

University of Toledo
Institutional Animal Care and Use Committee
July 2020 Semi-annual Review of Program
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The University of Toledo, Health Science Campus
Institutional Animal Care and Use Committee

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TO: Frank Calzonetti, Ph.D.
Institutional Official
University of Toledo, IACUC

FROM: Kate Eisenmann, Ph.D.
Chair, Institutional Animal Care and Use Committee

DATE: August 21, 2020

SUBJECT: Semi-annual Review of Animal Care and Use Program and Inspection of Facilities

This represents the Semi-annual Report of the Institutional Animal Care and Use Committee (IACUC) to the Institutional Official, as required by the PHS Policy on Humane Care and Use of Laboratory Animals as a condition of this institution's Animal Welfare Assurance with the Office of Laboratory Animal Welfare (OLAW) and the Animal Welfare Act and Animal Welfare Regulations, as applicable.

The IACUC conducted its Semi-Annual Review of the institution's animal care and use program on April 22, 2020 using the Guide for Care and Use of Laboratory Animals (Guide, 8th edition). No deficiencies were deemed major and all aspects of the program are consistent with the PHS Policy, the Guide and applicable Animal Welfare Regulations. The Semi-annual Program and Facility Review Checklist are attached.

The IACUC also conducted their review of all research animal care spaces between July 20, 2020 and August 11, 2020. The review was approved for a delay by the Office of Laboratory Animal Welfare due to complications in staffing due to SARS-CoV2. The review included inspection of [REDACTED]

[REDACTED] The committee is pleased to announce none of the deficiencies or violations discovered by any of the inspection teams to be deemed significant and only two of the deficiencies were found to be repeat deficiencies. All minor deficiencies were corrected on or before their due dates.

A total of 53 protocols were audited as part of the post-approval monitoring program. Three (3) IACUC guidelines were updated and one (1) new standard operating procedure was developed as part of the Animal Care and Use Program. There was one (1) incident of serious non-compliance reported to the OLAW.

There are no minority views regarding the Semiannual Report.

Signatures of Committee Members

Signature sheet attached at end.

The next Semiannual Program Review will be conducted in January 2021.

Semi-Annual Facility Inspection

Building	Room	Manager/PI	Use	Notes	Response
		Refsnider	Housing		
		DLAR	Controlled substance storage	one expired bottle buprenorphine	was disposed
		Williams	Fish Housing/Procedure	need expiration date on food in refrigerator	Dates were added
		DLAR	Food storage		
		Koch		beaker with green powder residue, reprint water bottle labels	Beaker cleaned, water bottles relabeled
			Rat CLAMS		
		DLAR	Biocontainment		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	NOD isolation		
		Shah	Surgery/procedure		
		DLAR	Diagnostic		
		Aboualaiwi	Animal housing	missed post-op monitoring	Addressed by graduate student
				expired powdered food, peroxiguard in tupperware was not labeled	food was disposed, tupperware was labeled
		DLAR	Animal housing		
		DLAR	Sterile animal housing		
		DLAR	Storage		
		DLAR	Procedure prep		
		DLAR	Imaging		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing	recapped needles	signage was created
		DLAR	Surgery	recapped needles	signage was created
		DLAR	Janitor closet		
		DLAR	Imaging		
		DLAR	Surgery		
		DLAR	Sterile storage		
		Lecka-Czernik	CLAMS		

Building	Room	Manager/PI	Use	Notes	Response
		DLAR	Procedure	rust on drawers and cabinet, recapped needles	work order was created, signage was created
		DLAR	Surgical supply		
		DLAR	Surgical supply		
		DLAR	Hallway		
		DLAR	Storage		
		Lecka-Czernik	Animal housing	Sterile bag of items from 2013 - expired	was disposed
		DLAR	Animal housing	Expired lancets (no name)	was disposed
		DLAR	Hallway		
		DLAR	Animal housing	Expired alcohol pads	was disposed
		DLAR	Animal housing	Expired alcohol pads	was disposed
		Koch	Animal housing	Expired kwikstop	was disposed
		DLAR/Hall	Procedure		
		Haller	Procedure		
		Hall	Procedure		
		Hall	Procedure		
		DLAR	Storage		
		DLAR/Hall	Procedure		
		DLAR/Hall	Procedure	Spray bottle of water no date (Hall)	Laboratory was reminded of rules
		DLAR/Hall	Procedure		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing	Expired alcohol pads	was disposed
		DLAR	Animal housing	Box being stored on the floor	were removed
		DLAR	Animal housing		
		DLAR	Animal housing	July 5th was missed on room sheet	was discussed with staff
		DLAR	Animal housing		
		DLAR	Storage	expired vinegar (what is this used for?)	was disposed
		DLAR	Storage		
		DLAR	Animal housing		

Building	Room	Manager/PI	Use	Notes	Response
		Joe	Procedure		
		Joe	Animal housing		
		Joe	Animal housing		
		Joe/Wenceslau	Animal housing		
		Joe/Wenceslau	Animal housing		
		Kennedy	Prodedure rooms	Cart of expired items: bupivacaine 2013, needles/syringes 2016; cardboard box being used as research device (not sanitizable)	Cart and cardboard box were removed
		Joe/Wenceslau	Animal housing		
		Kennedy	Animal housing		
		Joe/Wenceslau	Animal housing		
		Joe/Wenceslau	Animal housing		
		Joe/Wenceslau	Animal housing		
		DLAR	SPF storage		
		DLAR	Sterile storage	unlabeled filled water bottles	was discussed with staff
		DLAR	SPF storage		
		DLAR	SPF storage		
		DLAR	Cage wash clean	foamer not labeled, hand sanitizer expired	foamer was labeled, was disposed
		DLAR	Mechanical room		
		DLAR	Cage wash dirty		
		DLAR	Storage		
		DLAR	Hall leaving to dock		
		DLAR	Storage		
		DLAR	Storage		
		DLAR	Animal housing		
		DLAR	Storage	expired Rescue (date was 6/20)	was disposed
		DLAR	Tool room		
		DLAR	Animal housing		
		DLAR	Necropsy		
		DLAR	Drug storage		
		DLAR	Back hallway		

Building Room	Manager/PI	Use	Notes	Response
	DLAR	Clean hallway		
	DLAR	Dirty hallway	stained ceiling	ceilings are repainted throughout the year
	DLAR	Dock		
	DLAR	Rat barrier hallway		
	DLAR	Laundry		
	Haller	Procedure		
	Haller	Euthanasia		
	Wooten	Imaging		
	Worth	Euthanasia	Needs Animal Welfare poster	posted
	Wooten	Euthanasia	Drop jar should not allow animals to contact anesthetic solution	has found alternate drop jar with screen
	Pizza	Cage wash	no date on peroxiguard	was relabeled
	Pizza	Animal housing	open and expired container of diet gel	was disposed
	Pizza	Animal housing/Procedure		
				regular cleaning schedule was discussed with staff
	Pizza	Animal housing	room is dusty - should be cleaned	
	Pizza	Procedure	Ethyl alcohol needs expiration year	
			All unsealed wood in room needs to be painted or sealed (including round table); putty material used on several pieces of behavioral equipment (behavioral box and animal figurines) needs to be replaced as it is not sanitizable; documentation of room and equipment cleaning needs to be established; Animal Welfare Poster needed; door sweep needed; ceiling tiles missing/stained; remove radioactive stickers on equipment;	All unsealed wood disposed or sealed, putty disposed, room/sanitation logs are present, Animal welfare log posted, work order for ceiling tiles and door sweep put in, radioactivity stickers removed
	Burkett	Behavioral testing		
	Ninan	Euthanasia		
	Giovannucci	Euthanasia		
	Lecka-Czernik	Euthanasia	Carbon dioxide euthanasia flow rate should be updated to 30-70%	Air flow has been adjusted.

	Manager/PI	Use	Notes	Response
	Hill	Euthanasia		
	Turner	Housing/Procedure - Fish		
	Hintz	Housing/Procedure - Fish		
	Heffner	Isoflurane and drug storage		
	Heffner	Chamber		
	Heffner	Surgery		
	Heffner	Surgery prep		
	Heffner	Animal Room (Guinea pigs)		
	Heffner	Storage		
	Heffner	Bedding storage	bedding should be removed from wall	Bedding has been removed from wall
	Heffner	Animal room EMPTY		
	Heffner	Storage		
	Heffner	Kitchen		
	Heffner	Cage washing/ Carcass freezer		
	DLAR	Animal housing		
	DLAR	Animal housing		
	DLAR	Storage		
	DLAR	Behavioral testing		
	DLAR	Animal housing		
	DLAR	Diagnostic	rust under sink, possible leak	work order was created, area was cleaned
	DLAR	Stock room		
	DLAR	Laundry		
	DLAR	Necropsy	Ethyl alcohol needs expiration year	was disposed
	DLAR	Aseptic Surgery		
	DLAR	Ante room		
	DLAR	Surgery		
	DLAR	Surgery		
	DLAR	Empty		
	DLAR	Empty		
	DLAR	Animal housing		

Building	Room	Manager/PI	Use	Notes	Response
		DLAR	Empty		
		DLAR	Clean cage storage		
		DLAR	Freezer		
		DLAR	Bedding storage		
		DLAR	Cage wash clean		
		DLAR	Ante room		
		DLAR	Animal housing		
		DLAR	Procedure		
		DLAR	Procedure		
		DLAR	Animal housing		
		DLAR	Janitor closet		
		DLAR	Cage wash dirty		
		DLAR	Ante room	Refrigerator needs to be marked 'animal food only'	signage was created
		DLAR	Ante room		
		DLAR	Storage		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Ante room		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing		
		DLAR	Animal housing		

Program Review Checklist

Semiannual Program Review and Facility Inspection Checklist

I. Semiannual Program Review Checklist ⁱ

Institutional Policies and Responsibilities

Date:

1. Animal Care and Use Program ^{NEW}	A*	M	S	C	NA
• Responsibility for animal well-being is assumed by all members of the program (<i>Guide, p 1</i>) [must]	X				
• IO has authority to allocate needed resources (<i>Guide, p 13</i>)	X				
• Resources necessary to manage program of veterinary care are provided (<i>Guide, p 14</i>) [must]	X				
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the <i>Guide</i> (<i>Guide, pp 11, 15</i>)	X				
• Program needs are regularly communicated to IO by AV and/or IACUC (<i>Guide, p 13</i>)	X				
• Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (<i>Guide, p 14</i>) [must]					X
• Inter-institutional collaborations are described in formal written agreements (<i>Guide, p 15</i>)	X				
• Written agreements address responsibilities, animal ownership, and IACUC oversight (<i>Guide, p 15</i>)	X				
2. Disaster Planning and Emergency Preparedness ^{NEW}	A*	M	S	C	NA
• Disaster plans for each facility to include satellite locations are in place (<i>Guide, p 35, p 75</i>) [must]	X				
• Plans include provisions for euthanasia (<i>Guide, p 35</i>) [must]	X				
• Plans include triage plans to meet institutional and investigators' needs (<i>Guide, p 35</i>)	X				
• Plans define actions to prevent animal injury or death due to HVAC or other failures (<i>Guide, p 35</i>)	X				
• Plans describe preservation of critical or irreplaceable animals (<i>Guide, p 35</i>)	X				
• Plans include essential personnel and their training (<i>Guide, p 35</i>)	X				
• Animal facility plans are approved by the institution and incorporated into overall response plan (<i>Guide, p 35</i>)	X				
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (<i>Guide, p 35</i>)	X				

3. IACUC NEW		A*	M	S	C	NA
• Meets as necessary to fulfill responsibilities (<i>Guide, p 25</i>) [must]	X					
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (<i>Guide, p 26</i>) [must]	X					
• Continuing IACUC oversight after initial protocol approval is in place (<i>Guide, p 33</i>)	X					
• IACUC evaluates the effectiveness of training programs (<i>Guide, p 15</i>)	X					
4. IACUC Protocol Review - Special Considerations		A*	M	S	C	NA
• Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (<i>Guide, p 27</i>)	X					
• For pilot studies, a system to communicate with the IACUC is in place (<i>Guide, p 28</i>)	X					
• For genetically modified animals, enhanced monitoring and reporting is in place (<i>Guide, p 28</i>)	X					
• Restraint devices are justified in the animal use protocols (<i>Guide, p 29</i>) [must]	X					
• Alternatives to physical restraint are considered (<i>Guide, p 29</i>)	X					
• Period of restraint is the minimum to meet scientific objectives (<i>Guide, p 29</i>)	X					
• Training of animals to adapt to restraint is provided (<i>Guide, p 29</i>)	X					
• Animals that fail to adapt are removed from study (<i>Guide, p 29</i>)	X					
• Appropriate observation intervals of restrained animals are provided (<i>Guide, p 29</i>)	X					
• Veterinary care is provided if lesions or illness result from restraint (<i>Guide, p 30</i>) [must]	X					
• Explanations of purpose and duration of restraint are provided to study personnel (<i>Guide, p 30</i>)	X					
• Multiple surgical procedures on a single animal are justified and outcomes evaluated (<i>Guide, p 30</i>)	X					
• Major versus minor surgical procedures are evaluated on a case-by-case basis (<i>Guide, p 30</i>)	X					
• Multiple survival procedure justifications in non-regulated species conform to regulated species standards (<i>Guide, p 30</i>)	X					
• Animals on food/fluid restriction are monitored to ensure nutritional needs are met (<i>Guide, p 31</i>)	X					
• Body weights for food/fluid restricted animals are recorded at least weekly (<i>Guide, p 31</i>)						
• Daily written records are maintained for food/fluid restricted animals (<i>Guide, p 31</i>)	X					
• Pharmaceutical grade chemicals are used , when available, for animal-related procedures (<i>Guide, p 31</i>)	X					
• Non-pharmaceutical grade chemicals are described, justified, and approved by	X					

IACUC (<i>Guide</i> , p 31)					
• Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (<i>Guide</i> , p 32)	X				
• Disposition plans are considered for species removed from the wild (<i>Guide</i> , p 32)	X				
• Toe-clipping only used when no alternative, performed aseptically and with pain relief (<i>Guide</i> , p 75)					X
5. IACUC Membership and Functions	A*	M	S	C	NA
• IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, IV.A.3.)	X				
• Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (<i>Guide</i> , p 24) ⁱⁱ	X				
• IACUC authority and resources for oversight and evaluation of institution's program are provided (<i>Guide</i> , p 14)	X				
• IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, IV.B.)	X				
• Conducts semiannual inspections of institutional animal facilities (PHS Policy, IV.B.)	X				
• IACUC organizationally reports to the Institutional Official (PHS Policy, IV.A.1.b.)	X				
• Methods for reporting and investigating animal welfare concerns are in place (<i>Guide</i> , p 23) [must]	X				
• Reviews and investigates concerns about animal care and use at institution ⁱⁱⁱ (PHS Policy, IV.B.)	X				
• Procedures are in place for review, approval, and suspension of animal activities ^{iv} (PHS Policy, IV.B.)	X				
• Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, IV.B.)	X				
• Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (<i>Guide</i> , p 27-32)	X				
• Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS ^v (<i>Guide</i> , p 30) [must]					X
6. IACUC Training NEW	A*	M	S	C	NA
• All IACUC members should receive:					
o Formal orientation to institution's program (<i>Guide</i> , p 17)	X				
o Training on legislation, regulations, guidelines, and policies (<i>Guide</i> , p 17)	X				
o Training on how to inspect facilities and labs where animal use or housing occurs (<i>Guide</i> , p 17)	X				
o Training on how to review protocols as well as evaluate the program (<i>Guide</i> , p 17)	X				
o Ongoing training/education (<i>Guide</i> , p 17)	X				

7. IACUC Records and Reporting Requirements ^{vi}		A*	M	S	C	NA
<ul style="list-style-type: none"> Semiannual report to the IO (PHS Policy, IV.B.) 						
o Submitted to IO every 6 months		X				
o Compiles program review and facility inspection(s) results (includes all program and facility deficiencies)x		X				
o Includes minority IACUC views		X				
o Describes IACUC-approved departures from the <i>Guide</i> or PHS Policy and the reasons for each departure ^{vii}		X				
o Distinguishes significant from minor deficiencies		X				
o Includes a plan and schedule for correction for each deficiency identified ^{viii}		X				
<ul style="list-style-type: none"> Reports to OLAW (PHS Policy, IV.F.) 						
o Annual report to OLAW documents program changes, dates of the semiannual program reviews and facility inspections and includes any minority views		X				
o Promptly advises OLAW of serious/ongoing <i>Guide</i> deviations or PHS Policy noncompliance (NOT-OD-05-034)		X				
o Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)		X				
<ul style="list-style-type: none"> Reports to U.S. Department of Agriculture (USDA) or Federal funding agency^{ix} 						
o Annual report to USDA contains required information including all exceptions/exemptions		X				
o Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards						X
o Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies		X				
o Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency		X				
<ul style="list-style-type: none"> Records (PHS Policy, IV.E.) 						
o IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years		X				
o Records of IACUC reviews of animal activities include all required information ^x		X				
o Records of IACUC reviews are maintained for 3 years after the completion of the study		X				
8. Veterinary Care (See also next section - Veterinary Care)		A*	M	S	C	NA
<ul style="list-style-type: none"> An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care^{xi} 		X				
<ul style="list-style-type: none"> Veterinary access to all animals is provided (<i>Guide</i>, p 14) [must] 		X				
<ul style="list-style-type: none"> Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (<i>Guide</i>, p 14) [must] 		X				

• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (<i>Guide</i> , p 5) [must]	X				
• Veterinarian provides consultation when interventional control is not possible (<i>Guide</i> , p 5) [must]	X				
• If part time /consulting veterinarian, visits meet programmatic needs (<i>Guide</i> , p 14)					X
• Regular communication occurs between veterinarian and IACUC (<i>Guide</i> , p 14)	X				
• Veterinarian(s) have experience and training in species used (<i>Guide</i> , p 15) [must]	X				
• Veterinarian(s) have experience in facility administration/management (<i>Guide</i> , p 15)	X				
9. Personnel Qualifications and Training					
	A*	M	S	C	NA
• All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [must]					
○ Veterinary/other professional staff (<i>Guide</i> , p 15-16)	X				
○ IACUC members (<i>Guide</i> , p 17)	X				
○ Animal care personnel (<i>Guide</i> , p 16)	X				
○ Research investigators, instructors, technicians, trainees, and students (<i>Guide</i> , pp 16-17)	X				
• Continuing education for program and research staff provided to ensure high quality care and reinforce training (<i>Guide</i> , pp 16-17)	X				
• Training is available prior to starting animal activity (<i>Guide</i> , p 17)	X				
• Training is documented (<i>Guide</i> , p 15)	X				
• Training program content includes: (<i>Guide</i> , p 17)					
○ Methods for reporting concerns (<i>Guide</i> , p 17)	X				
○ Humane practices of animal care (e.g., housing, husbandry, handling) ^{xii}	X				
○ Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)	X				
○ Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)	X				
○ Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (<i>Guide</i> , p 20)	X				
○ Animal care and use legislation (<i>Guide</i> , p 17)	X				
○ IACUC function (<i>Guide</i> , p 17)	X				
○ Ethics of animal use and Three R's (<i>Guide</i> , p 17)	X				

10. Occupational Health and Safety of Personnel	A*	M	S	C	NA
• Program is in place and is consistent with federal, state, and local regulations (<i>Guide, p 17</i>) [must]	X				
• Program covers <i>all</i> personnel who work in laboratory animal facilities (<i>Guide, p 18</i>)	X				
• Changing, washing, and showering facilities are available as appropriate (<i>Guide, p 19</i>)	X				
• Hazardous facilities are separated from other areas and identified as limited access (<i>Guide, p 19</i>)	X				
• Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (<i>Guide, p 20</i>)	X				
• Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (<i>Guide, p 20</i>)	X				
• Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (<i>Guide, p 21</i>)	X				
• Personal Protective Equipment for the work area is appropriate and available (<i>Guide, p 21</i>)	X				
• Program for medical evaluation and preventive medicine for personnel includes:					
o Pre-employment evaluation including health history (<i>Guide, p 22</i>)	X				
o Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (<i>Guide, p 22</i>)	X				
o Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (<i>Guide, p 23</i>)	X				
o Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (<i>Guide, p 23</i>)	X				
o Promotes early diagnosis of allergies including preexisting conditions (<i>Guide, p 22</i>)	X				
o Considers confidentiality and other legal factors as required by federal, state and local regulations (<i>Guide, p 22</i>) [must]	X				
o If serum samples are collected, the purpose is consistent with federal and state laws (<i>Guide, p 22</i>) [must]	X				
• Waste anesthetic gases are scavenged (<i>Guide, p 21</i>)	X				
• Hearing protection is provided in high noise areas (<i>Guide, p 22</i>)	X				
• Respiratory protection is available when performing airborne particulate work (<i>Guide, p 22</i>)	X				
• Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include:					
o Tuberculosis screening provided for all exposed personnel (<i>Guide, p 23</i>)					X
o Training and implementation of procedures for bites, scratches, or injuries associated with macaques (<i>Guide, p 23</i>)					X
o PPE is provided including gloves, arm protection, face masks, face shields, or					X

goggles (<i>Guide</i> , p 21)					
○ Injuries associated with macaques are carefully evaluated and treatment implemented (<i>Guide</i> , p 23)					X
• Occupational safety and health of field studies is reviewed by OSH committee or office (<i>Guide</i> , p 32)	X				
11. Personnel Security <small>NEW</small>	A*	M	S	C	NA
• Preventive measures in place include pre-employment screening, and physical and IT security (<i>Guide</i> , p 23)	X				
12. Investigating & Reporting Animal Welfare Concerns <small>NEW</small>	A*	M	S	C	NA
• Methods for investigating and reporting animal welfare concerns are established (<i>Guide</i> , p 23) [must]	X				
• Reported concerns and corrective actions are documented (<i>Guide</i> , p 24)	X				
• Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (<i>Guide</i> , p 24)	X				
○ Includes multiple contacts (<i>Guide</i> , p 24)	X				
○ Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (<i>Guide</i> , p 24)	X				

* **A** = acceptable

M = minor deficiency

S = significant deficiency (is or may be a threat to animal health or safety)

C = change in program (PHS Policy [IV.A.1.a-i.](#)) (include in semiannual report to IO and in annual report to OLAW)

NA = not applicable

Veterinary Care

1. Clinical Care and Management <small>NEW</small>		A*	M	S	C	NA
• Veterinary program offers high quality of care and ethical standards (<i>Guide, p 105</i>) [must]		X				
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (<i>Guide, p 106</i>)		X				
• Veterinarian provides oversight to surgery and perioperative care (<i>Guide, p 106</i>)		X				
• Veterinary care program is appropriate for program requirements (<i>Guide, pp 113-114</i>)		X				
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (<i>Guide, p 114</i>)		X				
• Procedures to triage and prioritize incident reports are in place (<i>Guide, p 114</i>)		X				
• Procedures are in place to address:						
o Problems with experiments to determine course of treatment in consultation with investigator(<i>Guide, p 114</i>)		X				
o Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (<i>Guide, p 114</i>)		X				
o Veterinary review and oversight of medical and animal use records (<i>Guide, p 115</i>)		X				
• Procedures established for timely reporting of animal injury, illness, or disease (<i>Guide, p 114</i>) [must]		X				
• Procedures established for veterinary assessment, treatment, or euthanasia (<i>Guide, p 114</i>) [must]		X				
• Veterinarian is authorized to treat, relieve pain, and/or euthanize (<i>Guide, p 114</i>) [must]		X				
2. Animal Procurement and Transportation/Preventive Medicine		A*	M	S	C	NA
• Procedures for lawful animal procurement are in place (<i>Guide, p 106</i>) [must]		X				
• Sufficient facilities and expertise are confirmed prior to procurement (<i>Guide, p 106</i>)		X				
• Procurement is linked to IACUC review and approval (<i>Guide, p 106</i>)		X				
• Random source dogs and cats are inspected for identification (<i>Guide, p 106</i>)						X
• Population status of wildlife species is considered prior to procurement (<i>Guide, p 106</i>)		X				
• Appropriate records are maintained on animal acquisition (<i>Guide, p 106</i>)		X				
• Animal vendors are evaluated to meet program needs and quality (<i>Guide, p 106</i>)		X				
• Breeding colonies are based on need and managed to minimize numbers (<i>Guide, p 107</i>)		X				
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (<i>Guide, p 107</i>) [must]		X				
• Transportation is planned to ensure safety, security and minimize risk (<i>Guide, p 107</i>)		X				
• Movement of animals is planned to minimize transit time and deliveries are planned to		X				

ensure receiving personnel are available (<i>Guide</i> , pp 107- 108)					
• Appropriate loading and unloading facilities are available (<i>Guide</i> , p 109)	X				
• Environment at receiving site is appropriate (<i>Guide</i> , p 109)	X				
• Policies in place on separation by species, source, and health status (<i>Guide</i> , pp 109, 111-112)	X				
• Procedures in place for quarantine to include zoonoses prevention (<i>Guide</i> , p 110)	X				
• Quarantined animals from different shipments are handled separately or physically separated (<i>Guide</i> , p 110)	X				
• Procedures in place for stabilization/acclimation (<i>Guide</i> , pp 110-111)	X				
• Policies in place for isolation of sick animals (<i>Guide</i> , p 112)	X				
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (<i>Guide</i> , p 112)	X				
• Diagnostic resources are available for preventive health program (<i>Guide</i> , p 112)	X				
3. Surgery	A*	M	S	C	NA
• Surgical outcomes are assessed and corrective changes instituted (<i>Guide</i> , p 115)	X				
• Researchers have appropriate training to ensure good technique (<i>Guide</i> , p 115) [must]	X				
• Pre-surgical plans are developed and include veterinary input (e.g., location, supplies, anesthetic and analgesic use, peri-operative care, recordkeeping) (<i>Guide</i> , p 116)	X				
• Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved (<i>Guide</i> , p 116)	X				
• Surgical procedures including laparoscopic procedures are categorized as major or minor (<i>Guide</i> , pp 117-118)					X
• For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean (<i>Guide</i> , p 118)	X				
• Aseptic technique is followed for survival surgical procedures (<i>Guide</i> , pp 118-119)	X				
• Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place (<i>Guide</i> , p 119)	X				
• Procedures for monitoring surgical anesthesia and analgesia are in place (<i>Guide</i> , p 119)	X				
• For aquatic species, skin surfaces are kept moist during surgical procedures (<i>Guide</i> , p 119)	X				
• Post-operative monitoring and care are provided by trained personnel and documented (e.g., thermoregulation, physiologic function, analgesia, infection, removal of skin closures) (<i>Guide</i> , pp 119-120)	X				
4. Pain, Distress, Anesthesia and Analgesia	A*	M	S	C	NA
• Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (<i>Guide</i> , p 121)	X				
• Selection of analgesics and anesthetics is based on professional veterinary judgment	X				

(Guide, p 121)					
• Painful procedures are monitored to ensure appropriate analgesic management (Guide, p 122)	X				
• Nonpharmacologic control of pain is considered as an element of postprocedural care (Guide, p 122)	X				
• Procedures are in place to assure antinociception before surgery begins (Guide, p 122) [must]	X				
• Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (Guide, p 122)	X				
• Special precautions for the use of paralytics are in place to ensure anesthesia ^{xiii} (Guide, p 123)					X

5. Euthanasia

A* M S C NA

• Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (Guide, p 123)	X				
• Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (Guide, pp 123-124)	X				
• Training is provided on appropriate methods for each species and considers psychological stress to personnel (Guide, p 124)	X				
• Procedures and training are in place to ensure death is confirmed (Guide, p 124) [must]	X				

6. Drug Storage and Control ^{NEW}

A* M S C NA

• Program complies with federal regulations for human and veterinary drugs (Guide, p 115) [must]	X				
• Drug records and storage procedures are reviewed during facility inspections (Guide, p 115)	X				
• Procedures are in place to ensure analgesics and anesthetics are used within expiration date (Guide, p 122) [must]	X				
• Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (Guide, p 122)	X				

* A = acceptable

M = minor deficiency

S = significant deficiency (is or may be a threat to animal health or safety)

C = change in program (PHS Policy IV.A.1.a-i.) (include in semiannual report to IO and in annual report to OLAW)

NA = not applicable

Deficiency Category*	Deficiency and Plan for Correction	Responsible Party	Correction Schedule and Interim Status	Date Complete

II. Endnotes

ⁱ The PHS Policy requires that Assured institutions comply with the regulations (9 CFR, Subchapter A) issued by the U.S. Department of Agriculture (USDA) under the Animal Welfare Act, as applicable. The endnotes below are specific USDA regulatory requirements that differ from or are in addition to the PHS Policy. This list is not intended to be all inclusive. For additional information please refer to 9 CFR Subchapter A - Animal Welfare.

ⁱⁱ Part 2 Subpart C - Research Facilities

- 2.31(b)(2) - "The Committee shall be composed of a Chairman and at least two additional members;... at least one shall not be affiliated in any way with the facility...such person will provide representation for general community interests in the proper care and treatment of animals." [PHS policy requires 5 members]

ⁱⁱⁱ 2.32(c)(4) - "...No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or standards under the Act." [USDA requirement additional to PHS Policy]

^{iv} 2.31(d)(5) - "...shall conduct continuing reviews of activities...not less than annually." [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]

^v 2.31(d)(1)(x) - "...no animal will be used in more than one major operative procedure from which it is allowed to recover unless...(it is) justified for scientific reasons...(or is) required as routine veterinary procedure...or other special circumstances as determined by the Administrator on an individual basis." [this last point is an additional USDA justification for multiple survival surgeries]

^{vi} 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

^{vii} 2.36(b)(3) - "...exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the IACUC. A summary of all such exceptions must be attached to the facility's annual report." [Refers to USDA annual report]

^{viii} 2.31(c)(3) - "...Any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity." [PHS Policy requires prompt reporting to OPRR of serious or continuing noncompliance with the PHS Policy or serious deviations from the provisions of the *Guide*]

^{ix} 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

^x In addition to PHS requirements for IACUC review/application for funding, USDA regulations require:

2.31(d)(1)(ii) - "The principal investigator (PI) consider alternatives to procedures that cause more than momentary or slight pain or distress to the animals, and has provided a written narrative description of the methods and sources...used to determine that alternatives were not available."

2.31(d)(1)(iii) - "The PI has provided written assurance that the activities do not unnecessarily duplicate previous experiments."

2.31(d)(1)(iv) - "Procedures that may cause more than momentary or slight pain or distress to the animals will:
- involve in their planning, consultation with the attending veterinarian or his or her designee; [PHS Policy does not specify veterinary consultation]
- not include paralytics without the use of anesthesia;"

2.31(d)(1)(x) - "No animal will be used in more than one major operative procedure from which it is allowed to recover, unless justified for scientific reasons by the principal investigator, in writing..."

^{xi} 2.33(a)(1) - “In the case of a part-time attending veterinarian or consultant arrangements, the formal arrangements shall include a written program of veterinary care and regularly scheduled visits to the research facility.” [USDA requirement additional]

^{xii} 2.32(c) - “Humane methods of animal maintenance and experimentation, including the basic needs of each species, proper handling and care for the various species of animals used by the facility, proper pre-procedural and post-procedural care of animals, and aseptic surgical methods and procedures.”

^{xiii} 2.31(d)(iv)(C) - “Procedures that may cause more than momentary or slight pain or distress to the animals will...not include the use of paralytics without anesthesia.”

Post-Approval Monitoring



POST-APPROVAL MONITORING

Post approval monitoring (PAM) is required by federal laws, regulations, and guidelines, although the form it takes is somewhat flexible. Post approval monitoring for laboratories and investigators, as a process, is based on education and assistance and is designed to ensure that investigators and staff are able to achieve their scientific goals while maintaining compliance with all university and federal policies and guidelines related to animal use. Post-approval monitoring of the Animal Care and Use Program (ACUP), as a process, is based upon principles of quality assurance and examines guidelines, procedures, and processes. The following is a summary of the PAM activity over the past six (6) months.

A total of twenty-four (24) investigators were visited and 53 protocols were audited as part of the PAM program. The results of the audits were as follows: 35 of 53 (66%) were compliant, 18 of 53 (34%) required personnel amendments, and 0 of 48 (0%) required protocol amendments. In addition, three (3) guidelines were reviewed and revised, and one (1) standard operating procedure was developed as part of the ACUP PAM program.

Revised Guideline

- Photography and Videography in Toledo Animal Use Areas
- Tracking and Training Personnel Involved with Animal Activities
- Veterinary Verification and Consultation (VVC)

New Standard Operating Procedures

- Handling Allegations of Non-Compliance

Departures from the *Guide*

Departures From Guide

Protocol #	Departure from Guide Description
104045	<p>We would like to request that the animals on this protocol receive no enrichment. We have concerns that the enrichment boxes may interfere with our research. Here are three justifications why the enrichment boxes may interfere with the rat's blood pressure: 1) we have noticed increased activity of the rats in cages with the boxes compared to cages without the boxes. Since exercise/increased activity is known to affect blood pressure, the boxes interfere with our studies on bp. 2) The boxes are all different colors and the color that we see affects our blood pressure, so a litter from one strain given a blue box may have a totally different BP from another litter from the same strain given a red box. We believe that these enrichment boxes would be introducing too much variability in the colony. 3) The rats are also eating these plastic boxes. A literature search was completed and here are 3 references showing how cage enrichment may affect our research: Sharp et al. / J Am Assoc Lab Anim Sci. 2014 Jan;53 (1):52-60, Azar et al. / J Am Assoc Lab Anim Sci. 2012 May;51(3):339-44, and Sharp et al. / Contemp Top Lab Anim Sci. 2005 Mar;44(2):32-40. Removal of enrichment from animal cages (could interfere with blood pressure research)</p> <p>During the time that rats are in metabolic cages for 24 hrs, no food is provided. Water is provided. Salt in the food alters urinary volume and measure of proteinuria. Therefore food is not provided.</p>
105276	<p>We would like to request that the animals on this protocol receive no enrichment. We have concerns that the enrichment boxes may interfere with our research. Here are three justifications why the enrichment boxes may interfere with the rat's blood pressure: 1) we have noticed increased activity of the rats in cages with the boxes compared to cages without the boxes. Since exercise/increased activity is known to affect blood pressure, the boxes interfere with our studies on bp. 2) The boxes are all different colors and the color that we see affects our blood pressure, so a litter from one strain given a blue box may have a totally different BP from another litter from the same strain given a red box. We believe that these enrichment boxes would be introducing too much variability in the colony. 3) The rats are also eating these plastic boxes. A literature search was completed and here are 3 references showing how cage enrichment may affect our research: Sharp et al. / J Am Assoc Lab Anim Sci. 2014 Jan;53 (1):52-60, Azar et al. / J Am Assoc Lab Anim Sci. 2012 May;51(3):339-44, and Sharp et al. / Contemp Top Lab Anim Sci. 2005 Mar; 44(2):32-40. Removal from animal cages (could interfere with blood pressure research).</p> <p>During the time that rats are in metabolic cages for 24 hrs, no food is provided. Water is provided. Salt in the food alters urinary volume and measure of proteinuria. Therefore food is not provided.</p>
105464	Mice will be fasted overnight before blood glucose testing.
105587	Mice will be food deprived overnight for urine collection in metabolic cages.
106147	<p>1)overnight fasting: this will take place before euthanasia and blood collection. Overnight fasting is required to obtain accurate measurements of basal lipid profile.</p> <p>2)social deprivation: mice will be housed singly during the microbiota/cecal transplant study. This is necessary to avoid cross-contamination derived from coprophagia that may occur post-transplant.</p>
106448	<p>We also perform a 48 hour fast from food; water is freely available during this time. These mice are weighed three times during this period to make sure that they do not lose more than 20% of their beginning body weight. This fast is necessary to elicit the full effect of leptin and allows the hypothalamus to sense the negative energy balance and respond accordingly with a low Luteinizing hormone value. This will show us that the HPG axis is intact if they respond normally.</p> <p>Animals are singly housed for longer than 30 days to get accurate measurement of weekly food intake; 48 hour fast from food.</p>
107230	Animals will be fasted overnight to evaluate fasting blood glucose levels.

108421	Following infection by <i>Vibrio cholerae</i> , the pups will not be allowed to nurse overnight. The pups must be separated from the dams during this incubation period, as feeding after inoculation interferes with <i>V. cholerae</i> colonization and causes the results to be non-reproducible (Baselski V S, Parker C D. Infect Immun. 1978;21:518–525). The infant mouse model for <i>V. cholerae</i> has been used for over 30 years, and it has been experimentally determined that isolation of the pups from the dams is crucial for successful colonization.
108889	Animals will be housed individually during the course of experiment so we can evaluate the metabolic profile of each rat under study
400053	During metabolic study, animals will be individually housed for 72h

Protocol #	Departure from Guide Description
108587	Learning and memory testing is performed for food. In order for the task to be performed properly by the animals, they need to have food withheld for 24-48 hours prior to testing. Our previous study showed that animals not food restricted would not perform the task above random chance levels (Williams, et al., 2002).
108614	Food Deprivation (amendment 1): adult mice (7-8 weeks of age) are to be maintained at 85% of free feeding weight. Initial rations will be 2.5 g for males and 2 g for females (3 g and 2.5g prior to non-test days). The ration will be given in the afternoon; on test days this will be after testing. Subjects will be weighed 2x per week and the rations adjusted according to the results, particularly if weight dips below 85%. Testing begins after 1 week on this food restriction schedule. Food Deprivation (amendment 3) : mice will be food restricted 3 days prior to the beginning of testing. A control group will be utilized to estimate the food restriction needed for the deprived mice. Deprived subjects will be given 80% of the daily food intake of the control mice. Because DAT +/- mice differ in size, a ration will be calculated for each mouse as a percentage of body weight in mice of the same age. Two cages of 4 socially housed mice will be used for this procedure, that will have free access to food (the mice will be used in other experiments on this protocol in adulthood, so will not add to the number of subjects required for this experiment). The daily ration will be provided in the afternoon in a separate feeding chamber so that the mice do not need to be housed individually; on test days, this will be after testing. Subjects will be monitored for health and weighed daily.
108640	For restraint stress, rats will be placed in a restraint apparatus for 30 minutes which is similar to those commercially available (Braintree Scientific, Inc., Harvard Apparatus).
108644	We would like to request that the animals on this protocol receive no enrichment. We have concerns that the enrichment boxes may interfere with our research. Here are our justifications for why the enrichment boxes may interfere with our studies of PCOS 1) We have noticed increased activity of the rats in cages with the boxes compared to cages without the boxes. Since exercise/increased activity is known to affect insulin sensitivity, exercise will interfere with our evaluation of the metabolic changes in polycystic ovarian syndrome. 2) The rats are also gnawing these plastic boxes. Plastics contain known endocrine disruptors which mimic sex steroid hormones. Therefore, the rats that are exposed to the plastic are likely to shown alterations in the reproductive function or pubertal development due to the boxes. In addition, the different dyes used in the different box colors may have different effects on individuals within the colony.
108663	Glucose tolerance test with require overnight fasting and insulin tolerance will require a four hour fasting period.
108698	<i>Animal will be single housed to protect the externalized catheters, to monitor and flashing catheters of an individual animal. The animal placed on a clean post-surgical cage liner; food and hydro gel will be added to the floor of the cage. Animals will be monitored post-surgery for 2-3 times</i>
108728	To train the animals to peck a key, food is removed from their home cage and made available in the test cage. The animals' body weights and health are monitored and recorded daily by the handlers while the animals are being tested. Birds normally maintain weight and health with daily access to food confined to a single session of approximately 30-70 minutes. Water is continuously available in their home cage and we will provide water in the test cage if they need to drink while eating. Supplemental food will be provided as needed to maintain a healthy body weight (80% or more of free-feed body weight). Although domestic chickens were able to maintain a healthy body weight on 23 hr food restriction we will explore the possibility that the peafowl will perform well on two feedings a day by initially testing them twice a day. Experience has shown that animals will not perform well on auditory discriminations unless they are sufficiently deprived-- A good example of this is an audiogram of the Egyptian fruit bat obtained using treats (Suthers and Summers, 1980) which was later found to grossly underestimate their sensitivity when a new audiogram on this species was obtained using food restriction (Koay et al., 1998).
108756	Fasting requirements prior to ITT, GTT and during urine collection.
108759	Social Deprivation (for comprehensive lab monitoring system and urine collection; Food and Water deprivation (for urine collection)
108776	1. Mice will be singly housed for 3-4 weeks after surgery to be able to identify which surgery (sham or MI) was performed. 2. Food and water will not be freely available during the smoking exposure period for 3 hours per day.
108778	1. We will need to house rats larger than 500 g. as single. We will need to house aggressive male breeders singly to prevent fighting.
108790	Food deprivation for 5h or 15h for preparing the mice for metabolic assessment.

Protocol #	Departure from Guide Description
108807	Animal restraint for 60 minutes, which exceeds the 30-minute guideline, is to be utilized as a rodent model of acute restraint stress. We chose the 60-minute procedure as it is the one most commonly used in studies examining the relationship between stress and pain, and is the shortest restraint duration that has been shown to have an effect on pain.
108826	3-4 hour food and water fast prior to FITC experimental blood draw - The orally gavaged FITC need to be reached to large intestine (colon) without substantial dilution by water intake and without interacting with food components therefore we need to withhold both food and water for 3hrs during this experiment.

108842	<p>1) Water deprivation: To train the animals, water is removed from their home cage and made available in the test cage. The animals' body weights and health are monitored and recorded daily by the trainer while the animals are on test. Guinea pigs are able to maintain weight and health with daily access to water confined to a single session of approximately 30-60 minutes (Heffner, R., Heffner, H., and Masterton R.B., 1971. Behavioral measurement of absolute and frequency-difference thresholds in guinea pig. <i>J. Acoust. Soc. Am.</i>, 49,1888-1895). Supplemental water is provided as needed to maintain a healthy body weight (80% or more of their ad lib weight). The animals are put on free water when not on test (e.g., weekends, holidays).</p> <p>2) Social deprivation: We will begin by group housing the guinea pigs with two animals per cage (same sex as we are not breeding them). However, should there be signs of incompatibility (e.g., fighting, injury, unexplained weight loss) we will move them to individual housing as follows: The guinea pigs would be individually housed in standard plastic animal containers, within sight of each other and able to hear each other.</p>
108854	Single housing of social species due to blood pressure measurements (telemetry)
108855	Single housing of social species due to blood pressure measurements (telemetry)
108870	Withholding food for 12 hours is necessary for use of metabolic cages for urine collection. Water is not withheld. Food can potentially contaminate the urine samples and interfere with urine protein measurements.
108876	Overnight fasting <12 hr of 100% food restriction prior to terminal dissection as needed for post dissection

108880	Food will contaminate the urine sample collection; therefore food will be withheld during urine collection. Similarly, GTT and ITT test should be performed in fasted mice, since the diet may have some influence over the test. This is a well-established standard procedure.
108882	Overnight fasting <12 hr of 100% food restriction prior to terminal dissection as needed for post dissection measurements.
108884	Single housing of social species (mice). The mice need to be housed in separate cages as the skin of the mice is no longer protected and can be easily scratched and bitten by other mice.
108888	Mice will be fasted for 10-12 hours for glucose tolerance test (GTT) experiment followed by intraperitoneal injection of 2g glucose/kg body weight. Fasting is essential for the standard GTT.
108889	Animals will be housed individually during the course of experiment for the metabolic profile evaluation
108897	Overnight fasting <12 hr of 100% food restriction prior to terminal dissection as needed for post dissection measurements of liver enzymes
108914	We may single house mice after surgery if we observe that mice that underwent surgery are susceptible to aggressive behaviors from other mice in the cage. Single housed mice will be labeled appropriately.

July 15, 2020

Axel Wolff, D.V.M.
Director, Division of Compliance Oversight
Office of Laboratory Animal Welfare
National Institutes of Health
Rockledge 1, Suite 360
6705 Rockledge Drive
Bethesda, MD 20892

Dear Dr. Wolff:

In accordance with Assurance A3414-01 and PHS Policy IV.F.3., The University of Toledo (UToledo) provides this report of continuing noncompliance, reported to the IACUC on July 15, 2020.

On June 18 2020, it was discovered that nine mice died of post-operative infections over a two-month period. It was subsequently discovered these deaths were lined the use of contaminated, diluted Meloxicam that had been stored by the laboratory at room temperature for an extended period of time.

This same laboratory failed to monitor mice post-operatively on three separate occasions in June and falsified post-operative records. The student involved is working with the Office of Research Integrity on this incident.

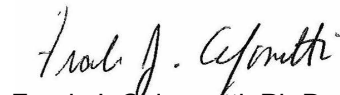
Due to the history of non-compliance in the protocol, the IACUC has voted to suspend the protocol effective immediately. The investigator must submit a formal management plan to the IACUC for the protocol and the laboratory. This management must include at least a part-time FTE Lab Manager to manage the laboratory and protocol. I have contacted the College Dean, who has promised to take action. Until this is accomplished, the protocol remains suspended.

NIH funds were used on this project.

UToledo is committed to protecting the welfare of animals used in research. Should you have any questions regarding this report, please contact Kathryn Eisenmann, Ph.D., IACUC Chair (Kathryn.Eisenmann@utoledo.edu).

Thank you for your consideration of this matter.

Sincerely,



Frank J. Calzonetti, Ph.D.

CC: Hazel Cruz Tignor, Ph.D.
Neelakanta Ravindranath, Ph.D.
Kathryn Eisenmann, Ph.D.

Frank J. Calzonetti, Ph.D.

Vice President for Research

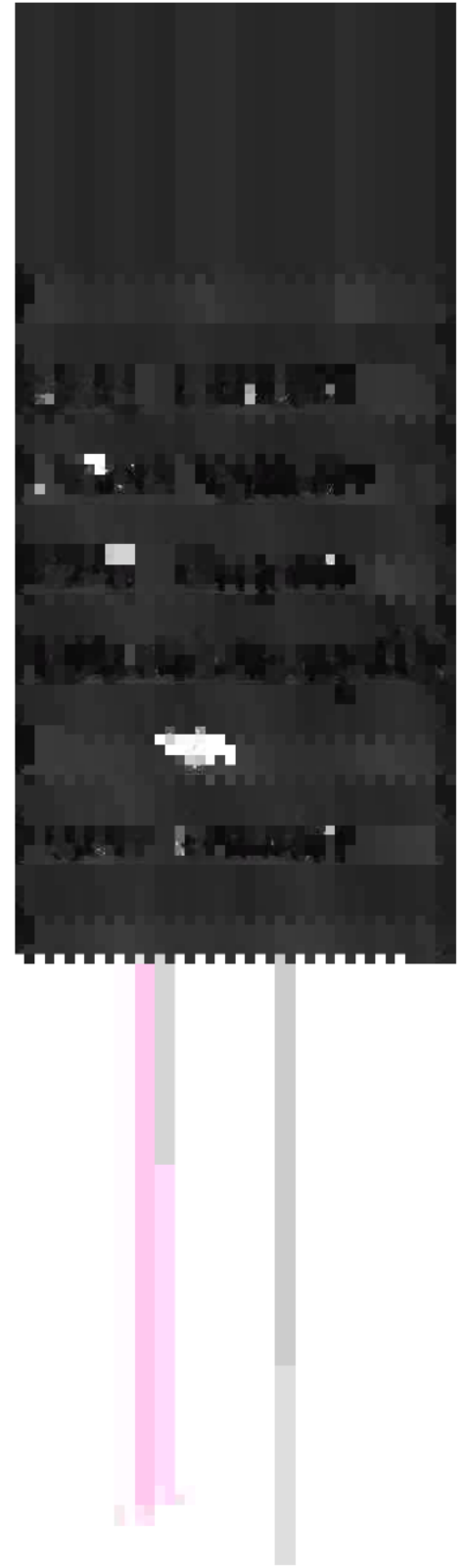
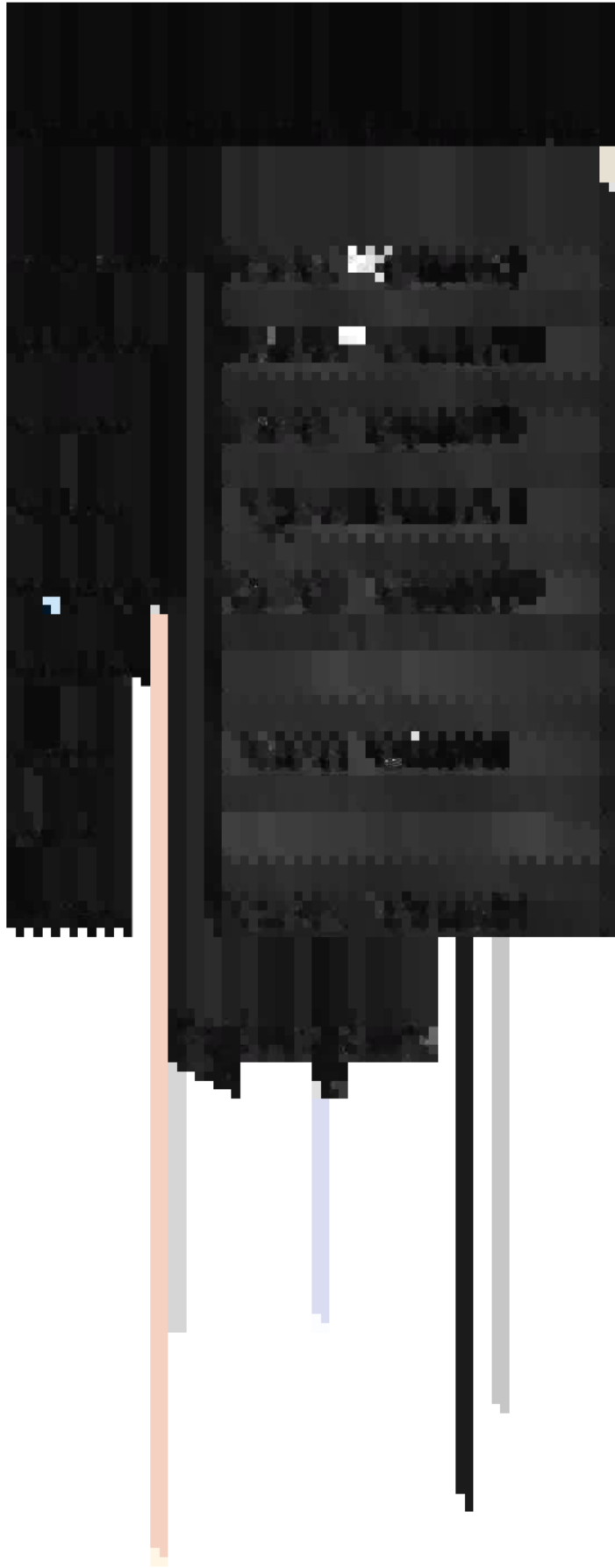
The University of Toledo, 2801 W. Bancroft St., MS 218, Toledo, OH 43606

PH: 419-530-4749; Email: Frank.Calzonetti@utoledo.edu

Obtained by Rise for Animals.

Updated to Animal Research Laboratory Overview (ARLO) on 08/12/2021

Signature Page



From: [Bechaz, Scott](#)
To: [Joseph, Elaine](#)
Subject: RE: Signature email
Date: Thursday, August 20, 2020 10:50:35 AM

Elaine,

I'm happy to sign the annual report with this e-mail.

Scott

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>
Sent: Thursday, August 20, 2020 8:04 AM
To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>
Subject: Signature email

OLAW allows for an email to serve as a signature in the semi-annual report. Please send me an email stating that you sign the semi-annual report.

Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
2106 CCE / MS 1020
3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Imam, Shahnawaz](#)
To: [Joseph, Elaine](#); [Andreana, Peter R](#); [Bechaz, Scott](#); [Cicila, George](#); [Eisenmann, Kathryn M.](#); [Ferreira, Viviana P.](#); [Furuta, Siori](#); [arburn](#); [Hall, Frank](#); [Khuder, Sadik](#); [Liu, Guofa](#); [Matson, Jyl S](#); [Refsnider-Streby, Jeanine](#); [Root, Lisa Jane](#); [Stepkowski, Stanislaw M.](#); [Tiwari, Amit K](#)
Subject: RE: Signature email
Date: Thursday, August 20, 2020 11:57:58 AM
Attachments: [image001.png](#)

Dear Elaine,

This e-mail indicates my signing of the semi-annual report to OLAW.

Shahnawaz Imam, DVM, Ph.D.
Member, University of Toledo, IACUC

Shahnawaz Imam, D.V.M., Ph.D.

Assistant Professor

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Division of Endocrinology, Diabetes, and Metabolism
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**COLLEGE OF MEDICINE
AND LIFE SCIENCES**

THE UNIVERSITY OF TOLEDO

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>
Sent: Thursday, August 20, 2020 8:04 AM
To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta,

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<Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root,
Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M.
<Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>

Subject: Signature email

OLAW allows for an email to serve as a signature in the semi-annual report. Please send me an email stating that you sign the semi-annual report.

Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
2106 CCE / MS 1020
3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Tiwari, Amit K](#)
To: [Imam, Shahnawaz](#); [Joseph, Elaine](#); [Andreana, Peter R](#); [Bechaz, Scott](#); [Cicila, George](#); [Eisenmann, Kathryn M.](#); [Ferreira, Viviana P.](#); [Furuta, Saori](#); [arburn](#); [Hall, Frank](#); [Khuder, Sadik](#); [Liu, Guofa](#); [Matson, Jyl S](#); [Refsnider-Streby, Jeanine](#); [Root, Lisa Jane](#); [Stepkowski, Stanislaw M.](#)
Subject: Re: Signature email
Date: Thursday, August 20, 2020 12:30:42 PM
Attachments: [image001.png](#)

Dear Elaine,

This e-mail indicates my signing of the semi-annual report to OLAW.

Amit K. Tiwari, Ph.D.
Member, University of Toledo, IACUC

Amit K. Tiwari, PharmBS, MS, PhD

Associate Professor of Pharmacology & Experimental Therapeutics

Principal Investigator, Cancer and Systems Therapeutics

College of Pharmacy and Pharmaceutical Sciences

HEB282F, Mail Stop 1015

3000 Arlington Ave.

Toledo, Ohio 43614-2598

419.383.1913

amit.tiwari@utoledo.edu

University of Toledo Logo



From: Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>

Sent: Thursday, August 20, 2020 11:57 AM

To: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>; Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root,

Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M.
<Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>

Subject: RE: Signature email

Dear Elaine,

This e-mail indicates my signing of the semi-annual report to OLAW.

Shahnawaz Imam, DVM, Ph.D.
Member, University of Toledo, IACUC

Shahnawaz Imam, D.V.M., Ph.D.

Assistant Professor

Department of Medicine,
Division of Endocrinology, Diabetes, and Metabolism
Associate Member Center for Diabetes and Endocrine Research (CeDER)
College of Medicine and Life Sciences
University of Toledo Health Sciences Campus
BHS386, Mail Stop 1009
3000 Arlington Ave.
Toledo, Ohio 43614-2598
Office: 419.383.3786
Lab: 419.383.3420
shahnawaz.imam@utoledo.edu



**COLLEGE OF MEDICINE
AND LIFE SCIENCES**

THE UNIVERSITY OF TOLEDO

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>

Sent: Thursday, August 20, 2020 8:04 AM

To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott
<Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M.
<Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta,
Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank
<Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik
<Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S

<Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>

Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
2106 CCE / MS 1020
3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Andreana, Peter R](#)
To: [Joseph, Elaine](#)
Subject: RE: Signature email
Date: Thursday, August 20, 2020 10:03:22 AM

Dear Dr. Joseph,
This e-mail indicates my signing of the semi-annual report to OLAW.
Peter R. Andreana, Ph.D.
member, U. Toledo IACUC

Peter R. Andreana, PhD
Professor
University of Toledo
Department of Chemistry and Biochemistry *and*
School of Green Chemistry and Engineering
2801 W. Bancroft St., Wolfe Hall 2232B
Toledo, OH 43606-3390

P/F: 419-530-1930
Lab: 419-530-1909
E-mail: peter.andreana@utoledo.edu
[Group Webpage](#)

[USACICS: Treasurer](#)
[ACS Carbohydrate Division: Webmaster](#)
[ACS Carbohydrate Division: Immediate Past Chair 2020](#)

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>
Sent: Thursday, August 20, 2020 8:04 AM
To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>
Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator

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3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Cicila, George](#)
To: [Joseph, Elaine](#); [Andreana, Peter R](#); [Bechaz, Scott](#); [Eisenmann, Kathryn M.](#); [Ferreira, Viviana P.](#); [Furuta, Saori](#); [arburn](#); [Hall, Frank](#); [Imam, Shahnawaz](#); [Khuder, Sadik](#); [Liu, Guofa](#); [Matson, Jyl S](#); [Refsnider-Streby, Jeanine](#); [Root, Lisa Jane](#); [Stepkowski, Stanislaw M.](#); [Tiwari, Amit K](#)
Subject: Re: Signature email
Date: Thursday, August 20, 2020 9:08:02 AM

Dear Dr. Joseph,
This e-mail indicates my signing of the semi-annual report to OLAW.
George Cicila, Ph.D.
member, U. Toledo IACUC

George T. Cicila

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>
Sent: Thursday, August 20, 2020 8:04:10 AM
To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>
Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
2106 CCE / MS 1020
3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Eisenmann, Kathryn M.](#)
To: [Joseph, Elaine](#)
Subject: Re: Signature email
Date: Thursday, August 20, 2020 8:12:24 AM

I agree to use my digital signature to serve in place of my actual signature at this time.

Kate Eisenmann

Kathryn Eisenmann, Ph.D.
Associate Professor
Department of Cancer Biology

Office: BHSB 390
Phone: 419-383-4101

From: "Joseph, Elaine" <Elaine.Joseph@UToledo.Edu>
Date: Thursday, August 20, 2020 at 8:04 AM
To: "Andreana, Peter R" <Peter.Andreana@utoledo.edu>, "Bechaz, Scott" <Scott.Bechaz@UToledo.Edu>, "Cicila, George" <George.Cicila@utoledo.edu>, "Eisenmann, Kathryn M." <Kathryn.Eisenmann@utoledo.edu>, "Ferreira, Viviana P." <Viviana.Ferreira@utoledo.edu>, "Saori.Furuta@uToledo.edu" <Saori.Furuta@UToledo.edu>, arburn <arburn@findlay.edu>, "Hall, Frank" <Frank.Hall@UToledo.Edu>, "Imam, Shahnawaz" <Shahnawaz.Imam@UToledo.edu>, "Khuder, Sadik" <Sadik.Khuder@utoledo.edu>, "Liu, Guofa" <Guofa.Liu@utoledo.edu>, "Matson, Jyl S" <Jyl.Matson@UToledo.Edu>, "Refsnider-Streby, Jeanine" <Jeanine.Refsnider@UToledo.edu>, "Root, Lisa Jane" <Lisa.Root@UToledo.edu>, "Stepkowski, Stanislaw M." <Stanislaw.Stepkowski@utoledo.edu>, "Tiwari, Amit K" <Amit.Tiwari@UToledo.edu>
Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
2106 CCE / MS 1020
3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251

C: 734-945-9999

Elaine.Joseph@utoledo.edu

From: [Furuta, Saori](#)
To: [Cicila, George](#); [Joseph, Elaine](#); [Andreana, Peter R](#); [Bechaz, Scott](#); [Eisenmann, Kathryn M.](#); [Ferreira, Viviana P.](#); [arburn](#); [Hall, Frank](#); [Imam, Shahnawaz](#); [Khuder, Sadik](#); [Liu, Guofa](#); [Matson, Jyl S](#); [Refsnider-Streby, Jeanine](#); [Root, Lisa Jane](#); [Stepkowski, Stanislaw M.](#); [Tiwari, Amit K](#)
Subject: Re: Signature email
Date: Thursday, August 20, 2020 9:10:29 AM
Attachments: [Outlook-ecjfbalk.png](#)

Hi Elaine,

Through this e-mail, I sign the semi-annual report to OLAW.

Best regards,
Saori

Saori Furuta

Assistant Professor

Department of Cancer Biology
University of Toledo Health Sciences Campus
BHS477, Mail Stop MS1010
3000 Arlington Ave.
Toledo, Ohio 43614-2598
Office: 419.383.4157
Lab: 419.383.4428
saori.furuta@utoledo.edu



**COLLEGE OF MEDICINE
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From: Cicila, George <George.Cicila@utoledo.edu>
Sent: Thursday, August 20, 2020 9:08 AM
To: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>; Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M.

<Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>

Subject: Re: Signature email

Dear Dr. Joseph,

This e-mail indicates my signing of the semi-annual report to OLAW.

George Cicila, Ph.D.

member, U. Toledo IACUC

George T. Cicila

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>

Sent: Thursday, August 20, 2020 8:04:10 AM

To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott

<Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M.

<Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta,

Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank

<Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik

<Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S

<Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root,

Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M.

<Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>

Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.

IACUC/IBC/IRE Project Administrator

Research and Sponsored Programs

2106 CCE / MS 1020

3000 Arlington Ave.

Toledo, Ohio 43614-2598

University of Toledo

O: 419-383-4251

C: 734-945-9999

Elaine.Joseph@utoledo.edu

From: [Hall, Frank](#)
To: [Joseph, Elaine](#)
Subject: Re: Signature email
Date: Thursday, August 20, 2020 9:58:25 AM

Elaine, please let this email serve as my signature on the semi-annual report. Scott

F. Scott Hall, PhD

Associate Professor

Department of Pharmacology and Experimental Therapeutics

College of Pharmacy and Pharmaceutical Sciences

The University of Toledo

Frederic and Mary Wolfe Center HEB 282D

Mail Stop 1015, 3000 Arlington Avenue

Toledo, OH 43614-2598

Office: 419-383-1504

Cell: 240-426-2736

FAX: 419-383-1909

Email: Frank.Hall@UToledo.Edu



Past-President, The International Behavioral Neuroscience Society

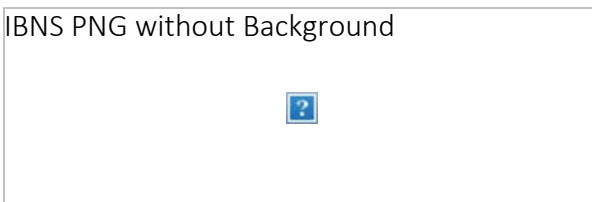
<http://www.IBNSconnect.org>

IBNS 30th Annual Meeting

June 1 - June 5, 2021

Puerto Vallarta, Mexico

IBNS PNG without Background



From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>

Sent: Thursday, August 20, 2020 8:04 AM

To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott

<Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M.

<Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>

Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
2106 CCE / MS 1020
3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Khuder, Sadik](#)
To: [Joseph, Elaine](#)
Subject: RE: Signature email
Date: Thursday, August 20, 2020 8:07:42 AM

Good morning,

I sign the semi-annual report. Best regards.

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>
Sent: Thursday, August 20, 2020 8:04 AM
To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>
Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
2106 CCE / MS 1020
3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Liu, Guofa](#)
To: [Joseph, Elaine](#)
Subject: RE: Signature email
Date: Thursday, August 20, 2020 9:32:04 AM

Hi Elaine,

This email indicates that I signed the semi-annual report.
Best,

Guofa

Guofa Liu, PhD
Professor
Department of Biological Sciences
University of Toledo, MS 601
2801 W. Bancroft St.
Toledo, OH 43606
USA

Phone: 419-530-2869
Fax: 419-530-7737
Email: Guofa.liu@utoledo.edu

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>
Sent: Thursday, August 20, 2020 8:04 AM
To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>
Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator

Research and Sponsored Programs

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3000 Arlington Ave.

Toledo, Ohio 43614-2598

University of Toledo

O: 419-383-4251

C: 734-945-9999

Elaine.Joseph@utoledo.edu

From: [Matson, Jyl S](#)
To: [Joseph, Elaine](#)
Subject: Re: Signature email
Date: Thursday, August 20, 2020 10:11:00 AM

Hi Elaine,

This email serves as my signature on the semi-annual report.

Jyl

--

Jyl S. Matson, Ph.D.
Associate Professor
Department of Medical Microbiology and Immunology
The University of Toledo, Health Science Campus
3000 Arlington Avenue, MS1021
Toledo, OH 43614-2595
Phone: (419) 383-3971

From: "Joseph, Elaine" <Elaine.Joseph@UToledo.Edu>
Date: Thursday, August 20, 2020 at 8:04 AM
To: "Andreana, Peter R" <Peter.Andreana@utoledo.edu>, "Bechaz, Scott" <Scott.Bechaz@UToledo.Edu>, "Cicila, George" <George.Cicila@utoledo.edu>, "Eisenmann, Kathryn M." <Kathryn.Eisenmann@utoledo.edu>, "Ferreira, Viviana P." <Viviana.Ferreira@utoledo.edu>, "Furuta, Saori" <Saori.Furuta@UToledo.edu>, arburn <arburn@findlay.edu>, "Hall, Frank" <Frank.Hall@UToledo.Edu>, "Imam, Shahnawaz" <Shahnawaz.Imam@UToledo.edu>, "Khuder, Sadik" <Sadik.Khuder@utoledo.edu>, "Liu, Guofa" <Guofa.Liu@utoledo.edu>, "Matson, Jyl S" <Jyl.Matson@UToledo.Edu>, "Refsnider-Streby, Jeanine" <Jeanine.Refsnider@UToledo.edu>, "Root, Lisa Jane" <Lisa.Root@UToledo.edu>, "Stepkowski, Stanislaw M." <Stanislaw.Stepkowski@utoledo.edu>, "Tiwari, Amit K" <Amit.Tiwari@UToledo.edu>
Subject: Signature email

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Elaine

Elaine Joseph, Ph.D.
IACUC/IBC/IRE Project Administrator
Research and Sponsored Programs
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3000 Arlington Ave.
Toledo, Ohio 43614-2598
University of Toledo
O: 419-383-4251
C: 734-945-9999
Elaine.Joseph@utoledo.edu

From: [Refsnider-Streby, Jeanine](#)
To: [Joseph, Elaine](#)
Subject: Re: Signature email
Date: Thursday, August 20, 2020 9:13:35 AM

Hi Dr. Joseph,

This email serves as my signature on the semi-annual report to OLAW.

Best,
Jeanine

Dr. Jeanine Refsnider, Ph.D.
Associate Professor
Department of Environmental Sciences
University of Toledo

Email: jeanine.refsnider@utoledo.edu
Phone: 419-530-2664
Lab website: jrefsnider.wixsite.com/research

From: Joseph, Elaine <Elaine.Joseph@UToledo.Edu>
Sent: Thursday, August 20, 2020 8:04 AM
To: Andreana, Peter R <Peter.Andreana@utoledo.edu>; Bechaz, Scott <Scott.Bechaz@UToledo.Edu>; Cicila, George <George.Cicila@utoledo.edu>; Eisenmann, Kathryn M. <Kathryn.Eisenmann@utoledo.edu>; Ferreira, Viviana P. <Viviana.Ferreira@utoledo.edu>; Furuta, Saori <Saori.Furuta@UToledo.edu>; arburn <arburn@findlay.edu>; Hall, Frank <Frank.Hall@UToledo.Edu>; Imam, Shahnawaz <Shahnawaz.Imam@UToledo.edu>; Khuder, Sadik <Sadik.Khuder@utoledo.edu>; Liu, Guofa <Guofa.Liu@utoledo.edu>; Matson, Jyl S <Jyl.Matson@UToledo.Edu>; Refsnider-Streby, Jeanine <Jeanine.Refsnider@UToledo.edu>; Root, Lisa Jane <Lisa.Root@UToledo.edu>; Stepkowski, Stanislaw M. <Stanislaw.Stepkowski@utoledo.edu>; Tiwari, Amit K <Amit.Tiwari@UToledo.edu>
Subject: Signature email

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Elaine

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