

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). ▶ Complete all entries in accordance with the instructions to the Form 5500.	OMB Nos. 1210-0110 1210-0089 2022 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022	
A	This return/report is for: ☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) _____
B	This return/report is: ☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)
C	If the plan is a collectively-bargained plan, check here. ▶ ☐
D	Check box if filing under: ☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)
E	If this is a retroactively adopted plan permitted by SECURE Act section 201, check here. ▶ ☐

Part II	Basic Plan Information—enter all requested information		
1a	Name of plan INSTITUTE FOR SYSTEMS BIOLOGY DEFINED CONTRIBUTION RETIREMENT PLAN	1b	Three-digit plan number (PN) ▶ 001
		1c	Effective date of plan 01/01/2000
2a	Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) INSTITUTE FOR SYSTEMS BIOLOGY 401 TERRY AVENUE NORTH SEATTLE, WA 98109	2b	Employer Identification Number (EIN) 91-2003593
		2c	Plan Sponsor's telephone number 206-732-1200
		2d	Business code (see instructions) 541700

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	09/29/2023	KIMBERLEE ELY
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.	09/28/2023	GARY C. STREICHER
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2022)
v. 220413

3a Plan administrator's name and address ☐ Same as Plan Sponsor INSTITUTE FOR SYSTEMS BIOLOGY 401 TERRY AVENUE NORTH SEATTLE, WA 98109	3b Administrator's EIN 91-2003593 3c Administrator's telephone number 206-732-1200
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name	4b EIN 4d PN
5 Total number of participants at the beginning of the plan year	5 601
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d). a(1) Total number of active participants at the beginning of the plan year a(2) Total number of active participants at the end of the plan year b Retired or separated participants receiving benefits c Other retired or separated participants entitled to future benefits..... d Subtotal. Add lines 6a(2) , 6b , and 6c e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits. f Total. Add lines 6d and 6e g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)..... h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested.....	6a(1) 215 6a(2) 178 6b 0 6c 364 6d 542 6e 0 6f 542 6g 520 6h 6
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)	7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 2G 2L 2T 2M b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:	
9a Plan funding arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☒ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor
10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)	
a Pension Schedules (1) ☒ R (Retirement Plan Information) (2) ☐ MB (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary (3) ☐ SB (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary	b General Schedules (1) ☒ H (Financial Information) (2) ☐ I (Financial Information – Small Plan) (3) ☒ 1 A (Insurance Information) (4) ☒ C (Service Provider Information) (5) ☒ D (DFE/Participating Plan Information) (6) ☐ G (Financial Transaction Schedules)

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2022 Form M-1 annual report. If the plan was not required to file the 2022 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

SCHEDULE A (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Insurance Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500. ▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).	OMB No. 1210-0110 2022 This Form is Open to Public Inspection
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For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan INSTITUTE FOR SYSTEMS BIOLOGY DEFINED CONTRIBUTION RETIREMENT PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 INSTITUTE FOR SYSTEMS BIOLOGY	D Employer Identification Number (EIN) 91-2003593	

Part I	Information Concerning Insurance Contract Coverage, Fees, and Commissions	Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.
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1 Coverage Information:

(a) Name of insurance carrier TIAA-CREF
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(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
13-1624203	69345	316540	341	01/01/2022	12/31/2022

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.
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(a) Total amount of commissions paid	(b) Total amount of fees paid

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid
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(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid
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(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end.....	4	4520774
5	Current value of plan's interest under this contract in separate accounts at year end.....	5	23942870

6 Contracts With Allocated Funds:**a** State the basis of premium rates ▶

b	Premiums paid to carrier	6b	
c	Premiums due but unpaid at the end of the year	6c	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount..... Specify nature of costs ▶	6d	

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity
(3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ☐**7** Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee
(3) ☒ guaranteed investment (4) ☐ other ▶

b	Balance at the end of the previous year	7b	4445107
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c	Additions: (1) Contributions deposited during the year	7c(1)	0	
	(2) Dividends and credits.....	7c(2)	0	
	(3) Interest credited during the year.....	7c(3)	169450	
	(4) Transferred from separate account.....	7c(4)	33254	
	(5) Other (specify below)	7c(5)	0	

(6) Total additions.....	7c(6)	202704
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d Total of balance and additions (add lines 7b and 7c(6))	7d	4647811
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e Deductions:

(1) Disbursed from fund to pay benefits or purchase annuities during year	7e(1)	43533	
(2) Administration charge made by carrier.....	7e(2)	0	
(3) Transferred to separate account.....	7e(3)	61429	
(4) Other (specify below)	7e(4)	22075	

(5) Total deductions.....	7e(5)	127037
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f Balance at the end of the current year (subtract line 7e(5) from line 7d)	7f	4520774
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Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

- a** ☐ Health (other than dental or vision)
 b ☐ Dental
 c ☐ Vision
 d ☐ Life insurance
e ☐ Temporary disability (accident and sickness)
 f ☐ Long-term disability
 g ☐ Supplemental unemployment
 h ☐ Prescription drug
i ☐ Stop loss (large deductible)
 j ☐ HMO contract
 k ☐ PPO contract
 l ☐ Indemnity contract
m ☐ Other (specify) ▶

9 Experience-rated contracts:

a Premiums: (1) Amount received	9a(1)		
(2) Increase (decrease) in amount due but unpaid	9a(2)		
(3) Increase (decrease) in unearned premium reserve	9a(3)		
(4) Earned ((1) + (2) - (3))		9a(4)	
b Benefit charges (1) Claims paid	9b(1)		
(2) Increase (decrease) in claim reserves	9b(2)		
(3) Incurred claims (add (1) and (2))		9b(3)	
(4) Claims charged		9b(4)	
c Remainder of premium: (1) Retention charges (on an accrual basis) --			
(A) Commissions	9c(1)(A)		
(B) Administrative service or other fees	9c(1)(B)		
(C) Other specific acquisition costs	9c(1)(C)		
(D) Other expenses	9c(1)(D)		
(E) Taxes	9c(1)(E)		
(F) Charges for risks or other contingencies	9c(1)(F)		
(G) Other retention charges	9c(1)(G)		
(H) Total retention		9c(1)(H)	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)		9c(2)	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement		9d(1)	
(2) Claim reserves		9d(2)	
(3) Other reserves		9d(3)	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line 9c(2).)		9e	

10 Nonexperience-rated contracts:

a Total premiums or subscription charges paid to carrier	10a	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount. Specify nature of costs.	10b	

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☐ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE C (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Service Provider Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2022
		This Form is Open to Public Inspection.

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022	
A Name of plan INSTITUTE FOR SYSTEMS BIOLOGY DEFINED CONTRIBUTION RETIREMENT PLAN	B Three-digit plan number (PN) ▶ 001
C Plan sponsor's name as shown on line 2a of Form 5500 INSTITUTE FOR SYSTEMS BIOLOGY	D Employer Identification Number (EIN) 91-2003593

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

- a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☒ Yes ☐ No
- b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
CHARLES SCHWAB INV MANAGEMENT, INC.

94-3106735

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
TIAA

13-1624203

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

USI CONSULTING GROUP

06-1053228

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
15 26 27 37 50	NONE	13423	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☒ No ☐

(a) Enter name and EIN or address (see instructions)

CHARLES SCHWAB & CO., INC.

94-1737782

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
18 19 59	NONE	0	Yes ☒ No ☐	Yes ☐ No ☒	0	Yes ☒ No ☐

(a) Enter name and EIN or address (see instructions)

CHARLES SCHWAB BANK/TRUST COMPANY

82-3967259

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
18 19 52 59 62	NONE	658	Yes ☒ No ☐	Yes ☒ No ☐	7075	Yes ☐ No ☒

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

USI ADVISORS, INC.

06-1397347

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
26 27 50 51	NONE	16538	Yes ☒ No ☐	Yes ☒ No ☐	0	Yes ☒ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
CHARLES SCHWAB & CO., INC.	19 59	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
AMUNDI US 13-5657669	RANGE OF 0.00 - 0.02% OF AVERAGE DAILY BALANCE OF ASSETS. SHAREHOLDER SERVICING.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
CHARLES SCHWAB & CO., INC.	19 59	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
PARNASSUS 94-6579180	RANGE OF 0.00 - 0.02% OF AVERAGE DAILY BALANCE OF ASSETS. SHAREHOLDER SERVICING.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
CHARLES SCHWAB & CO., INC.	19 59	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
FIDELITY INVESTMENTS 06-1194217	RANGE OF 0.00 - 0.02% OF AVERAGE DAILY BALANCE OF ASSETS. SHAREHOLDER SERVICING.	

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
CHARLES SCHWAB & CO., INC.	19 59	0
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
ALLIANZ GLOBAL INVESTORS	RANGE OF 0.00 - 0.02% OF AVERAGE DAILY BALANCE OF ASSETS. SHAREHOLDER SERVICING.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
CHARLES SCHWAB BANK/TRUST COMPANY	19 59	3031
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
AMUNDI US 13-5657669		
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
CHARLES SCHWAB BANK/TRUST COMPANY	19 59	1867
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
T. ROWE PRICE		

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
CHARLES SCHWAB BANK/TRUST COMPANY	19 59	1081

(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.
PARNASSUS 94-6579180	

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation

(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation

(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III Termination Information on Accountants and Enrolled Actuaries (see instructions)
(complete as many entries as needed)

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

a Name:	b EIN:
c Position:	
d Address:	e Telephone:

Explanation:

SCHEDULE D (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration	DFE/Participating Plan Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection.
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For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan INSTITUTE FOR SYSTEMS BIOLOGY DEFINED CONTRIBUTION RETIREMENT PLAN	B Three-digit plan number (PN) ►	001
C Plan or DFE sponsor's name as shown on line 2a of Form 5500 INSTITUTE FOR SYSTEMS BIOLOGY	D Employer Identification Number (EIN) 91-2003593	

Part I	Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs) (Complete as many entries as needed to report all interests in DFEs)
--------	---

a Name of MTIA, CCT, PSA, or 103-12 IE:	TIAA REAL ESTATE
---	------------------

b Name of sponsor of entity listed in (a):	TIAA-CREF
--	-----------

c EIN-PN 13-1624203-004	d Entity code P	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions) 1641041
-------------------------	-----------------	--

a Name of MTIA, CCT, PSA, or 103-12 IE:		
---	--	--

b Name of sponsor of entity listed in (a):		
--	--	--

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
----------	---------------	--

a Name of MTIA, CCT, PSA, or 103-12 IE:		
---	--	--

b Name of sponsor of entity listed in (a):		
--	--	--

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
----------	---------------	--

a Name of MTIA, CCT, PSA, or 103-12 IE:		
---	--	--

b Name of sponsor of entity listed in (a):		
--	--	--

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
----------	---------------	--

a Name of MTIA, CCT, PSA, or 103-12 IE:		
---	--	--

b Name of sponsor of entity listed in (a):		
--	--	--

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
----------	---------------	--

a Name of MTIA, CCT, PSA, or 103-12 IE:		
---	--	--

b Name of sponsor of entity listed in (a):		
--	--	--

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
----------	---------------	--

a Name of MTIA, CCT, PSA, or 103-12 IE:		
---	--	--

b Name of sponsor of entity listed in (a):		
--	--	--

c EIN-PN	d Entity code	e Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
----------	---------------	--

a Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)**a** Name of MTIA, CCT, PSA, or 103-12 IE:**b** Name of sponsor of entity listed in (a):**c** EIN-PN**d** Entity
code**e** Dollar value of interest in MTIA, CCT, PSA, or
103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN**a** Plan name**b** Name of
plan sponsor**c** EIN-PN

SCHEDULE H (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection
For calendar plan year 2022 or fiscal plan year beginning <u>01/01/2022</u> and ending <u>12/31/2022</u>		
A Name of plan <u>INSTITUTE FOR SYSTEMS BIOLOGY DEFINED CONTRIBUTION RETIREMENT PLAN</u>	B Three-digit plan number (PN) ►	<u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>INSTITUTE FOR SYSTEMS BIOLOGY</u>	D Employer Identification Number (EIN) <u>91-2003593</u>	

Part I	Asset and Liability Statement		
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.			
Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash.....	1a		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions.....	1b(1)	0	0
(2) Participant contributions.....	1b(2)	0	0
(3) Other.....	1b(3)		
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit).....	1c(1)	1690599	1979567
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common.....	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)		
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants).....	1c(7)		
(8) Participant loans.....	1c(8)	155598	122859
(9) Value of interest in common/collective trusts.....	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)	1487294	1641041
(11) Value of interest in master trust investment accounts.....	1c(11)		
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)	62561761	52442230
(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)	4445107	4520774
(15) Other	1c(15)		

1d Employer-related investments:		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)		
(2) Employer real property	1d(2)		
e Buildings and other property used in plan operation	1e		
f Total assets (add all amounts in lines 1a through 1e)	1f	70340359	60706471

Liabilities

g Benefit claims payable	1g		
h Operating payables	1h		
i Acquisition indebtedness	1i		
j Other liabilities	1j		175
k Total liabilities (add all amounts in lines 1g through 1j)	1k		175

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	70340359	60706296
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Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income

		(a) Amount	(b) Total
a Contributions:			
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	1117804	
(B) Participants	2a(1)(B)	1555820	
(C) Others (including rollovers)	2a(1)(C)	305996	
(2) Noncash contributions	2a(2)		
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		2979620
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
(B) U.S. Government securities	2b(1)(B)		
(C) Corporate debt instruments	2b(1)(C)		
(D) Loans (other than to participants)	2b(1)(D)		
(E) Participant loans	2b(1)(E)	8682	
(F) Other	2b(1)(F)	169451	
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		178133
(2) Dividends: (A) Preferred stock	2b(2)(A)		
(B) Common stock	2b(2)(B)		
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)		
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		
(3) Rents	2b(3)		
(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)		
(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		
(5) Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)		
(B) Other	2b(5)(B)		
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		124241
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities.....	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		-11836468
c Other income	2c		
d Total income. Add all income amounts in column (b) and enter total	2d		-8554474
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	1048970	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		1048970
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)	30619	
(2) Contract administrator fees	2i(2)		
(3) Investment advisory and management fees	2i(3)		
(4) Other	2i(4)		
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		30619
j Total expenses. Add all expense amounts in column (b) and enter total	2j		1079589
Net Income and Reconciliation			
k Net income (loss). Subtract line 2j from line 2d	2k		-9634063
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☒ Unmodified (2) ☐ Qualified (3) ☐ Disclaimer (4) ☐ Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) ☒ DOL Regulation 2520.103-8 (2) ☐ DOL Regulation 2520.103-12(d) (3) ☐ neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: CLARK NUBER, P.S.

(2) EIN: 91-1194016

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)

	Yes	No	Amount
4a		X	

	Yes	No	Amount
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)			
4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)			
4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)			
4d		X	
e Was this plan covered by a fidelity bond?	X		1000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X	
4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4h		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	X		
4i	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked and see instructions for format requirements.)			
4j		X	
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?			
4k		X	
l Has the plan failed to provide any benefit when due under the plan?			
4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)			
4m		X	
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.			
4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☐ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year _____.

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection.
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan INSTITUTE FOR SYSTEMS BIOLOGY DEFINED CONTRIBUTION RETIREMENT PLAN		B Three-digit plan number (PN) ► 001
C Plan sponsor's name as shown on line 2a of Form 5500 INSTITUTE FOR SYSTEMS BIOLOGY		D Employer Identification Number (EIN) 91-2003593
Part I	Distributions	
All references to distributions relate only to payments of benefits during the plan year.		
1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....		1
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): 82-3967259 13-1624203 Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year.....		3
Part II	Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)	
4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ☐ Yes ☐ No ☐ N/A If the plan is a defined benefit plan, go to line 8.		
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month _____ Day _____ Year _____ If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived).....		6a
b Enter the amount contributed by the employer to the plan for this plan year.....		6b
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....		6c
If you completed line 6c, skip lines 8 and 9.		
7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ☐ Yes ☐ No ☐ N/A		
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ☐ Yes ☐ No ☐ N/A		
Part III	Amendments	
9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box..... ☐ Increase ☐ Decrease ☐ Both ☐ No		
Part IV	ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.	
10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan?..... ☐ Yes ☐ No		
11 a Does the ESOP hold any preferred stock?..... ☐ Yes ☐ No		
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.)..... ☐ Yes ☐ No		
12 Does the ESOP hold any stock that is not readily tradable on an established securities market?..... ☐ Yes ☐ No		
For Paperwork Reduction Act Notice, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2022 v. 220413		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that (1) contributed more than 5% of total contributions to the plan during the plan year or (2) was one of the top-ten highest contributors (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14	Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:		
	a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment).....	14a	
	b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14b	
	c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14c	
15	Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:		
	a The corresponding number for the plan year immediately preceding the current plan year.....	15a	
	b The corresponding number for the second preceding plan year.....	15b	
16	Information with respect to any employers who withdrew from the plan during the preceding plan year:		
	a Enter the number of employers who withdrew during the preceding plan year	16a	
	b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers.....	16b	
17	If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐		

Part VI	Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans
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18	If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐
19	If the total number of participants is 1,000 or more, complete lines (a) through (c) a Enter the percentage of plan assets held as: Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____% b Provide the average duration of the combined investment-grade and high-yield debt: ☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more c What duration measure was used to calculate line 19(b)? ☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____
20	PBGC missed contribution reporting requirements. If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20. a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box: ☐ Yes. ☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date. ☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date. ☐ No. Other. Provide explanation _____

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

Financial Statements

For the Year Ended December 31, 2022

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Independent Auditor's Report

**To the Plan Administrator
Institute for Systems Biology Defined Contribution Retirement Plan
Seattle, Washington**

Scope and Nature of the ERISA Section 103(a)(3)(C) Audit

We have performed audits of the financial statements of Institute for Systems Biology Defined Contribution Retirement Plan (the Plan), an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 (ERISA), as permitted by ERISA Section 103(a)(3)(C). The financial statements which comprise the statements of net assets available for benefits as of December 31, 2022 and 2021, and the related statement of changes in net assets available for benefits for the year ended December 31, 2022, and the related notes to the financial statements.

Management, having determined it is permissible in the circumstances, has elected to have the audits of the Plan's financial statements performed in accordance with ERISA Section 103(a)(3)(C) pursuant to 29 CFR 2520.103-8 of the Department of Labor's (DOL) Rules and Regulations for Reporting and Disclosure under ERISA (ERISA Section 103(a)(3)(C) audit). As permitted by ERISA Section 103(a)(3)(C), our audits need not extend to any statements or information related to assets held for investment of the Plan (investment information) by a bank or similar institution or insurance carrier that is regulated, supervised, and subject to periodic examination by a state or federal agency (qualified institution), provided that the investment information is prepared and certified to by the qualified institution in accordance with 29 CFR 2520.103-5 of the DOL's Rules and Regulations for Reporting and Disclosure under ERISA.

Management has obtained certifications from a qualified institution as of December 31, 2022 and 2021, and for the year ended December 31, 2022, stating that the certified investment information, as described in Note 5 to the financial statements, is complete and accurate.

Opinion on the Financial Statements

In our opinion, based on our audits and the procedures performed as described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report:

- The amounts and disclosures in the accompanying financial statements, other than those agreed to or derived from the certified investment information, are presented fairly, in all material respects, in accordance with accounting principles generally accepted in the United States of America (GAAP).



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- The certified investment information in the accompanying financial statements agrees to, or is derived from, in all material respects, the information prepared and certified by a qualified institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our ERISA Section 103(a)(3)(C) audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with GAAP, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error. Management's election of the ERISA Section 103(a)(3)(C) audit does not affect management's responsibility for the financial statements.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for within one year after the date that the financial statements are issued or available to be issued.

Management is also responsible for maintaining a current plan instrument, including all plan amendments, administering the Plan, and determining that the Plan's transactions that are presented and disclosed in the financial statements are in conformity with the Plan's provisions, including maintaining sufficient records with respect to each of the participants, to determine the benefits due or which may become due to such participants.

Auditor's Responsibilities for the Audit of the Financial Statements

Except as described in the Scope and Nature of the ERISA Section 103(a)(3)(C) Audit section of our report, our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if, there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for a reasonable period of time.

Our audits did not extend to the certified investment information, except for obtaining and reading the certifications, comparing the certified investment information with the related information presented and disclosed in the financial statements, and reading the disclosures relating to the certified investment information to assess whether they are in accordance with the presentation and disclosure requirements of GAAP.

Accordingly, the objective of an ERISA Section 103(a)(3)(C) audit is not to express an opinion about whether the financial statements as a whole are presented fairly, in all material respects, in accordance with GAAP.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Other Matter - Supplemental Schedules Required by ERISA

The supplementary information, as listed in the accompanying table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements but is required by the DOL's Rules and Regulations for Reporting and Disclosure under ERISA. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information included in the supplementary information, other than that agreed to or derived from the certified investment information, has been subjected to auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with GAAS. For information included in the supplementary information that agreed to or is derived from the certified investment information, we compared such information to the related certified investment information.

In forming our opinion on the supplementary information, we evaluated whether the supplementary information, other than the information agreed to or derived from the certified investment information, including its form and content, are presented in conformity with the DOL's Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion:

- The form and content of the supplementary information, other than the information in the supplementary information that agreed to or is derived from the certified investment information, is presented, in all material respects, in conformity with the DOL's Rules and Regulations for Reporting and Disclosure under ERISA.
- The certified investment information in the supplementary information agrees to, or is derived from, in all material respects, the information prepared and certified by a qualified institution that management determined meets the requirements of ERISA Section 103(a)(3)(C).

Clark Nuber P.S.

Certified Public Accountants
September 26, 2023

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Statements of Net Assets Available for Benefits
December 31, 2022 and 2021**

	<u>2022</u>	<u>2021</u>
Assets:		
Investments at fair value-		
Variable annuity accounts	\$ 22,301,829	\$ 28,395,425
Mutual funds	32,119,968	35,856,935
Fixed annuity contracts	2,326,698	2,266,206
Pooled separate account	<u>1,641,041</u>	<u>1,487,294</u>
Total investments at fair value	58,389,536	68,005,860
Fixed annuity contracts at contract value	2,194,076	2,178,901
Notes receivable from participants	<u>122,859</u>	<u>155,598</u>
Total Assets	60,706,471	70,340,359
Liabilities:		
Other liabilities	<u>175</u>	
Total Liabilities	<u>175</u>	
Net Assets Available for Benefits	<u>\$ 60,706,296</u>	<u>\$ 70,340,359</u>

See accompanying notes.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Statement of Changes in Net Assets Available for Benefits
For the Year Ended December 31, 2022**

Contributions and Investment Income (Loss):

Contributions-	
Employer	\$ 1,117,804
Employee	1,555,820
Rollover	<u>305,996</u>
Total contributions	2,979,620
Investment income (loss)-	
Net depreciation in fair value of investments and capital gains	(12,413,199)
Interest and dividends	<u>879,105</u>
Net investment loss	<u>(11,534,094)</u>
Total Contributions and Investment Income (Loss)	(8,554,474)
Deductions:	
Benefit payments	(1,048,970)
Administrative fees	<u>(30,619)</u>
Total Deductions	<u>(1,079,589)</u>
Net Decrease in Net Assets Available for Benefits	(9,634,063)
Net Assets Available for Benefits:	
Beginning of year	<u>70,340,359</u>
End of Year	<u>\$ 60,706,296</u>

See accompanying notes.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 1 - Description of the Plan

The following description of the Institute for Systems Biology Defined Contribution Retirement Plan (the Plan) provides only general information. Participants should refer to the plan document for a more complete description of the Plan's provisions.

General - The Plan is a defined contribution plan covering substantially all employees of Institute for Systems Biology (the Sponsor). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), as amended. TIAA and CREF are issuers of the Plan's fixed and variable annuity contracts as well as the Plan's pooled separate account. Charles Schwab Trust Bank holds remaining assets of the Plan not held by TIAA and CREF. TIAA and USI Consulting Group (USI) provide recordkeeping services for the Plan.

Eligibility - All employees are eligible to participate in the Plan except those employees normally working fewer than 20 hours per week. On a voluntary basis, eligible employees may begin making salary deferrals and receive employer matching contributions upon hire. The Plan requires one year of service to become eligible for nonelective contributions.

Contributions - Participants may elect to defer up to 100% of their eligible compensation as pretax or Roth contributions. Participants who have attained age 50 before the end of the plan year are eligible to make catch-up contributions. Participants may also contribute amounts representing distributions from other eligible retirement plans (rollover).

The Sponsor makes a nonelective contribution equal to 3% of the participant's eligible compensation. The Sponsor may also make discretionary matching contributions. For the year ended December 31, 2022, the Sponsor elected to match 100% of the first 5% of eligible compensation that a participant contributes to the Plan.

Contributions are subject to certain Internal Revenue Service (IRS) limitations.

Participant Accounts - Each participant's account is credited with the participant's contributions and the Sponsor's matching contributions (if any), as well as allocations of the Sponsor's nonelective contributions and plan earnings. Participant accounts are charged with an allocation of administrative expenses that are paid by the Plan. Allocations are based on participant earnings, account balances, or specific participant transactions, as defined. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account. Participants direct the investment of their account into various investment options offered by the Plan.

Vesting - Prior to August 16, 2018, a participant is 100% vested at all times in all accounts. For participants hired on or after August 17, 2018, the employer matching and nonelective contribution accounts are subject to a 3-year cliff vesting schedule.

Forfeited Accounts - At December 31, 2022 and 2021, forfeited nonvested accounts totaled \$0 and \$12,877, respectively. These accounts will be used to reduce future employer contributions or pay administrative expenses of the Plan. During 2022, the Sponsor used \$26,948 from forfeited nonvested accounts to pay plan expenses.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 1 - Continued

Benefits Paid to Participants - For termination of service due to any reason, a participant or their beneficiary may elect to receive either a lump sum amount or an annuity distribution option (from TIAA only). Payment options are dependent on the type of investments in the participant's account. Participants who have attained age 59 ½ may also elect to receive a distribution of the pre-tax deferral portion of their account balance prior to termination of employment (in-service withdrawals). The Plan allows for hardship withdrawals in accordance with provisions specified in the plan document. Participants may also elect to receive in-service withdrawals from balances rolled into the Plan.

Plan Loans - The Plan provides for loans which are funded from the general assets of TIAA. Accordingly, these loans are not reported on the statements of net assets available for benefits and related interest income is not reported on the statement of changes in net assets available for benefits. Adequate security is required and a portion of the participant's account is reserved, or held as collateral, to cover 110% of the outstanding loan in case of default. The interest rate for plan loans may be fixed or variable and the initial rate is determined by the terms of the controlling contract. Participants may borrow a minimum of \$1,000 and a maximum equal to the lesser of \$50,000 or 50% of their vested account balance.

As of December 31, 2022 and 2021, outstanding plan loans total \$13,059 and \$27,727, respectively. As of December 31, 2022, there were no outstanding loans in default.

Notes Receivable From Participants - Participants may borrow from their account a minimum of \$1,000 up to a maximum equal to the lesser of \$50,000 or 50% of their vested balance. Loans are secured by the balance in the participant's account. Interest rates are set at 1% above the prime rate, as defined. Principal and interest is paid ratably through payroll deductions.

Note 2 - Summary of Significant Accounting Policies

Basis of Accounting - The financial statements of the Plan are prepared on the accrual basis of accounting.

Use of Estimates - The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

Investment Valuation and Income Recognition - Investments are reported at fair value except for fully benefit-responsive investment contracts which are reported at contract value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. See Note 3 for discussion of fair value measurements. Purchases and sales are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Net appreciation or depreciation includes the Plan's gains and losses on investments bought and sold as well as held during the year.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 2 - Continued

Notes Receivable From Participants - Notes receivable from participants are measured at their unpaid principal balance. Accrued but unpaid interest, if any, would not have a material impact on the Plan's financial statements. Related fees are recorded as administrative expenses and are expensed when they are incurred. If a participant ceases to make loan repayments and the plan administrator deems the participant loan to be in default, the participant loan balance is reduced and a benefit payment is recorded. No allowance for credit losses has been recorded as of December 31, 2022 and 2021.

Payment of Benefits - Benefits are recorded when paid. When a participant's accumulation in the TIAA Traditional Annuity is converted to a lifetime payout annuity, the present value of the stream of payments is equal to the accumulated balance, and the entire amount is recorded as a distribution in the statement of changes in net assets available for benefits.

Administrative Expenses - Certain expenses of maintaining the Plan are paid by the Plan, unless otherwise paid by the Sponsor. Expenses that are paid by the Sponsor are excluded from these financial statements. Transaction based fees for notes receivable from participants and distributions are charged directly to participant accounts. Certain investment related expenses are charged directly against the fund's investment performance and, therefore, are not separately disclosed in the accompanying financial statements.

Subsequent Events - The Plan's management has evaluated subsequent events through September 26, 2023, the date on which the Plan's financial statements were available to be issued.

Note 3 - Fair Value Measurements

GAAP provides the framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3).

The three levels of the fair value hierarchy are described as follows:

Level 1 - Unadjusted quoted prices for identical assets or liabilities in active markets that the Plan has the ability to access.

Level 2 - Quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in inactive markets, inputs other than the quoted prices that are observable for the asset or liability, and inputs that are derived principally from or corroborated by observable market data by correlation or other means. If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

Level 3 - Unobservable inputs that are significant to the fair value measurement.

The asset or liability's fair value measurement level within the fair value hierarchy is based upon the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 3 - Continued

Following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes in the methodologies used at December 31, 2022 and 2021.

Variable Annuity Accounts - CREF is a registered investment company and consists of eight accounts which fund variable annuity contracts issued by CREF. The fair values of accumulation units held in CREF accounts are based on each account's daily published net asset value (NAV). Except for the CREF Money Market Account, NAV is based on the market value of each account's holdings determined by market quotations or prices obtained from independent pricing sources. The CREF Money Market Account is valued at amortized cost, which approximates fair value. Accumulation units are available for transactions at the closing accumulation unit value on any day the New York Stock Exchange (NYSE) is open for business. The Plan also holds TIAA Access variable annuity contracts issued by TIAA. The fair values of accumulation units held in TIAA Access accounts are based on each account's NAV.

Mutual Funds - Valued at the daily closing price as reported by the fund. Mutual funds held by the Plan are open-end mutual funds that are registered with the Securities and Exchange Commission. These funds are required to publish their daily NAV and to transact at that price. The mutual funds held by the Plan are deemed to be actively traded.

Non-Fully Benefit Responsive (Non-FBR) Fixed Annuity Contracts - Investments in Non-FBR insurance contracts are required to be reported at fair value; however, the Plan's financial statements reflect Non-FBR insurance contracts at their contract value. Contract value is the aggregation of contributions, plus interest, less any withdrawals. Reporting Non-FBR insurance contracts at contract value did not have a material effect on the Plan's financial statements as contract value approximates a discounted cash flow value (fair value) calculated using an appropriate risk-adjusted market discount rate which correlates closely with TIAA's Traditional Annuity's historical crediting rates. Fair value is determined annually for financial statement reporting purposes. In determining the reasonableness of the methodology, the Plan's management evaluates a variety of factors including review of existing contracts, historical returns, market conditions, and overall credit ratings. Certain unobservable inputs are substantiated utilizing available market data (e.g., Treasury yields).

Pooled Separate Account - The TIAA Real Estate Account (REA) is a pooled separate account which funds variable annuity contracts issued by TIAA. The fair value of accumulation units is published daily and based on market values of the underlying real estate properties determined by external appraisals, which are estimates of property values based on a professional's opinion. The REA may also hold real estate-related marketable securities which are valued using independent pricing sources. Accumulation units are available for transactions at the closing accumulation unit value on any day the NYSE is open for business. Transfers out of the REA are limited to one per calendar quarter.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 3 - Continued

The following tables set forth by level, within the fair value hierarchy, the Plan's assets at fair value as of December 31:

	Fair Value Measurements at December 31, 2022			
	Level 1	Level 2	Level 3	Total
Variable annuity accounts	\$ 16,448,837	\$ -	\$ -	\$ 16,448,837
Mutual funds	32,119,968			32,119,968
Pooled separate account	1,641,041			1,641,041
Fixed annuity contracts- Nonbenefit-responsive			2,326,698	2,326,698
Total Assets in the Fair Value Hierarchy	\$ 50,209,846	\$ -	\$ 2,326,698	52,536,544
Investments measured at NAV ^(a)				5,852,992
Total Investments at Fair Value				\$ 58,389,536

	Fair Value Measurements at December 31, 2021			
	Level 1	Level 2	Level 3	Total
Variable annuity accounts	\$ 21,106,665	\$ -	\$ -	\$ 21,106,665
Mutual funds	35,856,935			35,856,935
Pooled separate account	1,487,294			1,487,294
Fixed annuity contracts- Nonbenefit-responsive			2,266,206	2,266,206
Total Assets in the Fair Value Hierarchy	\$ 58,450,894	\$ -	\$ 2,266,206	60,717,100
Investments measured at NAV ^(a)				7,288,760
Total Investments at Fair Value				\$ 68,005,860

- (a) In accordance with Subtopic 820-10, investments that were measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the line items presented in the statements of net assets available for benefits.

The summary of certain changes in the fair value of the Plan's level 3 assets for the year ended December 31, 2022 is as follows:

Purchases	\$ 6,578
Issuances	\$ -

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 3 - Continued

The following table represents the Plan's Level 3 financial instruments, the valuation techniques used to measure the fair value of those financial instruments, and the significant unobservable inputs and the ranges of values for those inputs as of December 31, 2022 and 2021:

Name	Valuation Technique	Unobservable Inputs	2022 Range (Average)	2021 Range (Average)
TIAA Traditional Annuity (Non-FBR)	Discounted cash flow	Risk-adjusted discount rate applied	GRA: 3.7% - 6.25% (3.8%)	GRA: 3.0% - 3.8% (3.8%)

The following table provides redemption information and additional disclosures of the Plan's investments, whose fair value is estimated using the NAV (or its equivalent) practical expedient, as of December 31:

	2022 Fair Value	2021 Fair Value	Redemption Frequency	Redemption Notice Period
Variable Annuity Accounts ^(a)	\$ 5,852,992	\$ 7,288,760	Daily	1 day

- (a) Variable Annuity Accounts - Variable annuity accounts using the NAV per share (or its equivalent) practical expedient primarily consists of TIAA Access Lifecycle accounts. Each of the TIAA Access Lifecycle accounts is designed to provide a single diversified portfolio managed with a target retirement date in mind. The target date is the approximate date when investors expect to begin withdrawing money from the Fund.

Note 4 - TIAA Traditional Annuity

The TIAA Traditional Annuity is an unallocated fixed annuity contract available as an investment option to plan participants. Each contract is fully and unconditionally guaranteed by TIAA. The Traditional Annuity is offered through a variety of contract types, including Group Retirement Annuities (GRA) and Group Supplemental Retirement Annuities (GSRA). The type of contract through which a participant invests in the TIAA Traditional Annuity determines the applicability of certain account features, such as the guaranteed minimum interest rate, additional interest declarations, the degree of liquidity of the participant's account, and the options for receiving income upon retirement.

When participants choose to allocate a portion of their retirement savings to the TIAA Traditional Annuity during the accumulation phase of the contract, their contributions purchase a specific amount of lifetime income based on the contractual rate schedule in effect at the time the premium is paid. The participant's principal, plus a specified minimum rate of interest, is guaranteed by TIAA's claims-paying ability. The TIAA Traditional Annuity also provides the potential for additional interest if declared by TIAA's Board of Trustees. Additional interest, when declared, remains in effect for the declaration year, which begins each March 1 for accumulating annuities, and January 1 for lifetime payout annuities. Additional interest is not guaranteed for future years. Together, the guaranteed minimum and additional amounts make up the crediting interest rate.

The TIAA Traditional Annuity is segregated into non-fully benefit and fully benefit responsive categories.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 4 - Continued

The TIAA Traditional Annuity GSRA contract is considered fully benefit responsive and is reported at contract value. Contract value is the aggregation of contributions, plus interest, less withdrawals and administrative expenses if any. There are no liquidity restrictions for these contracts. There are no events that would limit the Plan from transacting at contract value with the issuer or that would allow issuers to terminate these fully benefit responsive investment contracts with the Plan and settle at an amount different from contract value. The contract value of the fully benefit responsive TIAA Traditional Annuity contracts is \$2,194,076 and \$2,178,901 as of December 31, 2022 and 2021, respectively.

The TIAA Traditional Annuity GRA contract is non-fully benefit responsive. Lump sum withdrawals are available within 120 days of termination of employment and are subject to a 2.5% surrender charge. All other withdrawal and transfers from GRA contracts must be spread over 10 annual installments (five annual installments for withdrawals after termination of employment).

With the GRA, lump sum withdrawals are available within 120 days of termination of employment and are subject to a 2.5% surrender charge. All other withdrawal and transfers from GRA contracts must be spread over 10 annual installments (five annual installments for withdrawals after termination of employment).

Note 5 - Certified Investments

The plan administrator has elected the method of compliance permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Investments held at December 31, 2022 and 2021, and investment income or loss for the year ended December 31, 2022, that is disclosed in the accompanying financial statements and supplementary information, was obtained or derived from information supplied to the plan administrator and certified as complete and accurate by Teachers Insurance and Annuity Association of America (TIAA), College Retirement Equity Fund (CREF) and Charles Schwab Trust Bank. The Plan's independent accountants did not perform auditing procedures with respect to this information, except for comparing such information to the related information included in the financial statements and supplementary information.

Note 6 - Party-in-Interest Transactions

The Plan's investments include fixed and variable annuity contracts and a pooled separate account issued by TIAA and CREF. Transactions with these investments and fees paid from the Plan to TIAA and CREF qualify as party-in-interest transactions which are exempt from prohibited transaction rules. The Plan invests in a money market fund managed by an affiliate of Charles Schwab Trust Bank and, therefore, transactions with this money market fund qualify as party-in-interest transactions. The Plan pays certain expenses related to plan operations to various service providers and also issues loans to participants. These transactions are party-in-interest transactions.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Notes to Financial Statements
For the Year Ended December 31, 2022**

Note 7 - Tax Status

Management adopted a Kibble & Prentice Holding Company volume submitter 403(b) plan document. Kibble & Prentice Holding Company received an approval letter from the IRS dated March 31, 2017, which states that the form of the plan document satisfies the applicable provisions of Section 403(b) of the IRC. The Plan's management believes that the Plan is currently designed and being operated in a manner that would not jeopardize the tax benefits associated with these arrangements. The Plan is subject to audits by the IRS; however, there are currently no audits for any tax periods in progress.

Note 8 - Termination of the Plan

Although it has not expressed any intent to do so, the Sponsor has the right under the Plan to discontinue its contributions and to terminate the Plan subject to the provisions of ERISA. In the event of plan termination, participants would become 100% vested in their employer contributions.

Note 9 - Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks, such as interest rate, market, and credit risks. Market risks include global events such as a pandemic or international conflict which could impact the value of investment securities. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits.

SUPPLEMENTARY INFORMATION

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Attachment to Form 5500, Schedule H, Line 4(i)
Schedule of Assets Held as of December 31, 2022**

Employer: Institute for Systems Biology

EIN: 91-2003593

Plan No.: 001

(a)	(b) Identity of Issue, Borrower, Lessor or Similar Party	(c) Description of Investment Including Maturity Date, Rate of Interest, Collateral, Par or Maturity Value	(d) Cost	(e) Current Value
*	Various	403(b) annuity contracts and custodial accounts	**	\$ 60,583,612
*	Participant loans	Interest rates of 4.25% - 8.50%	- 0 -	<u>122,859</u>
				<u>\$ 60,706,471</u>

* Party-in-interest as defined by section 3(14) of ERISA.

** Historical cost information omitted with respect to assets held for investment purposes on participant-directed individual account balances.

**INSTITUTE FOR SYSTEMS BIOLOGY
DEFINED CONTRIBUTION RETIREMENT PLAN**

**Attachment to Form 5500, Schedule H, Line 4(i)
Schedule of Assets Held as of December 31, 2022**

Employer: Institute for Systems Biology

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