PROJECT INVOLVES TSC INVESTIGAT ORS FROM ACROSS THE UNITED STATES, WITH FUNDING FROM THE MICHIGAN STRATEGIC FUND, BLUE CRO SS BLUE SHIELD OF MICHIGAN, GREAT LAKES SCRIP, ROCKFORD CONSTRUCTION, COLLIER'S INTERNATIONAL, TEAM HANNAH TSC, AND INDIVIDUAL DONORS THE INITIATIVE INVOLVES A COMBINATION OF BASIC BIOLOGY , TRANSLATIONAL AND CLINICAL APPROACHES, WITH THE GOAL OF DEVELOPING NEW, EFFECTIV E TREATMENTS FOR INDIVIDUALS WITH TSC THE TSC RESEARCH TEAM HAS SCREENED FOR GENES NEVER BEFORE LINKED TO TSC AND IS INVESTIGATING SEVERAL THAT ARE INTRIGUING THE PATHWAY OF HOPE TEAM HAS ALSO BEGUN A PERSONALIZED MEDICINE FEASIBILITY STUDY , EVALUATING THE TEAM'S ABIL ITY TO DEVELOP INDIVIDUALIZED TREATMENT PLANS FROM A PATIENT'S GENOMIC DATA TSC RESEARCH IS BEING FUNDED IN PART THROUGH THE BILL VAN REGENMORTER COLLABORATIVE FOR TRANSLATIONAL B IOMEDICAL RESEARCH, WHICH IS ADMINISTERED BY THE MEDC RESEARCH CONTINUES INTO THE MIG6 GE NE AND ITS RELATIONSHIP TO OSTEOARTHRITIS INJURED JOINTS ARE PRONE TO DEVELOPING OSTEOART HRITIS (OA), AND A LACK OF THE MIG-6 PROTEIN INCREASES THE DAMAGE FOUND IN JOINTS FOLLOWIN G TRAUMA BONE MINERAL DENSITY AND TRABECULAR THICKNESS AND NUMBER WERE FOUND TO BE LOWER IN SURGICALLY TREATED KNEES FROM MICE LACKING THE MIG6 GENE (JOINER ET AL , ARTHRITIS RESE ARCH AND THERAPY 16(2) R81) ANOTHER STUDY EXPLORED THE JOINT TISSUES IN WHICH MIG-6 IS E XPRESSED AND THE ROLE CHONDROCYTES PLAY IN THE OA-LIKE DISORDER CAUSED BY MIG-6 DEFICIENCY IN MICE MIG-6 WAS FOUND TO BE CRUCIAL IN MAINTAINING JOINT HOMEOSTASIS AND IN REGULATING CHONDROCYTE ACTIVITY IN SYNOVIAL JOINTS, WHICH ARE FOUND IN THE KNEE, SHOULDER, HIP, AND ELBOW, AMONG OTHERS (STAAL ET AL , PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES U S A 111(7) 2590-2595) MITOCHONDRIA ARE THE ENERGY-PRODUCING ORGANELLES OF A CELL THE SIZE O F MITOCHONDRIA, LARGE VS. COMPACT, WAS FOUND TO CORRELATE WITH MITOCHONDRIAL FISSION OR FU SION EVENTS, RESPECTIVELY (WESTRATE ET AL , PLOS ONE 9(4) E95265) IN RAPIDLY DIVIDING CA NCER CELLS, THE MITOCHONDRIA MUST FRAGMENT (FISSION) PRIOR TO CELL DIVISION FORCED FUSION OF MITOCHONDRIA INHIBITED THE DIVIDING OF CELLS, AND EXTENDED PERIODS OF SUCH FUSION CAUS ED THE CELLS TO DIE THUS, INHIBITING THE REGULATION OF MITOCHONDRIAL FISSION MAY BE A STR ATEGY FOR TARGETING CANCER CELLS (WESTRATE ET AL , PLOS ONE 9(3) E91911) ANOTHER STUDY IDENTIFIED A MITOCHONDRIAL ADENY LATE KINASE ENZYME THAT REGULATES CELLULAR ATP LEVELS, THE EXPRESSION OF THAT ENZYME CORRELATED WITH THE SURVIVAL OF GLIOMA PATIENTS THIS STUDY MAPP ED THE BIOENERGETIC LANDSCAPE OF MORE THAN 1000 MITOCHONDRIAL PROTEINS SUBSTRATES, AND IT IS THE BEGINNING OF LINKING KEY METABOLIC GENES WITH CLINICAL DISEASE OUTCOME (LANNING ET AL , CELL REPORTS 7(3) 907-917) STUDIES OF MOLECULAR STRUCTURES AND THEIR PHYSICAL INTER ACTIONS HAVE BEEN PROCEEDING ON SEVERAL FRONTS IN 2014 GLUCOCORTICOIDS ARE VALUABLE FOR T REATING DISEASES SUCH AS ASTHMA, LEUKEMIA, AND AUTOIMMUNE DISEASES, BUT THE DRUGS HAVE BOT H BENEFICIAL AND ADVERSE EFFECTS STUDIES OF THE GLUCOCORTICOID RECEPTOR SHOWED THAT THE Q 642 AMINO ACID IN THE LIGAND-BINDING POCKET IS KEY TO THE HIGH POTENCY OF THE GLUCOCORTICO ID MOMETA SONE FUROATE THIS STRUCTURE-BASED DESIGN LED TO SYNTHESIS OF SEVERAL NOVEL GLUCO CORTICOIDS WITH MUCH IMPROVED POTENCY AND EFFICACY THIS RESEARCH PROVIDES A RATIONAL BASI S FOR DEVELOPING DRUGS THAT HAVE AN IMPROVED RATIO OF BENEFICIAL TO ADVERSE EFFECTS (HE ET AL , CELL RESEARCH 24(6) 713-726) A STUDY OF THE SHP RECEPTOR, WHICH ACTS AS A REPRESSO R TO REGULATE BILE ACIDS AND CHOLESTEROL METABOLISM, HAS DEMONSTRATED INTERACTIONS THAT CO NTROL SHP ACTIVITY THE EID1 PROTEIN WAS FOUND TO HAVE A BINDING SITE ON SHP, UNEXPECTEDLY LOCATED AT THE N TERMINUS OF THE RECEPTOR, WHICH MAY HAVE IMPLICATIONS FOR TRANSCRIPTIONA L REPRESSION BY SIMILAR NUCLEAR RECEPTORS UNDERSTANDING THE FUNCTION AND MECHANISM OF ACT ION OF SHP WILL HELP IN DEVELOPING DRUGS TO TREAT

Return Reference	Explanation	
	FORM 990, PART III, LINE 4A	METABOLIC DISEASES ARISING FROM BILE ACID AND CHOLESTEROL IMBALANCES (ZHI ET AL , PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES U S A 111(2) 839-844) AN ONGOING STUDY CONTINUE S INTO ABSCISIC ACID, A PLANT HORMONE CRUCIAL TO THE ADAPTATION OF PLANTS TO DROUGHT CONDITIONS VARI RESEARCHERS HAVE FOUND THAT THE HORMONE CAUSES THE GENERATION OF HYDROGEN PERO XIDE, WHICH INHIBITS THE PHOSPHATASE ENZYME HAB1, RESULTING IN THE CLOSING OF PLANT PORES (STOMATA) AND THUS PREVENTING LOSS OF WATER THROUGH TRANSPIRATION (SRIDHARAMURTHY ET AL , PLOS ONE 9 (12) E113643) PROGRESS CONTINUES ON THE STUDY OF A VARIETY OF CANCERS THE AGG RESSIVENESS OF MESENCHY MAL PANCREATIC CANCER CELLS HAS BEEN LINKED TO GENETIC CHANGES IN T HE CDKN2A AND RELATED GENES WHOLE-GENOME COMPARATIVE GENOMIC HYBRIDIZATION MEASUREMENTS O N EPITHELIAL-LIKE AND MESENCHY MAL-LIKE PANCREATIC CANCER CELL LINES FOUND 20 ALTERED GENES THAT SHOWED A MAJOR DIFFERENCE BETWEEN THE GROUPS ALL 20 ALTERATIONS (18 DELETIONS AND 2 AMPLIFICATIONS) WERE MORE PREVALENT IN THE MESENCHY MAL GROUP (SINHA ET AL , MOLECULAR ONC OLOGY 8(7) 1253-1265) ANOTHER PROJECT STUDIED TWO ACRIDINE DERIVATIVES THAT ACT AS INHIB ITORS OF AUTOPHAGY, A DYNAMIC CELL SURVIVAL MECHANISM IN MELANOMA CELLS DRIVEN BY THE BRA F GENE (WHICH HELPS CONTROL CELL GROWTH AND IS MUTATED IN SOME CANCERS), BOTH DERIVATIVES ACTED TO SENSITIZE THE CELLS TO THE CANCER-THERAPY DRUG VEMURAFENIB (GOODALL ET AL , AUTOP HAGY 10(6) 1120-1136) THE CHROMATIN REMODELING PROTEIN ING4 IS REQUIRED FOR NORMAL DIFFE RENTIATION OF PROSTATE CELLS, AND EXPRESSION OF THIS PROTEIN IS LOST IN THE MAJORITY OF PR OSTATE CANCERS THAT LOSS MAY BE A FACTOR IN THE DEVELOPMENT OF SUCH CANCER, AND THERE MAY BE SUBTYPES OF PROSTATE CANCER BASED ON LOSS OF ING4 ALONE OR OF BOTH THE ING4 AND PTEN P ROTEINS (BERGER ET AL , CANCER RESEARCH 74(12) 3357-3368) SOLID TUMORS SUCH AS OSTEOSARC OMA OFTEN HAVE OXYGEN-POOR (HYPOXIC) ENVIRONMENTS UNDER SUCH CONDITIONS, A VARI STUDY FOU ND THAT OSTEOSARCOMA CELLS HAVE LOWER WNT SIGNALING AND THE CANCER CELLS ARE RESISTANT TO DOXORUBICIN HOWEVER, BY A FURTHER LOWERING OF WNT SIGNALING, THE CANCER CELLS CAN BE MADE SENSITIVE TO DOXORUBICIN TREATMENT (SCHOLTEN ET AL , PLOS ONE, 9(10) E111431) IN A STUD Y OF A BENIGN TUMOR CALLED ANEURYSMAL BONE CYST (ABC), THE RANKL SIGNALING PATHWAY WAS SHO WN TO BE ESSENTIAL FOR PROGRESSION OF THIS TUMOR, SUGGESTING FURTHER STUDY OF RANKL-TARGET ED THERAPY AS AN ALTERNATIVE TO SURGERY THE SAME ARTICLE REVIEWED A CASE STUDY OF SUCCESS FUL TARGETING OF AN AGGRESSIVE SACRAL ABC IN A 5-YEAR-OLD BOY THROUGH USE OF RANKL INHIBIT ION PLUS DENOSUMAB (PELLE ET AL , TRANSLATIONAL RESEARCH 164(2) 139-148) VARI RESEARCHER S HAVE SHOWN THAT HIGH LEVELS OF THE MICRORNA MIR-21, A SMALL NON-CODING RNA, IN THE TUMOR MICROENVIRONMENT-BUT NOT IN THE CANCER CELLS THEMSELVES-ARE ASSOCIATED WITH WORSE CLINICA L OUTCOMES FOR PATIENTS WITH "TRIPLE-NEGATIVE" BREAST CANCER THIS FINDING SUGGESTS THAT A LTERED MIR-21 EXPRESSION PROVIDES CLINICALLY RELEVANT INFORMATION, THUS IDENTIFYING A POSS IBLE PROGNOSTIC BIOMARKER FOR THIS DISEASE (MACKENZIE ET AL , AMERICAN JOURNAL OF PATHOLOG Y 184 (12) 3217-3225)

Return Reference	Explanation
FORM 990, PART III, LINE 4B	LINE 4B - PROGRAM SERVICE ACTIVITY #2 CENTER FOR EPIGENETICS THE CENTER, ESTABLISHED IN 2014 AND DIRECTED BY PETER JONES, PH D , D SC , COMPRISES EIGHT LABORATORIES STUDYING EPIGENETICS AND EPIGENOMICS AND THE ROLE OF EPIGENETIC DYSFUNCTION IN DISEASES SUCH AS CANCER AND NEURODEGENERATIVE DISEASE, CARDIOVASCULAR DISEASE, AND VIRAL TRANSCRIPTION FOUR NEW FACULTY , THREE WITH FEDERAL FUNDING, WERE RECRUITED TO THE CENTER IN 2014 IN 2014, CENTER RESEARCHERS RECEIVED A NEW GRANT AWARD THROUGH THE BILL VAN REGENMORTER COLLABORATIVE TO ESTABLISH A CENTER OF EXCELLENCE IN EPIGENETICS, AS WELL AS A DEPARTMENT OF DEFENSE SUBAWARD ON THE USE OF EPIGENETIC THERAPY FOR OVARIAN CANCER IN FEBRUARY 2014, PETER JONES BECAME THE RESEARCH DIRECTOR AND CHIEF SCIENTIFIC OFFICER OF VAN ANDEL RESEARCH INSTITUTE (VARI) WITH HIM CAME HIS ROLE AS CO-LEADER WITH STEPHEN BAYLIN, M D , OF JOHNS HOPKINS UNIVERSITY - OF THE STAND UP TO CANCER (SU2C) EPIGENETICS DREAM TEAM, WHICH WAS LAUNCHED IN 2009 TO FOCUS ON EPIGENETIC THERAPY IN CANCER TREATMENT THEIR LEADERSHIP HAS EVOLVED THAT TEAM INTO THE VARI-SU2C EPIGENETICS DREAM TEAM, WHICH INCLUDES CHARLES RUDIN, M D , PH D , MEMORIAL SLOAN KETTERING CANCER CENTER IN NEW YORK, JEAN-PIERRE ISSA, M D , AND PATRICIA KROPP, M D , TEMPLE UNIVERSITY AND FOX CHASE CANCER CENTER IN PHILADELPHIA, KIRSTEN GRONBAEK, M D , D MSC , RIGSHOSPITALET, UNIVERSITY OF COPENHAGEN, AND ANTHONY EL-KHOUEIRY, M D , UNIVERSITY OF SOUTHERN CALIFORNIA NORRIS COMPREHENSIVE CANCER CENTER IN OCTOBER 2014, VARI COMMITTED TO PROVIDING \$7 5 MILLION IN FUNDING TO CONTINUE THE WORK OF THE TEAM AS BEFORE, THE TEAM WILL FOCUS ON EPIGENETIC MECHANISMS IN CELLS, WHICH HELP CONTROL WHETHER GENES ARE TURNED ON OR OFF WITHOUT CHANGING THE DNA SEQUENCE ITSELF VARI'S SUPPORT OVER THREE YEARS WILL ALLOW THE TEAM TO MOVE FORWARD WITH MORE EXTENSIVE CLINICAL TRIALS IN OTHER CANCER TYPES AND ALLOW THEM TO TEST ADDITIONAL EPIGENETIC THERAPY STRATEGIES TO IMPROVE UPON THE PROGRESS ALREADY MADE THE TEAM WILL CONTINUE TO BE PEER-REVIEWED BY THE AMERICAN ASSOCIATION FOR CANCER RESEARCH IN EARLY 2014, VAN ANDEL RESEARCH INSTITUTE AND SPECTRUM HEALTH BROUGHT WORLD-RENOWNED CARDIOVASCULAR RESEARCHER AND CARDIOLOGIST STEFAN JOVINGE, M D , PH D , TO GRAND RAPIDS JOVINGE LEADS TEAMS OF RESEARCHERS AND CLINICIANS AT THE SPECTRUM HEALTH FREDERIK MEIJER HEART & VASCULAR INSTITUTE AND VAN ANDEL RESEARCH INSTITUTE IN AN EFFORT TO STIMULATE REGENERATIVE MEDICINE FOR HEART DISEASE THE RESEARCH WILL HAVE FOUR AREAS OF FOCUS CELL ENGINEERING, MULTI-CENTER PATIENT TREATMENT AND CLINICAL TRIALS, CELL SOURCE IDENTIFICATION AND SCIENTIFIC TRAINING, AND DEVELOPMENT FOR FUTURE RESEARCHERS INCLUDING INTERNS, FELLOWS, AND GRADUATE STUDENTS DR JOVINGE EARNED HIS MEDICAL DEGREE AND PH D FROM KAROLINSKA INSTITUTE IN STOCKHOLM, SWEDEN HE ALSO COMPLETED A RESEARCH FELLOWSHIP IN THE DEPARTMENT OF CARDIOLOGY AT THE CEDARS-SINAI RESEARCH INSTITUTE AT THE UNIVERSITY OF CALIFORNIA LOS ANGELES IN A STUDY OF ALTERATIONS AT SPECIFIC EPIGENETIC REGULATORY ELEMENTS IN PROSTATE AND BREAST CANCER CELLS, A GLOBAL RECONFIGURATION OF NUCLEOSOME-DEPLETED REGIONS (NDRS) WAS FOUND AT DISTAL ELEMENTS, COUPLED WITH A SUBSTANTIAL REORGANIZATION OF THE CANCER METHYL-GROUP ADDITIONS ONTO DNA KEY TRANSCRIPTION FACTOR BINDING SITES ALSO SHOWED EXTENSIVE PERIPHERAL NUCLEOSOME PHASING, SUGGESTING THE POTENTIAL FOR SUCH SITES TO ORGANIZE NDRS GENOME-WIDE AND CONTRIBUTE TO DEREGULATION OF CANCER EPIGENOMES GIVEN THAT NUCLEOSOMES "PACKAGE" DNA IN AN INACTIVE STATE, THESE EVENTS MAY CONTRIBUTE TO AN ALTERED GENOME-WIDE ARCHITECTURE AND EPIGENETIC DEREGULATION IN MALIGNANCY (TABERLAY ET AL , GENOME RESEARCH 24(9) 1421-1432) DBF4-DEPENDENT KINASE (DDK) IS OVEREXPRESSED IN MANY TUMOR CELLS, AND ITS INHIBITION CAUSES APOPTOSIS OF DIVERSE CANCER CELL TYPES THE BENZOFUOPYRIMIDINONE-BASED DDK INHIBITOR XL413 WAS STUDIED FOR ITS EFFECTS WHEN USED ON TUMOR CELL LINES WHILE XL413 WAS AN EFFECTIVE BIOCHEMICAL INHIBITOR OF DDK IN THE CELL LINES, IT HAD SIGNIFICANT ANTI-PROLIFERATIVE ACTIVITY AGAINST ONLY ONE OF THE 10 LINES TESTED IN ADDITION, SOME 400 OTHER KINASE INHIBITORS WERE SCREENED, IDENTIFYING SEVERAL POTENTIAL DDK INHIBITORS THAT HAVE CHEMICAL STRUCTURES DIFFERENT FROM THOSE OF KNOWN DDK INHIBITORS (SASI ET AL , PLOS ONE 9(11) E113300)

Return Reference	Explanation	
	FORM 990, PART III, LINE 4C	LINE 4C - PROGRAM SERVICE ACTIVITY #3 CENTER FOR NEURODEGENERATIVE SCIENCE THE CENTER FOR NEURODEGENERATIVE SCIENCE WAS ESTABLISHED IN 2011 UNDER THE LEADERSHIP OF PATRIK BRUNDIN, M.D., PH.D., WHO IS ALSO ASSOCIATE RESEARCH DIRECTOR OF VARI. THE CENTER CURRENTLY HAS FIVE LABORATORIES STUDYING PARKINSON'S DISEASE, AGING, PRIONS, AND THE RELATIONSHIP BETWEEN DEPRESSION, SUICIDE, AND BRAIN INFLAMMATION. ONE NEW FACULTY MEMBER WAS RECRUITED IN 2014. CENTER RESEARCHERS RECEIVED NEW GRANT AWARDS FROM THE BILL VAN REGENMORTER COLLABORATIVE, THE CURE PARKINSON'S TRUST, AND FROM THE MICHAEL J. FOX FOUNDATION DURING 2014. IN 2014, VARI BEGAN AN INITIATIVE WITH THE UK-BASED RESEARCH CHARITY THE CURE PARKINSON'S TRUST TO IDENTIFY NEW TREATMENTS FOR PARKINSON'S DISEASE. THE COLLABORATION, CALLED THE LINKED CLINICAL TRIALS (LCT) INITIATIVE, IS AIMED AT REPOSITIONING MEDICATIONS APPROVED TO TREAT OTHER DISEASES THAT HAVE ALSO SHOWN PROMISE IN PRECLINICAL LABORATORY EXPERIMENTS FOR TREATING PARKINSON'S DISEASE. THE LCT INITIATIVE COULD SIGNIFICANTLY REDUCE THE TIME AND COST OF MOVING NEW PARKINSON'S TREATMENTS FROM THE LAB TO CLINICAL USE. THE UNDERLYING PREMISE IS THAT CONDUCTING SMALLER, MORE COST-EFFECTIVE TRIALS WITH SIMILAR PROTOCOLS, PATIENTS, AND OUTCOMES WILL ALLOW SCIENTISTS TO SEE WHICH DRUGS ARE MOST EFFECTIVE, WHILE MAXIMIZING THE NUMBER OF TRIALS CONDUCTED. LARGE-SCALE PARKINSON'S DISEASE CLINICAL TRIALS ARE RARE BECAUSE OF PROHIBITIVELY HIGH COSTS, AND THE LACK OF RELIABLE BIOMARKERS AND MODELS FOR THE DISEASE. THE FOCUS ON DRUGS ALREADY APPROVED FOR TREATING OTHER DISEASES WILL SIGNIFICANTLY REDUCE THE TIME AND FUNDING REQUIRED TO BRING AN EFFECTIVE NEW TREATMENT TO MARKET. VARI STUDIES ON PARKINSON'S DISEASE INCLUDE A PROJECT STUDYING ADENO-ASSOCIATED VIRUS (AAV) VECTORS, WHICH ARE USED TO DELIVER GENES IN CLINICAL TRIALS. IN RATS PRE-IMMUNIZED WITH WILD-TYPE AAV-2, INTRACEREBRAL GENE DELIVERY BASED ON AAV-2 WAS COMPROMISED (71% LOWER) BY CONTRAST, LOCAL NEUROINFLAMMATORY RESPONSE TO INTRASTRIATAL A6-OHDA INJECTION, WHICH MIMICS PARKINSON'S DISEASE NEURONAL DAMAGE, DID NOT AFFECT VIRAL VECTOR-MEDIATED TRANSGENE EXPRESSION. THE RESULTS EMPHASIZE THE IMPORTANCE OF MONITORING CIRCULATING AAV-SPECIFIC NEUTRALIZING ANTIBODIES IN PATIENTS RECEIVING THERAPY USING AAV VECTORS (JANELIDZE ET AL., JOURNAL OF GENE MEDICINE 16(910) 300308). MUTATIONS IN THE LEUCINE-RICH REPEAT KINASE 2 (LRRK2) GENE CAUSE LATE-ONSET, AUTOSOMAL DOMINANT PARKINSON'S DISEASE (PD), AND SUCH MUTATIONS ARE THE MOST COMMON CAUSE OF FAMILIAL PD. TO DIRECTLY EXPLORE THE EFFECT OF MUTANT LRRK2 ON THE NIGROSTRIATAL DOPAMINERGIC PATHWAY, WHICH IS DEGRADED IN PD, CONDITIONAL TRANSGENIC MICE WE RE BRED THAT SELECTIVELY EXPRESS THE HUMAN R1441C MUTATION OF LRRK2 IN THEIR DOPAMINERGIC NEURONS. THE MUTANT LRRK2 DID NOT PRODUCE DEGENERATION OF SUBSTANTIA NIGRA DOPAMINERGIC NEURONS OR STRIATAL DOPAMINE DEFICITS IN MICE UP TO 2 YEARS OF AGE, AND NO ABNORMAL PROTEIN INCLUSIONS CONTAINING A-SYNUCLEIN, TAU, UBIQUITIN OR AUTOPHAGY MARKERS WERE FOUND. EARLY RESULTS FROM THESE NOVEL R1441C LRRK2 CONDITIONAL TRANSGENIC MICE REVEALED CHANGES IN DOPAMINERGIC NEURONAL MORPHOLOGY WITH ADVANCING AGE. THIS NEW MODEL WILL BE A USEFUL TOOL FOR EXPLORING THE PATHOGENIC MECHANISMS UNDERLYING THE R1441C LRRK2 MUTATION IN PD (TSIKA ET AL., NEUROBIOLOGY OF DISEASE 71 345-358). THE DEVELOPMENT OF ALZHEIMER'S DISEASE PATHOLOGY FOLLOWS A SPATIOTEMPORAL PATTERN. IN A TRANSGENIC MOUSE MODEL, AMYLOID-BETA (A BETA) PATHOLOGY, WHICH IS IMPLICATED IN HUMAN ALZHEIMER'S, SPREADS ALONG ANATOMICALLY CONNECTED STRUCTURES. IN THIS STUDY, NEURONS TO AND FROM A BRAIN STRUCTURE CALLED THE SUBICULUM WERE DESTROYED USING A NEUROTOXIN, TO DISCONNECT THE NEURAL CIRCUITRY. IN THIS MOUSE MODEL, THE RESULT WAS DECREASED A BETA PATHOLOGY IN BRAIN REGIONS ON THE SIDE WHERE THE CIRCUITRY WAS DESTROYED, BUT A BETA PATHOLOGY WAS UNCHANGED ON THE SIDE WHERE THE CIRCUITRY WAS LEFT INTACT. THESE RESULTS SUPPORT THE IDEA THAT A BETA PATHOLOGY IS TRANSMITTED BETWEEN INTERCONNECTED NEURONS IN ALZHEIMER'S DISEASE (GEORGE ET AL., ACTA NEUROPATHOLOGICA COMMUNICATIONS 2 17). A STUDY OF PERSONS WHO HAD ATTEMPTED SUICIDE SHOWED THAT NEARLY 60% OF THOSE PERSONS WERE DEFICIENT IN VITAMIN D. THERE WAS ALSO A SIGNIFICANT ASSOCIATION BETWEEN LOW VITAMIN D LEVELS AND HIGH LEVELS OF PRO-INFLAMMATORY CYTOKINES (IL-6 AND IL-1 BETA) IN THEIR BLOOD. ROUTINE CLINICAL TESTING OF VITAMIN D LEVELS AND SUPPLEMENTATION AS NEEDED COULD BE BENEFICIAL IN PATIENTS WITH SUICIDAL SYMPTOMS (GRUDET ET AL., PSYCHONEUROENDOCRINOLOGY 50 210 -219). NEURON GLIAL 2 (NG2) CELLS FORM THE MYELIN SHEATH SURROUNDING NERVES AND SUPPORT NEURONS IN A VARIETY OF WAYS. IN INJURED AREAS OF THE BRAIN, THESE CELLS PROLIFERATE AND INCREASE THE SHEDDING OF THE PROTEOGLYCAN NG2 FROM THEIR CELL SURFACE. THIS ANALYSIS, DONE IN RATS THAT HAD SYSTEMICALLY INDUCED NEUROINFLAMMATION, SHOWED LOWER RATES OF CELL PROLIFERATION AND MORE NG2 IN THE CEREBROSPINAL FLUID. HUM

Return Reference	Explanation	
	FORM 990, PART III, LINE 4C	AN NG2 CELLS IN CULTURE EXPOSED TO THE PROINFLAMMATORY CYTOKINES IL-6 AND IL-1 BETA FOR 24 HOURS SHOWED THE SAME EFFECTS. SYSTEMIC INFLAMMATION MAY HAVE PROFOUND EFFECTS ON SPECIFIC CELL POPULATIONS IN THE NERVOUS SYSTEM, AND THESE RESULTS MAY BE IMPORTANT IN STUDIES OF DEPRESSION AND SICKNESS BEHAVIOR (WENNSTROM ET AL , PLOS ONE 9(10) E109387)

Return Reference	Explanation
FORM 990, PART X, LINE 33	VARI NET ASSETS ARE CONSIDERED ON A CONSOLIDATED BASIS WITH VAN ANDEL INSTITUTE (VAI), VAN ANDEL EDUCATION INSTITUTE (VAEI), AND RELATED PARTIES. ON A CONSOLIDATED BASIS, NET ASSETS ARE \$1,207,293,000 PER AUDITED FINANCIAL STATEMENTS. THE NEGATIVE NET ASSET BALANCE AT VARI IS DUE TO VAI FUNDING EXPENSES ON A CASH BASIS AND THE UNREALIZED LOSS RECORDED IN ASSOCIATION WITH THE INTEREST RATE SWAP.

Return Reference	Explanation
FORM 990, PART IX, COLUMN D	FUNDRAISING EXPENSES AT VARI WERE INCURRED TO SUPPORT THE MISSION OF THE RESEARCH INSTITUTE THROUGH DONOR SOLICITATION, GRANT SOLICITATION AND EXTRAMURAL PROPOSAL PREPARATION

SCHEDULE R
(Form 990)

Department of the Treasury
Internal Revenue Service

Related Organizations and Unrelated Partnerships

▶ Complete if the organization answered "Yes" on Form 990, Part IV, line 33, 34, 35b, 36, or 37.
▶ Attach to Form 990. ▶ See separate instructions.
▶ Information about Schedule R (Form 990) and its instructions is at www.irs.gov/form990.

OMB No 1545-0047

2013

Open to Public Inspection

Name of the organization VAN ANDEL RESEARCH INSTITUTE	Employer identification number 52-2000823
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Part I

Identification of Disregarded Entities

Complete if the organization answered "Yes" on Form 990, Part IV, line 33.

(a) Name, address, and EIN (if applicable) of disregarded entity	(b) Primary activity	(c) Legal domicile (state or foreign country)	(d) Total income	(e) End-of-year assets	(f) Direct controlling entity
(1) VAI INNOVATIONS LLC 333 BOSTWICK AVENUE NE GRAND RAPIDS, MI 495032518 52-2000823	LICENSING INTELLECTUAL PROPERTY OF VARI	MI	0	0	VAN ANDEL RESEARCH INSTITUTE
(2) VARI INTERNATIONAL 333 BOSTWICK AVENUE NE GRAND RAPIDS, MI 495032518 26-2615936	BIOMEDICAL RESEARCH	MI	-25	0	VAN ANDEL RESEARCH INSTITUTE
(3) BOSTWICK EVENT MANAGEMENT 333 BOSTWICK AVENUE NE GRAND RAPIDS, MI 495032518 52-2000823	EVENT MANAGEMENT	MI	6,317	119,338	VAN ANDEL RESEARCH INSTITUTE

Part II

Identification of Related Tax-Exempt Organizations

Complete if the organization answered "Yes" on Form 990, Part IV, line 34 because it had one or more related tax-exempt organizations during the tax year.

(a) Name, address, and EIN of related organization	(b) Primary activity	(c) Legal domicile (state or foreign country)	(d) Exempt Code section	(e) Public charity status (if section 501(c)(3))	(f) Direct controlling entity	(g) Section 512(b)(13) controlled entity?	
						Yes	No
(1) VAN ANDEL INSTITUTE 333 BOSTWICK AVENUE NE GRAND RAPIDS, MI 495032518 52-2000820	SUPPORTING ORGANIZATION FOR VARI AND VAEI	MI	501(C)(3)	11C	N/A		No
(2) VAN ANDEL EDUCATION INSTITUTE 333 BOSTWICK AVENUE NE GRAND RAPIDS, MI 495032518 52-2000824	OPERATING A SCIENCE EDUCATION PROGRAM	MI	501(C)(3)	2	VAN ANDEL INSTITUTE	Yes	
(3) VAN ANDEL INSTITUTE GRADUATE SCHOOL 333 BOSTWICK AVENUE NE GRAND RAPIDS, ME 495032518 20-3340886	OPERATING A GRADUATE SCHOOL	MI	501(C)(3)	2	VAN ANDEL EDUCATION INSTITUTE	Yes	

Part III

Identification of Related Organizations Taxable as a Partnership

Complete if the organization answered "Yes" on Form 990, Part IV, line 34 because it had one or more related organizations treated as a partnership during the tax year.

(a) Name, address, and EIN of related organization	(b) Primary activity	(c) Legal domicile (state or foreign country)	(d) Direct controlling entity	(e) Predominant income(related, unrelated, excluded from tax under sections 512- 514)	(f) Share of total income	(g) Share of end-of-year assets	(h) Disproportionate allocations?		(i) Code V-UBI amount in box 20 of Schedule K-1 (Form 1065)	(j) General or managing partner?		(k) Percentage ownership
							Yes	No		Yes	No	

Part IV

Identification of Related Organizations Taxable as a Corporation or Trust

Complete if the organization answered "Yes" on Form 990, Part IV, line 34 because it had one or more related organizations treated as a corporation or trust during the tax year.

(a) Name, address, and EIN of related organization	(b) Primary activity	(c) Legal domicile (state or foreign country)	(d) Direct controlling entity	(e) Type of entity (C corp, S corp, or trust)	(f) Share of total income	(g) Share of end- of-year assets	(h) Percentage ownership	(i) Section 512 (b)(13) controlled entity?	
								Yes	No

Part V

Transactions With Related Organizations

Complete if the organization answered "Yes" on Form 990, Part IV, line 34, 35b, or 36.

Note. Complete line 1 if any entity is listed in Parts II, III, or IV of this schedule

1 During the tax year, did the organization engage in any of the following transactions with one or more related organizations listed in Parts II-IV?		Yes	No
a Receipt of (i) interest (ii) annuities (iii) royalties or (iv) rent from a controlled entity	1a	Yes	
b Gift, grant, or capital contribution to related organization(s)	1b		No
c Gift, grant, or capital contribution from related organization(s)	1c	Yes	
d Loans or loan guarantees to or for related organization(s)	1d		No
e Loans or loan guarantees by related organization(s)	1e	Yes	
f Dividends from related organization(s)	1f		No
g Sale of assets to related organization(s)	1g		No
h Purchase of assets from related organization(s)	1h		No
i Exchange of assets with related organization(s)	1i		No
j Lease of facilities, equipment, or other assets to related organization(s)	1j		No
k Lease of facilities, equipment, or other assets from related organization(s)	1k		No
l Performance of services or membership or fundraising solicitations for related organization(s)	1l		No
m Performance of services or membership or fundraising solicitations by related organization(s)	1m		No
n Sharing of facilities, equipment, mailing lists, or other assets with related organization(s)	1n	Yes	
o Sharing of paid employees with related organization(s)	1o	Yes	
p Reimbursement paid to related organization(s) for expenses	1p	Yes	
q Reimbursement paid by related organization(s) for expenses	1q	Yes	
r Other transfer of cash or property to related organization(s)	1r		No
s Other transfer of cash or property from related organization(s)	1s		No

2 If the answer to any of the above is "Yes," see the instructions for information on who must complete this line, including covered relationships and transaction thresholds

(a) Name of related organization	(b) Transaction type (a-s)	(c) Amount involved	(d) Method of determining amount involved
See Additional Data Table			

Provide the following information for each entity taxed as a partnership through which the organization conducted more than five percent of its activities (measured by total assets or gross revenue) that was not a related organization. See instructions regarding exclusion for certain investment partnerships.

[illegible]

Part VII

Supplemental Information

Provide additional information for responses to questions on Schedule R (see instructions)

Return Reference	Explanation
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Additional Data

Software ID:
Software Version:
EIN: 52-2000823
Name: VAN ANDEL RESEARCH INSTITUTE

Form 990, Schedule R, Part V - Transactions With Related Organizations

(a) Name of other organization	(b) Transaction type(a-s)	(c) Amount Involved	(d) Method of determining amount involved
VAN ANDEL INSTITUTE	C	54,244,758	ACTUAL AMOUNT PAID
VAN ANDEL INSTITUTE	E	36,310,000	TOTAL RECORDED
VAN ANDEL INSTITUTE	N	315,668	ALLOCATION BASED ON SQ FOOTAGE
VAN ANDEL INSTITUTE	P	321,710	ACTUAL AMOUNT PAID
VAN ANDEL INSTITUTE	N	173,843	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE	O	1,167,918	ALLOCATION BASED ON EFFORT
VAN ANDEL EDUCATION INSTITUTE	P	74,222	ACTUAL AMOUNT PAID
VAN ANDEL EDUCATION INSTITUTE	Q	1,183,125	ACTUAL AMOUNT RECEIVED
VAN ANDEL EDUCATION INSTITUTE	O	72,433	APPORTIONED FY14 COMPENSATION
VAN ANDEL EDUCATION INSTITUTE	N	40,815	ALLOCATION BASED ON EFFORT
VAN ANDEL EDUCATION INSTITUTE	O	274,207	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE GRADUATE SCHOOL	N	19,652	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE GRADUATE SCHOOL	N	177,563	ALLOCATION BASED ON SQ FOOTAGE
VAN ANDEL INSTITUTE GRADUATE SCHOOL	Q	176,613	ACTUAL AMOUNT RECEIVED
VAN ANDEL INSTITUTE GRADUATE SCHOOL	O	132,025	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE	Q	4,898,189	ACTUAL AMOUNT PAID