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Form 990  Department of the Treasury Internal Revenue Service	Return of Organization Exempt From Income Tax	OMB No 1545-0047
	Under section 501(c), 527, or 4947(a)(1) of the Internal Revenue Code (except private foundations) <ul style="list-style-type: none">▶ Do not enter social security numbers on this form as it may be made public▶ Information about Form 990 and its instructions is at www.irs.gov/form990	2014 Open to Public Inspection

A For the 2014 calendar year, or tax year beginning 12-01-2014 , and ending 11-30-2015			
B Check if applicable <input type="checkbox"/> Address change <input type="checkbox"/> Name change <input type="checkbox"/> Initial return <input type="checkbox"/> Final return/terminated <input type="checkbox"/> Amended return <input type="checkbox"/> Application pending	C Name of organization VAN ANDEL RESEARCH INSTITUTE		D Employer identification number 52-2000823
	Doing business as		E Telephone number (616) 234-5000
	Number and street (or P O box if mail is not delivered to street address) 333 BOSTWICK AVENUE NE	Room/suite	G Gross receipts \$ 72,413,434
	City or town, state or province, country, and ZIP or foreign postal code GRAND RAPIDS, MI 49503		
F Name and address of principal officer TIMOTHY J MYERS 333 BOSTWICK AVENUE NE GRAND RAPIDS, MI 49503		H(a) Is this a group return for subordinates? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
I Tax-exempt status <input checked="" type="checkbox"/> 501(c)(3) <input type="checkbox"/> 501(c) () ◀ (insert no) <input type="checkbox"/> 4947(a)(1) or <input type="checkbox"/> 527		H(b) Are all subordinates included? <input type="checkbox"/> Yes <input type="checkbox"/> No If "No," attach a list (see instructions)	
J Website: ▶ WWW V A I O R G		H(c) Group exemption number ▶	
K Form of organization <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Trust <input type="checkbox"/> Association <input type="checkbox"/> Other ▶		L Year of formation 1996	M State of legal domicile M

Part I	Summary
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Activities & Governance	1 Briefly describe the organization's mission or most significant activities MEDICAL RESEARCH ORGANIZATION		
	2 Check this box <input type="checkbox"/> If the organization discontinued its operations or disposed of more than 25% of its net assets		
Activities & Governance	3 Number of voting members of the governing body (Part VI, line 1a)	3	
	4 Number of independent voting members of the governing body (Part VI, line 1b)	4	
	5 Total number of individuals employed in calendar year 2014 (Part V, line 2a)	5	39
	6 Total number of volunteers (estimate if necessary)	6	
	7a Total unrelated business revenue from Part VIII, column (C), line 12	7a	112,85
	7b Net unrelated business taxable income from Form 990-T, line 34	7b	29,05
Revenue		Prior Year	Current Year
	8 Contributions and grants (Part VIII, line 1h)	67,009,142	56,036,12
	9 Program service revenue (Part VIII, line 2g)	1,460,533	1,466,23
	10 Investment income (Part VIII, column (A), lines 3, 4, and 7d)	260,434	456,04
	11 Other revenue (Part VIII, column (A), lines 5, 6d, 8c, 9c, 10c, and 11e)	6,325,873	7,489,85
	12 Total revenue—add lines 8 through 11 (must equal Part VIII, column (A), line 12)	75,055,982	65,448,26
Expenses	13 Grants and similar amounts paid (Part IX, column (A), lines 1–3)	201,907	764,34
	14 Benefits paid to or for members (Part IX, column (A), line 4)	0	0
	15 Salaries, other compensation, employee benefits (Part IX, column (A), lines 5–10)	29,232,885	32,131,25
	16a Professional fundraising fees (Part IX, column (A), line 11e)	0	0
	16b Total fundraising expenses (Part IX, column (D), line 25) <u>1,066,552</u>		
	17 Other expenses (Part IX, column (A), lines 11a–11d, 11f–24e)	37,139,975	36,245,06
	18 Total expenses Add lines 13–17 (must equal Part IX, column (A), line 25)	66,574,767	69,140,66
	19 Revenue less expenses Subtract line 18 from line 12	8,481,215	-3,692,39
Net Assets or Fund Balances		Beginning of Current Year	End of Year
	20 Total assets (Part X, line 16)	251,725,432	250,842,14
	21 Total liabilities (Part X, line 26)	327,697,622	338,375,40
	22 Net assets or fund balances Subtract line 21 from line 20	-75,972,190	-87,533,26

Part II	Signature Block
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Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than officer) is based on all information of which preparer has any knowledge.

Sign Here	Signature of officer			2016-10-14	
	TIMOTHY J MYERS VICE PRESIDENT & CFO			Date	
Paid Preparer Use Only	Print/Type preparer's name ANNE FULTON		Preparer's signature ANNE FULTON		Date
	Firm's name ▶ DELOITTE TAX LLP		Firm's EIN ▶ 86-1065772		Check <input type="checkbox"/> if self-employed PTIN P00941863
	Firm's address ▶ 200 RENAISSANCE CENTER STE 3900 DETROIT, MI 48243		Phone no (313) 396-3000		

Part III Statement of Program Service AccomplishmentsCheck 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 \$	10,257,392	including grants of \$	237,942) (Revenue \$	901,159)
CENTER FOR CANCER AND CELL BIOLOGY SCHEDULE O PROVIDES FURTHER INFORMATION REGARDING THIS PROGRAM'S ACCOMPLISHMENTS					

4b	(Code) (Expenses \$	6,153,116	including grants of \$	520,190) (Revenue \$	0)
CENTER FOR EPIGENETICSSCHEDULE O PROVIDES FURTHER INFORMATION REGARDING THIS PROGRAM'S ACCOMPLISHMENTS					

4c	(Code) (Expenses \$	4,180,425	including grants of \$	6,208) (Revenue \$	192,143)
CENTER FOR NEURODEGENERATIVE SCIENCESEE SCHEDULE O FOR FURTHER INFORMATION ABOUT THIS PROGRAM'S ACCOMPLISHMENTS					
See Additional Data					
























4d Other program services (Describe in Schedule O)

(Expenses \$	26,043,187	including grants of \$) (Revenue \$	372,930)
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











4e	Total program service expenses ▶	46,634,120
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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 	Yes	
2 Is the organization required to complete Schedule B, Schedule of Contributors (see instructions)? 	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 		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 	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 		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 		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 		No
8 Did the organization maintain collections of works of art, historical treasures, or other similar assets? If "Yes," complete Schedule D, Part III 		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 		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 		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 	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 		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 		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 	Yes	
e Did the organization report an amount for other liabilities in Part X, line 25? If "Yes," complete Schedule D, Part X 	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 	Yes	
12a Did the organization obtain separate, independent audited financial statements for the tax year? If "Yes," complete Schedule D, Parts XI and XII 		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 	Yes	
13 Is the organization a school described in section 170(b)(1)(A)(ii)? If "Yes," complete Schedule E		No
14a Did the organization maintain an office, employees, or agents outside of the United States?	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	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 	Yes	
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 		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) 		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 	Yes	
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 		No
20a Did the organization operate one or more hospital facilities? If "Yes," complete Schedule H		No
b If "Yes" to line 20a, did the organization attach a copy of its audited financial statements to this return?		

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 domestic government on Part IX, column (A), line 1? <i>If "Yes," complete Schedule I, Parts I and II</i> 	21	Yes	
22	Did the organization report more than \$5,000 of grants or other assistance to or for domestic individuals 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), 501(c)(4), and 501(c)(29) 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 "Yes," complete Schedule L, Part II</i> 	26		No
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		No
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.		
1b	Enter the number of Forms W-2G included in line 1a. Enter -0- if not applicable.		
c	Did the organization comply with backup withholding rules for reportable payments to vendors and reportable gaming (gambling) winnings to prize winners?		
2a	Enter the number of employees reported on Form W-3, Transmittal of Wage and Tax Statements, filed for the calendar year ending with or within the year covered by this return.		
b	If at least one is reported on line 2a, did the organization file all required federal employment tax returns? Note: If the sum of lines 1a and 2a is greater than 250, you may be required to e-file (see instructions).	Yes	
3a	Did the organization have unrelated business gross income of \$1,000 or more during the year?	Yes	
b	If "Yes," has it filed a Form 990-T for this year? If "No" to line 3b, provide an explanation in Schedule O.	Yes	
4a	At any time during the calendar year, did the organization have an interest in, or a signature or other authority over, a financial account in a foreign country (such as a bank account, securities account, or other financial account)?		No
b	If "Yes," enter the name of the foreign country: See instructions for filing requirements for FinCEN Form 114, Report of Foreign Bank and Financial Accounts (FBAR).		
5a	Was the organization a party to a prohibited tax shelter transaction at any time during the tax year?		No
b	Did any taxable party notify the organization that it was or is a party to a prohibited tax shelter transaction?		No
c	If "Yes," to line 5a or 5b, did the organization file Form 8886-T?		
6a	Does the organization have annual gross receipts that are normally greater than \$100,000, and did the organization solicit any contributions that were not tax deductible as charitable contributions?		No
b	If "Yes," did the organization include with every solicitation an express statement that such contributions or gifts were not tax deductible?		
7	Organizations that may receive deductible contributions under section 170(c).		
a	Did the organization receive a payment in excess of \$75 made partly as a contribution and partly for goods and services provided to the payor?		No
b	If "Yes," did the organization notify the donor of the value of the goods or services provided?		
c	Did the organization sell, exchange, or otherwise dispose of tangible personal property for which it was required to file Form 8282?		No
d	If "Yes," indicate the number of Forms 8282 filed during the year.		
e	Did the organization receive any funds, directly or indirectly, to pay premiums on a personal benefit contract?		No
f	Did the organization, during the year, pay premiums, directly or indirectly, on a personal benefit contract?		No
g	If the organization received a contribution of qualified intellectual property, did the organization file Form 8899 as required?		
h	If the organization received a contribution of cars, boats, airplanes, or other vehicles, did the organization file a Form 1098-C?		
8	Sponsoring organizations maintaining donor advised funds. Did a donor advised fund maintained by the sponsoring organization have excess business holdings at any time during the year?		
9a	Did the sponsoring organization make any taxable distributions under section 4966?		
b	Did the sponsoring organization make a distribution to a donor, donor advisor, or related person?		
10	Section 501(c)(7) organizations. Enter		
a	Initiation fees and capital contributions included on Part VIII, line 12.		
b	Gross receipts, included on Form 990, Part VIII, line 12, for public use of club facilities.		
11	Section 501(c)(12) organizations. Enter		
a	Gross income from members or shareholders.		
b	Gross income from other sources (Do not net amounts due or paid to other sources against amounts due or received from them).		
12a	Section 4947(a)(1) non-exempt charitable trusts. Is the organization filing Form 990 in lieu of Form 1041?		
b	If "Yes," enter the amount of tax-exempt interest received or accrued during the year.		
13	Section 501(c)(29) qualified nonprofit health insurance issuers.		
a	Is the organization licensed to issue qualified health plans in more than one state? Note: See the instructions for additional information the organization must report on Schedule O.		
b	Enter the amount of reserves the organization is required to maintain by the states in which the organization is licensed to issue qualified health plans.		
c	Enter the amount of reserves on hand.		
14a	Did the organization receive any payments for indoor tanning services during the tax year?		No
b	If "Yes," has it filed a Form 720 to report these payments? If "No," provide an explanation in Schedule O.		

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	1a	4		
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				
b Enter the number of voting members included in line 1a, above, who are independent	1b	2		
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		
b 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				
a The governing body?	8a	Yes		
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	
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		
b Were officers, directors, or trustees, and key employees required to disclose annually interests that could give rise to conflicts?	12b	Yes		
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?				
a The organization's CEO, Executive Director, or top management official	15a	Yes		
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	
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, address, and telephone number of the person who possesses the organization's books and records
▶TIMOTHY J MYERS VICE PRESIDENT & 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				445,515	0	136,845
(2) DR GEORGE VANDE WOUDE TRUSTEE/ INVESTIGATOR	45 00 0 00	X						302,486	0	27,326
(3) DR JAMES FAHNER TRUSTEE	1 00 1 00	X						10,000	2,000	0
(4) DR RALPH WEICHSELBAUM TRUSTEE	1 00 0 00	X						9,000	0	0
(5) DR GARY TARPLEY DONE 10715 TRUSTEE	1 00 0 00	X						10,000	0	0
(6) DR JANA HALL CHIEF OPERATIONS OFFICER	50 00 3 00			X				354,023	0	106,110
(7) DAVID WHITESCARVER SECRETARY/V P & CHIEF LEGAL OFFICER	50 00 3 00			X				372,187	0	105,189
(8) TIMOTHY MYERS V P & CHIEF FINANCIAL OFFICER	50 00 3 00			X				256,638	0	83,296
(9) DR PETER JONES START 21714 CHIEF SCIENTIFIC OFFICER & RES DIR	53 00 0 00				X			432,331	0	194,171
(10) KATHY VOGELSANG CHIEF INVESTMENT OFFICER	45 00 0 00					X		410,046	0	216,167
(11) DR PATRIK BRUNDIN VARI ASSOCIATE DIRECTOR OF RESEARCH	45 00 0 00					X		502,889	0	99,267
(12) DR GERALD CALLAHAN V P , INNOVATIONS & COLLABORATIONS	45 00 0 00					X		311,438	0	118,810
(13) DR SCOTT JEWELL INVESTIGATOR	45 00 0 00					X		354,571	0	60,446
(14) DR H ERIC XU INVESTIGATOR	45 00 0 00					X		308,932	0	50,718

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		56,036,129			
	b	Membership dues	1b					
	c	Fundraising events	1c	49,013				
	d	Related organizations	1d	37,825,510				
	e	Government grants (contributions)	1e	14,181,319				
	f	All other contributions, gifts, grants, and similar amounts not included above	1f	3,980,287				
	g	Noncash contributions included in lines 1a-1f \$		19,286				
	h	Total. Add lines 1a-1f ▶						
Program Service Revenue			Business Code					
	2a	RESEARCH BILLED REV	541700	1,466,232	1,353,381	112,851		
	b							
	c							
	d							
	e							
	f	All other program service revenue						
	g	Total. Add lines 2a-2f ▶			1,466,232			
Other Revenue	3	Investment income (including dividends, interest, and other similar amounts) ▶		388,556			388,556	
	4	Income from investment of tax-exempt bond proceeds . . ▶						
	5	Royalties ▶		624,474			624,474	
	6a	(i) Real		(ii) Personal	105,342			105,342
		1,505,857						
		1,400,515						
		105,342						
	b	Less rental expenses						
	c	Rental income or (loss)						
	d	Net rental income or (loss) ▶						
	7a	(i) Securities		(ii) Other	67,492			67,492
		5,453,960		170,114				
		5,465,277		91,305				
		-11,317		78,809				
	b	Less cost or other basis and sales expenses						
	c	Gain or (loss)						
	d	Net gain or (loss) ▶						
	8a	Gross income from fundraising events (not including \$ 49,013 of contributions reported on line 1c) See Part IV, line 18			-8,070			-8,070
	a	0						
	b	Less direct expenses b		8,070				
	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	ALLOCATED ADMIN EXP		561000	6,458,393			6,458,393	
b	REIMBURSED EXPENSES		900099	191,104			191,104	
c								
d	All other revenue			118,615			118,615	
e	Total. Add lines 11a-11d ▶			6,768,112				
12	Total revenue. See Instructions ▶			65,448,267	1,353,381	112,851	7,945,906	

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 domestic organizations and domestic governments See Part IV, line 21	352,667	352,667		
2 Grants and other assistance to domestic individuals See Part IV, line 22	261,494	261,494		
3 Grants and other assistance to foreign organizations, foreign governments, and foreign individuals See Part IV, lines 15 and 16	150,179	150,179		
4 Benefits paid to or for members				
5 Compensation of current officers, directors, trustees, and key employees	2,686,112	1,061,907	1,624,205	
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	23,149,989	13,725,800	8,657,351	766,838
8 Pension plan accruals and contributions (include section 401(k) and 403(b) employer contributions)	1,683,543	1,007,752	631,268	44,523
9 Other employee benefits	3,014,640	1,804,565	1,130,924	79,151
10 Payroll taxes	1,596,975	955,987	599,763	41,225
11 Fees for services (non-employees)				
a Management				
b Legal	444,805	47,991	396,814	
c Accounting	128,300		128,300	
d Lobbying	45,500		45,500	
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)	2,839,850	2,331,875	499,790	8,185
12 Advertising and promotion	1,002,668	81,114	843,854	77,700
13 Office expenses	98,687	55,224	43,130	333
14 Information technology	257,773	119,336	133,361	5,076
15 Royalties				
16 Occupancy	2,224,334	1,971,415	251,199	1,720
17 Travel	761,554	389,266	358,539	13,749
18 Payments of travel or entertainment expenses for any federal, state, or local public officials				
19 Conferences, conventions, and meetings	263,443	209,003	54,440	
20 Interest	8,630,838	7,180,473	1,450,365	
21 Payments to affiliates				
22 Depreciation, depletion, and amortization	9,304,114	7,999,395	1,304,719	
23 Insurance	471,162	286,218	184,944	
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	3,636,360	3,614,210	22,150	0
b EQUIPMENT & SOFTWARE	2,753,651	1,320,986	1,426,318	6,347
c BAD DEBT EXPENSE	614,600	0	614,600	0
d ALLOCATED EXPENSES	550,593	550,593	0	0
e All other expenses	2,216,835	1,156,670	1,038,460	21,705
25 Total functional expenses. Add lines 1 through 24e	69,140,666	46,634,120	21,439,994	1,066,552
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 <input type="checkbox"/> if following SOP 98-2 (ASC 958-720)				

Part X Balance SheetCheck if Schedule O contains a response or note to any line in this Part X ☐

				(A) Beginning of year		(B) End of year	
Assets	1	Cash—non-interest-bearing			1		
	2	Savings and temporary cash investments		12,177,780	2	9,808,077	
	3	Pledges and grants receivable, net		2,575,159	3	2,205,839	
	4	Accounts receivable, net		2,523,497	4	2,855,772	
	5	Loans and other receivables from current and former officers, directors, trustees, key employees, and highest compensated employees. Complete Part II of Schedule L		9,657	5	0	
	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		1,555,278	7	1,516,647	
	8	Inventories for sale or use			8		
	9	Prepaid expenses and deferred charges		1,522,498	9	1,460,528	
	10a	Land, buildings, and equipment: cost or other basis. Complete Part VI of Schedule D	10a	272,522,203			
	b	Less: accumulated depreciation	10b	83,690,445	193,472,540	10c	188,831,758
	11	Investments—publicly traded securities			11		
	12	Investments—other securities. See Part IV, line 11		1,268,817	12	1,154,264	
	13	Investments—program-related. See Part IV, line 11			13		
	14	Intangible assets			14		
	15	Other assets. See Part IV, line 11		36,620,206	15	43,009,257	
16	Total assets. Add lines 1 through 15 (must equal line 34)		251,725,432	16	250,842,142		
Liabilities	17	Accounts payable and accrued expenses		44,640,472	17	51,117,987	
	18	Grants payable			18		
	19	Deferred revenue		2,206,247	19	1,092,693	
	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		60,850,903	25	66,164,723	
	26	Total liabilities. Add lines 17 through 25		327,697,622	26	338,375,403	
Net Assets or Fund Balances	Organizations that follow SFAS 117 (ASC 958), check here <input checked="" type="checkbox"/> and complete lines 27 through 29, and lines 33 and 34.						
	27	Unrestricted net assets		-78,281,142	27	-90,432,320	
	28	Temporarily restricted net assets		2,215,852	28	2,794,926	
	29	Permanently restricted net assets		93,100	29	104,133	
	Organizations that do not follow SFAS 117 (ASC 958), check here <input type="checkbox"/> 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		-75,972,190	33	-87,533,261	
	34	Total liabilities and net assets/fund balances		251,725,432	34	250,842,142	

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	65,448,267
2	Total expenses (must equal Part IX, column (A), line 25)	2	69,140,666
3	Revenue less expenses Subtract line 2 from line 1	3	-3,692,399
4	Net assets or fund balances at beginning of year (must equal Part X, line 33, column (A))	4	-75,972,190
5	Net unrealized gains (losses) on investments	5	-114,553
6	Donated services and use of facilities	6	5,955
7	Investment expenses	7	
8	Prior period adjustments	8	
9	Other changes in net assets or fund balances (explain in Schedule O)	9	-7,760,074
10	Net assets or fund balances at end of year Combine lines 3 through 9 (must equal Part X, line 33, column (B))	10	-87,533,261

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 <input type="checkbox"/> Cash <input checked="" type="checkbox"/> Accrual <input type="checkbox"/> 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 <input type="checkbox"/> Separate basis <input type="checkbox"/> Consolidated basis <input type="checkbox"/> Both consolidated and separate basis		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 <input type="checkbox"/> Separate basis <input checked="" type="checkbox"/> Consolidated basis <input type="checkbox"/> Both consolidated and separate basis	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	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?	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	Yes	

Additional Data

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

Form 990, Part III - Line 4c: Program Service Accomplishments (See the Instructions)

(Code) (Expenses \$	26,043,187	including grants of \$	0) (Revenue \$	372,930)
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SCHEDULE A
(Form 990 or 990EZ)

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

OMB No 1545-0047
2014
Open to Public Inspection

Department of the Treasury
Internal Revenue Service

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
- ☐ 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 in lines 11a through 11d that describes the type of supporting organization and complete lines 11e, 11f, and 11g
- ☐ a **Type I.** A supporting organization operated, supervised, or controlled by its supported organization(s), typically by giving the supported organization(s) the power to regularly appoint or elect a majority of the directors or trustees of the supporting organization **You must complete Part IV, Sections A and B.**
- ☐ b **Type II.** A supporting organization supervised or controlled in connection with its supported organization(s), by having control or management of the supporting organization vested in the same persons that control or manage the supported organization(s) **You must complete Part IV, Sections A and C.**
- ☐ c **Type III functionally integrated.** A supporting organization operated in connection with, and functionally integrated with, its supported organization(s) (see instructions) **You must complete Part IV, Sections A, D, and E.**
- ☐ d **Type III non-functionally integrated.** A supporting organization operated in connection with its supported organization(s) that is not functionally integrated The organization generally must satisfy a distribution requirement and an attentiveness requirement (see instructions) **You must complete Part IV, Sections A and D, and Part V.**
- ☐ e Check this box if the organization received a written determination from the IRS that it is a Type I, Type II, Type III functionally integrated, or Type III non-functionally integrated supporting organization
- ☐ f Enter the number of supported organizations
- ☐ g Provide the following information about the supported organization(s)

(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 listed in your governing document?		(v) A amount of monetary support (see instructions)	(vi) A amount of other support (see instructions)
			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) 2010	(b) 2011	(c) 2012	(d) 2013	(e) 2014	(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) 2010	(b) 2011	(c) 2012	(d) 2013	(e) 2014	(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 VI.)						
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 section 501(c)(3) organization, check this box and stop here						►

Section C. Computation of Public Support Percentage		
14 Public support percentage for 2014 (line 6, column (f) divided by line 11, column (f))	14	
15 Public support percentage for 2013 Schedule A, Part II, line 14	15	
16a 33 1/3% support test—2014. 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—2013. 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—2014. 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 VI how the organization meets the "facts-and-circumstances" test The organization qualifies as a publicly supported organization		►
b 10%-facts-and-circumstances test—2013. 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 VI 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 III Support 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) 2010	(b) 2011	(c) 2012	(d) 2013	(e) 2014	(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) 2010	(b) 2011	(c) 2012	(d) 2013	(e) 2014	(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 VI.)						
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 section 501(c)(3) organization, check this box and **stop here** ► ☐

Section C. Computation of Public Support Percentage

15 Public support percentage for 2014 (line 8, column (f) divided by line 13, column (f))	15	
16 Public support percentage from 2013 Schedule A, Part III, line 15	16	

Section D. Computation of Investment Income Percentage

17 Investment income percentage for 2014 (line 10c, column (f) divided by line 13, column (f))	17	
18 Investment income percentage from 2013 Schedule A, Part III, line 17	18	

19a 33 1/3% support tests—2014. 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—2013. 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 Supporting Organizations

(Complete only if you checked a box on line 11 of Part I. If you checked 11a of Part I, complete Sections A and B. If you checked 11b of Part I, complete Sections A and C. If you checked 11c of Part I, complete Sections A, D, and E. If you checked 11d of Part I, complete Sections A and D, and complete Part V.)

Section A. All Supporting Organizations

	Yes	No
1 Are all of the organization's supported organizations listed by name in the organization's governing documents? If "No," describe in Part VI how the supported organizations are designated. If designated by class or purpose, describe the designation. If historic and continuing relationship, explain.	1	
2 Did the organization have any supported organization that does not have an IRS determination of status under section 509(a)(1) or (2)? If "Yes," explain in Part VI how the organization determined that the supported organization was described in section 509(a)(1) or (2).	2	
3a Did the organization have a supported organization described in section 501(c)(4), (5), or (6)? If "Yes," answer (b) and (c) below.	3a	
b Did the organization confirm that each supported organization qualified under section 501(c)(4), (5), or (6) and satisfied the public support tests under section 509(a)(2)? If "Yes," describe in Part VI when and how the organization made the determination.	3b	
c Did the organization ensure that all support to such organizations was used exclusively for section 170(c)(2)(B) purposes? If "Yes," explain in Part VI what controls the organization put in place to ensure such use.	3c	
4a Was any supported organization not organized in the United States ("foreign supported organization")? If "Yes" and if you checked 11a or 11b in Part I, answer (b) and (c) below.	4a	
b Did the organization have ultimate control and discretion in deciding whether to make grants to the foreign supported organization? If "Yes," describe in Part VI how the organization had such control and discretion despite being controlled or supervised by or in connection with its supported organizations.	4b	
c Did the organization support any foreign supported organization that does not have an IRS determination under sections 501(c)(3) and 509(a)(1) or (2)? If "Yes," explain in Part VI what controls the organization used to ensure that all support to the foreign supported organization was used exclusively for section 170(c)(2)(B) purposes.	4c	
5a Did the organization add, substitute, or remove any supported organizations during the tax year? If "Yes," answer (b) and (c) below (if applicable). Also, provide detail in Part VI , including (i) the names and EIN numbers of the supported organizations added, substituted, or removed, (ii) the reasons for each such action, (iii) the authority under the organization's organizing document authorizing such action, and (iv) how the action was accomplished (such as by amendment to the organizing document).	5a	
b Type I or Type II only. Was any added or substituted supported organization part of a class already designated in the organization's organizing document?	5b	
c Substitutions only. Was the substitution the result of an event beyond the organization's control?	5c	
6 Did the organization provide support (whether in the form of grants or the provision of services or facilities) to anyone other than (a) its supported organizations, (b) individuals that are part of the charitable class benefited by one or more of its supported organizations, or (c) other supporting organizations that also support or benefit one or more of the filing organization's supported organizations? If "Yes," provide detail in Part VI .	6	
7 Did the organization provide a grant, loan, compensation, or other similar payment to a substantial contributor (defined in IRC 4958(c)(3)(C)), a family member of a substantial contributor, or a 35-percent controlled entity with regard to a substantial contributor? If "Yes," complete Part I of Schedule L (Form 990).	7	
8 Did the organization make a loan to a disqualified person (as defined in section 4958) not described in line 7? If "Yes," complete Part II of Schedule L (Form 990).	8	
9a Was the organization controlled directly or indirectly at any time during the tax year by one or more disqualified persons as defined in section 4946 (other than foundation managers and organizations described in section 509(a)(1) or (2))? If "Yes," provide detail in Part VI .	9a	
b Did one or more disqualified persons (as defined in line 9(a)) hold a controlling interest in any entity in which the supporting organization had an interest? If "Yes," provide detail in Part VI .	9b	
c Did a disqualified person (as defined in line 9(a)) have an ownership interest in, or derive any personal benefit from, assets in which the supporting organization also had an interest? If "Yes," provide detail in Part VI .	9c	
10a Was the organization subject to the excess business holdings rules of IRC 4943 because of IRC 4943(f) (regarding certain Type II supporting organizations, and all Type III non-functionally integrated supporting organizations)? If "Yes," answer b below.	10a	
b Did the organization have any excess business holdings in the tax year? (Use Schedule C, Form 4720, to determine whether the organization had excess business holdings.)	10b	
11 Has the organization accepted a gift or contribution from any of the following persons?		
a A person who directly or indirectly controls, either alone or together with persons described in (b) and (c) below, the governing body of a supported organization?	11a	
b A family member of a person described in (a) above?	11b	
c A 35% controlled entity of a person described in (a) or (b) above? If "Yes" to a, b, or c, provide detail in Part VI .	11c	

Part IV Supporting Organizations (continued)

Section B. Type I Supporting Organizations

- 1

Did the directors, trustees, or membership of one or more supported organizations have the power to regularly appoint or elect at least a majority of the organization's directors or trustees at all times during the tax year? *If "No," describe in **Part VI** how the supported organization(s) effectively operated, supervised, or controlled the organization's activities. If the organization had more than one supported organization, describe how the powers to appoint and/or remove directors or trustees were allocated among the supported organizations and what conditions or restrictions, if any, applied to such powers during the tax year.*
- 2

Did the organization operate for the benefit of any supported organization other than the supported organization(s) that operated, supervised, or controlled the supporting organization? *If "Yes," explain in **Part VI** how providing such benefit carried out the purposes of the supported organization(s) that operated, supervised or controlled the supporting organization.*

	Yes	No
1		
2		

Section C. Type II Supporting Organizations

- 1

Were a majority of the organization's directors or trustees during the tax year also a majority of the directors or trustees of each of the organization's supported organization(s)? *If "No," describe in **Part VI** how control or management of the supporting organization was vested in the same persons that controlled or managed the supported organization(s).*

	Yes	No
1		

Section D. All Type III Supporting Organizations

- 1

Did the organization provide to each of its supported organizations, by the last day of the fifth month of the organization's tax year, (1) a written notice describing the type and amount of support provided during the prior tax year, (2) a copy of the Form 990 that was most recently filed as of the date of notification, and (3) copies of the organization's governing documents in effect on the date of notification, to the extent not previously provided?
- 2

Were any of the organization's officers, directors, or trustees either (i) appointed or elected by the supported organization(s) or (ii) serving on the governing body of a supported organization? *If "No," explain in **Part VI** how the organization maintained a close and continuous working relationship with the supported organization(s).*
- 3

By reason of the relationship described in (2), did the organization's supported organizations have a significant voice in the organization's investment policies and in directing the use of the organization's income or assets at all times during the tax year? *If "Yes," describe in **Part VI** the role the organization's supported organizations played in this regard.*

	Yes	No
1		
2		
3		

Section E. Type III Functionally-Integrated Supporting Organizations

- 1

Check the box next to the method that the organization used to satisfy the Integral Part Test during the year (**see instructions**)

a

☐ The organization satisfied the Activities Test. Complete **line 2** below.

b

☐ The organization is the parent of each of its supported organizations. Complete **line 3** below.

c

☐ The organization supported a governmental entity. Describe in Part VI how you supported a government entity (see instructions).

2 Activities Test. Answer (a) and (b) below.

- a

Did substantially all of the organization's activities during the tax year directly further the exempt purposes of the supported organization(s) to which the organization was responsive? *If "Yes," then in **Part VI** identify those supported organizations and explain how these activities directly furthered their exempt purposes, how the organization was responsive to those supported organizations, and how the organization determined that these activities constituted substantially all of its activities.*
- b

Did the activities described in (a) constitute activities that, but for the organization's involvement, one or more of the organization's supported organization(s) would have been engaged in? *If "Yes," explain in **Part VI** the reasons for the organization's position that its supported organization(s) would have engaged in these activities but for the organization's involvement.*

3 Parent of Supported Organizations. Answer (a) and (b) below.

- a

Did the organization have the power to regularly appoint or elect a majority of the officers, directors, or trustees of each of the supported organizations? *Provide details in Part VI.*
- b

Did the organization exercise a substantial degree of direction over the policies, programs and activities of each of its supported organizations? *If "Yes," describe in Part VI the role played by the organization in this regard.*

	Yes	No
2a		
2b		
3a		
3b		

Part V – Type III Non-Functionally Integrated 509(a)(3) Supporting Organizations

1 ☐ Check here if the organization satisfied the Integral Part Test as a qualifying trust on Nov. 20, 1970. **See instructions.** All other Type III non-functionally integrated supporting organizations must complete Sections A through E.

Section A - Adjusted Net Income		(A) Prior Year	(B) Current Year (optional)
1	Net short-term capital gain	1	
2	Recoveries of prior-year distributions	2	
3	Other gross income (see instructions)	3	
4	Add lines 1 through 3	4	
5	Depreciation and depletion	5	
6	Portion of operating expenses paid or incurred for production or collection of gross income or for management, conservation, or maintenance of property held for production of income (see instructions)	6	
7	Other expenses (see instructions)	7	
8	Adjusted Net Income (subtract lines 5, 6 and 7 from line 4)	8	

Section B - Minimum Asset Amount		(A) Prior Year	(B) Current Year (optional)
1	Aggregate fair market value of all non-exempt-use assets (see instructions for short tax year or assets held for part of year)	1	
a	Average monthly value of securities	1a	
b	Average monthly cash balances	1b	
c	Fair market value of other non-exempt-use assets	1c	
d	Total (add lines 1a, 1b, and 1c)	1d	
e	Discount claimed for blockage or other factors (explain in detail in Part VI) _____		
2	Acquisition indebtedness applicable to non-exempt use assets	2	
3	Subtract line 2 from line 1d	3	
4	Cash deemed held for exempt use. Enter 1-1/2% of line 3 (for greater amount, see instructions)	4	
5	Net value of non-exempt-use assets (subtract line 4 from line 3)	5	
6	Multiply line 5 by .035	6	
7	Recoveries of prior-year distributions	7	
8	Minimum Asset Amount (add line 7 to line 6)	8	

Section C - Distributable Amount			Current Year
1	Adjusted net income for prior year (from Section A, line 8, Column A)	1	
2	Enter 85% of line 1	2	
3	Minimum asset amount for prior year (from Section B, line 8, Column A)	3	
4	Enter greater of line 2 or line 3	4	
5	Income tax imposed in prior year	5	
6	Distributable Amount. Subtract line 5 from line 4, unless subject to emergency temporary reduction (see instructions)	6	
7	<input type="checkbox"/> Check here if the current year is the organization's first as a non-functionally-integrated Type III supporting organization (see instructions)		

Section D - Distributions	Current Year
1 Amounts paid to supported organizations to accomplish exempt purposes	
2 Amounts paid to perform activity that directly furthers exempt purposes of supported organizations, in excess of income from activity	
3 Administrative expenses paid to accomplish exempt purposes of supported organizations	
4 Amounts paid to acquire exempt-use assets	
5 Qualified set-aside amounts (prior IRS approval required)	
6 Other distributions (describe in Part VI) See instructions	
7 Total annual distributions. Add lines 1 through 6	
8 Distributions to attentive supported organizations to which the organization is responsive (provide details in Part VI) See instructions	
9 Distributable amount for 2014 from Section C, line 6	
10 Line 8 amount divided by Line 9 amount	

Section E - Distribution Allocations (see instructions)	(i) Excess Distributions	(ii) Underdistributions Pre-2014	(iii) Distributable Amount for 2014
1 Distributable amount for 2014 from Section C, line 6			
2 Underdistributions, if any, for years prior to 2014 (reasonable cause required--see instructions)			
3 Excess distributions carryover, if any, to 2014			
a From 2009.			
b From 2010.			
c From 2011.			
d From 2012.			
e From 2013.			
f Total of lines 3a through e			
g Applied to underdistributions of prior years			
h Applied to 2014 distributable amount			
i Carryover from 2009 not applied (see instructions)			
j Remainder Subtract lines 3g, 3h, and 3i from 3f			
4 Distributions for 2014 from Section D, line 7 \$			
a Applied to underdistributions of prior years			
b Applied to 2014 distributable amount			
c Remainder Subtract lines 4a and 4b from 4			
5 Remaining underdistributions for years prior to 2014, if any Subtract lines 3g and 4a from line 2 (if amount greater than zero, see instructions)			
6 Remaining underdistributions for 2014 Subtract lines 3h and 4b from line 1 (if amount greater than zero, see instructions)			
7 Excess distributions carryover to 2015. Add lines 3j and 4c			
8 Breakdown of line 7			
a From 2010.			
b From 2011.			
c From 2012.			
d From 2013.			
e From 2014.			

Part VI **Supplemental Information.** Provide the explanations required by Part II, line 10; Part II, line 17a or 17b; Part III, line 12; Part IV, Section A, lines 1, 2, 3b, 3c, 4b, 4c, 5a, 6, 9a, 9b, 9c, 11a, 11b, and 11c; Part IV, Section B, lines 1 and 2; Part IV, Section C, line 1; Part IV, Section D, lines 2 and 3; Part IV, Section E, lines 1c, 2a, 2b, 3a and 3b; Part V, line 1; Part V, Section B, line 1e; Part V Section D, lines 5, 6, and 8; and Part V, Section E, lines 2, 5, and 6. Also complete this part for any additional information. (See instructions).

Facts And Circumstances Test

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

OMB No 1545-0047

2014

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) (see separate instructions) or Form 990-EZ, Part V, line 35c (Proxy Tax) (see separate instructions), 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
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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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4a	Was a correction made?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> 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)		165,579													
c Total lobbying expenditures (add lines 1a and 1b)		165,579													
d Other exempt purpose expenditures		68,975,087													
e Total exempt purpose expenditures (add lines 1c and 1d)		69,140,666													
f Lobbying nontaxable amount Enter the amount from the following table in both columns		1,000,000													
<table><thead><tr><th>If the amount on line 1e, column (a) or (b) is:</th><th>The lobbying nontaxable amount is:</th></tr></thead><tbody><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></tbody></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?			<input type="checkbox"/> Yes <input type="checkbox"/> 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 separate instructions for lines 2a through 2f.)

Lobbying Expenditures During 4-Year Averaging Period					
Calendar year (or fiscal year beginning in)	(a) 2011	(b) 2012	(c) 2013	(d) 2014	(e) Total
2a Lobbying nontaxable amount	1,000,000	1,000,000	1,000,000	1,000,000	4,000,000
b Lobbying ceiling amount (150% of line 2a, column(e))					6,000,000
c Total lobbying expenditures	68,133	85,680	367,563	165,579	686,955
d Grassroots nontaxable amount	250,000	250,000	250,000	250,000	1,000,000
e Grassroots ceiling amount (150% of line 2d, column (e))					1,500,000
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).

		Yes	No
1	Were substantially all (90% or more) dues received nondeductible by members?	1	
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, lines 1 and 2 (see instructions), and Part II-B, line 1. Also, complete this part for any additional information.

Return Reference	Explanation

Part IV

Return Reference

Explanation

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

OMB No 1545-0047

2014

Open to Public Inspection

Name of the organization VAN ANDEL RESEARCH INSTITUTE	Employer identification number 52-2000823
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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 value of contributions to (during year)	
3	Aggregate value of 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?	<input type="checkbox"/> Yes <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> 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) <input type="checkbox"/> Preservation of land for public use (e g , recreation or education) <input type="checkbox"/> Protection of natural habitat <input type="checkbox"/> Preservation of open space <input type="checkbox"/> Preservation of an historically important land area <input type="checkbox"/> Preservation of a certified historic structure
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
a	Total number of conservation easements
b	Total acreage restricted by conservation easements
c	Number of conservation easements on a certified historic structure included in (a)
d	Number of conservation easements included in (c) acquired after 8/17/06, and not on a historic structure listed in the National Register
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?
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)?
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
b	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)	Revenue 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	Revenue included in Form 990, Part VIII, line 1
b	Assets included in Form 990, Part X

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

d

☐ Loan or exchange programs

b

☐ Scholarly research

e

☐ Other

c

☐ Preservation for future generations

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

c

Beginning balance

d

Additions during the year

e

Distributions during the year

f

Ending balance

	Amount
1c	
1d	
1e	
1f	

2a

Did the organization include an amount on Form 990, Part X, line 21, for escrow or custodial account liability?

☐ 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		222,174,587	49,169,393	173,005,194
c Leasehold improvements				
d Equipment		43,739,193	34,504,551	9,234,642
e Other		1,320,108	16,501	1,303,607
Total. Add lines 1a through 1e (Column (d) must equal Form 990, Part X, column (B), line 10(c))				188,831,758

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	60,289,861
2	Amounts included on line 1 but not on Form 990, Part VIII, line 12		
a	Net unrealized gains (losses) on investments	2a	-114,553
b	Donated services and use of facilities	2b	5,955
c	Recoveries of prior year grants	2c	
d	Other (Describe in Part XIII)	2d	1,408,585
e	Add lines 2a through 2d	2e	1,299,987
3	Subtract line 2e from line 1	3	58,989,874
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	6,458,393
c	Add lines 4a and 4b	4c	6,458,393
5	Total revenue Add lines 3 and 4c . (This must equal Form 990, Part I, line 12)	5	65,448,267

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	71,850,932
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	9,168,659
e	Add lines 2a through 2d	2e	9,168,659
3	Subtract line 2e from line 1	3	62,682,273
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	6,458,393
c	Add lines 4a and 4b	4c	6,458,393
5	Total expenses Add lines 3 and 4c . (This must equal Form 990, Part I, line 18)	5	69,140,666

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 1,400,515 FUNDRAISING EVENT EXPENSE 8,070
PART XI, LINE 4B - OTHER ADJUSTMENTS	NET ALLOCATED 6,458,393
PART XII, LINE 2D - OTHER ADJUSTMENTS	LOSS ON INTERST RATE SWAP 7,760,074 RENTAL EXPENSES 1,400,515 FUNDRAISING EVENT EXPENSE 8,070
PART XII, LINE 4B - OTHER ADJUSTMENTS	NET ALLOCATED 6,458,393
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.

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

OMB No 1545-0047

2014

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

Activites 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	0	PROGRAM SERVICES	RESEARCH COLLABORATION - RESEARCH SERVICES	134,783
(2) EUROPE	0	0	GENERAL EXPENSES	SOFTWARE LICENSING FEES	1,065
(3) EUROPE	0	0	UNRELATED TRADE OR BUSINESS	FEE FOR SERVICES	
(4) EUROPE	0	0	RESEARCH SERVICES	LICENSING FEES	
(5)					
3a Sub-total	0	0			135,848
b Total from continuation sheets to Part I	0	0			0
c Totals (add lines 3a and 3b)	0	0			135,848

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)			EUROPE	RESEARCH COLLABORATION	150,179	WIRE TRANSFER			
(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 ▶ 1

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, do not file with Form 990)*

☐ 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, do not file with Form 990)*

☐ Yes

☐ No

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).

990 Schedule F, Supplemental Information

Return Reference	Explanation
PART I, LINE 2	GRANT FUNDS ARE MONITORED BY QUARTERLY EXPENDITURE REPORTS BEFORE DISBURSING INCREMENTAL FUNDING PROGRESS REPORTS ARE REQUIRED ANNUALLY AND REVIEWED BY VAN ANDEL RESEARCH INSTITUTE AND A THIRD PARTY

990 Schedule F, Supplemental Information

Return Reference	Explanation
SCHEDULE F, PART II, LINE 1	ORGANIZATION PROVIDED ASSISTANCE IS MONITORED WITH QUARTERLY EXPENDITURE REPORTING

SCHEDULE G
(Form 990 or 990-EZ)

Department of the Treasury
Internal Revenue Service

Supplemental Information Regarding Fundraising or Gaming Activities

Complete if the organization answered "Yes" to Form 990, Part IV, lines 17, 18, or 19, or if the organization entered more than \$15,000 on Form 990-EZ, line 6a
▶ Attach to Form 990 or Form 990-EZ
▶ Information about Schedule G (Form 990 or 990-EZ) and its instructions is at www.irs.gov/form990

OMB No 1545-0047

2014

Open to Public Inspection

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number
52-2000823

Part I Fundraising Activities. Complete if the organization answered "Yes" to Form 990, Part IV, line 17. Form 990-EZ filers are not required to complete this part.

- 1** Indicate whether the organization raised funds through any of the following activities. Check all that apply.
- a

☐ Mail solicitations

b

☐ Internet and email solicitations

c

☐ Phone solicitations

d

☐ In-person solicitations

e

☐ Solicitation of non-government grants

f

☐ Solicitation of government grants

g

☐ Special fundraising events
- 2a** Did the organization have a written or oral agreement with any individual (including officers, directors, trustees or key employees listed in Form 990, Part VII) or entity in connection with professional fundraising services? ☐ Yes ☐ No
- b** If "Yes," list the ten highest paid individuals or entities (fundraisers) pursuant to agreements under which the fundraiser is to be compensated at least \$5,000 by the organization.

(i) Name and address of individual or entity (fundraiser)	(ii) Activity	(iii) Did fundraiser have custody or control of contributions?		(iv) Gross receipts from activity	(v) Amount paid to (or retained by) fundraiser listed in col (i)	(vi) Amount paid to (or retained by) organization
		Yes	No			
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Total ▶						

3 List all states in which the organization is registered or licensed to solicit contributions or has been notified it is exempt from registration or licensing.

Part II

Raising Events. Complete if the organization answered "Yes" to Form 990, Part IV, line 18, or reported more than \$15,000 of fundraising event contributions and gross income on Form 990-EZ, lines 1 and 6b. List events with gross receipts greater than \$5,000.

		(a) Event #1	(b) Event #2	(c) Other events	(d) Total events
		5K RACE (event type)	(event type)	(total number)	(add col (a) through col (c))
Revenue	1 Gross receipts . . .	49,013			49,013
	2 Less Contributions . .	49,013			49,013
	3 Gross income (line 1 minus line 2) . . .				
Direct Expenses	4 Cash prizes . . .				
	5 Noncash prizes . .				
	6 Rent/facility costs . .				
	7 Food and beverages .				
	8 Entertainment . . .				
	9 Other direct expenses .		8,070		8,070
	10 Direct expense summary Add lines 4 through 9 in column (d) ▶				(8,070)
	11 Net income summary Subtract line 10 from line 3, column (d) ▶				-8,070

Part III

Gaming. Complete if the organization answered "Yes" to Form 990, Part IV, line 19, or reported more than \$15,000 on Form 990-EZ, line 6a.

		(a) Bingo	(b) Pull tabs/Instant bingo/progressive bingo	(c) Other gaming	(d) Total gaming (add col (a) through col (c))
Revenue	1 Gross revenue				
Direct Expenses	2 Cash prizes				
	3 Non-cash prizes				
	4 Rent/facility costs				
	5 Other direct expenses . . .				
	6 Volunteer labor	<input type="checkbox"/> Yes _____ % <input type="checkbox"/> No	<input type="checkbox"/> Yes _____ % <input type="checkbox"/> No	<input type="checkbox"/> Yes _____ % <input type="checkbox"/> No	
	7 Direct expense summary Add lines 2 through 5 in column (d) ▶				
	8 Net gaming income summary Subtract line 7 from line 1, column (d) ▶				

9 Enter the state(s) in which the organization conducts gaming activities _____

a Is the organization licensed to conduct gaming activities in each of these states? ☐ Yes ☐ No

b If "No," explain _____

10a Were any of the organization's gaming licenses revoked, suspended or terminated during the tax year? ☐ Yes ☐ No

b If "Yes," explain _____

11

Does the organization conduct gaming activities with nonmembers?

☐ Yes ☐ No

12

Is the organization a grantor, beneficiary or trustee of a trust or a member of a partnership or other entity formed to administer charitable gaming?

☐ Yes ☐ No

13

Indicate the percentage of gaming activities conducted in

a	The organization's facility	13a	%
b	An outside facility	13b	%

14

Enter the name and address of the person who prepares the organization's gaming/special events books and records

Name

Address

15a

Does the organization have a contract with a third party from whom the organization receives gaming revenue?

☐ Yes ☐ No

b

If "Yes," enter the amount of gaming revenue received by the organization \$ and the amount of gaming revenue retained by the third party \$

c

If "Yes," enter name and address of the third party

Name

Address

16

Gaming manager information

Name

Gaming manager compensation \$

Description of services provided

☐ Director/officer ☐ Employee ☐ Independent contractor

17

Mandatory distributions

a

Is the organization required under state law to make charitable distributions from the gaming proceeds to retain the state gaming license?

☐ Yes ☐ No

b

Enter the amount of distributions required under state law distributed to other exempt organizations or spent in the organization's own exempt activities during the tax year \$

Part IV

Supplemental Information. Provide the explanations required by Part I, line 2b, columns (iii) and (v), and Part III, lines 9, 9b, 10b, 15b, 15c, 16, and 17b, as applicable. Also provide any additional information (see instructions).

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

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

2014

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 Domestic Organizations and Domestic Governments. 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 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
(1) JOHNS HOPKINS UNIVERSITY 3400 N CHARLES STREET BALTIMORE,MD 21218	52-0595110	501C3	200,000				RESEARCH COLLABORATION
(2) FOX CHASE CANCER CENTER 333 COTTMAN AVENUE PHILADELPHIA,PA 19111	23-2003072	501C3	100,000				RESEARCH COLLABORATION
(3) MEMORIAL SLOAN-KETTERING CANCER CENTER 1275 YORK AVENUE NEW YORK,NY 10065	13-1924236	501C3	50,000				RESEARCH COLLABORATION

2

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

3

3

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

0

Part III **Grants and Other Assistance to Domestic Individuals.** 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	134,127			
(2) GRADUATE STUDENT STIPENDS VAN ANDEL INSTITUTE GRADUATE SCHOOL	3	47,503			
(3) FOREIGN NATIONAL STIPENDS	6	79,864			

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 GRANT FUNDS TO INSTITUTIONS ARE MONITORED BY QUARTERLY EXPENDITURE REPORTS BEFORE DISBURSING INCREMENTAL FUNDING PROGRESS REPORTS ARE REQUIRED ANNUALLY AND REVIEWED BY VAN ANDEL RESEARCH INSTITUTE AND A THIRD PARTY

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. ► Information about Schedule J (Form 990) and its instructions is at www.irs.gov/form990.		OMB No 1545-0047 <div style="font-size: 2em; font-weight: bold;">2014</div> 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.			
<input checked="" type="checkbox"/> First-class or charter travel	<input type="checkbox"/> Housing allowance or residence for personal use		
<input type="checkbox"/> Travel for companions	<input type="checkbox"/> Payments for business use of personal residence		
<input type="checkbox"/> Tax indemnification and gross-up payments	<input type="checkbox"/> Health or social club dues or initiation fees		
<input type="checkbox"/> Discretionary spending account	<input type="checkbox"/> 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.			
<input checked="" type="checkbox"/> Compensation committee	<input checked="" type="checkbox"/> Written employment contract		
<input checked="" type="checkbox"/> Independent compensation consultant	<input checked="" type="checkbox"/> Compensation survey or study		
<input type="checkbox"/> Form 990 of other organizations	<input checked="" type="checkbox"/> 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?		4a	No
b Participate in, or receive payment from, a supplemental nonqualified retirement plan?		4b	No
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.		4c	No
Only 501(c)(3), 501(c)(4), and 501(c)(29) organizations must complete lines 5-9.			
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?		5a	No
b Any related organization? If "Yes," to line 5a or 5b, describe in Part III.		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?		6a	No
b Any related organization? If "Yes," to line 6a or 6b, describe in Part III.		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 in column(B) 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 7	ONE NON-FIXED BONUS WAS 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 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 in column (B) reported as deferred in prior Form 990	
	(i) Base Compensation	(ii) Bonus & incentive compensation	(iii) Other reportable compensation					
DAVID VAN ANDEL, CHAIRMAN / CEO	(i) (ii)	315,000 0	107,730 0	22,785 0	136,250 0	595 0	582,360 0	107,730 0
DR GEORGE VANDE WOUDE, TRUSTEE/ INVESTIGATOR	(i) (ii)	282,514 0	0 0	19,972 0	26,000 0	1,326 0	329,812 0	0 0
DR JANA HALL, CHIEF OPERATIONS OFFICER	(i) (ii)	292,928 0	59,294 0	1,801 0	97,343 0	8,767 0	460,133 0	59,294 0
DAVID WHITESCARVER, SECRETARY/V P & CHIEF LEGAL OFFICER	(i) (ii)	270,910 0	82,096 0	19,181 0	96,422 0	8,767 0	477,376 0	82,096 0
TIMOTHY MYERS, V P & CHIEF FINANCIAL OFFICER	(i) (ii)	215,939 0	40,091 0	608 0	74,529 0	8,767 0	339,934 0	40,091 0
DR PETER JONES START 21714, CHIEF SCIENTIFIC OFFICER & RES DIR	(i) (ii)	397,346 0	0 0	34,985 0	186,500 0	7,671 0	626,502 0	0 0
KATHY VOGELSANG, CHIEF INVESTMENT OFFICER	(i) (ii)	204,180 0	187,500 0	18,366 0	207,400 0	8,767 0	626,213 0	0 0
DR PATRIK BRUNDIN, VARI ASSOCIATE DIRECTOR OF RESEARCH	(i) (ii)	401,680 0	86,040 0	15,169 0	90,500 0	8,767 0	602,156 0	86,040 0
DR GERALD CALLAHAN, V P , INNOVATIONS & COLLABORATIONS	(i) (ii)	245,257 0	54,263 0	11,918 0	110,043 0	8,767 0	430,248 0	54,263 0
DR SCOTT JEWELL, INVESTIGATOR	(i) (ii)	266,775 0	67,569 0	20,227 0	61,679 0	8,767 0	425,017 0	32,312 0
DR H ERIC XU, INVESTIGATOR	(i) (ii)	288,693 0	19,297 0	942 0	41,951 0	8,767 0	359,650 0	19,297 0

Schedule K
(Form 990)

Department of the Treasury
Internal Revenue Service

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

OMB No 1545-0047

2014

Open to Public Inspection

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

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 ▶	0 890 %							
6 Total of lines 4 and 5	0 890 %							
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, Arbitrage Rebate, Yield Reduction and Penalty in Lieu of Arbitrage Rebate?		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 "Yes" to 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 11/30/2014

Schedule L

(Form 990 or 990-EZ)

Department of the
Treasury
Internal Revenue
Service

Transactions with Interested Persons

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

OMB No 1545-0047

2014

Open to Public Inspection

Name of the organization VAN ANDEL RESEARCH INSTITUTE	Employer identification number 52-2000823
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Part I Excess Benefit Transactions (section 501(c)(3), section 501(c)(4), and 501(c)(29) 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

Total ▶ \$

Part III Grants or Assistance Benefiting 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) DONOR	VENDOR	189,366	SUPPLIES		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 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 990-EZ 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

2014**Open to Public
Inspection**Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number

52-2000823

Return Reference**Explanation**FORM 990, PART VI,
SECTION A, LINE 2

VARI, VAI, VAEI, AND VAIGS SHARE COMMON MANAGEMENT DAVID VAN ANDEL, DR JANA HALL, TIMOTHY MYERS AND DAVID WHITESCARVER ARE ALSO OFFICERS OF VAI, AND DAVID VAN ANDEL, TIMOTHY MYERS AND DAVID WHITESCARVER ARE OFFICERS OF VAEI AND VAIGS

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	<p>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.</p>

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 -7,760,074

Return Reference	Explanation
FORM 990, PART III, LINE 2	<p>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 TO TRANSLATING THOSE FINDINGS INTO EFFECTIVE THERAPIES. THE INSTITUTE'S SCIENTISTS WORK IN ON-SITE LABORATORIES AND PARTICIPATE IN COLLABORATIONS THAT SPAN THE GLOBE. WITH EPIGENETICS AS ITS COMMON THREAD, 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 A VIVARIUM, A BIOREPOSITORY, AND VALUABLE ON-SITE CAPABILITIES IN IMAGING, PATHOLOGY, BIOINFORMATICS, GENOMICS AND FLOW CYTOMETRY. RESEARCH BY VARI SCIENTISTS IS PUBLISHED IN MAJOR PEER-REVIEWED JOURNALS, INCLUDING, IN 2015, SCIENCE, NATURE, CELL, CELL RESEARCH, NEW ENGLAND JOURNAL OF MEDICINE, CIRCULATION RESEARCH, EXPERIMENTAL CELL RESEARCH, JOURNAL OF TRANSLATION MEDICINE, EXPERIMENTAL NEUROLOGY, GENOME BIOLOGY, GENOME RESEARCH, AMERICAN JOURNAL OF CANCER RESEARCH, AMERICAN JOURNAL OF SURGICAL PATHOLOGY, ANALYTICAL CHEMISTRY, BONE RESEARCH, CANCER RESEARCH, INTERNATIONAL JOURNAL OF CANCER, INTERNATIONAL JOURNAL OF ONCOLOGY, JOURNAL OF BIOLOGICAL CHEMISTRY, JOURNAL OF BONE AND MINERAL RESEARCH, JOURNAL OF MEDICINAL CHEMISTRY, JOURNAL OF PARKINSON'S DISEASE, MOLECULAR CELL, NEUROBIOLOGY OF DISEASE, PLOS ONE, AND PSYCHONEUROENDOCRINOLOGY.</p>

Return Reference	Explanation	
	FORM 990, PART III, LINE 4A	<p>LINE 4A - PROGRAM SERVICE ACTIVITY #1 CENTER FOR CANCER AND CELL BIOLOGY THE CENTER FOR CANCER 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 CANCERS, THE TUMOR MICROENVIRONMENT, AND SKELETAL DISEASES THE CENTER WELCOMED PATRICK GROHAR, M.D., PH D, AS AN ASSOCIATE PROFESSOR IN JULY 2015 INVESTIGATORS WITHIN THE CENTER I N 2015 RECEIVED NEW R01 AND R21 A WARDS FROM THE NATIONAL INSTITUTES OF HEALTH, AND A RENEW AL AWARD FROM THE BREAST CANCER RESEARCH FOUNDATION ALSO, A NEW RESEARCH CONTRACT WITH A PHARMACEUTICAL FIRM WAS SIGNED VAN ANDEL RESEARCH INSTITUTE'S PATHWAY OF HOPE INITIATIVE PROGRESSED IN 2015 UNDER THE DIRECTION OF ASSOCIATE PROFESSOR JEFFREY MACKEIGAN, PH D TSC CAUSES NON-CANCEROUS TUMORS IN MAJOR ORGANS, AND PATIENTS AFFLICTED WITH DISEASE OFTEN SUFFER FROM EPILEPSY, LEARNING DISABILITIES, AND OTHER COMPLICATIONS THE PATHWAY OF HOPE INITIATIVE INVOLVES TSC INVESTIGATORS FROM ACROSS THE UNITED STATES, WITH FUNDING FROM THE MICHIGAN STRATEGIC FUND, BLUE CROSS BLUE SHIELD OF MICHIGAN, GREAT LAKES SCRIP, ROCKFORD CONSTRUCTION, COLLIER'S INTERNATIONAL, TEAM HANNAH TSC, AND INDIVIDUAL DONORS THE TSC RESEARCH TEAM HAS SCREENED FOR GENES NEVER BEFORE LINKED TO TSC AND IS INVESTIGATING SEVERAL THAT ARE INTRIGUING THE MACKEIGAN LAB PUBLISHED A COMPARISON OF TWO DRUGS, EVEROLIMUS AND SIROLIMUS, AND THE CLINICAL TRIAL OUTCOMES FOR MANAGING TSC USING THESE DRUGS (MACKEIGAN AND KRUEGER, NEURO-ONCOLOGY 17(12) 1550-1559) STUDIES OF THREE-DIMENSIONAL MOLECULAR STRUCTURES AND THEIR PHYSICAL INTERACTIONS HAVE BEEN PROCEEDING ON SEVERAL FRONTS IN 2015 G PROTEIN-COUPLED RECEPTORS FORM A LARGE, COMPLEX GROUP OF MOLECULAR RECEPTORS IN HUMANS, AND MANY IMPORTANT QUESTIONS ABOUT THEM REMAIN ONE MAJOR QUESTION WAS ANSWERED WITH THE SOLUTION OF THE RHODOPSIN-ARRESTIN STRUCTURE BY THE XU AND MELCHER LABS, WHICH PROVIDES A BASIS FOR UNDERSTANDING GPCR-MEDIATED, ARRESTIN-BIASED SIGNALING THE COMPLEX IS RESPONSIBLE FOR REGULATING VITAL PHYSIOLOGICAL FUNCTIONS AND SERVES AS A MAJOR PHARMACOLOGICAL DRUG TARGET THE NEW FINDINGS PROVIDE SCIENTISTS WITH A ROADMAP FOR SELECTIVELY TARGETING CELLULAR PATHWAYS, WHICH MAY LEAD TO MORE-EFFECTIVE DRUGS WITH FEWER SIDE EFFECTS FOR DISEASES SUCH AS CANCER, HEART DISEASE, AND NEURODEGENERATIVE DISORDERS THIS PROJECT ALSO EMPLOYED CUTTING-EDGE X-RAY LASER TECHNOLOGY TO SOLVE THE STRUCTURE OF THESE COMPLEX MOLECULES (KANG ET AL, NATURE 523(7562) 561-567) ANOTHER STUDY FROM THESE LABS UNCOVERED THE MECHANISM OF ALLOSTERIC REGULATION OF AMP-ACTIVATED PROTEIN KINASE, THIS ENZYME IS A PROMISING TARGET FOR TREATING DIABETES, OBESITY, AND CANCER (LI ET AL, CELL RESEARCH 25(1) 50-66) STRUCTURAL STUDIES OF PLANT MOLECULES HAVE ALSO ADVANCED STRINGOLACTONES ARE PLANT HORMONES THAT PROMOTE ROOT SYMBIOSIS WITH NITROGEN-FIXING BACTERIA SUCH AS RHIZOBIUM VARI LABS HAVE MODELED THE INTERACTION OF STRINGOLACTONE WITH THE DWARF3 PROTEIN, REVEALING THE MECHANISM OF RECEPTOR RECOGNITION AND SIGNALING, WHICH IS A STEP TOWARD IMPROVING THE CRUCIAL MYCORRHIZAL AND RHIZOBIUM SYMBIOSIS OF AGRICULTURAL PLANTS (ZHAO ET AL, CELL RESEARCH 25(11) 1219-1236) ANOTHER STUDY SHOWED PRONOUNCED CONFORMATION CHANGES IN THE MYC3 PROTEIN IN ARABIDOPSIS, IDENTIFYING THE DYNAMIC MECHANISM BY WHICH THE SIGNALING PATHWAY OF THE CRUCIAL PLANT HORMONE JASMONATE IS REPRESSED OR ACTIVATED (ZHANG ET AL, NATURE 525(7568) 269-273) JASMONATE SIGNALING REGULATES A VARIETY OF PLANT PROCESSES, INCLUDING SEED GERMINATION, ROOT GROWTH, FLOWERING, AND PHOTOSYNTHESIS UNDERSTANDING INTERACTIONS BETWEEN THESE PLANT PROTEINS NOT ONLY HAS IMPLICATIONS FOR GLOBAL CROP PRODUCTION, BUT ALSO OFFERS INSIGHTS INTO MOLECULAR MECHANISMS THAT MAY PLAY A ROLE IN HUMAN DISEASES MICRO-RNAS ARE AN INCREASINGLY INTERESTING AND RELEVANT AREA OF RESEARCH IN HEALTH AND DISEASE THE SEMPERE LAB REPORTED A LARGE PROGNOSTIC STUDY OF BLADDER CANCER THAT IDENTIFIED THE MICRO-RNA MIR-34A AS A POTENTIAL BIOMARKER AND/OR THERAPEUTIC TARGET FOR THIS DISEASE (ANDREW ET AL, INTERNATIONAL JOURNAL OF CANCER 137(5) 1158-1166) ANOTHER STUDY PUBLISHED IN 2015 WAS A CRITICAL ANALYSIS OF THE POTENTIAL OF MICRO-RNAS AS BIOMARKERS IN BREAST CANCER MANAGEMENT (GRAVEL ET AL, BREAST CANCER TARGETS AND THERAPY 7 59-79) YET ANOTHER STUDY PROVIDED NOVEL INSIGHT INTO POTENTIAL NEW THERAPEUTIC APPROACHES FOR TRIPLE-NEGATIVE BREAST CANCER, A PARTICULARLY DIFFICULT TO TREAT AND AGGRESSIVE FORM OF THE DISEASE (SAMENI ET AL, CLINICAL CANCER RESEARCH, IN PRESS) VARIOUS ALSO TOOK PART IN ESTABLISHING A UNIFORM NAMING SYSTEM FOR MICRO-RNA GENES AND HELPED ESTABLISH A NEW OPEN-ACCESS DATABASE, MIRGENEDB, ON MICRO-RNAS (FROMMETAL, ANNUAL REVIEW OF GENETICS 49 213-242) PROGRESS CONTINUES IN OUR STUDIES OF PANCREATIC CANCER WORK DONE IN THE HAAB LAB SHOWED THAT SIALYL-LEWIS X PROTEIN INCREASES IN PANCREATIC CANCERS THAT ARE NEGATIVE FOR THE TRADITIONAL</p>

Return Reference	Explanation	
	FORM 990, PART III, LINE 4A	<p>NAL MARKER, THE CA19-9 PROTEIN THIS MAY HELP IN DIFFERENTIATING AMONG SUBGROUPS OF PATIENTS WITH PANCREATIC TUMORS SO THAT THE MOST EFFECTIVE TREATMENT CAN BE PROVIDED (TANG ET AL , MOLECULAR AND CELLULAR PROTEOMICS 14(5) 1323-1333) A SECOND STUDY SHOWED THAT A SUBSET OF PANCREATIC CANCERS HAS AN INCREASE IN CELL-SURFACE GLYCANS CONTAINING A 3'-FUCOSE SUGAR COMPONENT, WHICH MAY COMPLEMENT OTHER BIOMARKERS AND ALLOW IMPROVED DETECTION OF PANCREATIC CANCERS (SINGH ET AL , JOURNAL OF PROTEOME RESEARCH 14(6) 2594-2605) VARI RESEARCHERS HAVE DEVELOPED A KIDNEY-SPECIFIC MOUSE MODEL OF BIRT-HOGG-DUBE SYNDROME TUMORIGENESIS BY KNOCKING OUT THE FLCN GENE IN THE KIDNEY'S PROXIMAL TUBULES THIS MODEL AVOIDS MANY PROBLEMS THAT NORMALLY OCCUR IN GENETIC KNOCK-OUTS AND ACCURATELY MODELS HUMAN BIRT-HOGG-DUBE SYNDROME (CHEN ET AL , KIDNEY INTERNATIONAL 88(5) 1057-1069) A PROJECT EXPLORING THE WNT /BETA-CATENIN PATHWAY AND THE HEP SIN PATHWAY IN PROSTATE CANCER FOUND THAT THE ACTIVITY OF BOTH IS INCREASED, AND THUS THEY COULD BECOME TARGETS OF CHEMOTHERAPY (VALKENBURG ET AL , THE PROSTATE 75(14) 1579-1585) A STUDY OF MELANOMA XENOGRAFT MODELS TREATED WITH THE DRUG VEMURAFENIB FOUND SEVERAL MECHANISMS BY WHICH THE CANCER CELLS BECAME RESISTANT TO THERAPY HOWEVER, WHEN VEMURAFENIB WAS COMBINED WITH AN INHIBITOR OF THE MEK PROTEIN, THE TUMORS WERE ERADICATED (MONSMA ET AL , AMERICAN JOURNAL OF CANCER RESEARCH 5(4) 1507-1518) IN CLINICALLY RELATED RESEARCH, A STUDY OF HUMAN OSTEOSARCOMA (BONE CANCER) FOUND THAT THERE WERE SPECIFIC CHANGES IN GENE EXPRESSION IN CELLS THAT WERE HIGHLY RESISTANT TO CHEMOTHERAPY SUCH CELLS ARE SENSITIVE TO TARGETED EPIGENETIC THERAPIES, AND TARGETING THOSE CHANGES MAY BE A VALUABLE THERAPEUTIC STRATEGY (FOLEY ET AL , JOURNAL OF TRANSLATIONAL MEDICINE 13 110) A STUDY OF TISSUES FROM TWO INDIVIDUALS SUFFERING FROM OCULOECTODERMAL SYNDROME IDENTIFIED TWO MUTATIONS OF THE KRAS GENE THE LOW FREQUENCIES OF THE MUTATIONS IN THE PATIENTS SUGGEST THAT THE DISEASE IS A MOSAIC RAS-RELATED DISORDER (PEACOCK ET AL , AMERICAN JOURNAL OF MEDICAL GENETICS A 167(7) 1429-1435) RESEARCH ON THE METABOLISM OF BOTH NORMAL AND PATHOLOGICAL BONE TISSUES HAS CONTINUED IN 2015 A STUDY OF THE WNTLESS PROTEIN, WHICH IS REQUIRED FOR THE SECRETION OF ALL WNT MOLECULES, FOUND THAT WNTLESS REGULATES THE FORMATION OF CARTILAGE AND BONE AND IS ACTIVE IN AFFECTING EMBRYONIC BONE DEVELOPMENT (ZHONG ET AL , DEVELOPMENTAL DYNAMICS 244(10) 1347-1355) IN A STUDY OF BONE HEALING, RADIOACTIVE TECHNETIUM-METHYLENE DIPHOSPHONATE ([99m]TC-MDP) WAS USED TO IMAGE THE HEALING PROCESS THE UPTAKE OF THIS RADIOTRACER CORRESPONDED TO THE LOCATIONS OF OSTEOBLAST GENERATION IN HEALING OF BONES AND TO OSTEOBLAST CELL MATURATION IN CELL CULTURE (ZHONG ET AL , BONE RESEARCH 3 15013) ANOTHER VARI STUDY PRODUCED THE FIRST REPORT OF THE FUNCTION OF THE CD82 TRANSMEMBRANE PROTEIN IN BLOOD PLATELETS CD82 WAS FOUND TO FUNCTION IN MODULATING CLOT RETRACTION, INTEGRIN ALPHA IIB-BETA3 EXPRESSION, CELL ADHESION, AND TYROSINE KINASE SIGNALING (UCHTMANN ET AL , EXPERIMENTAL CELL RESEARCH 339(2) 261-269) IN CULTURES OF PROSTATE CANCER CELLS, CYTOPLASMIC ANDROGEN RECEPTOR, WHEN ACTED ON BY ANDROGEN, RAPIDLY STIMULATED THE SRC TYROSINE KINASE ENZYME CANCER CELL INVASIVE BEHAVIOR IS STIMULATED BY A RAPID BUT SUSTAINED INCREASE IN SRC ACTIVITY (ZARIF ET AL , ONCOTARGET 6(9) 6862-6876)</p>

Return Reference	Explanation	
FORM 990, PART III, LINE 4B	<p>LINE 4B - PROGRAM SERVICE ACTIVITY #2 CENTER FOR EPIGENETICS THE CENTER, ESTABLISHED IN 20 14 AND DIRECTED BY PETER JONES, PH D , D SC , COMPRISES EIGHT LABORATORIES STUDYING EPIGENETICS AND EPIGENOMICS AND THE ROLE OF EPIGENETIC DYSFUNCTION IN CANCER AND NEURODEGENERATIVE DISEASE, CARDIOVASCULAR DISEASE, AND VIRAL TRANSCRIPTION TWO NEW FACULTY WERE RECRUITED TO THE CENTER IN 2015 DR SCOTT ROTHBART WAS APPOINTED AS AN ASSISTANT PROFESSOR AND DR STEPHEN BAYLIN OF JOHNS HOPKINS UNIVERSITY ACCEPTED A PART-TIME APPOINTMENT AS A PROFESSOR IN 2015, CENTER RESEARCHERS RECEIVED A NEW NIH GRANT AWARD, AS WELL AS A MAJOR AWARD FROM THE MICHIGAN ECONOMIC DEVELOPMENT CORPORATION THE VARI-SU2C EPIGENETICS DREAM TEAM, LED BY PETER JONES AND STEPHEN BAYLIN, CONTINUED ITS WORK IN 2015, WITH THE AIMS OF DEVELOPING NEW COMBINATION THERAPIES TO COMBAT CANCER AND MOVING PROMISING THERAPIES TO CLINICAL TRIALS THE TEAM FOCUSES ON EPIGENETIC MECHANISMS IN CELLS, WHICH HELP CONTROL WHETHER GENES ARE TURNED ON OR OFF WITHOUT CHANGING THE DNA SEQUENCE ITSELF A PRINCIPAL WAY THIS IS DONE IS BY THE ADDITION OR REMOVAL OF METHYL GROUPS TO THE DNA MOLECULES (DNA METHYLATION/ DEMETHYLATION) CENTER FACULTY, AS PART OF THE CANCER GENOME ATLAS RESEARCH NETWORK, CONTRIBUTED TO COMPREHENSIVE STUDIES CHARACTERIZING DIFFUSE LOWER-GRADE GLIOMAS AND PRIMARY PROSTATE CANCERS (CANCER GENOME ATLAS RESEARCH NETWORK, NEW ENGLAND JOURNAL OF MEDICINE 372(2 6) 2481-2498, CANCER GENOME ATLAS RESEARCH NETWORK, CELL, 163(4) 1011-1025), AS WELL AS TO A STUDY OF INVASIVE LOBULAR BREAST CANCER (CIRIELLO ET AL, CELL 163(2) 506-519) THIS WORK WILL HELP LAY THE FOUNDATION FOR IMPROVING CANCER PREVENTION, EARLY DETECTION, AND TREATMENT ANOTHER PROJECT MADE USE OF ELMER, A SOFTWARE TOOL THAT USES DNA METHYLATION TO IDENTIFY ENHANCERS OF DNA TRANSCRIPTION THE RESEARCHERS IDENTIFIED NETWORKS REGULATED BY KNOWN CANCER DRIVERS AND NOVEL NETWORKS THAT HAVE PROGNOSTIC POTENTIAL (YAO ET AL, GENOME BIOLOGY 16 105) AN ASSAY CALLED MIRA FOR ANALYZING DNA METHYLATION HAS BEEN DEVELOPED AND COMBINED WITH NEXT-GENERATION SEQUENCING THE ASSAY IS RELIABLE, COST-EFFECTIVE, AND NOT LIMITED BY PRIMER OR PROBE DESIGN (JUNG ET AL, EPIGENOMICS 7(5) 695-706) USING THIS ASSAY, DNA METHYLATION IN METASTATIC MELANOMA CELLS AND IN NORMAL MELANOCYTES WAS CHARACTERIZED A SERIES OF METHYLATION PEAKS FOUND TO BE PRESENT IN ALL MELANOMA SAMPLES MAY BE EFFECTIVE BIOMARKERS OF THE DISEASE (JIN ET AL, GENOMICS 106(6) 322-330) A VECTOR-BASED APPROACH TO GENE RANKING WAS DEVELOPED THAT INCORPORATES TEMPORAL DISTANCE, SIGNAL INTENSITY, AND VARIANCE INTO A SINGLE SCORE THIS METHOD IDENTIFIED AN AGE-DEPENDENT DECREASE IN THE EXPRESSION OF GENES INVOLVED IN TRANSLATION AND RIBOSOME FUNCTION (JUNG ET AL, NUCLEIC ACIDS RESEARCH 43(15) E100) A STUDY OF ENDOCRINE-DISRUPTING CHEMICALS FOUND THAT THEY EXERT DIRECT EPIGENETIC EFFECTS IN EXPOSED FETAL GERM CELLS, ALTERING DNA METHYLATION AND TRANSCRIPTION HOWEVER, THOSE CHANGES ARE CORRECTED BY REPROGRAMMING EVENTS IN THE NEXT GENERATION, SO THE EFFECTS ARE NOT PASSED ON TO LATER GENERATIONS (IQBAL ET AL, GENOME BIOLOGY 16 59) THE NUCLEOSOME OCCUPANCY AND METHYLATION SEQUENCING (NOME-SEQ) METHOD WAS USED TO COMPARE THESE TWO DNA CHARACTERISTICS IN NORMAL AND CANCER CELL LINES OF THE BREAST AND PROSTATE THIS STUDY PROVIDES CELL LINE PROFILES, A BIOINFORMATIC PIPELINE, AND TOOLS THAT WILL BE USEFUL TO SCIENTISTS IN THE FIELD IN FUTURE STUDIES (STATHAM ET AL, GENOMICS DATA 3 94-96) IN A SEPARATE RESEARCH PROJECT, A HIGH-RESOLUTION ANALYSIS OF THE CHROMATIN STRUCTURE OF HCT116 COLON CANCER CELLS AND DNA-METHYLATION-DEFICIENT DERIVATIVE CELLS WAS CARRIED OUT USING THE NOME-SEQ ASSAY IT SHOWED A NUANCED AND CONTEXT-DEPENDENT ROLE OF METHYLATION IN THE FUNCTIONAL ORGANIZATION OF CANCER CELL EPIGENOMES (LAY ET AL, GENOME RESEARCH 25(4) 467-477) IN A STUDY OF COLORECTAL CANCER-INITIATING CELLS (CICS), LOW-DOSE 5-AZACDR, WHICH INHIBITS THE PLACEMENT OF METHYL GROUPS ON DNA, CAUSED CELLS TO RESPOND AS THEY DO TO A VIRAL INFECTION, WITH THE INDUCTION OF DSRNAS AND ACTIVATION OF THE MDA5/MAVS RNA RECOGNITION PATHWAY, THUS TRICKING CANCER CELLS INTO DYING THE STUDY DENOTES A MAJOR SHIFT IN THE UNDERSTANDING OF ANTI-TUMOR MECHANISMS, IDENTIFYING THE MDA5/MAVS/IRF7 PATHWAY AS A POTENTIALLY DRUGGABLE TARGET AGAINST CICS (ROULOIS ET AL, CELL 162(5) 961-973) A COMPLEMENTARY STUDY WITH SIMILAR FINDINGS, COAUTHORED BY DR STEPHEN BAYLIN, WHO HOLDS A JOINT APPOINTMENT AT VARI AND AT JOHNS HOPKINS UNIVERSITY, WAS PUBLISHED IN THE SAME JOURNAL ISSUE (CHIAPPINELLI ET AL, CELL 162(5) 961-973) THESE TWO STUDIES WERE INCLUDED AMONG THE DISCOVERIES HIGHLIGHTED AS TOP BIOMEDICAL ADVANCES OF 2015 BY NATURE MEDICINE A PROJECT ON CELL GENERATION AND CELL TURNOVER IN THE HUMAN HEART PUBLISHED IN 2015 FOUND THAT THE TOTAL NUMBER OF HEART CELLS IS ESTABLISHED JUST AFTER BIRTH, BUT HEART CELLS ARE CONTINUALLY GENERATED THROUGHOUT LIFE TO REPLACE CELL</p>	

Return Reference	Explanation	
	FORM 990, PART III, LINE 4B	<p>S THAT DIE UNDERSTANDING HOW THIS REGENERATION OF CELLS OCCURS WOULD LAY THE FOUNDATION FOR HARNESSING THIS CAPABILITY TO HELP DAMAGED HEARTS HEAL (BERGMANN ET AL , CELL 161(7) 1566-1575) USING SINGLE-CELL EXPRESSION PROFILING, ANOTHER STUDY FOUND THAT A COMBINATION OF N-CADHERIN PLUS THE INTEGRINS ALPHA-1, ALPHA-5, AND ALPHA-6 ALLOWS THE ISOLATION OF REGENERATION-COMPETENT MURINE CARDIOMYOCYTES OTHER SUBTYPES OF HEART CELLS COULD ALSO BE ISOLATED (TARNAWSKI ET AL , PLOS ONE 10(8) E0135880) THIS STUDY WAS ALSO INCLUDED IN NATURE MEDICINE'S LIST OF TOP ADVANCES OF 2015 THE HISTONE ANTIBODY SPECIFICITY DATABASE IS AN ONLINE AND EXPANDING RESOURCE CATALOGING THE BEHAVIOR OF WIDELY USED, COMMERCIALY AVAILABLE HISTONE ANTIBODIES BY PEPTIDE MICROARRAY THIS RECENTLY ANNOUNCED DATABASE HAS AN INTERACTIVE WEB PORTAL AND PROVIDES A VALUABLE RESOURCE FOR RESEARCHERS WHO USE THESE ANTIBODIES AS DETECTION REAGENTS (ROTHBART ET AL , MOLECULAR CELL 59(3) 502-511)</p>

Return Reference	Explanation	
	FORM 990, PART III, LINE 4C	<p>LINE 4C - PROGRAM SERVICE ACTIVITY #3 CENTER FOR NEURODEGENERATIVE SCIENCE THE CENTER FOR NEURODEGENERATIVE SCIENCE WAS ESTABLISHED IN 2011 UNDER PATRIK BRUNDIN, M.D., PH.D., WHO IS ALSO AN ASSOCIATE DIRECTOR OF VARI. THE CENTER CURRENTLY HAS SIX LABORATORIES STUDYING PARKINSON'S DISEASE, AGING, PRIONS, AND THE RELATIONSHIP BETWEEN DEPRESSION, SUICIDE, AND BRAIN INFLAMMATION. ONE NEW FACULTY MEMBER, GARHARD COETZEE, PH.D., JOINED THE CENTER IN 2015. CENTER RESEARCHERS IN 2015 RECEIVED NEW R13 AND R01 AWARDS FROM THE NATIONAL INSTITUTES OF HEALTH, A NEW AWARD FROM THE CURE PARKINSON'S TRUST, AND A POSTDOCTORAL FELLOWSHIP GRANT FROM THE AMERICAN PARKINSON DISEASE ASSOCIATION. TWO NEW RESEARCH CONTRACTS WERE SIGNED WITH PRIVATE FIRMS. VARI CONTINUES THE LINKED CLINICAL TRIALS INITIATIVE BEGUN IN 2014 WITH THE CURE PARKINSON'S TRUST, A UK-BASED RESEARCH CHARITY, TO IDENTIFY NEW TREATMENTS FOR PARKINSON'S DISEASE. THE COLLABORATION FOCUSES ON REPOSITIONING MEDICATIONS APPROVED TO TREAT OTHER DISEASES THAT ALSO HAVE PROMISE 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. OUR STUDIES OF PARKINSON'S DISEASE INCLUDE A PROJECT ON THE ENGRAILED GENE. POLYMORPHISMS IN THE HUMAN ENGRAILED1 (EN1) GENE ARE ASSOCIATED WITH SPORADIC PARKINSON'S DISEASE. THE RESEARCH HAS FOUND EARLY TERMINAL DEFECTS IN THE DOPAMINERGIC NIGROSTRIATAL PATHWAY IN EN1+/- MICE. SUCH HETEROZYGOUS MICE SHOULD BE USEFUL IN UNCOVERING NEW KEYS TO PD PATHOGENESIS (NORDSTROM ET AL., NEUROBIOLOGY OF DISEASE 73(1) 70-82). ANOTHER STUDY HAS DEVELOPED A MODEL CELL CULTURE SYSTEM FOR MONITORING THE TRANSFER OF THE PROTEIN ALPHA-SYNUCLEIN BETWEEN CELLS. THIS PROVIDES RESEARCHERS WITH A TOOL FOR IDENTIFYING GENETIC MODIFIERS OR SMALL MOLECULES THAT CAN INHIBIT SUCH TRANSFER (REYES ET AL., NEUROBIOLOGY OF DISEASE 77 266-275). A THIRD PROJECT STUDIED HOW SMALL VESICLES CALLED EXOSOMES CAN ACCELERATE THE AGGREGATION OF ALPHA-SYNUCLEIN PROTEIN. THE RESULTS SHOWED THAT EXOSOMES PROVIDE A CATALYTIC ENVIRONMENT FOR ACCELERATING THE AGGREGATION OF ALPHA-SYNUCLEIN AND THAT THE GANGLIOSIDE LIPIDS GM1 AND GM3 ARE IMPORTANT IN THE PROCESS (GREY ET AL., JOURNAL OF BIOLOGICAL CHEMISTRY 290(5) 2969-2982). A STUDY OF QUINONE-PROTEIN ADDUCTS IN THE SUBSTANTIA NIGRA FOUND THAT THE ENZYMATIC ACTIVITY OF TWO DEHYDROGENASE ENZYMES, LDH AND MDH, CAN BE COMPROMISED BY MODIFICATION OF THE QUINONE. THIS RESULT SUGGESTS THAT IMPAIRMENT OF ENERGY METABOLISM IS IMPORTANT IN THE VULNERABILITY OF AGED DOPAMINERGIC NEURONS TO PARKINSON'S DISEASE (YU ET AL., EXPERIMENTAL NEUROLOGY 271 13-24). THE PARK9 GENE CAN PROTECT AGAINST ALPHA-SYNUCLEIN-INDUCED TOXICITY IN CELLULAR AND INVERTEBRATE MODELS OF PD, AND IT IS EXPRESSED AT A MODESTLY INCREASED LEVEL IN THE CINGULATE CORTEX OF PARKINSON'S DISEASE PATIENTS. HOWEVER, IN A RODENT MODEL, RESEARCH SHOWED A LACK OF PARK9-MEDIATED PROTECTION AGAINST ALPHA-SYNUCLEIN-INDUCED NEUROTOXICITY (DANIEL ET AL., NEUROBIOLOGY OF DISEASE 73(1) 229-243). THE LRRK2 PROTEIN CARRYING THE G2019S MUTATION PRODUCES NEUROTOXICITY IN THE BRAIN STRIATUM. A FURTHER MUTATION TO THE LRRK2 GENE THAT INACTIVATES THE PROTEIN'S KINASE ACTIVITY ELIMINATED THE TOXIC EFFECTS, SUGGESTING THAT KINASE INHIBITORS MAY HAVE POTENTIAL AS A THERAPEUTIC APPROACH TO PARKINSON'S DISEASE (TSIKA ET AL., NEUROBIOLOGY OF DISEASE 77 49-61). ANOTHER VARI PROJECT STUDIED THE PATHOGENIC PROPERTIES OF SYNTHETICALLY GENERATED PRION (REC-PRION). THE REC-PRION HAS A TITRATABLE INFECTIVITY AND CAN CAUSE PRION DISEASE VIA ROUTES OTHER THAN DIRECT INTRACEREBRAL CHALLENGE. THE REC-PRION DISEASE IS PATHOGENICALLY AND PATHOLOGICALLY IDENTICAL TO NATURALLY OCCURRING, CONTAGIOUS, TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHIES (WANG ET AL., PLOS PATHOGENS 11(7) E1004958). BECAUSE AGING IS THE GREATEST RISK FACTOR FOR THE DEVELOPMENT OF PARKINSON'S DISEASE (PD), CHANGES DURING THE AGING PROCESS MAY MAKE CELLS SUSCEPTIBLE TO DISEASE-CAUSING MUTATIONS THAT ARE TOLERATED AT YOUNGER AGES. IN A C. ELEGANS WORM MODEL, THE DAF-2 MUTATION INCREASED THE LIFE SPAN OF WORMS BEARING PD-RELATED MUTATIONS AND RESCUED THE DEGENERATION OF DOPAMINE NEURONS. THIS STUDY SUGGESTS THAT SLOWING THE AGING PROCESS MAY BE AN EFFECTIVE TREATMENT FOR PD (COOPER ET AL., NPJ PARKINSON'S DISEASE 1 15022). ANOTHER STUDY IN C. ELEGANS SHOWED THAT THE LOCATION OF REACTIVE OXYGEN SPECIES (ROS) CAUSES DIFFERENT EFFECTS ON THE ORGANISM'S LIFE SPAN. HIGHER LEVELS OF ROS IN MITOCHONDRIA INCREASE LIFE SPAN, WHILE HIGHER LEVELS IN THE CYTOPLASM DECREASE IT. THIS KNOWLEDGE MAY EVENTUALLY BE USED TO PROMOTE LONGEVITY, AS WELL AS TO UNDERSTAND THE ROLE OF ROS IN AGE-RELATED CONDITIONS SUCH AS PARKINSON'S DISEASE (SCHAR ET AL., PLOS GENETICS 11(2) E1004972). VARI PUBLISHED SEVERAL REPORTS ON DEPRESSION, SUICIDAL BEHAVIOR, AND BRAIN INFLAMMATION IN 2015 THAT MAY PROVIDE NEW THERAPEUTIC APPROACHES FOR MANAGING SUICIDAL BEHAVIOR. ONE STUDY SUGGE</p>

Return Reference	Explanation	
	FORM 990, PART III, LINE 4C	<p>STS THAT THE MACROPHAGE MIGRATION INHIBITORY PROTEIN IS INVOLVED IN DEPRESSIVE-LIKE SYMPTOMS, POSSIBLY THROUGH INTERFERON-GAMMA EFFECTS ON DOPAMINE METABOLISM THE EFFECTS MAY BE SPECIFIC (BAY-RICHTER ET AL , JOURNAL OF NEUROINFLAMMATION 12 163) ANOTHER STUDY FOUND THAT AGGRESSION AND IMPULSIVITY ARE ASSOCIATED WITH LATENT INFECTION BY TOXOPLASMA GONDII PARASITES AND THAT THERE ARE GENDER- AND AGE-SPECIFIC DIFFERENCES IN THESE TRAITS SUBSEQUENT STUDIES OF THE TRAITS MAY PROVIDE ADVANCES IN PROGNOSIS AND THERAPY FOR INFECTED INDIVIDUALS (COOK ET AL , JOURNAL OF PSYCHIATRIC RESEARCH 60 87-94) BASED ON A COMPREHENSIVE LITERATURE REVIEW, THE EFFECTS OF BRAIN INFLAMMATION ON SUICIDAL BEHAVIOR MAY BE IN PART MEDIATED BY KYNURENINE PATHWAY COMPONENTS (BRUNDIN ET AL , ACTA PSYCHIATRICA SCANDINAVICA 132(3) 192-203) A SEPARATE STUDY FOUND DYSREGULATION OF KYNURENINE METABOLISM IN DERESSED AND SUICIDAL PATIENTS HIGHER CONCENTRATIONS OF INFLAMMATORY CYTOKINES IN THE CEREBROSPINAL FLUID WERE ASSOCIATED WITH MORE-SEVERE SYMPTOMS THE GLUTAMATE N-METHYL-D-ASPARTATE (NMDA) RECEPTOR MAY BE A TARGET FOR DEVELOPING NOVEL THERAPIES (BAY-RICHTER ET AL , BRAIN, BEHAVIOR, AND IMMUNITY 43 110-117) A THIRD STUDY FOUND THAT MAJOR DEPRESSIVE DISORDER WAS NOT ASSOCIATED WITH HIGHER PLASMA LEVELS OF KYNURENINE PATHWAY MARKERS IN PATIENTS RECEIVING CYTOKINE THERAPY FOR DEPRESSION, SUGGESTING A DIFFERENT MECHANISM FROM THAT OF INTERFERON-INDUCED DEPRESSION (DAHL ET AL , PSYCHONEUROENDOCRINOLOGY 56 12-22)</p>

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

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 \$1,312,631,000 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

SCHEDULE R
(Form 990)

Related Organizations and Unrelated Partnerships

OMB No 1545-0047

2014

Open to Public Inspection

Department of the Treasury
Internal Revenue Service

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

Name of the organization
VAN ANDEL RESEARCH INSTITUTE

Employer identification number

52-2000823

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) BOSTWICK EVENT MANAGEMENT 333 BOSTWICK AVENUE NE GRAND RAPIDS, MI 495032518 52-2000823	EVENT MANAGEMENT	MI	5,409	118,199	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?

a Receipt of (i) interest, (ii) annuities, (iii) royalties, or (iv) rent from a controlled entity

b Gift, grant, or capital contribution to related organization(s)

c Gift, grant, or capital contribution from related organization(s)

d Loans or loan guarantees to or for related organization(s)

e Loans or loan guarantees by related organization(s)

f Dividends from related organization(s)

g Sale of assets to related organization(s)

h Purchase of assets from related organization(s)

i Exchange of assets with related organization(s)

j Lease of facilities, equipment, or other assets to related organization(s)

k Lease of facilities, equipment, or other assets from related organization(s)

l Performance of services or membership or fundraising solicitations for related organization(s)

m Performance of services or membership or fundraising solicitations by related organization(s)

n Sharing of facilities, equipment, mailing lists, or other assets with related organization(s)

o Sharing of paid employees with related organization(s)

p Reimbursement paid to related organization(s) for expenses

q Reimbursement paid by related organization(s) for expenses

r Other transfer of cash or property to related organization(s)

s Other transfer of cash or property from related organization(s)

Yes

No

1a

No

1b

No

1c

Yes

1d

No

1e

Yes

1f

No

1g

No

1h

No

1i

No

1j

No

1k

No

1l

No

1m

No

1n

Yes

1o

Yes

1p

Yes

1q

Yes

1r

No

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			

Schedule R (Form 990) 2014

Part VI **Unrelated Organizations Taxable as a Partnership** Complete if the organization answered "Yes" on Form 990, Part IV, line 37.

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.

(a) Name, address, and EIN of entity	(b) Primary activity	(c) Legal domicile (state or foreign country)	(d) Predominant income (related, unrelated, excluded from tax under sections 512-514)	(e) Are all partners section 501(c)(3) organizations?		(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		Yes	No	

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 related organization	(b) Transaction type(a-s)	(c) Amount Involved	(d) Method of determining amount involved
VAN ANDEL INSTITUTE	C	37,825,510	ACTUAL AMOUNT PAID
VAN ANDEL INSTITUTE	E	42,710,000	TOTAL RECORDED
VAN ANDEL INSTITUTE	N	315,668	ALLOCATION BASED ON SQ FOOTAGE
VAN ANDEL INSTITUTE	P	386,216	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	97,741	ACTUAL AMOUNT PAID
VAN ANDEL EDUCATION INSTITUTE	Q	377,733	ACTUAL AMOUNT RECEIVED
VAN ANDEL EDUCATION INSTITUTE	O	73,350	APPORTIONED FY15 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	170,565	ACTUAL AMOUNT RECEIVED
VAN ANDEL INSTITUTE GRADUATE SCHOOL	O	132,025	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE	Q	4,044,233	ACTUAL AMOUNT PAID