

# Institute for In Vitro Sciences, Inc.

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## LETTER FROM THE PRESIDENT

Dear Supporters,

I am happy to present to you the Institute for In Vitro Sciences' (IIVS) 2023 annual report, marking my first year serving as President. It has been an honor to lead the IIVS team through a period of growth and transformation, and I am excited to share with you the progress we have made in advancing new approach methodologies in toxicological research. In addition to my appointment, we welcomed Kristie Sullivan, MPH to our team as the Vice President of Education and Outreach. Under Kristie's leadership, we re-launched our Practical Methods training workshops and are able to offer it multiple times throughout the year to provide hands-on experience with case study discussions to help attendees gain familiarity and comfort with the assays.

IIVS has expanded our testing to offer ToxTracker, a stem-cell based assay to identify hazard and mode-of-action of potentially genotoxic materials. Using the Good In Vitro Method Practices (GIVIMP) guidance document as our quality system, we have standardized our process for preparing and characterizing human precision cut lung slices that are available for purchase and use in both US and international laboratories.

In closing, I extend my heartfelt gratitude to our dedicated staff, partners, and supporters who have contributed to the success of IIVS in the past year.

Together, we are making significant strides towards our shared vision of a day when methods based on humane, human-specific responses will be used by industry and regulatory agencies to determine the safety and efficacy of substances.

### **Looking Ahead**

- Practical Methods trainings for 2024 and early 2025 are filling up fast, so <u>register soon</u> to reserve your spot.
- IIVS Study Directors are busy transferring new methods like the Reactive Oxygen Species (ROS) assay and nuclear receptor screening assays into our laboratories to offer as GLP-compliant testing services.
- Follow us on <u>LinkedIn</u> and sign up for our <u>newsletter</u> to see announcements of webinars, meetings, publications, and all of the latest news from our staff.

Amanda K. Ulrey, RQAP-GLP President February 2024

## **OPERATIONAL HIGHLIGHTS**





IIVS's certification program in Good In Vitro Method Practices (GIVIMP) gained momentum in 2023 with 5 facilities currently enrolled in the program and 4 facilities successfully obtaining certification or verification.

IIVS hosted the 8<sup>th</sup> and 9<sup>th</sup> workshops in the In Vitro Workshop series focused on *in vitro* methodologies for genetic and other toxicity assessments of tobacco and nicotine products.

More information on this workshop series can be found in our <u>latest</u> <u>newsletter</u>.



The <u>EPIC webinar series</u> on the Use of NAMs in Risk Assessment was launched in partnership with the US Environmental Protection Agency, PETA Science Consortium International, and the California Department of Pesticide Regulation. These quarterly webinars consistently draw more than 250 participants.



Dr. Vivek Patel and Dr. Carlos Rodríguez successfully lead the effort for IIVS to become a certified provider of the ToxTracker and ACE methodologies, developed by Toxys.

## **EDUCATION AND OUTREACH**

The word of the year in 2023 was confidence. How can we increase regulators' confidence in using non-animal methods? IIVS Education and Outreach activities are targeted to this need by providing training, expert advice, and leadership.

#### **Practical Methods Trainings**



 Held 4-day, hands-on trainings in January, July, and September of 2023. Participants included reviewers and decision-makers from EPA, FDA, CPSC, and ANVISA as well as industry safety assessors and academics.



 Organized a 1-day seminar for approximately 80 safety assessors of cosmetics with the German Society for Cosmetic Science in Frankfurt, Germany.

"The IIVS practical methods training was tailored on my actual needs and learning objectives, beautifully linking the hands-on experience that I was lacking with the big-picture perspective on how to work together with different stakeholders towards good safety decisions."

#### Legislative Panel and Media Event

In July IIVS partnered with the Humane Society of the United States to host Maryland state legislators and the media in support of a general assembly bill passed this year that will



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provide grants to Maryland scientists who develop and optimize non-animalbased research methods. See the coverage of this fist-of-its-kind legislation on WBALTV.

#### Webinars

- Study Director Allison Hilberer presented in a 2-part webinar series on phototoxicity testing.
- Study Director Dr. Argel Islas-Robles presented in a 2-part series on the derivation of a point of departure from in vitro methods for use in skin sensitization.
- Kristie Sullivan hosted the Dynamic Discussions webinar series with PCRM and Unilever.

#### **International Outreach Highlights**

Dr. Quanshun Zhang travel to China for two extended visits to promote the uptake of nonanimal test methods by the government. Highlights include:

- Advising Zhejiang Key Lab for In Vitro Test Methods
- Facilitating progress on domestic production of 3D skin models for skin irritation
- · Partnering with UniAsia cosmetics company on training initiatives
- Facilitating validation study of new in-country skin sensitization method EndoSENS
- Updating provincial IFDC agencies on progress in in vitro testing during COVID-19 pandemic
- Education on *in vitro* test methods for inhalation







# REGULATORY ACCEPTANCE OF NAMS

IIVS outreach activities have direct impact on the regulatory acceptance of non-animal methods. We are often consulted by regulatory agencies to address data analysis challenges or share advances in *in vitro* methodologies.







#### Organisation for Economic Cooperation and Development

IIVS is particularly active at the OECD. Our experience on validation has led to our involvement in discussions to modernize OECD validation guidance. Our scientists are also serving as technical experts in groups working on new test guidelines for eye irritation, phototoxicity, and skin sensitization. In 2023, we co-led a project to advance non-animal methods for respiratory sensitization and a revision of the Defined Approach for Skin Sensitization guideline to include more test methods.

## **HESI Botanical Safety Consortium**

Hans Raabe, Argel Islas-Robles, and Gertrude-Emilia Costin were invited to participate in the efforts of this consortium to support the advancement of in vitro methods botanical safety assessment.

### **Inaugural ISID Meeting**

In May, IIVS Senior Toxicologist and Study Director,
Allison Hilberer presented at the inaugural International
Society for Investigative Dermatology (ISID) Meeting in
Tokyo. There, Allison showcased a collaboration
between IIVS, Shiseido and the Research Institute for
Fragrance Materials which highlighted the use of New
Approach Methodologies to evaluate skin sensitization,
photoirritation, and photoallergy potential of test
materials.

## **ICCS UV Filters Working Group**

Kristie Sullivan is active in a new working group formed by the International Collaboration on Cosmetic Safety to facilitate acceptance of non-animal approaches to assess the safety of UV Filters.

#### **Skin Irritation Methods for Pesticides**

Hans Raabe, Gertrude-Emilia Costin, and Kristie Sullivan are leading an effort to outline the science behind skin irritation, to connect regulatory needs for pesticide formulation assessment to the evidence behind available *in vitro* methods.

## **TESTING SERVICES SUMMARY**

#### **Tradeshows**

IIVS exhibited at several tradeshows in 2023 in an effort to connect with our community routinely using in vitro methods and those groups who might be new to using *in vitro* methods. Look for us at these and other meetings in the future: Society of Toxicology, Personal Care Products Council, EuroTox, World Congress, the American Society for Cellular and Computational Toxicology, American College of Toxicology, and the Household Cleaning Products Association.

#### **DEA Schedule 1 Certification**

Our laboratory has acquired the State and Federal licenses required to work with several materials and compounds listed on DEA schedule 1. Read our newsletter for further details.

#### List of Manuscripts from 2023

<u>Promoting New Approach Methodologies (NAMs) for research on skin color changes in response to environmental stress factors: tobacco and air pollution</u>

<u>Key Challenges and Recommendations for In Vitro Testing of Tobacco Products for Regulatory Applications:</u>

<u>Consideration of Test Materials and Exposure Parameters</u>

<u>Key Challenges for In Vitro Testing of Tobacco Products for Regulatory applications: Recommendations for Dosimetry</u>

<u>Key Challenges for In Vitro Testing of Tobacco Products for Regulatory Applications: Recommendations for the In Vitro Mouse Lymphoma Assay</u>

<u>Cryopreserved human precision-cut lung slices provide an immune competent pulmonary test system for "ondemand" use and long-term cultures</u>

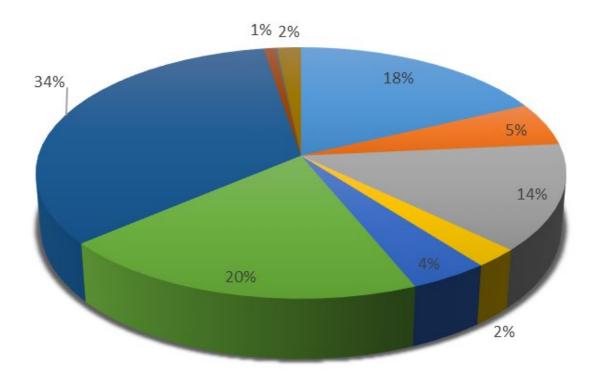
#### Posters from 2023

IIVS staff published several posters at meetings throughout 2023. Visit our website for access to all of our scientists' work.

# **TESTING SERVICES SUMMARY**

#### 2023 Research and Testing Program Summary

In 2023, over half of the studies performed in our laboratory used a 3-dimensional tissue construct as the test system. The pie chart below summarized the number of contract studies performed in each program. In addition to testing services, IIVS now also processes and characterizes <a href="https://www.numan.com/h





# **2022 AUDITED FINANCIAL REPORT**

## Form 990

# \*\* PUBLIC DISCLOSURE COPY \*\* Return of Organization Exempt From Income Tax

Under section 501(c), 527, or 4947(a)(1) of the Internal Revenue Code (except private foundations) Do not enter social security numbers on this form as it may be made public. Go to usual ire gov/Form000 for instructions and the latest information

OMB No. 1545-0047 Open to Public

			and		nor in Radio	•	Шэрсс	uom
_		2022 calendar year, or tax year beginning	ark	l ending	l			
B Check if applicable:		C Name of organization			D Emp	oyer identifi	cation number	
Address change		INSTITUTE FOR IN VITRO SCIENCES, INC.						
	Name	Doing business as	Doing business as			52-2029668		
	initial return	Number and street (or P.O. box if mail is not delivered to street address) Room/suite			E Telephone number			
Final return/		30 W WATKINS MILL RD 100			(301) 947-6523			
	termin ated	City or town, state or province, country, and ZIP or foreign postal code			G Gross receipts \$ 6,861,123			51,123.
	Ameno return	GAITHERSBURG, MD 20878			H(a) Is this a group return			
Applica- tion pending		F Name and address of principal officer: AMANDA K, ULREY			for	subordinates	? Yes	X No
		SAME AS C ABOVE			H(b) Are	all subordinates in	ncluded? Yes	No
Tax-exempt status:		empt status: X 501(c)(3) 501(c) (	(insert no.) 4947(a)(1)	or 527	If "I	No," attach a	list. See instructi	ons
	Vebsit				H(c) Gro	oup exemption	n number	
K F	orm of	organization: X Corporation Trust A	ssociation Other	L Year	of formatio	n: 1997	VI State of legal don	nicile: MD
Pa	irt I	Summary						
	1	Briefly describe the organization's mission or most	significant activities: TO INC	REASE THE	USE AN	D		
ĕ		ACCEPTANCE OF NON-ANIMAL TEST METHODS	WORLDWIDE.					
Governance	2	Check this box if the organization disco	ntinued its operations or dispo	sed of more	than 25%	of its net as	sets.	
ě	3	Number of voting members of the governing body	(Part VI, line 1a)			3		8
<u>ن</u> ھ		Number of independent voting members of the go						5
92		Total number of individuals employed in calendar y						60
ě	6	Total number of volunteers (estimate if necessary)				6		5
Activities	7 a	Total unrelated business revenue from Part VIII, co	lumn (C), line 12			7a		0.
_	b	Net unrelated business taxable income from Form	990-T, Part I, line 11			7b		0.
					Prior	Year	Current Yo	ear
Ф	8	Contributions and grants (Part VIII, line 1h)			1	,949,651.	1,0	77,048.
2	9	Program service revenue (Part VIII, line 2g)			4	,553,806.	5,78	32,738.
Revenue	10	Investment income (Part VIII, column (A), lines 3, 4	, and 7d)			13.		83.
œ	11	Other revenue (Part VIII, column (A), lines 5, 6d, 8c	, 9c, 10c, and 11e)		0.			897.
	12	Total revenue - add lines 8 through 11 (must equal	Part VIII, column (A), line 12)		6	,503,470.	6,86	50,766.
		Grants and similar amounts paid (Part IX, column (A), lines 1-3)  Benefits paid to or for members (Part IX, column (A), line 4)  Salaries, other compensation, employee benefits (Part IX, column (A), lines 5-10)  Professional fundraising fees (Part IX, column (A), line 11e)  Total fundraising expenses (Part IX, column (D), line 25)  Other expenses (Part IX, column (A), lines 11a-11d, 11f-24e)  Total expenses. Add lines 13-17 (must equal Part IX, column (A), line 25)			212.			500.
	14				0.			0.
s,					3,693,162.		4,21	17,405.
Expenses	16a				0.			0.
8	b							
Ű					2,376,976.			04,581.
	18				6,070,350.			22,486.
	19	Revenue less expenses. Subtract line 18 from line	12			433,120.	-6	51,720.
200	1			Ве		Current Year	End of Ye	
Assets	20	Total assets (Part X, line 16)				,102,375.	,	66,155.
Ž,	21	21 Total liabilities (Part X, line 26)			1,411,113.			36,613.
3	22	Net assets or fund balances. Subtract line 21 from	line 20		2	,691,262.	2,62	29,542.
Part II Signature Block								
		Ities of perjury, I declare that I have examined this return,			•		y knowledge and be	lief, it is
true	correc	t, and complete. Declaration of preparer (other than office	er) is based on all information of w	hich preparer	has any kn	owledge.		
		Signature of officer				Data		
Sign Signature of officer		•				Date		
Here AMANDA K. ULREY, PRESIDENT  Type or print name and title								
_			I - A		Data	N-4	DTIN	
		Print/Type preparer's name	Preparer's signature	ا ا	Date	Check if	PTIN	
Paid		AMANDA E. WATERHOUSE	Cimanda E Water		1/01/23	self-employ		
	arer	Firm's name RSM US LLP				Firm's EIN	42-0714325	
Use	Only	Firm's address 230 N ELM ST, STE 1100  GREENSBORO, NC 27401 Phone no.336-272-4551						
_		GREENSBORO, NC 27401				Phone no. 336		
Ma\	tne il	RS discuss this return with the preparer shown abo	ver see instructions				X Yes	No

## Electronic Filing and Payment Authorization



Electronic I lillig and Fayment A	Authorization		NOW			
Taxpayer Name: INSTITUTE FOR IN VITE Tax ID No: 52-2029668	RO SCIENCES, IN	Tax Period C. Ending: Return	12/31/22  ✓ Extension			
Tune	· _	resident Withholding  er  specify: 990	Information Returns			
Jurisdiction(s) where tax return(s) or request         Fed       ✓       DC       IA         AL       DE       KS         AK       FL       KY         AZ       GA       LA         AR       HI       ME         CA       ID       MD         CO       IL       MA         CT       IN       MI	st(s) for extension will	be filed electronically:    NM	WA   WV   WV   WI   WY   WY   WY   WY   WY   WY   WY			
Jurisdiction(s) (please list):						
Declaration and Signature	e Authorization of Ta	expayer's Authorized Repres	entative			
Under penalties of perjury, I declare with respect to the returns, forms and instructions prepared by RSM on						

DocuSign Envelope ID: B84C158F-9757-4206-83F5-8E87C7EB3510

Fam 8879-TE	IRS e-file Signature Authorization for a Tax Exempt Entity				OMB No. 1545-0047		
Form 00/9-1E							
	For calendar year 202	2, or fiscal year beginning	, 2022, and ending	,20	2022		
Department of the Treasury		Do not send to the IRS.			LULL		
Internal Revenue Service Name of filer		Go to www.irs.gov/Form8879	I E for the latest information.	EIN or SSN			
	FOR THE UTMOO	SCIENCES INC.		52-202	0.6.6.0		
		AMANDA K. ULREY		52-202	3000		
Name and title of officer or pe	erson subject to tax	PRESIDENT					
Part I Type of	Return and Re	turn Information					
			nter the applicable amount, if any	from the return	Form 8038-CP and		
Form 5330 filers may enter or 10a below, and the amo	r dollars and cents ount on that line fo	. For all other forms, enter whole r the return being filed with this f	dollars only. If you check the box orm was blank, then leave line 1b return, then enter -0- on the applic	on line 1a, 2a, 3 o, 2b, 3b, 4b, 5b,	3a, <b>4</b> a, 5a, 6a, 7a, 8a, 9a, 6b, 7b, 8b, 9b, or 10b,		
1a Form 990 check h	nere X	b Total revenue, if any (For	n 990, Part VIII, column (A), line 1:	2)	1b 6,860,766.		
2a Form 990-EZ che			m 990-EZ, line 9)				
3a Form 1120-POL (	check here		, line 22)				
4a Form 990-PF che	ck here	b Tax based on investment	income (Form 990-PF, Part V, lir	ne 5)	4b		
5a Form 8868 check	here		line 3c)				
6a Form 990-T check	k here		t III, line 4)				
7a Form 4720 check	here		t III, line 1)				
8a Form 5227 check		b FMV of assets at end of t			8b		
9a Form 5330 check	here	b Tax due (Form 5330, Part	II, line 19)		9b		
10a Form 8038-CP ch	neck here	b Amount of credit paymer	nt requested (Form 8038-CP, Par	t III, line 22)	10b		
Part II Declarat	tion and Signa	ture Authorization of Offi	cer or Person Subject to	Tax			
acknowledgement of receipt or reason for rejection of the transmission, (b) the reason for any delay in processing the return or refund, and (c) the date of any refund. If applicable, I authorize the U.S. Treasury and its designated Financial Agent to initiate an electronic funds withdrawal (direct debit) entry to the financial institution account indicated in the tax preparation software for payment of the federal taxes owed on this return, and the financial institution to debit the entry to this account. To revoke a payment, I must contact the U.S. Treasury Financial Agent at 1.888.353.4537 no later than 2 business days prior to the payment (settlement) date. I also authorize the financial institutions involved in the processing of the electronic payment of taxes to receive confidential information necessary to answer inquiries and resolve issues related to the payment. I have selected a personal identification number (PIN) as my signature for the electronic return and, if applicable, the consent to electronic funds withdrawal.							
PIN: check one box only							
X I authorize RSM	US LLP			to enter my Pl	N 20878		
		ERO firm name			Enter five numbers, but do not enter all zeros		
as my signature on the tax year 2022 electronically filed return. If I have indicated within this return that a copy of the return is being filed with a state agency(ies) regulating charities as part of the IRS Fed/State program, I also authorize the aforementioned ERO to enter my PIN on the return's disclosure consent screen.  As an officer or person subject to tax with respect to the entity, I will enter my PIN as my signature on the tax year 2022 electronically filed return. If I have indicated within this return is being filed with a state agency(ies) regulating charities as part of the IRS Fed/State program, I will enter my PIN on the return's disclosure consent screen.  November 2, 2023							
Part III Certifica	ation and Auth			Date			
ERO's EFIN/PIN. Enter yo	our six-digit electro	nic filing identification					
number (EFIN) followed by	your five-digit self-	selected PIN.	69398820814 Do not enter all z	eros			
			2022 electronically filed return inc dernized e-File (MeF) Information				
ERO's signature RSM T	US LLP		Date1	1/01/23			
ERO Must Retain This Form - See Instructions							
Do Not Submit This Form to the IRS Unless Requested To Do So							
LHA For Privacy Act and	d Paperwork Redu	uction Act Notice, see instruction	ons.		Form 8879-TE (2022)		