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Form 990

Return of Organization Exempt From Income Tax

OMB No 1545-0047

2017

Open to Public Inspection

Under section 501(c), 527, or 4947(a)(1) of the Internal Revenue Code (except private foundations)

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](http://www.irs.gov/form990)

Department of the Treasury  
Internal Revenue Service

2017

Open to Public Inspection

A For the 2017 calendar year, or tax year beginning 12-01-2017 , and ending 11-30-2018

B Check if applicable

☐ Address change

☐ Name change

☐ Initial return

☐ Final return/terminated

☐ Amended return

☐ Application pending

C Name of organization

VAN ANDEL RESEARCH INSTITUTE

Doing business as

Number and street (or P O box if mail is not delivered to street address)

Room/suite

333 BOSTWICK AVENUE NE

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?

☐ Yes ☒ No

H(b) Are all subordinates included?

☐ Yes ☐ No

If "No," attach a list (see instructions)

H(c) Group exemption number ▶

I Tax-exempt status

☒ 501(c)(3) ☐ 501(c) ( ) ◀(insert no ) ☐ 4947(a)(1) or ☐ 527

J Website: ▶ WWW VAI ORG

K Form of organization

☐ Corporation ☒ Trust ☐ Association ☐ Other ▶

L Year of formation 1996

M State of legal domicile MI

Part I Summary

Activities & Governance

1 Briefly describe the organization's mission or most significant activities

MEDICAL RESEARCH ORGANIZATION

2 Check this box ☐ if the organization discontinued its operations or disposed of more than 25% of its net assets

3 Number of voting members of the governing body (Part VI, line 1a)

4 Number of independent voting members of the governing body (Part VI, line 1b)

5 Total number of individuals employed in calendar year 2017 (Part V, line 2a)

6 Total number of volunteers (estimate if necessary)

7a Total unrelated business revenue from Part VIII, column (C), line 12

7b Net unrelated business taxable income from Form 990-T, line 34

3 5

4 4

5 449

6 16

7a 409,670

7b 104,762

Revenue

8 Contributions and grants (Part VIII, line 1h)

9 Program service revenue (Part VIII, line 2g)

10 Investment income (Part VIII, column (A), lines 3, 4, and 7d )

11 Other revenue (Part VIII, column (A), lines 5, 6d, 8c, 9c, 10c, and 11e)

12 Total revenue—add lines 8 through 11 (must equal Part VIII, column (A), line 12)

Prior Year

Current Year

71,484,792

76,050,595

1,122,867

1,206,439

993,632

683,062

9,465,550

8,528,787

83,066,841

86,468,883

Expenses

13 Grants and similar amounts paid (Part IX, column (A), lines 1–3 )

14 Benefits paid to or for members (Part IX, column (A), line 4)

15 Salaries, other compensation, employee benefits (Part IX, column (A), lines 5–10)

16a Professional fundraising fees (Part IX, column (A), line 11e)

b Total fundraising expenses (Part IX, column (D), line 25) ▶967,682

17 Other expenses (Part IX, column (A), lines 11a–11d, 11f–24e)

18 Total expenses Add lines 13–17 (must equal Part IX, column (A), line 25)

19 Revenue less expenses Subtract line 18 from line 12

Prior Year

Current Year

1,012,021

1,095,983

0

0

36,040,459

39,942,174

0

0

38,499,186

45,167,491

75,551,666

86,205,648

7,515,175

263,235

Net Assets or Fund Balances

20 Total assets (Part X, line 16)

21 Total liabilities (Part X, line 26)

22 Net assets or fund balances Subtract line 21 from line 20

Beginning of Current Year

End of Year

247,321,206

229,968,935

329,139,789

299,912,525

-81,818,583

-69,943,590

Part II Signature Block

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

2019-10-10

Date

TIMOTHY J MYERS VICE PRESIDENT & CFO

Type or print name and title

Paid Preparer Use Only

Print/Type preparer's name

Preparer's signature

Date

Check ☐ if self-employed

PTIN

ANNE FULTON

P00941863

Firm's name ▶ DELOITTE TAX LLP

Firm's EIN ▶ 86-1065772

Firm's address ▶ 200 RENAISSANCE CENTER STE 3900

Phone no (313) 396-3000

DETROIT, MI 48243

May the IRS discuss this return with the preparer shown above? (see instructions)

☒ Yes ☐ No

For Paperwork Reduction Act Notice, see the separate instructions.

Cat No 11282Y

Form 990 (2017)

**Part III Statement of Program Service Accomplishments**Check if Schedule O contains a response or note to any line in this Part III ☐ ☒**1** Briefly describe the organization's mission:

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

**2** Did the organization undertake any significant program services during the year which were not listed on the prior Form 990 or 990-EZ? ☐ Yes ☒ No

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

**3** Did the organization cease conducting, or make significant changes in how it conducts, any program services? ☐ Yes ☒ No

If "Yes," describe these changes on Schedule O

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

<b>4a</b>	(Code ) (Expenses \$	9,527,469	including grants of \$	123,733 ) (Revenue \$	45,447 )
	See Additional Data				

<b>4b</b>	(Code ) (Expenses \$	10,815,000	including grants of \$	938,184 ) (Revenue \$	188,097 )
	See Additional Data				

























<b>4c</b>	(Code ) (Expenses \$	6,383,212	including grants of \$	19,566 ) (Revenue \$	220,375 )
	See Additional Data				

	(Code ) (Expenses \$	32,313,516	including grants of \$	14,500 ) (Revenue \$	752,520 )
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<b>4d</b>	Other program services (Describe in Schedule O )				
	(Expenses \$	32,313,516	including grants of \$	14,500 ) (Revenue \$	752,520 )

<b>4e</b>	<b>Total program service expenses</b> ▶	59,039,197			
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**Part IV Checklist of Required Schedules**

	Yes	No
<b>1</b> Is the organization described in section 501(c)(3) or 4947(a)(1) (other than a private foundation)? If "Yes," complete Schedule A 	<b>1</b> Yes	
<b>2</b> Is the organization required to complete Schedule B, Schedule of Contributors (see instructions)? 	<b>2</b> Yes	
<b>3</b> 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 	<b>3</b>	No
<b>4 Section 501(c)(3) organizations.</b> 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 	<b>4</b> Yes	
<b>5</b> 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 	<b>5</b>	No
<b>6</b> 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 	<b>6</b>	No
<b>7</b> 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 	<b>7</b>	No
<b>8</b> Did the organization maintain collections of works of art, historical treasures, or other similar assets? If "Yes," complete Schedule D, Part III 	<b>8</b>	No
<b>9</b> 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 	<b>9</b>	No
<b>10</b> 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 	<b>10</b> Yes	
<b>11</b> 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		
<b>a</b> Did the organization report an amount for land, buildings, and equipment in Part X, line 10? If "Yes," complete Schedule D, Part VI 	<b>11a</b> Yes	
<b>b</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 	<b>11b</b>	No
<b>c</b> 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 	<b>11c</b>	No
<b>d</b> 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 	<b>11d</b> Yes	
<b>e</b> Did the organization report an amount for other liabilities in Part X, line 25? If "Yes," complete Schedule D, Part X 	<b>11e</b> Yes	
<b>f</b> 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 	<b>11f</b> Yes	
<b>12a</b> Did the organization obtain separate, independent audited financial statements for the tax year? If "Yes," complete Schedule D, Parts XI and XII 	<b>12a</b>	No
<b>b</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 	<b>12b</b> Yes	
<b>13</b> Is the organization a school described in section 170(b)(1)(A)(ii)? If "Yes," complete Schedule E	<b>13</b>	No
<b>14a</b> Did the organization maintain an office, employees, or agents outside of the United States?	<b>14a</b> Yes	
<b>b</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 	<b>14b</b> Yes	
<b>15</b> 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 	<b>15</b> Yes	
<b>16</b> 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 	<b>16</b>	No
<b>17</b> 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) 	<b>17</b>	No
<b>18</b> 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 	<b>18</b> Yes	
<b>19</b> 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 	<b>19</b>	No

**Part IV Checklist of Required Schedules** (continued)

	Yes	No
<b>20a</b> Did the organization operate one or more hospital facilities? <i>If "Yes," complete Schedule H . . . . .</i>		No
<b>b</b> If "Yes" to line 20a, did the organization attach a copy of its audited financial statements to this return?		
<b>21</b> 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>	Yes	
<b>22</b> 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>	Yes	
<b>23</b> 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>	Yes	
<b>24a</b> 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>	Yes	
<b>b</b> Did the organization invest any proceeds of tax-exempt bonds beyond a temporary period exception? . . . . .		No
<b>c</b> Did the organization maintain an escrow account other than a refunding escrow at any time during the year to defease any tax-exempt bonds? . . . . .		No
<b>d</b> Did the organization act as an "on behalf of" issuer for bonds outstanding at any time during the year? . . . . .		No
<b>25a Section 501(c)(3), 501(c)(4), and 501(c)(29) organizations.</b> 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>		No
<b>b</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>		No
<b>26</b> 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>		No
<b>27</b> 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>		No
<b>28</b> 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)		
<b>a</b> A current or former officer, director, trustee, or key employee? <i>If "Yes," complete Schedule L, Part IV . . . . .</i>		No
<b>b</b> A family member of a current or former officer, director, trustee, or key employee? <i>If "Yes," complete Schedule L, Part IV . . . . .</i>		No
<b>c</b> 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>		No
<b>29</b> Did the organization receive more than \$25,000 in non-cash contributions? <i>If "Yes," complete Schedule M . . . . .</i>	Yes	
<b>30</b> Did the organization receive contributions of art, historical treasures, or other similar assets, or qualified conservation contributions? <i>If "Yes," complete Schedule M . . . . .</i>		No
<b>31</b> Did the organization liquidate, terminate, or dissolve and cease operations? <i>If "Yes," complete Schedule N, Part I . . . . .</i>		No
<b>32</b> 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>		No
<b>33</b> 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>	Yes	
<b>34</b> 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>	Yes	
<b>35a</b> Did the organization have a controlled entity within the meaning of section 512(b)(13)?	Yes	
<b>b</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>	Yes	
<b>36 Section 501(c)(3) organizations.</b> Did the organization make any transfers to an exempt non-charitable related organization? <i>If "Yes," complete Schedule R, Part V, line 2 . . . . .</i>		No
<b>37</b> 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>		No
<b>38</b> Did the organization complete Schedule O and provide explanations in Schedule O for Part VI, lines 11b and 19? <b>Note.</b> All Form 990 filers are required to complete Schedule O . . . . .	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
<b>1a</b>	Enter the number reported in Box 3 of Form 1096. Enter -0- if not applicable.	161	
<b>b</b>	Enter the number of Forms W-2G included in line 1a. Enter -0- if not applicable.	0	
<b>c</b>	Did the organization comply with backup withholding rules for reportable payments to vendors and reportable gaming (gambling) winnings to prize winners?		
<b>2a</b>	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.	449	
<b>b</b>	If at least one is reported on line 2a, did the organization file all required federal employment tax returns? <b>Note.</b> If the sum of lines 1a and 2a is greater than 250, you may be required to e-file (see instructions).	Yes	
<b>3a</b>	Did the organization have unrelated business gross income of \$1,000 or more during the year?	Yes	
<b>b</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	
<b>4a</b>	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>b</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).		
<b>5a</b>	Was the organization a party to a prohibited tax shelter transaction at any time during the tax year?		No
<b>b</b>	Did any taxable party notify the organization that it was or is a party to a prohibited tax shelter transaction?		No
<b>c</b>	If "Yes," to line 5a or 5b, did the organization file Form 8886-T?		
<b>6a</b>	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>b</b>	If "Yes," did the organization include with every solicitation an express statement that such contributions or gifts were not tax deductible?		
<b>7</b>	<b>Organizations that may receive deductible contributions under section 170(c).</b>		
<b>a</b>	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?	Yes	
<b>b</b>	If "Yes," did the organization notify the donor of the value of the goods or services provided?	Yes	
<b>c</b>	Did the organization sell, exchange, or otherwise dispose of tangible personal property for which it was required to file Form 8282?		No
<b>d</b>	If "Yes," indicate the number of Forms 8282 filed during the year.		
<b>e</b>	Did the organization receive any funds, directly or indirectly, to pay premiums on a personal benefit contract?		No
<b>f</b>	Did the organization, during the year, pay premiums, directly or indirectly, on a personal benefit contract?		No
<b>g</b>	If the organization received a contribution of qualified intellectual property, did the organization file Form 8899 as required?		
<b>h</b>	If the organization received a contribution of cars, boats, airplanes, or other vehicles, did the organization file a Form 1098-C?		
<b>8</b>	<b>Sponsoring organizations maintaining donor advised funds.</b> Did a donor advised fund maintained by the sponsoring organization have excess business holdings at any time during the year?		
<b>9a</b>	Did the sponsoring organization make any taxable distributions under section 4966?		
<b>b</b>	Did the sponsoring organization make a distribution to a donor, donor advisor, or related person?		
<b>10</b>	<b>Section 501(c)(7) organizations.</b> Enter		
<b>a</b>	Initiation fees and capital contributions included on Part VIII, line 12.		
<b>b</b>	Gross receipts, included on Form 990, Part VIII, line 12, for public use of club facilities.		
<b>11</b>	<b>Section 501(c)(12) organizations.</b> Enter		
<b>a</b>	Gross income from members or shareholders.		
<b>b</b>	Gross income from other sources (Do not net amounts due or paid to other sources against amounts due or received from them).		
<b>12a</b>	<b>Section 4947(a)(1) non-exempt charitable trusts.</b> Is the organization filing Form 990 in lieu of Form 1041?		
<b>b</b>	If "Yes," enter the amount of tax-exempt interest received or accrued during the year.		
<b>13</b>	<b>Section 501(c)(29) qualified nonprofit health insurance issuers.</b>		
<b>a</b>	Is the organization licensed to issue qualified health plans in more than one state? <b>Note.</b> See the instructions for additional information the organization must report on Schedule O.		
<b>b</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.		
<b>c</b>	Enter the amount of reserves on hand.		
<b>14a</b>	Did the organization receive any payments for indoor tanning services during the tax year?		No
<b>b</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
<b>1a</b>	Enter the number of voting members of the governing body at the end of the tax year	5	
If there are material differences in voting rights among members of the governing body, or if the governing body delegated broad authority to an executive committee or similar committee, explain in Schedule O			
<b>b</b>	Enter the number of voting members included in line 1a, above, who are independent	4	
<b>2</b>	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?	Yes	
<b>3</b>	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?		No
<b>4</b>	Did the organization make any significant changes to its governing documents since the prior Form 990 was filed?		No
<b>5</b>	Did the organization become aware during the year of a significant diversion of the organization's assets?		No
<b>6</b>	Did the organization have members or stockholders?		No
<b>7a</b>	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?	Yes	
<b>b</b>	Are any governance decisions of the organization reserved to (or subject to approval by) members, stockholders, or persons other than the governing body?		No
<b>8</b>	Did the organization contemporaneously document the meetings held or written actions undertaken during the year by the following:		
<b>a</b>	The governing body?	Yes	
<b>b</b>	Each committee with authority to act on behalf of the governing body?	Yes	
<b>9</b>	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		No

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

		Yes	No
<b>10a</b>	Did the organization have local chapters, branches, or affiliates?		No
<b>b</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?		
<b>11a</b>	Has the organization provided a complete copy of this Form 990 to all members of its governing body before filing the form?	Yes	
<b>b</b>	Describe in Schedule O the process, if any, used by the organization to review this Form 990		
<b>12a</b>	Did the organization have a written conflict of interest policy? If "No," go to line 13	Yes	
<b>b</b>	Were officers, directors, or trustees, and key employees required to disclose annually interests that could give rise to conflicts?	Yes	
<b>c</b>	Did the organization regularly and consistently monitor and enforce compliance with the policy? If "Yes," describe in Schedule O how this was done	Yes	
<b>13</b>	Did the organization have a written whistleblower policy?	Yes	
<b>14</b>	Did the organization have a written document retention and destruction policy?	Yes	
<b>15</b>	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?		
<b>a</b>	The organization's CEO, Executive Director, or top management official	Yes	
<b>b</b>	Other officers or key employees of the organization	Yes	
If "Yes" to line 15a or 15b, describe the process in Schedule O (see instructions)			
<b>16a</b>	Did the organization invest in, contribute assets to, or participate in a joint venture or similar arrangement with a taxable entity during the year?		No
<b>b</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?		

**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 VP & 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				490,327	0	129,226
(2) DR JAMES FAHNER TRUSTEE	1 00 1 00	X						10,000	2,000	0
(3) DR RALPH WEICHELBAUM TRUSTEE (ENDED 09/10/18)	1 00 0 00	X						9,000	0	0
(4) DR MAX WICHA TRUSTEE	1 00 0 00	X						13,000	0	0
(5) DR MICHELLE LEBEAU TRUSTEE	1 00 0 00	X						10,000	0	0
(6) DR TOM DEMEESTER TRUSTEE	1 00 0 00	X						10,000	0	0
(7) DR JANA HALL CHIEF OPERATIONS OFFICER	50 00 3 00			X				423,365	0	147,856
(8) TIMOTHY MYERS V P & CHIEF FINANCIAL OFFICER	50 00 3 00			X				308,792	0	107,081
(9) DR PETER JONES CHIEF SCIENTIFIC OFFICER & RES DIR	52 00 0 00				X			712,053	0	202,298
(10) KATHY VOGELSANG CHIEF INVESTMENT OFFICER	45 00 0 00					X		610,494	0	371,506
(11) DR PATRIK BRUNDIN ASSOCIATE RESEARCH DIRECTOR	45 00 0 00					X		488,766	0	115,385
(12) DR PETER LAIRD INVESTIGATOR	45 00 0 00					X		403,258	0	58,817
(13) DR GERD PFEIFER INVESTIGATOR	45 00 0 00					X		360,876	0	46,218
(14) TED HEILMAN ASSOC DIRECT-SR PORTFOLIO MGR	45 00 0 00					X		406,010	0	229,054
(15) DR GEORGE VANDE WOUDE TRUSTEE/INVESTIGATOR	0 00 0 00						X	269,298	0	28,352
(16) DAVID WHITESCARVER FORMER SECRETARY/V P	0 00 0 00						X	295,363	0	0

[illegible]

2 Total number of individuals (including but not limited to those listed above) who received more than \$100,000 of reportable compensation from the organization ► 71

## Section B. Independent Contractors

(A)	(B)	(C)
Name and business address	Description of services	Compensation
DK SECURITY INC 5160 FALCONVIEW AVE SE KENTWOOD, MI 49512	SECURITY SERVICES	305,357
LOS ALAMOS NATIONAL LABORATORY MS K710 LOS ALAMOS, NM 87545	SCIENTIFIC SERVICES	242,520
ANDY J EGAN COMPANY INC 2001 WALDROF NW SUITE 200 GRAND RAPIDS, MI 49544	MAINTENANCE SERVICES	161,534
FEDERAL EXPRESS PO BOX 371461 PITTSBURGH, PA 152512125	SHIPPING SERVICE	151,422
PRESIDIO NETWORK SOLUTIONS GROUP LLC PO BOX 677638 DALLAS, TX 752677638	CONSULTING SERVICES	149,911

<p><b>2</b> Total number of independent contractors (including but not limited to those listed above) who received more than \$100,000 of compensation from the organization ► 10</p>	
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Part VIII

Statement of Revenue

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

			(A) Total revenue	(B) Related or exempt function revenue	(C) Unrelated business revenue	(D) Revenue excluded from tax under sections 512-514	
Contributions, Gifts, Grants and Other Similar Amounts	1a	Federated campaigns . . .	1a				
	b	Membership dues . . .	1b				
	c	Fundraising events . . .	1c	76,554			
	d	Related organizations	1d	54,765,920			
	e	Government grants (contributions)	1e	15,455,493			
	f	All other contributions, gifts, grants, and similar amounts not included above	1f	5,752,628			
	g	Noncash contributions included in lines 1a-1f \$	10,053				
	h	Total. Add lines 1a-1f . . . . .	76,050,595				
Program Service Revenue			Business Code				
	2a	RESEARCH BILLED REV	541700	1,206,439	796,831	409,608	
	b						
	c						
	d						
	e						
	f	All other program service revenue					
	g	Total. Add lines 2a-2f . . . . .	1,206,439				
Other Revenue	3		Investment income (including dividends, interest, and other similar amounts) . . . . .	611,040			611,040
	4		Income from investment of tax-exempt bond proceeds				
	5		Royalties . . . . .	769,948			769,948
	6a	(i) Real					
		(ii) Personal					
		Gross rents					
		208,181					
	b	Less rental expenses		133,827			
	c	Rental income or (loss)		74,354			
	d	Net rental income or (loss) . . . . .		74,354		62	74,292
	7a	(i) Securities					
		(ii) Other					
		Gross amount from sales of assets other than inventory					
		85,282					
	b	Less cost or other basis and sales expenses		13,260			
	c	Gain or (loss)		72,022			
	d	Net gain or (loss) . . . . .		72,022			72,022
	8a	Gross income from fundraising events (not including \$ 76,554 of contributions reported on line 1c)					
		a	7,940				
		b	22,303				
c	Net income or (loss) from fundraising events . . . . .		-14,363			-14,363	
9a	Gross income from gaming activities See Part IV, line 19 . . . . .						
	a						
	b						
c	Net income or (loss) from gaming activities . . . . .						
10a	Gross sales of inventory, less returns and allowances . . . . .						
	a						
	b						
c	Net income or (loss) from sales of inventory . . . . .						
Miscellaneous Revenue		Business Code					
11a	ALLOCATED ADMIN EXP	561000	7,454,379			7,454,379	
b	REIMBURSED EXPENSES	900099	89,238			89,238	
c							
d	All other revenue . . . . .		155,231			155,231	
e	Total. Add lines 11a-11d . . . . .		7,698,848				
12	Total revenue. See Instructions . . . . .		86,468,883	796,831	409,670	9,211,787	

**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 ☐

	(A) Total expenses	(B) Program service expenses	(C) Management and general expenses	(D) Fundraising expenses
<b>Do not include amounts reported on lines 6b, 7b, 8b, 9b, and 10b of Part VIII.</b>				
<b>1</b> Grants and other assistance to domestic organizations and domestic governments. See Part IV, line 21.	827,751	827,751		
<b>2</b> Grants and other assistance to domestic individuals. See Part IV, line 22.	217,006	217,006		
<b>3</b> Grants and other assistance to foreign organizations, foreign governments, and foreign individuals. See Part IV, line 15 and 16.	51,226	51,226		
<b>4</b> Benefits paid to or for members.				
<b>5</b> Compensation of current officers, directors, trustees, and key employees.	2,283,411	806,925	1,476,486	
<b>6</b> Compensation not included above, to disqualified persons (as defined under section 4958(f)(1)) and persons described in section 4958(c)(3)(B).				
<b>7</b> Other salaries and wages.	29,071,924	17,890,164	10,590,249	591,511
<b>8</b> Pension plan accruals and contributions (include section 401 (k) and 403(b) employer contributions).	2,661,929	1,587,253	1,025,387	49,289
<b>9</b> Other employee benefits.	4,044,566	2,411,691	1,557,985	74,890
<b>10</b> Payroll taxes.	1,880,344	1,121,210	724,317	34,817
<b>11</b> Fees for services (non-employees):				
<b>a</b> Management.				
<b>b</b> Legal.	460,633	45,459	415,174	
<b>c</b> Accounting.	71,053		71,053	
<b>d</b> Lobbying.	96,000		96,000	
<b>e</b> Professional fundraising services. See Part IV, line 17.				
<b>f</b> Investment management fees.				
<b>g</b> Other (If line 11g amount exceeds 10% of line 25, column (A) amount, list line 11g expenses on Schedule O).	2,337,221	1,801,631	514,677	20,913
<b>12</b> Advertising and promotion.	760,537	29,289	586,536	144,712
<b>13</b> Office expenses.	150,365	54,671	95,634	60
<b>14</b> Information technology.	340,238	162,710	172,387	5,141
<b>15</b> Royalties.				
<b>16</b> Occupancy.	2,604,067	2,067,187	535,615	1,265
<b>17</b> Travel.	743,796	520,941	200,269	22,586
<b>18</b> Payments of travel or entertainment expenses for any federal, state, or local public officials.				
<b>19</b> Conferences, conventions, and meetings.	182,155	113,331	63,337	5,487
<b>20</b> Interest.	10,760,495	7,999,832	2,760,663	
<b>21</b> Payments to affiliates.				
<b>22</b> Depreciation, depletion, and amortization.	10,976,842	9,408,576	1,568,266	
<b>23</b> Insurance.	533,115	333,064	200,051	
<b>24</b> 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):				
<b>a</b> FED / STATE INCOME TAX	135,824	0	135,824	
<b>b</b> LAB SUPPLIES & SERVICES	5,162,377	5,162,377		
<b>c</b> EQUIPMENT & SOFTWARE	3,794,364	2,762,597	1,030,455	1,312
<b>d</b> BAD DEBT EXPENSE (ADJUS	1,572,658		1,572,658	
<b>e</b> All other expenses	4,485,751	3,664,306	805,746	15,699
<b>25</b> Total functional expenses. Add lines 1 through 24e.	86,205,648	59,039,197	26,198,769	967,682
<b>26</b> 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 Sheet**Check if Schedule O contains a response or note to any line in this Part IX ☐

				(A) Beginning of year		(B) End of year	
<b>Assets</b>	<b>1</b>	Cash—non-interest-bearing . . . . .			<b>1</b>		
	<b>2</b>	Savings and temporary cash investments . . . . .		8,597,139	<b>2</b>	8,076,049	
	<b>3</b>	Pledges and grants receivable, net . . . . .		3,382,233	<b>3</b>	4,270,243	
	<b>4</b>	Accounts receivable, net . . . . .		6,269,641	<b>4</b>	3,969,006	
	<b>5</b>	Loans and other receivables from current and former officers, directors, trustees, key employees, and highest compensated employees. Complete Part II of Schedule L . . . . .			<b>5</b>		
	<b>6</b>	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 . . . . .			<b>6</b>		
	<b>7</b>	Notes and loans receivable, net . . . . .		42,645	<b>7</b>	1,697,944	
	<b>8</b>	Inventories for sale or use . . . . .			<b>8</b>	157,198	
	<b>9</b>	Prepaid expenses and deferred charges . . . . .		1,194,778	<b>9</b>	1,544,611	
	<b>10a</b>	Land, buildings, and equipment: cost or other basis. Complete Part VI of Schedule D.	<b>10a</b>	293,053,446			
	<b>b</b>	Less: accumulated depreciation	<b>10b</b>	109,593,147	184,886,459	<b>10c</b>	183,460,299
	<b>11</b>	Investments—publicly traded securities . . . . .			<b>11</b>		
	<b>12</b>	Investments—other securities. See Part IV, line 11 . . . . .		5,108,311	<b>12</b>	7,153,585	
	<b>13</b>	Investments—program-related. See Part IV, line 11 . . . . .			<b>13</b>		
	<b>14</b>	Intangible assets . . . . .			<b>14</b>		
	<b>15</b>	Other assets. See Part IV, line 11 . . . . .		37,840,000	<b>15</b>	19,640,000	
<b>16</b>	<b>Total assets.</b> Add lines 1 through 15 (must equal line 34) . . . . .		247,321,206	<b>16</b>	229,968,935		
<b>Liabilities</b>	<b>17</b>	Accounts payable and accrued expenses . . . . .		49,184,301	<b>17</b>	32,511,690	
	<b>18</b>	Grants payable . . . . .			<b>18</b>		
	<b>19</b>	Deferred revenue . . . . .		1,340,635	<b>19</b>	2,256,713	
	<b>20</b>	Tax-exempt bond liabilities . . . . .		219,722,640	<b>20</b>	219,733,588	
	<b>21</b>	Escrow or custodial account liability. Complete Part IV of Schedule D . . . . .			<b>21</b>		
	<b>22</b>	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 . . . . .			<b>22</b>		
	<b>23</b>	Secured mortgages and notes payable to unrelated third parties . . . . .			<b>23</b>		
	<b>24</b>	Unsecured notes and loans payable to unrelated third parties . . . . .			<b>24</b>		
	<b>25</b>	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 . . . . .		58,892,213	<b>25</b>	45,410,534	
	<b>26</b>	<b>Total liabilities.</b> Add lines 17 through 25 . . . . .		329,139,789	<b>26</b>	299,912,525	
<b>Net Assets or Fund Balances</b>	<b>Organizations that follow SFAS 117 (ASC 958), check here <input checked="" type="checkbox"/> and complete lines 27 through 29, and lines 33 and 34.</b>						
	<b>27</b>	Unrestricted net assets . . . . .		-85,638,212	<b>27</b>	-74,444,439	
	<b>28</b>	Temporarily restricted net assets . . . . .		3,153,327	<b>28</b>	3,867,142	
	<b>29</b>	Permanently restricted net assets . . . . .		666,302	<b>29</b>	633,707	
	<b>Organizations that do not follow SFAS 117 (ASC 958), check here <input type="checkbox"/> and complete lines 30 through 34.</b>						
	<b>30</b>	Capital stock or trust principal, or current funds . . . . .			<b>30</b>		
	<b>31</b>	Paid-in or capital surplus, or land, building or equipment fund . . . . .			<b>31</b>		
	<b>32</b>	Retained earnings, endowment, accumulated income, or other funds . . . . .			<b>32</b>		
<b>33</b>	<b>Total net assets or fund balances</b> . . . . .		-81,818,583	<b>33</b>	-69,943,590		
<b>34</b>	<b>Total liabilities and net assets/fund balances</b> . . . . .		247,321,206	<b>34</b>	229,968,935		

**Part XI Reconciliation of Net Assets**Check if Schedule O contains a response or note to any line in this Part XI ☒

<b>1</b>	Total revenue (must equal Part VIII, column (A), line 12)	<b>1</b>	86,468,883
<b>2</b>	Total expenses (must equal Part IX, column (A), line 25)	<b>2</b>	86,205,648
<b>3</b>	Revenue less expenses Subtract line 2 from line 1	<b>3</b>	263,235
<b>4</b>	Net assets or fund balances at beginning of year (must equal Part X, line 33, column (A))	<b>4</b>	-81,818,583
<b>5</b>	Net unrealized gains (losses) on investments	<b>5</b>	2,172
<b>6</b>	Donated services and use of facilities	<b>6</b>	
<b>7</b>	Investment expenses	<b>7</b>	
<b>8</b>	Prior period adjustments	<b>8</b>	
<b>9</b>	Other changes in net assets or fund balances (explain in Schedule O)	<b>9</b>	11,609,586
<b>10</b>	Net assets or fund balances at end of year Combine lines 3 through 9 (must equal Part X, line 33, column (B))	<b>10</b>	-69,943,590

**Part XII Financial Statements and Reporting**Check if Schedule O contains a response or note to any line in this Part XII ☐

	Yes	No
<b>1</b> 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		
<b>2a</b> 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>b</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	
<b>c</b> 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	
<b>3a</b> 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>b</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 (2017)

**Form 990, Part III, Line 4a:**

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

**Form 990, Part III, Line 4b:**

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

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**Form 990, Part III, Line 4c:**

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

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<b>SCHEDULE A</b> (Form 990 or 990-EZ)	<b>Public Charity Status and Public Support</b> 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 <a href="http://www.irs.gov/form990">www.irs.gov/form990</a> .	OMB No 1545-0047
		<b>2017</b> <b>Open to Public Inspection</b>
Department of the Treasury Internal Revenue Service <b>Name of the organization</b> VAN ANDEL RESEARCH INSTITUTE	<b>Employer identification number</b> 52-2000823	

**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 12, 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 (Form 990 or 990-EZ) )
- 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 agricultural research organization described in **section 170(b)(1)(A)(ix)** operated in conjunction with a land-grant college or university or a non-land grant college of agriculture See instructions Enter the name, city, and state of the college or university
- 10 ☐ 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 )
- 11 ☐ An organization organized and operated exclusively to test for public safety See **section 509(a)(4)**.
- 12 ☐ 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 12a through 12d that describes the type of supporting organization and complete lines 12e, 12f, and 12g
- 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- 10 above (see instructions))	(iv) Is the organization listed in your governing document?		(v) Amount of monetary support (see instructions)	(vi) Amount of other support (see instructions)
			Yes	No		
<b>Total</b>						



Part II

Support Schedule for Organizations Described in Sections 170(b)(1)(A)(iv), 170(b)(1)(A)(vi), and 170(b)(1)(A)(ix)  
(Complete only if you checked the box on line 5, 7, 8, or 9 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) 2013	(b) 2014	(c) 2015	(d) 2016	(e) 2017	(f) Total
1	Gifts, grants, contributions, and membership fees received (Do not include any "unusual grant ")						
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	<b>Total.</b> 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	<b>Public support.</b> Subtract line 5 from line 4						

Section B. Total Support							
Calendar year (or fiscal year beginning in) ►		(a)2013	(b)2014	(c)2015	(d)2016	(e)2017	(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	<b>Total support.</b> Add lines 7 through 10						
12	Gross receipts from related activities, etc (see instructions)					12	
13	<b>First five years.</b> 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 <b>stop here</b> . . . . . ► <input type="checkbox"/>						

Section C. Computation of Public Support Percentage			
14	Public support percentage for 2017 (line 6, column (f) divided by line 11, column (f))	14	
15	Public support percentage for 2016 Schedule A, Part II, line 14	15	
16a	<b>33 1/3% support test—2017.</b> If the organization did not check the box on line 13, and line 14 is 33 1/3% or more, check this box and <b>stop here.</b> The organization qualifies as a publicly supported organization <span>▶ <input type="checkbox"/></span>		
b	<b>33 1/3% support test—2016.</b> 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 <b>stop here.</b> The organization qualifies as a publicly supported organization <span>▶ <input type="checkbox"/></span>		
17a	<b>10%-facts-and-circumstances test—2017.</b> 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 <b>stop here.</b> Explain in Part VI how the organization meets the "facts-and-circumstances" test The organization qualifies as a publicly supported organization <span>▶ <input type="checkbox"/></span>		
b	<b>10%-facts-and-circumstances test—2016.</b> 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 <b>stop here.</b> Explain in Part VI how the organization meets the "facts-and-circumstances" test The organization qualifies as a publicly supported organization <span>▶ <input type="checkbox"/></span>		
18	<b>Private foundation.</b> If the organization did not check a box on line 13, 16a, 16b, 17a, or 17b, check this box and see instructions <span>▶ <input type="checkbox"/></span>		

**Part III Support Schedule for Organizations Described in Section 509(a)(2)**

(Complete only if you checked the box on line 10 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) 2013	(b) 2014	(c) 2015	(d) 2016	(e) 2017	(f) Total
<b>1</b> Gifts, grants, contributions, and membership fees received (Do not include any "unusual grants.")						
<b>2</b> 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						
<b>3</b> Gross receipts from activities that are not an unrelated trade or business under section 513						
<b>4</b> Tax revenues levied for the organization's benefit and either paid to or expended on its behalf						
<b>5</b> The value of services or facilities furnished by a governmental unit to the organization without charge						
<b>6 Total.</b> Add lines 1 through 5						
<b>7a</b> Amounts included on lines 1, 2, and 3 received from disqualified persons						
<b>b</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						
<b>c</b> Add lines 7a and 7b						
<b>8 Public support.</b> (Subtract line 7c from line 6.)						

**Section B. Total Support**

Calendar year (or fiscal year beginning in) ►	(a) 2013	(b) 2014	(c) 2015	(d) 2016	(e) 2017	(f) Total
<b>9</b> Amounts from line 6						
<b>10a</b> Gross income from interest, dividends, payments received on securities loans, rents, royalties and income from similar sources						
<b>b</b> Unrelated business taxable income (less section 511 taxes) from businesses acquired after June 30, 1975						
<b>c</b> Add lines 10a and 10b						
<b>11</b> Net income from unrelated business activities not included in line 10b, whether or not the business is regularly carried on						
<b>12</b> Other income. Do not include gain or loss from the sale of capital assets (Explain in Part VI.)						
<b>13 Total support.</b> (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**

<b>15</b> Public support percentage for 2017 (line 8, column (f) divided by line 13, column (f))	<b>15</b>	
<b>16</b> Public support percentage from 2016 Schedule A, Part III, line 15	<b>16</b>	

**Section D. Computation of Investment Income Percentage**

<b>17</b> Investment income percentage for <b>2017</b> (line 10c, column (f) divided by line 13, column (f))	<b>17</b>	
<b>18</b> Investment income percentage from <b>2016</b> Schedule A, Part III, line 17	<b>18</b>	

**19a 33 1/3% support tests—2017.** 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—2016.** 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 12 of Part I. If you checked 12a of Part I, complete Sections A and B. If you checked 12b of Part I, complete Sections A and C. If you checked 12c of Part I, complete Sections A, D, and E. If you checked 12d of Part I, complete Sections A and D, and complete Part V.)

**Section A. All Supporting Organizations**

	Yes	No
<b>1</b> Are all of the organization's supported organizations listed by name in the organization's governing documents? <i>If "No," describe in <b>Part VI</b> how the supported organizations are designated. If designated by class or purpose, describe the designation. If historic and continuing relationship, explain.</i>	<b>1</b>	
<b>2</b> Did the organization have any supported organization that does not have an IRS determination of status under section 509(a)(1) or (2)? <i>If "Yes," explain in <b>Part VI</b> how the organization determined that the supported organization was described in section 509(a)(1) or (2).</i>	<b>2</b>	
<b>3a</b> Did the organization have a supported organization described in section 501(c)(4), (5), or (6)? <i>If "Yes," answer (b) and (c) below.</i>	<b>3a</b>	
<b>b</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)? <i>If "Yes," describe in <b>Part VI</b> when and how the organization made the determination.</i>	<b>3b</b>	
<b>c</b> Did the organization ensure that all support to such organizations was used exclusively for section 170(c)(2)(B) purposes? <i>If "Yes," explain in <b>Part VI</b> what controls the organization put in place to ensure such use.</i>	<b>3c</b>	
<b>4a</b> Was any supported organization not organized in the United States ("foreign supported organization")? <i>If "Yes" and if you checked 12a or 12b in Part I, answer (b) and (c) below.</i>	<b>4a</b>	
<b>b</b> Did the organization have ultimate control and discretion in deciding whether to make grants to the foreign supported organization? <i>If "Yes," describe in <b>Part VI</b> how the organization had such control and discretion despite being controlled or supervised by or in connection with its supported organizations.</i>	<b>4b</b>	
<b>c</b> 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)? <i>If "Yes," explain in <b>Part VI</b> 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.</i>	<b>4c</b>	
<b>5a</b> Did the organization add, substitute, or remove any supported organizations during the tax year? <i>If "Yes," answer (b) and (c) below (if applicable). Also, provide detail in <b>Part VI</b>, 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).</i>	<b>5a</b>	
<b>b</b> <b>Type I or Type II only.</b> Was any added or substituted supported organization part of a class already designated in the organization's organizing document?	<b>5b</b>	
<b>c</b> <b>Substitutions only.</b> Was the substitution the result of an event beyond the organization's control?	<b>5c</b>	
<b>6</b> Did the organization provide support (whether in the form of grants or the provision of services or facilities) to anyone other than (i) its supported organizations, (ii) individuals that are part of the charitable class benefited by one or more of its supported organizations, or (iii) other supporting organizations that also support or benefit one or more of the filing organization's supported organizations? <i>If "Yes," provide detail in <b>Part VI</b>.</i>	<b>6</b>	
<b>7</b> Did the organization provide a grant, loan, compensation, or other similar payment to a substantial contributor (defined in section 4958(c)(3)(C)), a family member of a substantial contributor, or a 35% controlled entity with regard to a substantial contributor? <i>If "Yes," complete Part I of Schedule L (Form 990 or 990-EZ).</i>	<b>7</b>	
<b>8</b> Did the organization make a loan to a disqualified person (as defined in section 4958) not described in line 7? <i>If "Yes," complete Part I of Schedule L (Form 990 or 990-EZ).</i>	<b>8</b>	
<b>9a</b> 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))? <i>If "Yes," provide detail in <b>Part VI</b>.</i>	<b>9a</b>	
<b>b</b> Did one or more disqualified persons (as defined in line 9a) hold a controlling interest in any entity in which the supporting organization had an interest? <i>If "Yes," provide detail in <b>Part VI</b>.</i>	<b>9b</b>	
<b>c</b> Did a disqualified person (as defined in line 9a) have an ownership interest in, or derive any personal benefit from, assets in which the supporting organization also had an interest? <i>If "Yes," provide detail in <b>Part VI</b>.</i>	<b>9c</b>	
<b>10a</b> Was the organization subject to the excess business holdings rules of section 4943 because of section 4943(f) (regarding certain Type II supporting organizations, and all Type III non-functionally integrated supporting organizations)? <i>If "Yes," answer line 10b below.</i>	<b>10a</b>	
<b>b</b> Did the organization have any excess business holdings in the tax year? <i>(Use Schedule C, Form 4720, to determine whether the organization had excess business holdings.)</i>	<b>10b</b>	

Part IV Supporting Organizations (continued)

	Yes	No
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?		
b A family member of a person described in (a) above?		
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		

Section B. Type I Supporting Organizations

	Yes	No
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		

Section C. Type II Supporting Organizations

	Yes	No
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)		

Section D. All Type III Supporting Organizations

	Yes	No
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, (i) a written notice describing the type and amount of support provided during the prior tax year, (ii) a copy of the Form 990 that was most recently filed as of the date of notification, and (iii) 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		

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 <input type="checkbox"/> The organization satisfied the Activities Test. Complete line 2 below.		
b <input type="checkbox"/> The organization is the parent of each of its supported organizations. Complete line 3 below.		
c <input type="checkbox"/> 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.	Yes	No
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.		

**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 (explain in Part VI). **See instructions.** All other Type III non-functionally integrated supporting organizations must complete Sections A through E.

<b>Section A - Adjusted Net Income</b>		(A) Prior Year	(B) Current Year (optional)
<b>1</b> Net short-term capital gain	<b>1</b>		
<b>2</b> Recoveries of prior-year distributions	<b>2</b>		
<b>3</b> Other gross income (see instructions)	<b>3</b>		
<b>4</b> Add lines 1 through 3	<b>4</b>		
<b>5</b> Depreciation and depletion	<b>5</b>		
<b>6</b> 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)	<b>6</b>		
<b>7</b> Other expenses (see instructions)	<b>7</b>		
<b>8 Adjusted Net Income</b> (subtract lines 5, 6 and 7 from line 4)	<b>8</b>		

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

<b>Section C - Distributable Amount</b>			Current Year
<b>1</b> Adjusted net income for prior year (from Section A, line 8, Column A)	<b>1</b>		
<b>2</b> Enter 85% of line 1	<b>2</b>		
<b>3</b> Minimum asset amount for prior year (from Section B, line 8, Column A)	<b>3</b>		
<b>4</b> Enter greater of line 2 or line 3	<b>4</b>		
<b>5</b> Income tax imposed in prior year	<b>5</b>		
<b>6 Distributable Amount.</b> Subtract line 5 from line 4, unless subject to emergency temporary reduction (see instructions)	<b>6</b>		

- 7** ☐ Check here if the current year is the organization's first as a non-functionally-integrated Type III supporting organization (see instructions).

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

<b>Section D - Distributions</b>	<b>Current Year</b>
<b>1</b> Amounts paid to supported organizations to accomplish exempt purposes	
<b>2</b> Amounts paid to perform activity that directly furthers exempt purposes of supported organizations, in excess of income from activity	
<b>3</b> Administrative expenses paid to accomplish exempt purposes of supported organizations	
<b>4</b> Amounts paid to acquire exempt-use assets	
<b>5</b> Qualified set-aside amounts (prior IRS approval required)	
<b>6</b> Other distributions (describe in <b>Part VI</b> ) See instructions	
<b>7 Total annual distributions.</b> Add lines 1 through 6	
<b>8</b> Distributions to attentive supported organizations to which the organization is responsive (provide details in <b>Part VI</b> ) See instructions	
<b>9</b> Distributable amount for 2017 from Section C, line 6	
<b>10</b> Line 8 amount divided by Line 9 amount	

<b>Section E - Distribution Allocations (see instructions)</b>	<b>(i) Excess Distributions</b>	<b>(ii) Underdistributions Pre-2017</b>	<b>(iii) Distributable Amount for 2017</b>
<b>1</b> Distributable amount for 2017 from Section C, line 6			
<b>2</b> Underdistributions, if any, for years prior to 2017 (reasonable cause required-- explain in Part VI) See instructions			
<b>3</b> Excess distributions carryover, if any, to 2017			
<b>a</b>			
<b>b</b> From 2013. . . . .			
<b>c</b> From 2014. . . . .			
<b>d</b> From 2015. . . . .			
<b>e</b> From 2016. . . . .			
<b>f</b> Total of lines 3a through e			
<b>g</b> Applied to underdistributions of prior years			
<b>h</b> Applied to 2017 distributable amount			
<b>i</b> Carryover from 2012 not applied (see instructions)			
<b>j</b> Remainder Subtract lines 3g, 3h, and 3i from 3f			
<b>4</b> Distributions for 2017 from Section D, line 7 \$			
<b>a</b> Applied to underdistributions of prior years			
<b>b</b> Applied to 2017 distributable amount			
<b>c</b> Remainder Subtract lines 4a and 4b from 4			
<b>5</b> Remaining underdistributions for years prior to 2017, if any Subtract lines 3g and 4a from line 2 If the amount is greater than zero, explain in Part VI See instructions			
<b>6</b> Remaining underdistributions for 2017 Subtract lines 3h and 4b from line 1 If the amount is greater than zero, explain in Part VI See instructions			
<b>7 Excess distributions carryover to 2018.</b> Add lines 3j and 4c			
<b>8</b> Breakdown of line 7			
<b>a</b> Excess from 2013. . . . .			
<b>b</b> Excess from 2014. . . . .			
<b>c</b> Excess from 2015. . . . .			
<b>d</b> Excess from 2016. . . . .			
<b>e</b> Excess from 2017. . . . .			

Additional Data

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

**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

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](http://www.irs.gov/form990).

OMB No 1545-0047

2017

Open to Public Inspection

If the organization answered "Yes" on 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" on 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" on 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 (see instructions for definition of "political campaign activities")
- 2 Political campaign activity expenditures (see instructions) ▶ \$
- 3 Volunteer hours for political campaign activities (see instructions) ▶

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

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

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

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

(a) Name	(b) Address	(c) EIN	(d) Amount paid from filing organization's funds If none, enter -0-	(e) Amount of political contributions received and promptly and directly delivered to a separate political organization If none, enter -0-
1				
2				
3				
4				
5				
6				



**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												
<b>1a</b> Total lobbying expenditures to influence public opinion (grass roots lobbying)															
<b>b</b> Total lobbying expenditures to influence a legislative body (direct lobbying)		96,000													
<b>c</b> Total lobbying expenditures (add lines 1a and 1b)		96,000													
<b>d</b> Other exempt purpose expenditures		86,109,648													
<b>e</b> Total exempt purpose expenditures (add lines 1c and 1d)		86,205,648													
<b>f</b> 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														
<b>g</b> Grassroots nontaxable amount (enter 25% of line 1f)		250,000													
<b>h</b> Subtract line 1g from line 1a If zero or less, enter -0-		0													
<b>i</b> Subtract line 1f from line 1c If zero or less, enter -0-		0													
<b>j</b> 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) 2014	(b) 2015	(c) 2016	(d) 2017	(e) Total
<b>2a</b> Lobbying nontaxable amount	1,000,000	1,000,000	1,000,000	1,000,000	4,000,000
<b>b</b> Lobbying ceiling amount (150% of line 2a, column(e))					6,000,000
<b>c</b> Total lobbying expenditures	165,579	238,376	96,000	96,000	595,955
<b>d</b> Grassroots nontaxable amount	250,000	250,000	250,000	250,000	1,000,000
<b>e</b> Grassroots ceiling amount (150% of line 2d, column (e))					1,500,000
<b>f</b> 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 on lines 1a through 1i below, provide in Part IV a detailed description of the lobbying activity

		(a)		(b)
		Yes	No	Amount
<b>1</b>	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			
<b>a</b>	Volunteers?			
<b>b</b>	Paid staff or management (include compensation in expenses reported on lines 1c through 1i)?			
<b>c</b>	Media advertisements?			
<b>d</b>	Mailings to members, legislators, or the public?			
<b>e</b>	Publications, or published or broadcast statements?			
<b>f</b>	Grants to other organizations for lobbying purposes?			
<b>g</b>	Direct contact with legislators, their staffs, government officials, or a legislative body?			
<b>h</b>	Rallies, demonstrations, seminars, conventions, speeches, lectures, or any similar means?			
<b>i</b>	Other activities?			
<b>j</b>	Total. Add lines 1c through 1i			
<b>2a</b>	Did the activities in line 1 cause the organization to be not described in section 501(c)(3)?			
<b>b</b>	If "Yes," enter the amount of any tax incurred under section 4912			
<b>c</b>	If "Yes," enter the amount of any tax incurred by organization managers under section 4912			
<b>d</b>	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
<b>1</b> Were substantially all (90% or more) dues received nondeductible by members?	<b>1</b>	
<b>2</b> Did the organization make only in-house lobbying expenditures of \$2,000 or less?	<b>2</b>	
<b>3</b> Did the organization agree to carry over lobbying and political expenditures from the prior year?	<b>3</b>	

**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."**

<b>1</b>	Dues, assessments and similar amounts from members	<b>1</b>	
<b>2</b>	Section 162(e) nondeductible lobbying and political expenditures (do not include amounts of political expenses for which the section 527(f) tax was paid).		
<b>a</b>	Current year	<b>2a</b>	
<b>b</b>	Carryover from last year	<b>2b</b>	
<b>c</b>	Total	<b>2c</b>	
<b>3</b>	Aggregate amount reported in section 6033(e)(1)(A) notices of nondeductible section 162(e) dues	<b>3</b>	
<b>4</b>	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?	<b>4</b>	
<b>5</b>	Taxable amount of lobbying and political expenditures (see instructions)	<b>5</b>	

**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
------------------	-------------

efile GRAPHIC print - DO NOT PROCESS

As Filed Data -

DLN: 93493283009209

SCHEDULE D  
(Form 990)

Department of the Treasury  
Internal Revenue Service

Supplemental Financial Statements

► Complete if the organization answered "Yes," on 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](http://www.irs.gov/form990).

OMB No 1545-0047

2017

Open to Public Inspection

Name of the organization  
VAN ANDEL RESEARCH INSTITUTE

Employer identification number  
52-2000823

Part I

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

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?

☐ Yes ☐ No

6

Did the organization inform all grantees, donors, and donor advisors in writing that grant funds can be used only for charitable purposes and not for the benefit of the donor or donor advisor, or for any other purpose conferring impermissible private benefit?

☐ Yes ☐ No

Part II

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

1

Purpose(s) of conservation easements held by the organization (check all that apply)  
☐ Preservation of land for public use (e g , recreation or education) ☐ Preservation of an historically important land area  
☐ Protection of natural habitat ☐ Preservation of a certified historic structure  
☐ Preservation of open space

2

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

	Held at the End of the Year
a Total number of conservation easements	2a
b Total acreage restricted by conservation easements	2b
c Number of conservation easements on a certified historic structure included in (a)	2c
d Number of conservation easements included in (c) acquired after 8/17/06, and not on a historic structure listed in the National Register	2d

3

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

4

Number of states where property subject to conservation easement is located ►

5

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

☐ Yes ☐ No

6

Staff and volunteer hours devoted to monitoring, inspecting, handling of violations, and enforcing conservation easements during the year ►

7

Amount of expenses incurred in monitoring, inspecting, handling of violations, and enforcing conservation easements during the year ► \$

8

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

☐ Yes ☐ No

9

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

Part III

Organizations Maintaining Collections of Art, Historical Treasures, or Other Similar Assets.  
Complete if the organization answered "Yes" on 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 on 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 on Form 990, Part VIII, line 1

► \$

b

Assets included in Form 990, Part X

► \$

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

Cat No 52283D

Schedule D (Form 990) 2017

Part III

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

3

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

a

☐ Public exhibition

b

☐ Scholarly research

c

☐ Preservation for future generations

d

☐ Loan or exchange programs

e

☐ Other

4

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

5

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

☐ Yes

☐ No

Part IV

Escrow and Custodial Arrangements.

Complete if the organization answered "Yes" on 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" on Form 990, Part IV, line 10.

	(a)Current year	(b)Prior year	(c)Two years back	(d)Three years back	(e)Four years back
1a Beginning of year balance	666,302	612,777			
b Contributions	10,100		596,343		
c Net investment earnings, gains, and losses	12,604	61,326	18,408		
d Grants or scholarships					
e Other expenditures for facilities and programs	62,742	7,801	1,974		
f Administrative expenses					
g End of year balance	626,264	666,302	612,777		

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 100 000 %

c

Temporarily restricted endowment

The percentages on 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

b

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

3b

Yes

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" on 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		229,359,310	66,890,424	162,468,886
c Leasehold improvements				
d Equipment		56,798,553	42,644,015	14,154,538
e Other		1,607,268	58,708	1,548,560
Total. Add lines 1a through 1e (Column (d) must equal Form 990, Part X, column (B), line 10(c))				183,460,299

Part VII

Investments—Other Securities. Complete if the organization answered "Yes" on Form 990, Part IV, line 11b.  
See Form 990, Part X, line 12.

(a) Description of security or category (including name of security)	(b) Book value	(c) Method of valuation Cost or end-of-year market value
(1) Financial derivatives . . . . .		
(2) Closely-held equity interests . . . . .		
(3) Other _____		
(A)		
(B)		
(C)		
(D)		
(E)		
(F)		
(G)		
(H)		
Total. (Column (b) must equal Form 990, Part X, col (B) line 12 ) ▶		

Part VIII

Investments—Program Related.  
Complete if the organization answered 'Yes' on Form 990, Part IV, line 11c. See Form 990, Part X, line 13.

(a) Description of investment	(b) Book value	(c) Method of valuation Cost or end-of-year market value
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		
(9)		
Total. (Column (b) must equal Form 990, Part X, col (B) line 13 ) ▶		

Part IX

Other Assets. Complete if the organization answered 'Yes' on Form 990, Part IV, line 11d See Form 990, Part X, line 15

(a) Description	(b) Book value
(1) PLEDGED SECURITIES	19,640,000
(2)	
(3)	
(4)	
(5)	
(6)	
(7)	
(8)	
(9)	
Total. (Column (b) must equal Form 990, Part X, col (B) line 15 ) . . . . . ▶	19,640,000

Part X

Other Liabilities. Complete if the organization answered 'Yes' on Form 990, Part IV, line 11e or 11f.  
See Form 990, Part X, line 25.

(a) Description of liability	(b) Book value
(1) Federal income taxes	
UNREALIZED LOSS ON INTEREST RATE SWAP	41,273,437
RELATED-PARTY PAYABLE	4,137,097
(3)	
(4)	
(5)	
(6)	
(7)	
(8)	
(9)	
Total. (Column (b) must equal Form 990, Part X, col (B) line 25 ) ▶	45,410,534

2. Liability for uncertain tax positions In Part XIII, provide the text of the footnote to the organization's financial statements that reports the organization's liability for uncertain tax positions under FIN 48 (ASC 740) Check here if the text of the footnote has been provided in Part XIII

☒

**Part XI Reconciliation of Revenue per Audited Financial Statements With Revenue per Return**

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

<b>1</b>	Total revenue, gains, and other support per audited financial statements . . . . .	<b>1</b>	79,172,806
<b>2</b>	Amounts included on line 1 but not on Form 990, Part VIII, line 12		
<b>a</b>	Net unrealized gains (losses) on investments . . . . .	<b>2a</b>	2,172
<b>b</b>	Donated services and use of facilities . . . . .	<b>2b</b>	
<b>c</b>	Recoveries of prior year grants . . . . .	<b>2c</b>	
<b>d</b>	Other (Describe in Part XIII ) . . . . .	<b>2d</b>	156,130
<b>e</b>	Add lines <b>2a</b> through <b>2d</b> . . . . .	<b>2e</b>	158,302
<b>3</b>	Subtract line <b>2e</b> from line <b>1</b> . . . . .	<b>3</b>	79,014,504
<b>4</b>	Amounts included on Form 990, Part VIII, line 12, but not on line <b>1</b>		
<b>a</b>	Investment expenses not included on Form 990, Part VIII, line 7b . . . . .	<b>4a</b>	
<b>b</b>	Other (Describe in Part XIII ) . . . . .	<b>4b</b>	7,454,379
<b>c</b>	Add lines <b>4a</b> and <b>4b</b> . . . . .	<b>4c</b>	7,454,379
<b>5</b>	Total revenue. Add lines <b>3</b> and <b>4c</b> . (This must equal Form 990, Part I, line 12 ) . . . . .	<b>5</b>	86,468,883

**Part XII Reconciliation of Expenses per Audited Financial Statements With Expenses per Return.**

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

<b>1</b>	Total expenses and losses per audited financial statements . . . . .	<b>1</b>	67,297,814
<b>2</b>	Amounts included on line 1 but not on Form 990, Part IX, line 25		
<b>a</b>	Donated services and use of facilities . . . . .	<b>2a</b>	
<b>b</b>	Prior year adjustments . . . . .	<b>2b</b>	
<b>c</b>	Other losses . . . . .	<b>2c</b>	
<b>d</b>	Other (Describe in Part XIII ) . . . . .	<b>2d</b>	-11,453,455
<b>e</b>	Add lines <b>2a</b> through <b>2d</b> . . . . .	<b>2e</b>	-11,453,455
<b>3</b>	Subtract line <b>2e</b> from line <b>1</b> . . . . .	<b>3</b>	78,751,269
<b>4</b>	Amounts included on Form 990, Part IX, line 25, but not on line <b>1</b> :		
<b>a</b>	Investment expenses not included on Form 990, Part VIII, line 7b . . . . .	<b>4a</b>	
<b>b</b>	Other (Describe in Part XIII ) . . . . .	<b>4b</b>	7,454,379
<b>c</b>	Add lines <b>4a</b> and <b>4b</b> . . . . .	<b>4c</b>	7,454,379
<b>5</b>	Total expenses. Add lines <b>3</b> and <b>4c</b> . (This must equal Form 990, Part I, line 18 ) . . . . .	<b>5</b>	86,205,648

**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
See Additional Data Table	

**Part XIII**   **Supplemental Information** *(continued)*

Return Reference	Explanation

**Additional Data**

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

**Supplemental 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



Supplemental Information	
Return Reference	Explanation
PART XI, LINE 2D - OTHER ADJUSTMENTS	RENTAL EXPENSES 133,827 FUNDRAISING EVENT EXPENSE 22,303

Supplemental Information	
Return Reference	Explanation
PART XI, LINE 4B - OTHER ADJUSTMENTS	NET ALLOCATED 7,454,379

Supplemental Information	
Return Reference	Explanation
PART XII, LINE 2D - OTHER ADJUSTMENTS	RENTAL EXPENSES 133,827 FUNDRAISING EVENT EXPENSE 22,303 GAIN ON INTEREST RATE SWAP -11,609,585

Supplemental Information	
Return Reference	Explanation
PART XII, LINE 4B - OTHER ADJUSTMENTS	NET ALLOCATED 7,454,379

Supplemental Information	
Return Reference	Explanation
PART V	VAN ANDEL INSTITUTE (A RELATED ORGANIZATION) MAINTAINS ENDOWED FUNDS FOR THE BENEFIT OF BOTH VARI AND VAN ANDEL EDUCATION INSTITUTE (A RELATED ORGANIZATION) TO FUND OPERATING EXPENSES

Supplemental Information	
Return Reference	Explanation
PART XI AND XII, LINE 4B	EXPENSE ALLOCATIONS PRESENTED WITHIN REVENUE

**SCHEDULE F  
(Form 990)**

Department of the Treasury  
Internal Revenue Service

Name of the organization  
VAN ANDEL RESEARCH INSTITUTE

**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](http://www.irs.gov/form990).

OMB No 1545-0047

**2017**

**Open to Public  
Inspection**

**Employer identification number**

52-2000823

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

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

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

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

(a) Region	(b) Number of offices in the region	(c) Number of employees, agents, and independent contractors in region	(d) Activities conducted in region (by type) (e g , fundraising, program services, investments, grants to recipients located in the region)	(e) If activity listed in (d) is a program service, describe specific type of service(s) in region	(f) Total expenditures for and investments in region
See Add'l Data					
<b>3a</b> Sub-total	0	1			664,191
<b>b</b> Total from continuation sheets to Part I					0
<b>c Totals</b> (add lines 3a and 3b)	0	1			664,191

**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.

<b>1</b>	<b>(a)</b> Name of organization	<b>(b)</b> IRS code section and EIN (if applicable)	<b>(c)</b> Region	<b>(d)</b> Purpose of grant	<b>(e)</b> Amount of cash grant	<b>(f)</b> Manner of cash disbursement	<b>(g)</b> Amount of non-cash assistance	<b>(h)</b> Description of non-cash assistance	<b>(i)</b> Method of valuation (book, FMV, appraisal, other)
			EAST ASIA AND THE PACIFIC	RESEARCH COLLABORATION	50,000	WIRE TRANSFER			

- 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 . . . . . **1**



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

[illegible]

**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 separately 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 separately 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).

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

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

## Additional Data

**Software ID:**

**Software Version:**

**EIN:** 52-2000823

**Name:** VAN ANDEL RESEARCH INSTITUTE

### Form 990 Schedule F Part I - Activities Outside The United States

(a) Region	(b) Number of offices in the region	(c) Number of employees or agents in region	(d) Activities conducted in region (by type) (i.e., fundraising, program services, 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 region
EAST ASIA & THE PACIFIC	0	1	PROGRAM SERVICES	RESEARCH COLLABORATION - RESEARCH SERVICES	232,715
EUROPE	0	0	PROGRAM SERVICES	RESEARCH COLLABORATION - RESEARCH SERVICES	431,476



**Part II Fundraising Events.** Complete if the organization answered "Yes" on 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)
		<b>5K RACE</b> (event type)	<b>GRIFFINS</b> (event type)	(total number)	Total events (add col (a) through col (c))
<b>Revenue</b>	<b>1</b> Gross receipts . . . . .	40,343	44,151		84,494
	<b>2</b> Less Contributions . . . . .	32,403	44,151		76,554
	<b>3</b> Gross income (line 1 minus line 2) . . . . .	7,940			7,940
<b>Direct Expenses</b>	<b>4</b> Cash prizes . . . . .				
	<b>5</b> Noncash prizes . . . . .				
	<b>6</b> Rent/facility costs . . . . .				
	<b>7</b> Food and beverages . . . . .				
	<b>8</b> Entertainment . . . . .				
	<b>9</b> Other direct expenses . . . . .	6,183	16,120		22,303
	<b>10</b> Direct expense summary Add lines 4 through 9 in column (d) . . . . . ▶				22,303
<b>11</b> Net income summary Subtract line 10 from line 3, column (d) . . . . . ▶				-14,363	

**Part III Gaming.** Complete if the organization answered "Yes" on 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))
<b>Revenue</b>	<b>1</b> Gross revenue . . . . .				
	<b>2</b> Cash prizes . . . . .				
	<b>3</b> Noncash prizes . . . . .				
	<b>4</b> Rent/facility costs . . . . .				
	<b>5</b> Other direct expenses . . . . .				
<b>Direct Expenses</b>	<b>6</b> 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	
	<b>7</b> Direct expense summary Add lines 2 through 5 in column (d) . . . . . ▶				
	<b>8</b> 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 \_\_\_\_\_

<b>11</b> Does the organization conduct gaming activities with nonmembers?	<input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>						
<b>12</b> 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?	<input type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>						
<b>13</b> Indicate the percentage of gaming activity conducted in							
<b>a</b> The organization's facility	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 10%;"><b>13a</b></td> <td style="width: 70%;"></td> <td style="width: 20%; text-align: right;">%</td> </tr> <tr> <td><b>13b</b></td> <td></td> <td style="text-align: right;">%</td> </tr> </table>	<b>13a</b>		%	<b>13b</b>		%
<b>13a</b>		%					
<b>13b</b>		%					
<b>b</b> An outside facility							

**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



efile GRAPHIC print - DO NOT PROCESS

As Filed Data -

DLN: 93493283009209

Schedule I  
(Form 990)

Department of the Treasury  
Internal Revenue Service

Name of the organization  
VAN ANDEL RESEARCH INSTITUTE

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

Complete if the organization answered "Yes," on 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](http://www.irs.gov/form990).

OMB No 1545-0047

2017

Open to Public Inspection

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" on 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 noncash assistance	(h) Purpose of grant or assistance
(1) See Additional Data							
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							
(11)							
(12)							

2

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

6

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" on 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 noncash assistance	(e) Method of valuation (book, FMV, appraisal, other)	(f) Description of noncash assistance
(1) GRADUATE STUDENT STIPENDS FOR MICHIGAN STATE UNIVERSITY STUDENTS	3	89,338			
(2) GRADUATE STUDENT STIPENDS VAN ANDEL INSTITUTE GRADUATE SCHOOL	2	53,484			
(3) FOREIGN NATIONAL STIPENDS	7	50,821			
(4) GUEST STUDENT STIPENDS	2	23,363			
(4)					
(5)					
(6)					
(7)					

**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	STUDENTS RECEIVE A STIPEND FOR LIVING EXPENSE AND INSURANCE 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

Additional Data

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

Form 990,Schedule I, Part II, Grants and Other Assistance to Domestic Organizations and Domestic Governments.

(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
JOHNS HOPKINS UNIVERSITY 3400 N CHARLES STREET BALTIMORE, MD 21218	52-0595110	501C3	143,460				RESEARCH COLLABORATION
UNIVERSITY OF MARYLAND 3112 LEE BUILDING 7809 REGENTS DR COLLEGE PARK, MD 20742	52-6002033	501C3	50,000				RESEARCH COLLABORATION

Form 990, Schedule I, Part II, Grants and Other Assistance to Domestic Organizations and Domestic Governments.							
(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
TEMPLE UNIVERSITY 1852 NORTH 10TH ST PHILADELPHIA, PA 19122	23-1365971	501C3	50,000				RESEARCH COLLABORATION
INSTITUTE FOR CANCER RESEARCH 333 COTTMAN AVENUE PHILADELPHIA, PA 19111	23-6296135	501C3	54,243				RESEARCH COLLABORATION

Form 990, Schedule I, Part II, Grants and Other Assistance to Domestic Organizations and Domestic Governments.							
(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
FRIENDS OF CRESCENT PARK 301 BOSTWICK NE GRAND RAPIDS, MI 49503	26-4562012	501C3	14,500				SUPPORT CRESCENT PARK MAINTENANCE
STAND UP TO CANCER 10880 WILSHIRE BLVD SUITE 1400 LOS ANGELES, CA 90024	95-1644609	501C3	513,432				RESEARCH COLLABORATION

**Schedule J**  
(Form 990)

**Compensation Information**

OMB No 1545-0047

**2017**

**Open to Public Inspection**

Department of the Treasury  
Internal Revenue Service

**For certain Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees**  
**▶ Complete if the organization answered "Yes" on 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](http://www.irs.gov/form990).**

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

	Yes	No									
<b>1a</b> Check the appropriate box(es) if the organization provided any of the following to or for a person listed on Form 990, Part VII, Section A, line 1a. Complete Part III to provide any relevant information regarding these items. <table border="0"> <tr> <td><input checked="" type="checkbox"/> First-class or charter travel</td> <td><input type="checkbox"/> Housing allowance or residence for personal use</td> </tr> <tr> <td><input type="checkbox"/> Travel for companions</td> <td><input type="checkbox"/> Payments for business use of personal residence</td> </tr> <tr> <td><input type="checkbox"/> Tax indemnification and gross-up payments</td> <td><input type="checkbox"/> Health or social club dues or initiation fees</td> </tr> <tr> <td><input type="checkbox"/> Discretionary spending account</td> <td><input type="checkbox"/> Personal services (e.g., maid, chauffeur, chef)</td> </tr> </table>	<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)			
<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>b</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.	<b>1b</b> Yes										
<b>2</b> 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?	<b>2</b> Yes										
<b>3</b> 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. <table border="0"> <tr> <td><input checked="" type="checkbox"/> Compensation committee</td> <td><input type="checkbox"/> Written employment contract</td> </tr> <tr> <td><input checked="" type="checkbox"/> Independent compensation consultant</td> <td><input checked="" type="checkbox"/> Compensation survey or study</td> </tr> <tr> <td><input type="checkbox"/> Form 990 of other organizations</td> <td><input checked="" type="checkbox"/> Approval by the board or compensation committee</td> </tr> </table>	<input checked="" type="checkbox"/> Compensation committee	<input 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					
<input checked="" type="checkbox"/> Compensation committee	<input 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										
<b>4</b> During the year, did any person listed on Form 990, Part VII, Section A, line 1a, with respect to the filing organization or a related organization: <table border="0"> <tr> <td><b>a</b> Receive a severance payment or change-of-control payment?</td> <td><b>4a</b> Yes</td> <td></td> </tr> <tr> <td><b>b</b> Participate in, or receive payment from, a supplemental nonqualified retirement plan?</td> <td><b>4b</b></td> <td>No</td> </tr> <tr> <td><b>c</b> Participate in, or receive payment from, an equity-based compensation arrangement?</td> <td><b>4c</b></td> <td>No</td> </tr> </table> If "Yes" to any of lines 4a-c, list the persons and provide the applicable amounts for each item in Part III.	<b>a</b> Receive a severance payment or change-of-control payment?	<b>4a</b> Yes		<b>b</b> Participate in, or receive payment from, a supplemental nonqualified retirement plan?	<b>4b</b>	No	<b>c</b> Participate in, or receive payment from, an equity-based compensation arrangement?	<b>4c</b>	No		
<b>a</b> Receive a severance payment or change-of-control payment?	<b>4a</b> Yes										
<b>b</b> Participate in, or receive payment from, a supplemental nonqualified retirement plan?	<b>4b</b>	No									
<b>c</b> Participate in, or receive payment from, an equity-based compensation arrangement?	<b>4c</b>	No									
<b>Only 501(c)(3), 501(c)(4), and 501(c)(29) organizations must complete lines 5-9.</b>											
<b>5</b> For persons listed on Form 990, Part VII, Section A, line 1a, did the organization pay or accrue any compensation contingent on the revenues of: <table border="0"> <tr> <td><b>a</b> The organization?</td> <td><b>5a</b> Yes</td> <td></td> </tr> <tr> <td><b>b</b> Any related organization?</td> <td><b>5b</b></td> <td>No</td> </tr> </table> If "Yes," on line 5a or 5b, describe in Part III.	<b>a</b> The organization?	<b>5a</b> Yes		<b>b</b> Any related organization?	<b>5b</b>	No					
<b>a</b> The organization?	<b>5a</b> Yes										
<b>b</b> Any related organization?	<b>5b</b>	No									
<b>6</b> For persons listed on Form 990, Part VII, Section A, line 1a, did the organization pay or accrue any compensation contingent on the net earnings of: <table border="0"> <tr> <td><b>a</b> The organization?</td> <td><b>6a</b></td> <td>No</td> </tr> <tr> <td><b>b</b> Any related organization?</td> <td><b>6b</b></td> <td>No</td> </tr> </table> If "Yes," on line 6a or 6b, describe in Part III.	<b>a</b> The organization?	<b>6a</b>	No	<b>b</b> Any related organization?	<b>6b</b>	No					
<b>a</b> The organization?	<b>6a</b>	No									
<b>b</b> Any related organization?	<b>6b</b>	No									
<b>7</b> For persons listed on Form 990, Part VII, Section A, line 1a, did the organization provide any nonfixed payments not described in lines 5 and 6? If "Yes," describe in Part III.	<b>7</b>	No									
<b>8</b> Were any amounts reported on 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.	<b>8</b>	No									
<b>9</b> If "Yes" on line 8, did the organization also follow the rebuttable presumption procedure described in Regulations section 53.4958-6(c)?	<b>9</b>										

For each individual whose compensation must be reported on 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.

See Additional Data Table

**Schedule J (Form 990) 2017**

**Part III**   **Supplemental Information**

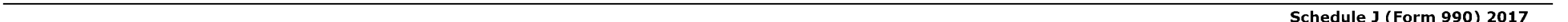
Provide the information, explanation, or descriptions required for Part I, lines 1a, 1b, 3, 4a, 4b, 4c, 5a, 5b, 6a, 6b, 7, and 8, and for Part II. Also complete this part for any additional information.

Return Reference	Explanation
PART I, LINE 1A	VARI ALLOWS FOR FIRST-CLASS OR CHARTER TRAVEL FOR OFFICERS AND TRUSTEES



Return Reference	Explanation
PART I, LINE 4A	INCLUDES SEVERANCE PAYMENTS TO DAVID WHITESCARVER OF \$256,837 FROM VAN ANDEL RESEARCH INSTITUTE FOR CALENDER YEAR 2017

Return Reference	Explanation
PART I, LINE 5	BONUS IS PAID BASED ON GRANT REVENUE EARNED FOR ELIGIBLE PROGRAM PARTICIPANTS



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 on prior Form 990
		(i) Base Compensation	(ii) Bonus & incentive compensation	(iii) Other reportable compensation				
DAVID VAN ANDEL CHAIRMAN / CEO	(i)	366,923	102,000	21,404	128,250	976	619,553	102,000
	(ii)	0	0	0	0	0	0	0
DR JANA HALL CHIEF OPERATIONS OFFICER	(i)	351,551	68,250	3,564	136,650	11,206	571,221	68,250
	(ii)	0	0	0	0	0	0	0
TIMOTHY MYERS V P & CHIEF FINANCIAL OFFICER	(i)	270,346	37,636	810	95,875	11,206	415,873	37,636
	(ii)	0	0	0	0	0	0	0
DR PETER JONES CHIEF SCIENTIFIC OFFICER & RES DIR	(i)	542,780	146,710	22,563	191,092	11,206	914,351	146,710
	(ii)	0	0	0	0	0	0	0
KATHY VOGELSANG CHIEF INVESTMENT OFFICER	(i)	341,372	248,800	20,322	360,300	11,206	982,000	248,800
	(ii)	0	0	0	0	0	0	0
DR PATRIK BRUNDIN ASSOCIATE RESEARCH DIRECTOR	(i)	435,382	51,062	2,322	104,179	11,206	604,151	51,062
	(ii)	0	0	0	0	0	0	0
DR PETER LAIRD INVESTIGATOR	(i)	377,688	23,248	2,322	47,611	11,206	462,075	23,248
	(ii)	0	0	0	0	0	0	0
DR GERD PFEIFER INVESTIGATOR	(i)	346,680	10,632	3,564	35,012	11,206	407,094	10,632
	(ii)	0	0	0	0	0	0	0
TED HEILMAN ASSOC DIRECT-SR PORTFOLIO MGR	(i)	220,911	167,940	17,159	217,848	11,206	635,064	167,940
	(ii)	0	0	0	0	0	0	0
DR GEORGE VANDE WOUDE TRUSTEE/INVESTIGATOR	(i)	247,396	0	21,902	26,540	1,812	297,650	0
	(ii)	0	0	0	0	0	0	0
DAVID WHITESCARVER FORMER SECRETARY/V P	(i)	256,837	0	38,526	0	0	295,363	38,526
	(ii)	0	0	0	0	0	0	0

Schedule K  
(Form 990)

Supplemental Information on Tax-Exempt Bonds

OMB No 1545-0047

2017

Open to Public Inspection

Department of the Treasury  
Internal Revenue Service

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](http://www.irs.gov/form990).

Department of the Treasury  
Internal Revenue Service

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	000000000	10-01-2018	220,000,000	REFUND BOND ISSUE 4/01/13		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)

	<b>A</b>		<b>B</b>		<b>C</b>		<b>D</b>	
	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
<b>3a</b> Are there any management or service contracts that may result in private business use of bond-financed property? . . . . .	X							
<b>b</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							
<b>c</b> Are there any research agreements that may result in private business use of bond-financed property? . . . . .	X							
<b>d</b> 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							
<b>4</b> 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 . . . . . ▶								
<b>5</b> 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 . . . . . ▶	0 690 %							
<b>6</b> Total of lines 4 and 5 . . . . .	0 690 %							
<b>7</b> Does the bond issue meet the private security or payment test? . . . .		X						
<b>8a</b> 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>b</b> If "Yes" to line 8a, enter the percentage of bond-financed property sold or disposed of . . .								
<b>c</b> If "Yes" to line 8a, was any remedial action taken pursuant to Regulations sections 1.141-12 and 1.145-2? . . . . .								
<b>9</b> 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**

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

**Part IV Arbitrage** (Continued)

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

**Part V Procedures To Undertake Corrective Action**

	<b>A</b>		<b>B</b>		<b>C</b>		<b>D</b>	
	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>
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).

SCHEDULE M  
(Form 990)

Department of the Treasury  
Internal Revenue Service

Noncash Contributions

►Complete if the organizations answered "Yes" on Form 990, Part IV, lines 29 or 30.  
► Attach to Form 990.  
►Information about Schedule M (Form 990) and its instructions is at [www.irs.gov/form990](http://www.irs.gov/form990)

OMB No 1545-0047

2017

Open to Public Inspection

Name of the organization  
VAN ANDEL RESEARCH INSTITUTE

Employer identification number  
52-2000823

Part I

Types of Property

	(a) Check if applicable	(b) Number of contributions or items contributed	(c) Noncash contribution amounts reported on Form 990, Part VIII, line 1g	(d) Method of determining noncash contribution amounts
1 Art—Works of art . . . . .				
2 Art—Historical treasures . . . . .				
3 Art—Fractional interests . . . . .				
4 Books and publications . . . . .				
5 Clothing and household goods . . . . .				
6 Cars and other vehicles . . . . .				
7 Boats and planes . . . . .				
8 Intellectual property . . . . .				
9 Securities—Publicly traded . . . . .	X	1	10,053	NYSE VALUE
10 Securities—Closely held stock . . . . .				
11 Securities—Partnership, LLC, or trust interests . . . . .				
12 Securities—Miscellaneous . . . . .				
13 Qualified conservation contribution—Historic structures . . . . .				
14 Qualified conservation contribution—Other . . . . .				
15 Real estate—Residential . . . . .				
16 Real estate—Commercial . . . . .				
17 Real estate—Other . . . . .				
18 Collectibles . . . . .				
19 Food inventory . . . . .				
20 Drugs and medical supplies . . . . .				
21 Taxidermy . . . . .				
22 Historical artifacts . . . . .				
23 Scientific specimens . . . . .				
24 Archeological artifacts . . . . .				
25 Other ► ( )				
26 Other ► ( )				
27 Other ► ( )				
28 Other ► ( )				

29

Number of Forms 8283 received by the organization during the tax year for contributions for which the organization completed Form 8283, Part IV, Donee Acknowledgement

29

0

30a

During the year, did the organization receive by contribution any property reported in Part I, lines 1 through 28, that it must hold for at least three years from the date of the initial contribution, and which is not required to be used for exempt purposes for the entire holding period?

30a

No

b

If "Yes," describe the arrangement in Part II

31

Does the organization have a gift acceptance policy that requires the review of any nonstandard contributions?

31

No

32a

Does the organization hire or use third parties or related organizations to solicit, process, or sell noncash contributions?

32a

No

b

If "Yes," describe in Part II

33

If the organization did not report an amount in column (c) for a type of property for which column (a) is checked, describe in Part II



**Part II** **Supplemental Information.**

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

Return Reference	Explanation
PART I, COLUMN (B)	VARI IS REPORTING THE NUMBER OF CONTRIBUTIONS RECEIVED DURING THE TAX YEAR

**SCHEDULE O**  
(Form 990 or 990-EZ)

Department of the Treasury  
Internal Revenue Service

Name of the organization  
VAN ANDEL RESEARCH INSTITUTE

**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](http://www.irs.gov/form990).

OMB No 1545-0047

**2017**

**Open to Public Inspection**

**Employer identification number**

52-2000823

**990 Schedule O, Supplemental Information**

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 AND TIMOTHY MYERS ARE ALSO OFFICERS OF VAI, AND DAVID VAN ANDEL AND TIMOTHY MYERS ARE OFFICERS OF VAEI AND VAIGS

**990 Schedule O, Supplemental Information**

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

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART VI, SECTION B, LINE 11B	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 COMMENTS PRIOR TO FILING WITH THE IRS

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART VI, SECTION B, LINE 12C	<p>VARI HAS WRITTEN CONFLICT OF INTEREST ("COI") POLICIES AND PROCEDURES WHICH ADMINISTER AND ENFORCE A PROCESS TO IDENTIFY, EVALUATE, AND MANAGE POTENTIAL CONFLICTS OF INTEREST. THESE POLICIES HAVE BEEN APPROVED BY THE BOARD OF TRUSTEES. VAI ADMINISTERS COI POLICIES AND PROCEDURES THROUGH TWO STANDING COMMITTEES: THE CONFLICTS COMMITTEE ("CC") AND THE INSTITUTIONAL COI COMMITTEE ("ICOIC"). COI POLICIES AND PROCEDURES APPLY TO AND SERVE AS A GUIDE FOR EVERYONE IN THE ORGANIZATION. IN PARTICULAR, THEY PROVIDE A USEFUL RESOURCE FOR DEVELOPING ACTIVITIES OR RELATIONSHIPS WITH OUTSIDE ENTITIES OR PERSONS, AND ESTABLISH A PROCESS FOR COMMITTEES TO REVIEW AND MANAGE POTENTIAL CONFLICTS OF INTEREST AS THEY MAY ARISE. THE CC AND ICOIC ARE CHAIRED BY THE GENERAL COUNSEL. THE CC REQUIRES ANNUAL AND UPDATED DISCLOSURES BY COVERED PERSONS AND REVIEWS AND APPROVES MANAGEMENT PLANS. ICOIC POLICIES AND PROCEDURES SERVE AS A GUIDE FOR 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 DETERMINE HOW TO MANAGE SUCH A POTENTIAL CONFLICT OF INTEREST IN ACCORDANCE WITH THE COI POLICIES AND PROCEDURES.</p>

## 990 Schedule O, Supplemental Information

Return Reference	Explanation
FORM 990, PART VI, SECTION B, LINE 15	COMPARABILITY DATA FROM AN 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

# 990 Schedule O, Supplemental Information

Return Reference	Explanation
FORM 990, PART VI, SECTION C, LINE 19	ALL DOCUMENTS REQUIRED TO BE MADE AVAILABLE TO THE PUBLIC ARE AVAILABLE FOR PUBLIC INSPECTION UPON WRITTEN REQUEST

# 990 Schedule O, Supplemental Information

Return Reference	Explanation
FORM 990, PART XI, LINE 9	GAIN ON INTEREST RATE SWAP 11,609,586



**990 Schedule O, Supplemental Information**

<b>Return Reference</b>	<b>Explanation</b>
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. THE INSTITUTE IS ORGANIZED INTO THE CENTER FOR CANCER AND CELL BIOLOGY, THE CENTER FOR EPIGENETICS, AND THE CENTER FOR NEURODEGENERATIVE SCIENCE. VARI'S LABS ARE SUPPORTED BY AN OUTSTANDING CORE TECHNOLOGIES AND SERVICES GROUP, WHICH PROVIDES A VIVARIUM, A BIOREPOSITORY, AND VALUABLE ON-SITE CAPABILITIES IN IMAGING, PATHOLOGY, BIOINFORMATICS AND BIOSTATISTICS, GENOMICS, FLOW CYTOMETRY, AND CRYO-ELECTRON MICROSCOPY. VARI SCIENTISTS PUBLISHED 116 ARTICLES THIS FISCAL YEAR IN PEER-REVIEWED JOURNALS THAT INCLUDED NATURE, SCIENCE, CELL, NATURE COMMUNICATIONS, NATURE GENETICS, NATURE MEDICINE, SCIENCE TRANSLATIONAL MEDICINE, CELL REPORTS, CELL DISCOVERY, CANCER RESEARCH, CLINICAL CANCER RESEARCH, NUCLEIC ACIDS RESEARCH, GENOME RESEARCH, PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES U S A, ACTA NEUROPATHOLOGICAL, CANCER CELL, HUMAN MOLECULAR GENETICS, MOLECULAR CELL, MOLECULAR NEURODEGENERATION, ACTA NEUROPATHOLOGICAL COMMUNICATIONS, ELIFE, BONE, JOURNAL OF BIOLOGICAL CHEMISTRY, JOURNAL OF BONE AND MINERAL RESEARCH, CELL AND TISSUE RESEARCH, SCIENTIFIC REPORTS, NJP BREAST CANCER, JOURNAL OF PARKINSON'S DISEASE, HEPATOLOGY, MOVEMENT DISORDERS, BIOCHEMISTRY, NEUROBIOLOGY OF DISEASE, JOURNAL OF NEUROSCIENCE, HUMAN MOLECULAR GENETICS, BLOOD, METABOLITES, JOURNAL OF PROTEOME RESEARCH, MOLECULAR AND CELLULAR PROTEOMICS, AND CURRENT THERAPEUTIC RESEARCH.</p>

**990 Schedule O, Supplemental Information**

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 CA NCER AND CELL BIOLOGY, DIRECTED BY BART WILLIAMS, PH D , COMPRISES 16 LABORATORIES ENGAGED IN BASIC RESEARCH IN MOLECULAR AND STRUCTURAL BIOLOGY AND IN TRANSLATIONAL RESEARCH ON CA NCERS, SKELETAL DISEASES, AND METABOLISM AND NUTRITION THE CENTER IS DIVIDED INTO PROGRAM S IN STRUCTURAL BIOLOGY, SKELETAL DISEASE AND CANCER THERAPEUTICS, AND A NEW PROGRAM IN ME TABOLIC AND NUTRITIONAL PROGRAMMING NEW FACULTY MEMBERS DRS RUSSELL JONES, CONNIE KRAWCZ YK, ANDREW POSPISILIK, AND ADELHEID LEMPRADL JOINED EXISTING FACULTY DRS BRIAN HAAB AND N ING WU TO ESTABLISH THE PROGRAM IN THIS FISCAL YEAR, RESEARCHERS AND TRAINEES WITHIN THE CENTER RECEIVED THREE NEW R01 AWARDS AND ONE RENEWAL R01, A U01 AWARD, AND AN F31 FELLOWSH IP FROM THE NATIONAL INSTITUTES OF HEALTH OTHER NEW AWARDS RECEIVED WERE FROM THE CHILDRN S TUMOR FOUNDATION, TWO RENEWAL AWARDS WERE RECEIVED FROM THE ARTHRITIS NATIONAL RESEARC H FOUNDATION, AND THE BREAST CANCER RESEARCH FOUNDATION THE STEENSMA LABORATORY STUDIED T HE EFFECT OF THE LOSS OF THE NF1 GENE, WHICH ENCODES THE NEUROFIBROMIN ENZYME, ON BREAST C ANCER AND ON ESTROGEN RECEPTOR SIGNALING (DISCHINGER ET AL , NPJ BREAST CANCER 4 29) THE RESULTS SHOWED A SIGNIFICANT ROLE FOR THE NF1 GENE IN BREAST CANCER AND A POSSIBLE FUNCTI ONAL LINK BETWEEN NEUROFIBROMIN AND THE ESTROGEN RECEPTOR, INDICATING THAT THIS GENE MAY B E A MARKER OF PROGNOSIS AND A THERAPEUTIC TARGET FOR ENDOCRINE-RESISTANT BREAST CANCERS I N ANOTHER STUDY BY THE LAB, SOME MALIGNANT PERIPHERAL NERVE SHEATH TUMORS (MPNSTS), FOR WH ICH THERE ARE NO EFFECTIVE THERAPIES, WERE FOUND TO BE SENSITIVE TO THE MET ONCOGENE INHIB ITOR CAPMATINIB (PEACOCK ET AL , CANCER RESEARCH 78(13) 3572-3687) A COMBINATION THERAPY OF CAPMATINIB AND THE MEK KINASE INHIBITOR TRAMETINIB RESULTED IN REDUCED RESPONSE VARIAB ILITY, SUPPRESSION OF RAS/ERK AND PI3K/AKT SIGNALING, AND ENHANCED SUPPRESSION OF TUMOR GR OWTH THE WILLIAMS AND YANG LABS TOGETHER PUBLISHED SEVERAL SKELETAL STUDIES IN 2018 ONE FOCUSED ON OSTEOCHONDROPROGENITOR CELLS, WHICH DEVELOP INTO CELLS THAT CREATE BONE OR CART ILAGE THE ENZYME SENP6 WAS FOUND TO BE CRUCIAL IN NORMAL OSTEOCHONDROPROGENITORS FOR SKEL ETAL DEVELOPMENT LOSS OF THE ENZYME CAUSED PREMATURE AGING OF CELLS AND TISSUES, AND MICE HAVING NO SENP6 HAD SMALLER SKELETONS (LI ET AL , NATURE COMMUNICATIONS 9 143) ANOTHER STUDY FOUND THAT BONE MARROW STROMAL CELLS PREFERENTIALLY DIFFERENTIATED INTO LIPID-STORIN G ADIPOCYTES WHEN TREATED WITH GINKGOLIC ACID, WHICH INHIBITS THE SUMOYLATION OF PROTEINS (LIU ET AL , SCIENTIFIC REPORTS 8(1) 2545) THIS PREVIOUSLY UNKNOWN ACTION OF GINKGOLIC A CID MAY HAVE APPLICATION IN TREATING CONDITIONS INVOLVING ABNORMAL LIPID METABOLISM A THI RD PROJECT STUDIED THE ROLE OF THE LRP1 PROTEIN IN BONE REMODELING (LU ET AL , JOURNAL OF BONE AND MINERAL RESEARCH 33(10) 1773-1784) THE RESULTS SUGGEST THAT LRP1 IS A CRUCIAL R EGULATOR OF BONE MASS AND THAT</p>

**990 Schedule O, Proprietary Information**

Return Reference	Explanation
FORM 990, PART III, LINE 4A	<p>ITS INHIBITION OF THE RANKL SIGNALING PATHWAY MAY BE USEFUL IN TREATING CONDITIONS OF LOW BONE MASS XIAOHONG LI'S LABORATORY STUDIED THE ROLE OF TGF-BETA SIGNALING FROM MYELOID C ELLS IN METASTATIC BONE LESIONS (GANGULY ET AL , CANCERS 10 463) THEY SHOWED THAT SUCH S IGNALS PROMOTED OSTEOLYTIC BONE LESIONS AND THAT THE CTHRC1 PROTEIN AND BASIC FIBROBLAST G ROWTH FACTOR (BFGF) HAVE DIFFERENT, CELL-SPECIFIC FUNCTIONS THAT CONTRIBUTE TO BONE LESION DEVELOPMENT IN A SEPARATE STUDY (MENG ET AL , CANCER LETTERS 418 109-118), THE LI LAB F OUND THAT THE LOSS OF TGF-BETA SIGNALING IN OSTEOLAST CELLS INCREASED THE AMOUNT OF BFGF AND CORRELATED WITH INCREASED TUMOR CELL PROLIFERATION AND ANGIOGENESIS BFGF MAY BE A PRO MISING TARGET FOR INHIBITING BONE METASTASIS IN PROSTATE AND BREAST CANCER ACTIVATION OF THE WNT SIGNALING PATHWAY IS A COMMON EVENT IN MANY CANCERS, AND WNT SIGNALING CAN BE HALT ED BY INHIBITING AN ENZYME CALLED PORCN A COLLABORATIVE STUDY BY THE WILLIAMS LAB AND THE VIRSHUP LAB AT DUKE UNIVERSITY FOUND THAT TWO PORCN INHIBITORS CAUSED A LOSS OF BONE VOLU ME AND DENSITY (MADAN ET AL , BONE RESEARCH 6 17) ALENDRONATE, A BISPHOSPHONATE, MITIGAT ED THE ADVERSE EFFECTS OF ONE OF THE INHIBITORS, SUPPORTING THE USE OF SUCH BONE-PROTECTIV E AGENTS IN THE TREATMENT REGIMEN OF PATIENTS RECEIVING PORCN INHIBITORS IMPORTANT SCIENT IFIC ADVANCES ALSO WERE MADE BY MEMBERS OF THE STRUCTURAL BIOLOGY PROGRAM THE LU AND DU L ABS USED THE INSTITUTE'S CRYO-ELECTRON MICROSCOPY (CRYO-EM) FACILITY TO STUDY THE STRUCTUR E OF THE TRPC3 ION CHANNEL (FAN ET AL , ELIFE 7 E36852), WHICH IS ESSENTIAL FOR NEURON DE VELOPMENT IN THE BRAIN DYSFUNCTION OF TRPC3 IS LINKED TO NEURODEGENERATIVE DISEASES, AMON G OTHERS KNOWLEDGE OF ITS ATOMIC-LEVEL STRUCTURE AND MECHANISM OF FUNCTION ARE ESSENTIAL FOR DEVELOPING THERAPIES THAT TARGET TRPC3 DYSFUNCTION THE TWO LABS ALSO PUBLISHED THE ST RUCTURE OF THE ZEBRAFISH TRPM2 ION CHANNEL (WHICH IS SIMILAR TO THE HUMAN MOLECULE BUT IS BETTER SUITED TO STRUCTURAL STUDIES) AND ITS MECHANISM OF ACTIVATION (HUANG ET AL , NATURE 562(7725) 145-149) TRPM2 IS INVOLVED IN BODY TEMPERATURE REGULATION AND THE IMMUNE RESP ONSE NEW INSIGHTS INTO HOW THE CHANNEL WORKS MAY HELP DEVELOP DRUGS TO TREAT TEMPERATURE- RELATED DYSFUNCTION AND NEURODEGENERATIVE DISEASE THE MELCHER AND XU LABS ALSO PUBLISHED SIGNIFICANT STRUCTURAL STUDIES AMP-ACTIVATED PROTEIN KINASE (AMPK) REGULATES THE ENERGY L EVEL IN THE CELL, AND ITS DYSREGULATION IS ASSOCIATED WITH DIABETES, CANCER, AND NEURODEGE NERATIVE DISEASES THE MELCHER LAB SOLVED THE STRUCTURES OF AMPK BOUND TO TWO NEW DRUG FOR MS, WHICH GAVE INSIGHT INTO HOW THE MOLECULE WORKS AND ITS POTENTIAL USE AS A THERAPEUTIC AGENT (YAN ET AL , JOURNAL OF BIOLOGICAL CHEMISTRY 294 953-967) THE LAB ALSO STUDIED THE STRUCTURE OF AMPK IN TERMS OF THE PROTEIN'S SUBUNITS AND HOW THEY INTERACT (GU ET AL , JO URNAL OF BIOLOGICAL CHEMISTRY 293 16994-17007) THEY FOUND THAT THE ADAM SITE, AT THE JOI NING OF THE KINASE SUBUNIT AND</p>

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART III, LINE 4A	<p>THE CARBOHYDRATE-BINDING SUBUNIT, MAY FUNCTION AS A HUB FOR INTEGRATING THE VARIETY OF REGULATORY SIGNALS THAT AFFECT THE CELLULAR ENERGY LEVEL. THE XU LAB PUBLISHED THE STRUCTURE OF THE HUMAN RHODOPSIN PROTEIN BOUND TO AN INHIBITORY G PROTEIN, WHICH THEY DETERMINED USING CRYO-EM (KANG ET AL, NATURE 558(7711) 553-558). RHODOPSIN IS FOUND IN THE EYE AND IS ESSENTIAL FOR PERCEIVING LIGHT. THE COMPARISON OF THIS NEW STRUCTURE TO OTHER STRUCTURES OF RHODOPSIN BOUND TO ACTIVATING G PROTEINS OR ARRESTINS PROVIDES A BASIS FOR UNDERSTANDING HOW RHODOPSIN FUNCTIONS IN SIGNALING THE PERCEPTION OF LIGHT. THIS PUBLICATION WAS FEATURED IN THE NIH DIRECTOR'S BLOG. BOTH LABS ALSO CONTRIBUTED TO THE DETERMINATION OF THE STRUCTURE OF THE HUMAN FRIZZLED 4 PROTEIN, WHICH IS INVOLVED IN BLOOD VESSEL DEVELOPMENT IN THE EYE'S RETINA. THE STUDY SUGGESTS THAT FRIZZLED PROTEINS MAY HAVE AN ACTIVATION MECHANISM DIFFERENT FROM THAT OF OTHER G-PROTEIN-COUPLED RECEPTORS LIKE RHODOPSIN (YANG ET AL, NATURE 560(7720) 666-670). HUILIN LI'S LABORATORY PUBLISHED A DIVERSE SET OF PAPERS IN 2018 BASED ON THE USE OF CRYO-EM. ONE WAS A STUDY OF THE YEAST OLIGOSACCHARYLTRANSFERASE ENZYME COMPLEX, WHICH PROVIDED THE FIRST HIGH-RESOLUTION IMAGES OF THE INTERACTIONS OF ITS MULTIPLE SUBUNITS. SEVEN PHOSPHOLIPID MOLECULES MEDIATE MANY OF THE INTER-SUBUNIT INTERACTIONS (BAI ET AL, NATURE 555(7696) 328-333). ANOTHER STUDY FOCUSED ON THE BACTERIAL SURFACE STRUCTURE CALLED A PILUS. USING CRYO-EM, AN INTERMEDIATE STAGE OF THE ASSEMBLY OF THE E. COLI PILUS WAS IMAGED. THE STRUCTURE SUGGESTED A MECHANISM FOR HOW THE GROWING PILUS IS STABILIZED AS IT INCORPORATES THOUSANDS OF SUBUNITS DURING ITS GROWTH, AND HAS IMPLICATIONS FOR THE TREATMENT OF URINARY TRACT INFECTIONS (DU ET AL, NATURE 562(7727) 444-447). THE LI LAB ALSO STUDIED THE STRUCTURE OF THE MTB CLPB COMPLEX, WHICH IS IMPORTANT TO THE SURVIVAL OF MYCOBACTERIUM TUBERCULOSIS. THEY IMAGED THE COMPLEX BOUND TO CASEIN AS A MODEL SUBSTRATE AND IDENTIFIED TWO DIFFERENT CONFORMERS. BASED ON THEIR DIFFERENCES, THEY SUGGEST A MECHANISM FOR HOW THE COMPLEX SUBUNITS ARE ABLE TO MOVE PEPTIDES DURING THE RESCUE OF DAMAGED PROTEINS (YU ET AL, PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115(41) E9560-E9569). KNOWLEDGE OF THIS MECHANISM MAY AID IN DEVELOPING FUTURE DRUGS EFFECTIVE AGAINST TUBERCULOSIS. FINALLY, THE LAB REPORTED THE STRUCTURE OF THE MEMBRANE-BOUND HYDROGENASE FROM THE HEAT-ADAPTED MICROBE PYROCOCCLUS FURIOSUS. THIS IS AN ANCIENT RESPIRATION SYSTEM THAT OPERATES AT TEMPERATURES NEAR 100 DEGREES C. THE STRUCTURE IS COMPARED WITH THE RELATED QUINONE-REDUCING COMPLEX I AND THE DIFFERENCES IN THEIR ARCHITECTURE ARE DESCRIBED (YU ET AL, CELL 173(7) 1636-1649).</p>

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART III, LINE 4B	<p>LINE 4B - PROGRAM SERVICE ACTIVITY #2 CENTER FOR EPIGENETICS THE CENTER, ESTABLISHED IN 2014 AND DIRECTED BY PETER A. JONES, PH.D., D.Sc. (HON), COMPRISES TEN LABORATORIES STUDYING EPIGENETICS, EPIGENOMICS, AND THE ROLE OF EPIGENETIC DYSFUNCTION IN CANCER, NEURODEGENERATIVE DISEASE, CARDIOVASCULAR DISEASE, AND VIRAL TRANSCRIPTION. DRS. XIAOBING SHI AND HONG WEN JOINED THE CENTER IN 2018. NEW GRANT AWARDS IN THIS FISCAL YEAR FOR CENTER RESEARCHERS AND TRAINEES INCLUDED AN R01, AN R21, AN R37, AND AN F32 FROM THE NATIONAL INSTITUTES OF HEALTH, NEW FUNDING FROM THE MICHIGAN ECONOMIC DEVELOPMENT COMMISSION, A GRANT FROM EVANS MDS, AND TWO NEW FELLOWSHIPS FROM THE CANADIAN INSTITUTES OF HEALTH RESEARCH AND THE AMERICAN SOCIETY OF HEMATOLOGY. TWO NIH GRANT SUBAWARDS WERE ALSO RECEIVED. THE VAN ANDEL RESEARCH INSTITUTE-STAND UP TO CANCER EPIGENETICS DREAM TEAM, LED BY PETER JONES AND STEPHEN BAYLIN, CONTINUED IN 2018 WITH ITS AIMS OF DEVELOPING NEW COMBINATION THERAPIES TO COMBAT CANCER AND MOVING PROMISING THERAPIES INTO 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. THIS IS DONE PRIMARILY BY THE ADDITION OR REMOVAL OF METHYL GROUPS TO THE DNA OR ADDITION/REMOVAL OF METHYL OR ACETYL GROUPS FROM THE HISTONE PROTEINS AROUND WHICH DNA WRAPS. THE LABORATORY OF PETER JONES PUBLISHED IN 2018 A COMPREHENSIVE MAP OF MORE THAN 500,000 ENDOGENOUS RETROVIRUSES (ERVs) IN THE INTERGENIC REGIONS OF THE HUMAN GENOME. REPRESSIVE EPIGENETIC MARKS FOUND ON THE ERVs DEPENDED ON EVOLUTIONARY AGE, WITH DNA METHYLATION ASSOCIATED WITH YOUNGER AGE AND HISTONE METHYLATION WITH OLDER. THIS FINDING MAY AID IN PREDICTING CANCER RESPONSE TO EPIGENETIC THERAPIES (OHTANI ET AL., GENOME RESEARCH 28(8): 1147-1157). IN ANOTHER STUDY, OF OVARIAN CANCER CELLS, THE INHIBITION OF THE HISTONE METHYLTRANSFERASE ENZYME G9A COMBINED WITH 5-AZA-CDR PRODUCED ANTITUMOR EFFECTS INCLUDING ACTIVATION OF THE VIRAL DEFENSE RESPONSE AND INDUCTION OF CELL DEATH. SUCH A COMBINATION TREATMENT MAY BE A NOVEL STRATEGY FOR TREATING OVARIAN CANCER PATIENTS WHOSE CELLS HAVE HIGH EXPRESSION OF G9A (LIU ET AL., CANCER RESEARCH 78(20): 5754-5766). IN A THIRD 2018 PUBLICATION, THE JONES LAB LINKED THE FREQUENCY OF IMPRINTING OF THE NC886 RNA GENE IN INFANTS TO THE MOTHER'S AGE AT DELIVERY AND TO WHEN CONCEPTION OCCURRED DURING THE YEAR. THEY PROPOSE THAT SUCH IMPRINTING IS "TUNABLE" IN BEING ASSOCIATED WITH THE MATERNAL HAPLOTYPE AND THE PRENATAL ENVIRONMENT, PROVIDING A POSSIBLE WAY OF TRANSMITTING PHENOTYPES FROM MOTHER TO CHILD (PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115(51): E11970-E11977). THE JONES AND TRICHE LABS CONTRIBUTED TO THE FIRST STUDY OF THE EPIGENETIC DRUG AZACITIDINE IN COMBINATION WITH INTENSIVE CHEMOTHERAPY. THE RESULTS SHOWED THE SAFETY OF THE PAIRING AND OFFERED ENCOURAGING CLINICAL ACTIVITY. DNA METHYLATION OF THE FDFT1 GENE WAS HIGHLY ASSOCIATED WITH PATIENT C</p>

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART III, LINE 4B	<p>CLINICAL OUTCOME (BLOOD 131(10) 1145-1148) THE TRICHE LAB ALSO IDENTIFIED A SET OF 14 TRANSPOSABLE ELEMENTS (TES) IN DNA THAT MAY BE A BIOMARKER FOR HIGH- OR LOW-RISK ACUTE MYELOID LEUKEMIA. THIS SET COULD PREDICT PROGNOSIS IN INDEPENDENT COHORTS OF 284 PEDIATRIC PATIENTS AND IN 19 RELAPSED ADULT PATIENTS. STUDIES OF THE UTILITY OF THIS MARKER IN OTHER CANCERS IS WARRANTED (SCIENTIFIC REPORTS 8 (1) 16449). IN ANOTHER STUDY OF TES IN HEALTHY INDIVIDUALS, SENESCENT HEMATOPOIETIC STEM AND PROGENITOR CELLS (HSPCS) EXPRESSED MORE TES THAN DID ACTIVE HSPCS, AND SENESCENT CELLS LACKED DNA METHYLATION IN THE REGIONS EXPRESSING MORE TES. THIS IS THE FIRST REPORT CHARACTERIZING THE METHYLATION OF THESE CELLS (EXPERIMENTAL HEMATOLOGY 62 33-38E6). THE ROTHBART LABORATORY DEVELOPED A HIGH-THROUGHPUT PROTEOMICS PLATFORM THAT MAPS THE SEQUENCE DETERMINANTS OF SUBSTRATE SELECTIVITY OF THE ENZYME LYSINE METHYLTRANSFERASE WITHOUT REQUIRING KNOWLEDGE OF A SUBSTRATE OR TARGET. IN THIS APPROACH, A LYSINE-ORIENTED PEPTIDE LIBRARY CAN BE USED TO IDENTIFY NEW SUBSTRATES AND TO DISCOVER NEW INHIBITORS OF THE ENZYME (CORNETT ET AL, SCIENCE ADVANCES 4 (11) EAAV2623). THE LAB ALSO ANALYZED THE ACTIVITIES OF THE E3 UBIQUITIN LIGASES UHRF1 AND UHRF2 AND FOUND CONSERVED MODES OF RECOGNIZING HISTONE PROTEINS BUT DIFFERENT DNA-BINDING PROPERTIES. THE STUDY DESCRIBED THE DIFFERENCES IN THE ACTIVITY AND SUBSTRATES OF THESE TWO ENZYMES AND ASCRIBED THOSE DIFFERENCES TO THEIR CONTRASTING MOLECULAR ARCHITECTURES (VAUGHAN ET AL, NUCLEIC ACIDS RESEARCH 46(9) 4405-4416). FOR A STUDY OF THE SUBSTRATE SELECTIVITY OF UHRF1, THE LAB CONSTRUCTED EXPERIMENTAL SUBSTRATES AND ANALYZED THE ENZYME'S BINDING AND ACTIVITY TOWARD THEM. THE RESULTS SHOWED HOW THE ENZYME CHOOSES BETWEEN DNA AND HISTONE SUBSTRATES AND FOUND A "MOLECULAR SWITCH" THAT REDIRECTS UHRF1 ACTIVITY AWAY FROM HISTONES (VAUGHAN ET AL, PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115(35) 8775-8780). THIS STUDY PROVIDES A BASIS FOR FUTURE STUDIES OF UHRF1 FUNCTION AND ITS EFFECT ON THE CHROMATIN ACTIVITY OF THE DNMT1 ENZYME. THE LAIRD AND SHEN LABS REPORTED A NEW CLASS OF ARTIFACTS IN DNA METHYLATION MEASUREMENTS USING COMMON METHYLATION ARRAYS. THEY ALSO REPORTED A SOLUTION THAT ADDRESSES THESE PROBLEMS USING THE R PACKAGE SESAME, A SOLUTION THAT OUTPERFORMED THE EXISTING BEST STANDARDS FOR CROSS-PLATFORM CONSISTENCY (ZHOU ET AL, NUCLEIC ACIDS RESEARCH 46(20) E123). ANOTHER STUDY BY THE TWO LABS WAS BASED ON THE LOSS OF DNA METHYLATION IN CANCER GENOMES, ANALYZING A LARGE AND DIVERSE SET OF DATA SETS BY WHOLE-GENOME BISULFITE SEQUENCING. IN CANCER, LACK OF METHYLATION IN CERTAIN DOMAINS OF THE GENOME LIKELY REFLECTS MITOTIC AGE, WHICH GENERALLY IS CORRELATED WITH CHRONOLOGICAL AGE AND WHICH MIGHT FUNCTION AS A MITOTIC CLOCK (ZHOU ET AL, NATURE GENETICS 50 591-602). THE LAIRD AND SHEN LABS HAVE ALSO BEEN HEAVILY INVOLVED IN THE CANCER GENOME ATLAS RESEARCH NETWORK. FROM THIS WORK CAME STUDIES TITLED "COMPARATIVE</p>

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART III, LINE 4B	<p>MOLECULAR ANALYSIS OF GASTROINTESTINAL ADENOCARCINOMAS" (LIU ET AL , CANCER CELL 33(4) 72 1-735 E8) AND "INTEGRATED MOLECULAR CHARACTERIZATION OF TESTICULAR GERM CELL TUMORS" (SHEN ET AL , CELL REPORTS 23(11) 3392-3406) IN ADDITION, A SERIES OF OVER TWO DOZEN "PAN-CAN CER" PAPERS WERE PUBLISHED BY THE NETWORK IN THE SPRING OF 2018 IN WHICH DRS LAIRD AND SH EN (OR BOTH) WERE COAUTHORS LAIRD WAS THE LAST AUTHOR ON ONE OF THREE FLAGSHIP THEMATIC P APERS, "CELL-OF-ORIGIN PATTERNS DOMINATE THE MOLECULAR CLASSIFICATION OF 10,000 TUMORS FRO M 33 TYPES OF CANCER" (HOADLEY ET AL , CELL 173(2) 291-304 E6), AND SHEN WAS ONE OF SIX E XPERTS INVITED TO AUTHOR A RETROSPECTIVE ON TCGA'S LEGACY A SAMPLING OF THE PAN-CANCER PA PERS INCLUDES "GENOMIC AND MOLECULAR LANDSCAPE OF DNA DAMAGE REPAIR DEFICIENCY ACROSS THE CANCER GENOME ATLAS" (KNIJNENBURG ET AL , CELL REPORTS 33(4) 721-735 E8), "MACHINE LEARNI NG IDENTIFIES STEMNESS FEATURES ASSOCIATED WITH ONCOGENIC DEDIFFERENTIATION" (MALTA ET AL , CELL 173(2) 338-354 E15), "THE IMMUNE LANDSCAPE OF CANCER" (THORSSON ET AL , IMMUNITY 4 8(4) 812-830 E13), AND "ONCOGENIC SIGNALING PATHWAYS IN THE CANCER GENOME ATLAS" (SANCHEZ -VEGA ET AL , CELL 173(2) 321-337 E10)</p>

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART III, LINE 4C	<p>LINE 4C - PROGRAM SERVICE ACTIVITY #3 CENTER FOR NEURODEGENERATIVE SCIENCE THE CENTER WAS ESTABLISHED IN 2012 UNDER PATRIK BRUNDIN, M D , PH D , WHO IS ALSO ASSOCIATE DIRECTOR OF VARI IT CURRENTLY HAS NINE LABORATORIES STUDYING PARKINSON'S DISEASE, ALZHEIMER'S DISEASE, PRIONS, AND THE RELATIONSHIPS BETWEEN DEPRESSION, SUICIDE, AND BRAIN INFLAMMATION CENTER RESEARCHERS AND TRAINEES DURING THIS FISCAL YEAR RECEIVED TWO R21 GRANTS FROM THE NATIONAL INSTITUTES OF HEALTH AND FOUR AWARDS FROM THE MICHAEL J. FOX FOUNDATION, AS WELL AS AWARDS FROM THE U.S. DEPARTMENT OF DEFENSE, THE EAST TENNESSEE FOUNDATION, AND MICHIGAN STATE UNIVERSITY. ALSO RECEIVED WAS A FELLOWSHIP FROM THE PARKINSONS'S DISEASE FOUNDATION, AND FOUR GRANT SUBAWARDS. PATRIK BRUNDIN'S LABORATORY BIOCHEMICALLY PROFILED MORE THAN 250 CHEMICALS FOUND IN BRAIN TISSUE AND SERUM FROM A PARKINSON'S DISEASE MOUSE MODEL (GRAHAM ET AL , JOURNAL OF PROTEOME RESEARCH 17(7) 2460-2469) THEY IDENTIFIED THE BEST SIX OF THESE METABOLITES IN TERMS OF IDENTIFYING DISEASED ANIMALS FROM CONTROLS. THE STUDY PROVIDES AN EARLY STEP IN DEVELOPING ROBUST BIOMARKERS FOR PARKINSON'S DISEASE, WHICH ARE LACKING. ANOTHER STUDY PROFILED 18 BILE ACIDS FOUND IN THE SERUM OF MICE HAVING PRODROMAL PARKINSON'S DISEASE (GRAHAM ET AL , METABOLITES 8(4) 71) THE CONCENTRATIONS OF THREE OF THESE COMPOUNDS WERE SIGNIFICANTLY DIFFERENT FROM THOSE OF CONTROL MICE, AND THOSE DATA COULD DISCRIMINATE BETWEEN PRODROMAL AND CONTROL MICE WITH HIGH ACCURACY. THESE COMPOUNDS ARE CANDIDATE BIOMARKERS FOR PREDICTING PARKINSON'S DISEASE AND POSSIBLY ITS PROGRESSION. IN A THIRD STUDY, THE LAB REPORTED THAT 12-18 MONTHS AFTER INJECTION OF ALPHA-SYNUCLEIN FIBRILS INTO THE MOUSE OLFACTORY BULB, THE NUMBER OF BRAIN REGIONS SHOWING PARKINSON'S-LIKE PATHOLOGY INCREASED, BUT AT 23 MONTHS, NO ADDITIONAL REGIONS WERE AFFECTED (REY ET AL , ACTA NEUROPATHOLOGICA 135 (1) 65-83) THE REASON FOR THE LACK OF CONTINUED PROGRESSION COULD BE COMPROMISED NEURAL CIRCUITRY DUE TO THE EXTENT OF NEURON DEATH FROM THE PATHOLOGY. VIVIANE LABRIE'S LAB PUBLISHED A PAPER SHOWING THAT, IN TWO INDEPENDENT EPIDEMIOLOGICAL DATA SETS INVOLVING NEARLY 1.7 MILLION INDIVIDUALS FOR UP TO 52 YEARS, REMOVAL OF THE APPENDIX WAS ASSOCIATED WITH A LOWER RISK OF PARKINSON'S DISEASE (KILLINGER ET AL , SCIENCE TRANSLATIONAL MEDICINE 10 EAAR5280) THE STUDY SHOWED THAT THE HEALTHY APPENDIX CONTAINS ALPHA-SYNUCLEIN AGGREGATES LIKE THOSE FOUND IN LEWY BODIES, WHICH ARE A HALLMARK OF PARKINSON'S DISEASE NEURONS. THE AUTHORS CONCLUDED THAT THE APPENDIX CONTAINS FORMS OF ALPHA-SYNUCLEIN THAT AFFECT THE RISK OF DEVELOPING PARKINSON'S DISEASE AND THAT REMOVAL OF THE APPENDIX MAY HAVE BENEFIT IF DONE EARLY IN LIFE, PARTICULARLY FOR PERSONS LIVING IN RURAL AREAS. PRION DISEASES ARE FATAL NEURODEGENERATIVE DISORDERS THAT AFFECT HUMANS AND ANIMALS. THE MA LABORATORY COMPARED ENZYME-DIGESTED AND UNDIGESTED RECOMBINANT PRIONS. A TIME COURSE STUDY SHOWED THAT AN INCREASED CAPABILITY TO SEED TH</p>



# 990 Schedule O, Supplemental Information

Return Reference	Explanation
FORM 990, PART III, LINE 4C	<p>E CONVERSION OF NORMAL PRION PROTEIN TO A PATHOGENIC FORM WAS RELATED TO THE AMOUNT OF ENZYME-RESISTANT RECOMBINANT PRION FRAGMENTS (WANG ET AL , ACTA NEUROPATHOLOGICA COMMUNICATIONS 6 30) THE MA LAB ALSO COLLABORATED IN A STUDY OF THE ROLE OF 14-3-3 PROTEINS IN THE CELL-TO-CELL TRANSFER OF ALPHA-SYNUCLEIN SUCH PROTEINS REDUCED ALPHA-SYNUCLEIN TRANSFER AND TOXICITY, BUT INHIBITION OF 14-3-3 PROTEINS ACCELERATED THE TRANSFER DYSFUNCTION OF 14-3-3 PROTEINS MAY BE A KEY ELEMENT IN ALPHA-SYNUCLEIN PROPAGATION (WANG ET AL , JOURNAL OF NEUROSCIENCE 38(38) 8211-8232) IN ANOTHER PROJECT, THEY STUDIED THE AGGREGATION OF ALPHA-SYNUCLEIN IN BRAIN TISSUE FROM PATIENTS WHO HAD THE NEURODEGENERATIVE DISORDER CALLED MULTISYSTEM ATROPHY ADAPTING THE PMCA ASSAY, THEY CONFIRMED THAT THE SEEDING ACTIVITY OF ALPHA-SYNUCLEIN REMAINS ACTIVE EVEN IN FORMALDEHYDE-FIXED TISSUES (BECKER ET AL , MOLECULAR NEUROBIOLOGY 55(11) 8728-8737) THIS STUDY ALSO PROVIDES A BASIS FOR FURTHER ADAPTING THE PMCA ASSAY FOR EVALUATING ALPHA-SYNUCLEIN AGGREGATES AS A BIOMARKER OF DISEASE DARREN MOORE'S LAB REPORTED A NEW FUNCTIONAL INTERACTION BETWEEN THE PARKIN AND VPS35 PROTEINS, BOTH OF WHICH HAVE BEEN FOUND MUTATED IN INHERITED PARKINSON'S DISEASE (WILLIAMS ET AL , HUMAN MOLECULAR GENETICS 27(18) 3189-3205) PARKIN UBIQUITINATES VPS35 IN HUMAN NEURONS, A PROCESS THAT MAY BE INVOLVED IN REGULATING RETROMER-DEPENDENT SORTING AND WHICH MAY HAVE EFFECTS IN PARKINSON'S DISEASE IN ANOTHER STUDY, THE LAB FOCUSED ON THE LRRK2 GENE, MUTATIONS IN WHICH CAUSE LATE-ONSET PARKINSON'S DISEASE SUCH MUTATIONS TYPICALLY CAN GIVE RISE TO THE CHARACTERISTIC LEWY BODIES IN NEURONS BUT CAN ALSO INDUCE TAU-POSITIVE NEUROPATHOLOGY THE DATA SUGGESTED THAT MUTANT TAU-INDUCED PATHOLOGY IS INDEPENDENT OF LRRK2 EXPRESSION BUT ALSO SHOWED A NOVEL ROLE FOR LRRK2 IN PROMOTING NEURONAL TRANSMISSION OF WILD-TYPE TAU PROTEIN THIS FINDING MAY AID IN UNDERSTANDING HOW TAU PATHOLOGY DEVELOPS IN THE BRAINS OF PATIENTS WHO HAVE LRRK2-RELATED DISEASE (NGUYEN ET AL , HUMAN MOLECULAR GENETICS 27(1) 120-134) THE COETZEE LABORATORY PUBLISHED A STUDY COMPARING GENOME-WIDE GENE EXPRESSION IN UNDIFFERENTIATED AND DIFFERENTIATED LUHMES CELLS AS MODELS OF THE HUMAN NEURONS AFFECTED BY PARKINSON'S DISEASE ONLY DIFFERENTIATED CELLS SHOWED AN INCREASE IN GENETIC POLYMORPHISMS THAT CARRY A RISK FOR PARKINSON'S DISEASE (PIERCE ET AL , NEUROBIOLOGY OF DISEASE 118 53-64) THE LAB ALSO COLLABORATED ON A STUDY OF GENETIC REGULATORY ELEMENTS INVOLVED IN PROSTATE CANCER RISK (GUO ET AL , GENOME BIOLOGY 19 160) THAT STUDY IDENTIFIED RISK-ASSOCIATED SITES FOR BINDING OF THE CTCF PROTEIN IN LONG-RANGE CHROMATIN LOOPS THE DELETION OF THOSE SITES VIA THE CRISPR-CAS TECHNIQUE INCREASED GENE EXPRESSION WITHIN THE LOOPS ANOTHER COLLABORATIVE PROJECT FOCUSED ON COLORECTAL CANCER AND INVOLVED A GENOME-WIDE ASSOCIATION STUDY BASED ON SAMPLES FROM MORE THAN 160,000 INDIVIDUALS (SCHMIT ET AL , JOURNAL OF THE NATIONAL CANCER INSTITUTE)</p>

**990 Schedule O, Supplemental Information**

Return Reference	Explanation
FORM 990, PART III, LINE 4C	TE, IN PRESS) THE RESULTS PROVIDE INSIGHT INTO THE GENETIC ARCHITECTURE THAT CONTRIBUTES TO COLORECTAL CANCER AND WILL HELP IMPROVE THE SCREENING OF INDIVIDUALS FOR PREDICTING THE IR RISK OF THE DISEASE

**990 Schedule O, Supplemental Information**

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

# 990 Schedule O, Supplemental Information

Return Reference	Explanation
FORM 990, PART X, LINE 33	VARI NET ASSETS ARE CONSIDERED ON A CONSOLIDATED BASIS WITH VAN ANDEL INSTITUTE (VAI)AND VAN ANDEL EDUCATION INSTITUTE (VAEI) ON A CONSOLIDATED BASIS, NET ASSETS ARE \$1,545,485,000 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)

Department of the Treasury  
Internal Revenue Service

Related Organizations and Unrelated Partnerships

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

OMB No 1545-0047

2017

Open to Public Inspection

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	42,533	118,162	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)	12C	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

<b>1</b>	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?		<b>Yes</b>	<b>No</b>
<b>a</b>	Receipt of <b>(i)</b> interest, <b>(ii)</b> annuities, <b>(iii)</b> royalties, or <b>(iv)</b> rent from a controlled entity . . . . .	<b>1a</b>		No
<b>b</b>	Gift, grant, or capital contribution to related organization(s) . . . . .	<b>1b</b>		No
<b>c</b>	Gift, grant, or capital contribution from related organization(s) . . . . .	<b>1c</b>	Yes	
<b>d</b>	Loans or loan guarantees to or for related organization(s) . . . . .	<b>1d</b>		No
<b>e</b>	Loans or loan guarantees by related organization(s) . . . . .	<b>1e</b>	Yes	
<b>f</b>	Dividends from related organization(s) . . . . .	<b>1f</b>		No
<b>g</b>	Sale of assets to related organization(s) . . . . .	<b>1g</b>		No
<b>h</b>	Purchase of assets from related organization(s) . . . . .	<b>1h</b>		No
<b>i</b>	Exchange of assets with related organization(s) . . . . .	<b>1i</b>		No
<b>j</b>	Lease of facilities, equipment, or other assets to related organization(s) . . . . .	<b>1j</b>		No
<b>k</b>	Lease of facilities, equipment, or other assets from related organization(s) . . . . .	<b>1k</b>		No
<b>l</b>	Performance of services or membership or fundraising solicitations for related organization(s) . . . . .	<b>1l</b>		No
<b>m</b>	Performance of services or membership or fundraising solicitations by related organization(s) . . . . .	<b>1m</b>		No
<b>n</b>	Sharing of facilities, equipment, mailing lists, or other assets with related organization(s) . . . . .	<b>1n</b>	Yes	
<b>o</b>	Sharing of paid employees with related organization(s) . . . . .	<b>1o</b>	Yes	
<b>p</b>	Reimbursement paid to related organization(s) for expenses . . . . .	<b>1p</b>	Yes	
<b>q</b>	Reimbursement paid by related organization(s) for expenses . . . . .	<b>1q</b>	Yes	
<b>r</b>	Other transfer of cash or property to related organization(s) . . . . .	<b>1r</b>		No
<b>s</b>	Other transfer of cash or property from related organization(s) . . . . .	<b>1s</b>		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

See Additional Data Table

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

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

[illegible]



**Part VII** **Supplemental Information**

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

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	54,765,920	ACTUAL AMOUNT PAID
VAN ANDEL INSTITUTE	E	19,640,000	TOTAL RECORDED
VAN ANDEL INSTITUTE	N	313,545	ALLOCATION BASED ON SQ FOOTAGE
VAN ANDEL INSTITUTE	P	1,258,660	ACTUAL AMOUNT PAID
VAN ANDEL INSTITUTE	N	191,463	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE	O	1,283,588	ALLOCATION BASED ON EFFORT
VAN ANDEL EDUCATION INSTITUTE	P	178,528	ACTUAL AMOUNT PAID
VAN ANDEL EDUCATION INSTITUTE	Q	1,642,569	ACTUAL AMOUNT RECEIVED
VAN ANDEL EDUCATION INSTITUTE	N	48,313	ALLOCATION BASED ON EFFORT
VAN ANDEL EDUCATION INSTITUTE	O	323,896	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE GRADUATE SCHOOL	O	79,895	APPORTIONED FY18 COMPENSATION
VAN ANDEL INSTITUTE GRADUATE SCHOOL	N	23,262	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE GRADUATE SCHOOL	N	176,369	ALLOCATION BASED ON SQ FOOTAGE
VAN ANDEL INSTITUTE GRADUATE SCHOOL	Q	240,227	ACTUAL AMOUNT RECEIVED
VAN ANDEL INSTITUTE GRADUATE SCHOOL	O	155,950	ALLOCATION BASED ON EFFORT
VAN ANDEL INSTITUTE	Q	6,480,507	ACTUAL AMOUNT PAID
VAN ANDEL INSTITUTE	E	5,975,807	TOTAL RECORDED