

UNIVERSITY OF MASSACHUSETTS, BOSTON CAMPUS

ANIMAL WELFARE ASSURANCE OF COMPLIANCE

I, Matthew Meyer, as named Institutional Official for animal care and use at University of Massachusetts, Boston (UMB) provides assurance that this Institution will comply with the Public Health Service Policy (PHS Policy) on Humane Care and Use of Laboratory Animals.

I. Applicability of Assurance

This Assurance applies whenever this Institution conducts the following activities: all research, research training, experimentation, biological testing, field studies and related activities involving live vertebrate animals supported by the PHS, DHHS, and/or NSF and conducted at this Institution or at another institution as a consequence of the sub-granting or subcontracting of a PHS, DHHS, and/or NSF-conducted or –supported activity this Institution. This Assurance covers only those facilities and components listed below.

- A. The following are branches and components over which this Institution has legal authority, included are those that operate under a different name:

University of Massachusetts, Boston

- B. The following are other institution(s), or branches and components of another institution:

None

II. Institutional Commitment

- A. UMB complies with all applicable provisions of the [Animal Welfare Act](#) (AWA) and other Federal and Commonwealth of Massachusetts statutes (as they apply) relating to the care and use of vertebrate animals.
- B. UMB is guided by the "[U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training](#)."
- C. UMB acknowledges and accepts responsibility for the care and use of animals involved in activities covered by this Assurance. As partial fulfillment of this responsibility, UMB schedules two training sessions per year for investigators, instructors, laboratory staff, students and animal care personnel to review policies, procedures and responsibilities associated with this Assurance.

As part of the training program, UMB reviews the basic principles of the AWA and other applicable Federal statutes and regulations, as well as those of the Commonwealth of Massachusetts. Maintaining compliance with this Assurance is the primary responsibility of all UMB personnel associated with the administration, care and use of vertebrate animals in UMB facilities.

- D. UMB has adopted [The Guide for the Care and Use of Laboratory Animals](#) (Guide, 2010 revision) as the standard for all programs and activities involving the care and use of live vertebrate animals in UMB facilities.

- E. UMB ensures that all performance sites engaged in activities involving live vertebrate animals under consortium (subaward) or subcontract agreements must have an equivalent Assurance under PHS Policy, follow Federal statutes and regulations, and that any activities have been reviewed and approved by an Institutional Animal Care and Use Committee (IACUC). This Performance Policy must be documented in writing as part of any activities involving live vertebrate animals.

III. Institutional Program for Animal Care and Use

- A. The lines of authority and responsibility for administering the UMB program and ensuring compliance with the PHS Policy are as follows:

The Vice Provost for Research has appointed the Associate Vice Provost for Research and Director of the Office of Research and Sponsored Programs as the Institutional Official (IO) for UMB. The IACUC has a direct reporting relationship to the IO. The IO has complete authority and responsibility to make the necessary appointments to the IACUC, respond to their oversight directives and administer all provisions of the UMB Assurance. The Attending Veterinarian has a direct reporting relationship to the IO so that he can fulfill all veterinary, IACUC, and delegated responsibilities.

The Organization Chart (Attachment) shows the overall reporting relationships associated with the Program for Animal Care and Use.

- B. **The UMB Attending Veterinarian is:**

Attending Veterinarian: [REDACTED]

Qualifications

Degrees: BS and DVM, expert in veterinary surgery

Training or experience in laboratory animal medicine or in the use of the species at the institution: Dr. Duggan is a 1996 graduate of Tufts School of Veterinary Medicine and has been associated with comparative animal research programs and colonies since that time. He was the clinical veterinarian under Dr. Hopkins, the previous UMass Boston Attending Veterinarian, at Massachusetts General Hospital for two years. Dr. Duggan is knowledgeable about disease free rodent and specific pathogen free large animal research programs. He is a specialist in veterinary surgery.

Authority: Dr. Duggan has direct program authority and responsibility to interact with the IO, Chair of the IACUC, principal investigators, and the staff of the Animal Facility to assist and ensure that all aspects of the Program (policies, procedures, and methods) are being followed. Dr. Duggan has complete access to all animals in the facility.

Time contributed to program: Dr. Duggan is in contact with the Animal Care Technical staff and the IACUC on a weekly basis. He performs biweekly site visits to evaluate the condition of animals, advise on facility development plans, assist in setting up laboratories for animal experiments, evaluate specific health issues with animals, and draft working documents for the program. This effort requires at least 10% allocation of time or a minimum of four hours per week. Dr. Duggan maintains online and cellphone contact with UMB staff at all times.

The Backup UMB Attending Veterinarian is:

Backup Attending Veterinarian: [REDACTED]

Qualifications

Degrees: BS and DVM, Auburn University, Auburn, AL

Training and experience in laboratory animal medicine or in the use of the species at the institution: Dr. Matthews is a 2003 graduate of Auburn University College of Veterinary Medicine. Currently, in her role as *Senior Clinical Veterinarian at Massachusetts General Hospital, Boston, MA* she is responsible for daily observation and care for animals, performs veterinary duties across a variety of species. She also serves as an alternate member of the MGH Institutional Animal Care and Use Committee (IACUC).

The Registered Laboratory Animal Technician is:

Registered Laboratory Animal Technician: [REDACTED]

The Registered Laboratory Animal Technician is a full time UMass Boston staff member responsible for the day to day facility operations. The staff member is appropriately trained and has understanding of animal welfare laws, regulations, and policies to provide stability and continuity to the animal care and use program. Responsibilities for facility operations include ensuring animals receive proper care and housing and that all regulatory requirements are met. The staff member oversees the program of husbandry, daily animal care, and facility operations to control the environmental factors that are essential for animal well-being.

- C. The IACUC at this Institution is properly appointed in accordance with the PHS Policy IV.A.3.a and is qualified through the experience and expertise of this members to oversee the Institution's animal care and use program and facilities. The Provost has delegated to the Institutional Official the authority to appoint the members of the IACUC. In accordance with the Health Research Extension Act of 1985, this delegation of authority is specific and is in writing. The IACUC consists of at least five members, and its membership meets the composition requirements set forth in the PHS Policy, Section IV.A.3.b.

Attached is a list of the chairperson and members of the IACUC and their names, degrees, profession, titles or specialties, and institutional affiliations.

D. The IACUC will:

- 1) Reviews at least once every 6 months the Institution's program for humane care and use of animals, using the *Guide* as a basis for evaluation. The IACUC procedures for conducting semiannual program reviews are as follows:

The IACUC will meet at least once every six months to review the Institutional Program for Humane Care and Use of Animals. The Committee uses the Guide and other pertinent resources, e.g., the PHS Policy, the Code of Federal Regulations (Animal Welfare) as a basis for the review. To facilitate the evaluation, the Committee will use a checklist based on the Sample OLAW Program and Facility Review Checklist from the OLAW website. The evaluation will include, but not necessarily be limited to, a review of the following: a) IACUC Membership and Functions; b) IACUC Records and Reporting Requirements; c) Husbandry and Veterinary Care (all aspects); d) Personnel Qualifications (Experience and Training); and e) Occupational Health and Safety. In addition, the evaluation will include a review of the Institution's PHS Assurance. If program deficiencies are noted during the review, they will be categorized as significant or minor and the Committee will develop a reasonable and specific plan and schedule for correcting each deficiency. A significant deficiency is one that is

or may be a threat to the health and safety of the animals or personnel. No member will be involuntarily excluded from participating in any portion of the reviews.

- 2) Inspect at least once every 6 months all of the Institution's animal facilities, including satellite facilities and animal surgical sites, using the *Guide* as a basis for evaluation. The IACUC procedures for conducting semiannual facility inspections are as follows:

At least once every six months at least one member of the IACUC will visit all of the institution's facilities where animals are housed or used, i.e., holding areas, animal care support areas, storage areas, procedure areas, and laboratories where animal manipulations are conducted. Equipment used for transporting of the animals is also inspected. The Committee uses the *Guide* and other pertinent resources, e.g., the PHS Policy, the Code of Federal Regulations (Animal Welfare) as a basis for the review. To facilitate the evaluation, the Committee will use a checklist based on the Sample OLAW Program and Facility Review Checklist from the OLAW website. If deficiencies are noted during the inspection, they will be categorized as significant or minor and the Committee will develop a reasonable and specific plan and schedule for correcting each deficiency. A significant deficiency is one that is or may be a threat to the health and safety of the animals or personnel. No member will be involuntarily excluded from participating in any portion of the inspections.

- 3) Prepare reports of the IACUC evaluations according to PHS Policy IV.B.3. and submit the reports to the Institutional Official. The IACUC procedures for developing reports and submitting them to the Institutional Official are as follows:

Individual IACUC members will convey their observations to the IACUC Chairperson, or his or her designee, who, in turn, will draft the reports using the sample OLAW Semiannual Report to the Institutional Official format from the OLAW website. The reports will contain a description of the nature and extent of the institution's adherence to the *Guide* and the PHS Policy, identify specifically any departures from the provisions of the *Guide* and the PHS Policy, and state the reasons for each departure. The reports will distinguish significant deficiencies from minor deficiencies. If program or facility deficiencies are noted, the reports will contain a reasonable and specific plan and schedule for correcting each deficiency. If some or all of the institution's facilities are accredited by AAALAC International the report will identify those facilities as such. Copies of the draft reports will be reviewed, revised as appropriate, and approved by the Committee. The final reports will be signed by a majority of the IACUC members and will include any minority opinions. If there are no minority opinions, the reports will reflect such. Following completion of each evaluation, the completed report will be submitted to the Institutional Official in a timely manner.

- 4) Review concerns involving the care and use of animals at the Institution. The IACUC procedures for reviewing concerns are as follows:

Any individual may report concerns to the IO, IACUC Chair, Institutional Veterinarian, or any member of the IACUC. Notices are located in the animal facilities advising individuals how and where to report animal welfare concerns and stating that any individual who, in good faith, reports an animal welfare concern will be protected against reprisals. All reported concerns will be brought to the attention of the full Committee. If necessary the IACUC Chair will convene a meeting to discuss, investigate, and address any reported concern. Reported concerns and all associated IACUC actions will be recorded in the IACUC meeting minutes. The Committee will report such actions to the IO and, as warranted, to OLAW.

- 5) Make written recommendations to the Institutional Official regarding any aspect of the Institution's animal program, facilities, or personnel training. The procedures for making recommendations to the Institutional Official are as follows:

Recommendations regarding any aspects of the institution's animal program or facilities are discussed and developed by the Committee. The Committee's recommendations are included in

the IACUC meeting minutes or a report of the IACUC's evaluations or a separate letter. Such documents are reviewed and approved by the Committee and then submitted to the IO.

- 6) Review and approve, require modifications in (to secure approval), clarify or withhold approval of PHS-supported activities related to the care and use of animals according to PHS Policy IV.C.1-3. The IACUC procedures for protocol review are as follows:

Pre-review: Principal Investigators (PIs) submit animal care and use protocols with supporting documentation to the Office of Research and Sponsored Programs (ORSP). An ORSP administrator pre-reviews protocols for completeness, accuracy, and compliance with institutional policies and procedures. An ORSP administrator works with the PI to achieve an acceptable protocol.

IACUC Review: Prior to the review, each IACUC member will be provided with written descriptions of activities (protocols) that involve the care and use of animals and any member of the IACUC may obtain, upon request, full committee review of those protocols. If full-committee review (FCR) is not requested, at least one member of the IACUC, designated by the chairperson and qualified to conduct the review, may be assigned to review those protocols and have the authority to approve, require modifications in (to secure approval) or request full committee review of those protocols. Other IACUC members may provide the designated reviewer with comments and/or suggestions for the reviewer's consideration only. That is, concurrence to use the DMR method may not be conditioned. If multiple designated reviewers are used, their decisions must be unanimous; if not, the protocol will be referred for FCR. If FCR is requested, approval of those protocols may be granted only after review at a convened meeting of a quorum of the IACUC and with the approval vote of a majority of the quorum present.

In instances where the IACUC uses the designated-member review (DMR) method, the protocol will be distributed to all IACUC members to allow all members the opportunity to call for FCR. Records of polling of members to obtain concurrence to use the DMR method, or concurrence by silent assent after at least three(3) working days, and approval of protocols via DMR are maintained and recorded in the minutes of the next convened IACUC meeting.

Required modifications - When the IACUC requires modifications (to secure approval), of a protocol, such modifications are reviewed as follows:

1. FCR or DMR following the procedures delineated above.
2. DMR if approved unanimously by all members at the meeting at which the required modifications are developed and delineated AND if the entire current Committee has previously approved and documented a policy of DMR for required modifications, provided however, that if any member calls for FCR of the modifications, such modifications can only be reviewed and approved by FCR.
3. Minor modifications of an administrative nature, i.e., typographical or grammatical errors, required signatures, etc. may be confirmed by IACUC administrative/support personnel.

No member may participate in the IACUC review or approval of a protocol in which the member has a conflicting interest (e.g., is personally involved in the project) except to provide information requested by the IACUC, nor may a member who has a conflicting interest contribute to the constitution of a quorum. The IACUC may invite consultants to assist in reviewing complex issues. Consultants may not approve or withhold approval of an activity or vote with the IACUC unless they are also members of the IACUC.

Note: Any use of telecommunications will be in accordance with NIH Notice NOT-OD-06-052 of March 24th, 2006, entitled Guidance on Use of Telecommunications for IACUC Meetings under the PHS Policy on Humane Care and Use of Laboratory Animals.

In order to approve proposed protocols or proposed significant changes in ongoing protocols, the IACUC will conduct a review of those components related to the care and use of animals and determine that the proposed protocols are in accordance with the PHS Policy. In making this determination, the IACUC will confirm that the protocol will be conducted in accordance with the Animal Welfare Act insofar as it applies to the activity, and that the protocol is consistent with the *Guide* unless acceptable justification for a departure is presented. Further, the IACUC shall determine that the protocol conforms to the institution's PHS Assurance and meets the following requirements:

- a. Procedures with animals will avoid or minimize discomfort, distress, and pain to the animals, consistent with sound research design.
 - b. Procedures that may cause more than momentary or slight pain or distress to the animals will be performed with appropriate sedation, analgesia, or anesthesia, unless the procedure is justified for scientific reasons in writing by the investigator.
 - c. Animals that would otherwise experience severe or chronic pain or distress that cannot be relieved will be painlessly killed at the end of the procedure or, if appropriate, during the procedure.
 - d. The living conditions of animals will be appropriate for their species and contribute to their health and comfort. The housing, feeding, and nonmedical care of the animals will be directed by a veterinarian or other scientist trained and experienced in the proper care, handling, and use of the species being maintained or studied.
 - e. Medical care for animals will be available and provided as necessary by a qualified veterinarian.
 - f. Personnel conducting procedures on the species being maintained or studied will be appropriately qualified and trained in those procedures.
 - g. Methods of euthanasia used will be consistent with the current recommendations of the American Veterinary Medical Association (AVMA) Guidelines on Euthanasia, unless a deviation is justified for scientific reasons in writing by the investigator.
- 7) Review and approve, require modifications in (to secure approval), clarify or withhold approval of proposed significant changes regarding the use of animals in ongoing activities according to PHS Policy IV.C. The IACUC procedures for reviewing proposed significant changes in ongoing research projects are as follows:

Review and approval of significant changes are handled in the same manner as new protocols. See Paragraph III.D.6. above.

Examples of changes considered to be significant include, but are not limited to, changes:

- a. in the objectives of a study
- b. from non-survival to survival surgery;
- c. resulting in greater discomfort or in a greater degree of invasiveness;
- d. in the species or in approximate number of animals used;
- e. in Principal Investigator;
- f. in anesthetic agent(s) or the use or withholding of analgesics;
- g. in the method of euthanasia; and
- h. in the duration, frequency, or number of procedures performed on an animal

- 8) Notify investigators and the Institution in writing of its decision to approve or withhold approval of those activities related to the care and use of animals, or of modifications required to secure IACUC approval according to PHS Policy IV.C.4.

The IACUC procedures to notify investigators and the Institution of its decisions regarding protocol review are as follows:

Notification of IACUC decision to approve or withhold approval of those activities related to the care and use of animals or of modifications required to secure IACUC approval is provided to PIs in writing. If the IACUC decides to withhold approval of an activity, a statement of the reasons for its decision is provided and the PI is given an opportunity to respond in writing and in person, if necessary.

Copies of all such notifications are retained in formal protocol files in the Office of Research and Sponsored Programs (ORSP).

- 9) Conduct continuing review of each previously approved, ongoing activity covered by PHS Policy at appropriate intervals as determined by the IACUC, including a complete review at least once every 3 years according to PHS Policy IV.C.1.-5. The IACUC procedures for conducting continuing reviews are as follows:

All ongoing activities are monitored continuously by the animal care and use staff. The IACUC meeting minutes are reviewed and approved by the Committee.

Protocols are approved for a maximum of 36 months. That is, all protocols expire no later than the three-year anniversary of the initial IACUC review. If activities will continue beyond the expiration date, a new protocol must be submitted, reviewed, and approved [prior to expiration of the original or preceding protocol] as described in Paragraph III.D.6. above.

- 10) Be authorized to suspend an activity involving animals according to PHS Policy IV.C.6. The IACUC procedures for suspending an ongoing activity are as follows:

The IACUC may suspend an activity that it previously approved if it determines that the activity is not being conducted in accordance with applicable provisions of the Animal Welfare Act, the Guide, the institution's Assurance, or IV.C.1.a.-g. of the PHS Policy. The IACUC may suspend an activity only after review of the matter at a convened meeting of a quorum of the IACUC and with the suspension vote of a majority of the quorum present. If the IACUC suspends an activity involving animals, or any other institutional intervention results in the temporary or permanent suspension of an activity due to noncompliance with the Policy, Animal Welfare Act, the *Guide*, or the institution's Assurance, the Institutional Official in consultation with the IACUC shall review the reasons for suspension, take appropriate corrective action, and report that action with a full explanation to OLAW.

- E.** The risk-based occupational health and safety program for personnel working in laboratory animal facilities and personnel who have frequent contact with animals is as follows:

The occupational health and safety program is a coordinated effort between three offices, the Office of Research and Sponsored Programs, University Health Services (UHS) and the Office of Environmental Health and Safety are responsible for planning and monitoring the program.

1. The Office of Research and Sponsored Programs. This office manages IACUC review and protocol compliance.
2. Laboratory Safety personnel in Environmental Health & Safety (EH&S). EH&S staff provide training in safe laboratory practices, waste management, and safe use of hazardous materials,

and inspect equipment, laboratories and facilities to ensure the work environment is safe and use and disposal of hazardous agents is appropriate.

3. Faculty, staff and students involved in animal research will be required to complete a baseline medical survey and submit directly to University Health Services, which ensures HIPAA compliance. University Health Services reviews medical information and either provides clearance for facility access or requires further review by a contracted occupational health specialist. University Health Services also provides evaluation and treatment or directs patients to Boston Medical Center for more acute injuries. All injuries are reported to Environmental Health and Safety, University Health Services, and the IACUC.
4. Covered personnel are all full-time, part-time, and temporary employees and students of the University of Massachusetts Boston who have contact, in terms of physical proximity or handling animals in the course of their employment or education for research, teaching or testing purposes.

Hazard identification and risk assessment. The PI lists hazardous agents to be used in the study in the animal use protocol. EH&S (IACUC members) reviews each protocol for the Risk Level to personnel. The IACUC may refuse approval to work with animals for individuals whose risk of injury or disease related to the proposed animal use is unacceptably high, or individuals who refuse to take precautions recommended by UHS (vaccinations, use of PPE etc.)

Personnel training regarding zoonoses, chemical safety, physical hazards, allergies, handling of waste materials, precautions taken during pregnancy, illness or immune suppression.

- 1) The basic training provided by the animal facility supervisor and veterinarian. This training is required for all new animal users and includes discussion of occupational health issues including risks from zoonotic diseases, allergies, physical hazards, and how pregnancy and other health conditions may increase risk.

When necessary, personnel in EH&S provide training on Chemical Safety, Waste Handling, and other topics.

- 2) Laboratory Health and Safety Seminar. The two-hour seminar is given by EH&S safety staff and covers Laboratory Safety and Laboratory Waste Management. Laboratory Safety Training covers:
 - The UMass Boston Integrated Chemical Hygiene and Environmental Management Plan.
 - How to read MSDS forms.
 - Basic toxicology including routes of entry and occupational exposure limits (PELs, TLVs).
 - Physical and health hazards of hazardous chemicals.
 - Information on safety equipment and personal protective equipment.
 - Proper use of fume hoods.
 - Laboratory inspections.
 - Emergency awareness.
- 3) Laboratory Waste Training includes:
 - Federal and state Requirements for point of generation collection.
 - Management and disposal of laboratory waste.
- 4) Radiation Safety Training. This is provided by Radiation Safety staff and is required for all personnel using radiologicals.

A description of the Laboratory Safety policies, procedures and guidelines are contained in the UMass Boston Integrated Chemical Hygiene and Environmental Management Plan (The CH/EM Plan) Laboratory Health and Safety Manual at:

https://www.umb.edu/ehs/lab_safety/ch_em_plan

This document includes policies, procedures and guidelines for personal hygiene, handling hazardous agents, and personnel protection.

Personal hygiene

All employees and students working in animal facilities are instructed to:

- Keep hands away from mouth, nose and eyes.
- Do not eat, smoke, drink, prepare food, change contact lenses or apply cosmetics in the facility.
- Use appropriate PPE (including protective gloves, and surgical mask and lab coat).
- Those associated with Professor Park will use disposable gowns, mask, and polymer gloves.
- Wash hands after animal contact and before leaving the facility.
- Remove gloves and wash hands after handling animals, carcasses, or tissues derived from them before leaving the facility.
- Decontaminate work surfaces after spills and when procedures are completed.

Facilities, procedures, and monitoring

Ensuring the safety of personnel in animal facilities is shared between the Office of Research and Sponsored Programs and Environmental Health & Safety (EH&S). Washing facilities appropriate to the animal use are provided in animal facilities. A variety of animal housing and equipment is available in animal facilities as appropriate for the needs of the study and protecting personnel, including compost bins for cage changes, ventilated racks, and micro isolator cages.

Safety personnel in EH&S complement the IACUC's new users' training with training in recommended procedures. For safe use of biohazardous agents they refer to the different biosafety levels as described in Biosafety in Microbiological and Biomedical Laboratories 5th Edition to determine the equipment and precautions need to protect personnel. Personnel working with, or potentially exposed to, biological hazards in the context of their animal use, including zoonotic agents, take classroom training in addition to the laboratory safety trainings listed above. The biohazards class is followed by project-specific hands-on training in the laboratory/facility provided by EH&S biosafety personnel. IACUC approval for the person to start the project is withheld until the Safety Officer in EH&S is satisfied the person is competent in the safe procedures, including, as needed:

- Safe practices at the appropriate biosafety level (BL2, BL2+, and BL3 as defined in Biosafety in Microbiological and Biomedical Laboratories 5th Edition).
- Working in a Biosafety cabinet.
- Use of the PPE appropriate for the project and the person's health status, and how to wear it (including respirator fitting and test as necessary).
- Project-specific procedures for disinfecting and cleaning up spills, and reporting spills and exposures.

Personal protective equipment (PPE).

Basic PPE (gloves, lab coats, masks) must be worn in all animal facilities. Disposable PPE is required for those working in the Park colony in the gowning area of the animal facility. A container is provided in the gowning area for discarded PPE.

Reporting and treating injuries

A notice posted in all animal facilities instructs personnel, if injured by a laboratory animal, to wash the injured area thoroughly with soap and water, wear gloves to assist an injured person, and if possible to note or label the cage of the animal that inflicted the injury.

- F.** The total gross number of square feet in each animal facility, species of animals housed there and the average daily inventory of animals, by species, is:

Laboratory, Unit, or Building*	Gross Square Feet [include service areas]	Species Housed [use common names, e.g., mouse, rat, rhesus, baboon, zebrafish, African clawed frog]	Approximate Average Daily Inventory
Science Building, Animal Facility	2334	Rat	49
		Mice	356
Integrated Sciences Complex	10000	Turtle	18
		Zebra fish	520
		Lizards	129
		Salamander	64
		Axolotl	112
		Rat	40
		Mice	180

Please see information provided in Attachment "Facility and Species Inventory" table.

- G.** The training or instruction available to scientists, animal technicians, and other personnel involved in animal care, treatment, or use is as follows:

Laboratory Safety and CH/EM Plan training for students and researchers is described in section E. Animal technicians receive the same training and, in addition, hands-on and facility-specific training for new animal care staff provided by the Supervisor of the Animal Care Facility.

Before starting to work with live animals, staff, students and investigators at the institution are all required to take the UMass Boston online training program on the CITI website.

Training certification must be renewed every three years. New animal user training includes discussion of the "3Rs", the need to justify animal numbers to be used, and how to conduct a statistical analysis to justify group sizes. The IACUC reviewers work with the PI if it is evident that he/she has not understood how to estimate and justify numbers needed. The new users' training also includes "searching for alternatives" to minimize pain and distress and USDA's brochure "Alternatives and the Animal Welfare Act" is included in the package of materials provided to new PIs through the IACUC Office.

In addition animal users receive project-specific training from a member of the laboratory staff with appropriate experience and, as needed, the Attending Veterinarian for projects involving anesthesia, surgery and/or the need for pain relief. How project-specific training will be provided is described in the protocol and approved by the IACUC. Project-specific training includes all procedures including surgery, post-surgery care, and record-keeping for surgery and post-op monitoring, and maintaining medical records for the animal(s). The attending veterinarian monitors the performance of surgery and other invasive procedures and provides ongoing training as needed.

All voting IACUC Members are trained online, in UMB sponsored seminars, and have access to the PHS *Policy*, AW Regulations (as applicable), the Assurance and the *Guide*. Investigators and staff receive online training and have access to in-house training seminars.

IV. Institutional Program Evaluation and Accreditation

All of this Institution's programs and facilities (including satellite facilities) for activities involving animals have been evaluated by the IACUC within the past 6 months and will be reevaluated by the IACUC at least once every 6 months according to PHS Policy IV.B.1.-2. Reports have been and will continue to be prepared according to PHS Policy IV.B.3. All IACUC semiannual reports will include a description of the nature and extent of this Institution's adherence to the PHS Policy and the *Guide*. Any departures from the *Guide* will be identified specifically and reasons for each departure will be stated. Reports will distinguish significant deficiencies from minor deficiencies. Where program or facility deficiencies are noted, reports will contain a reasonable and specific plan and schedule for correcting each deficiency. Semiannual reports of the IACUC's evaluations will be submitted to the Institutional Official. Semiannual reports of IACUC evaluations will be maintained by this Institution and made available to the OLAW upon request.

- (1) This Institution is Category 2 — not accredited by the [Association for Assessment and Accreditation of Laboratory Animal Care International \(AAALAC\)](#). As noted above, reports of the IACUC's semiannual evaluations (program reviews and facility inspections) will be made available upon request. The report of the most recent evaluation (program review and facility inspection) is attached.

V. Recordkeeping Requirements

- A. This Institution will maintain for at least 3 years:
1. A copy of this Assurance and any modifications made to it, as approved by the PHS
 2. Minutes of IACUC meetings, including records of attendance, activities of the committee, and committee deliberations
 3. Records of applications, proposals, and proposed significant changes in the care and use of animals and whether IACUC approval was granted or withheld
 4. Records of semiannual IACUC reports and recommendations (including minority views) as forwarded to the Institutional Official, Associate Provost/Director of Research and Sponsored Programs
 5. Records of accrediting body determinations
- B. This Institution will maintain records that relate directly to applications, proposals, and proposed changes in ongoing activities reviewed and approved by the IACUC for the duration of the activity and for an additional 3 years after completion of the activity.
- C. All records shall be accessible for inspection and copying by authorized OLAW or other PHS representatives at reasonable times and in a reasonable manner.

VI. Reporting Requirements

- A. The Institutional reporting period is the calendar year (January 1 – December 31). The IACUC, through the Institutional Official, will submit an annual report to OLAW by January 31 of each year. The annual report will include:
1. Any change in the accreditation status of the Institution (e.g., if the Institution obtains accreditation by AAALAC or AAALAC accreditation is revoked)

2. Any change in the description of the Institution's program for animal care and use as described in this Assurance
 3. Any change in the IACUC membership
 4. Notification of the dates that the IACUC conducted its semiannual evaluations of the Institution's program and facilities (including satellite facilities) and submitted the evaluations to the Institutional Official, Associate Provost/Director of Research and Sponsored Programs.
- B. The IACUC, through the Institutional Official, will promptly provide OLAW with a full explanation of the circumstances and actions taken with respect to:
1. Any serious or continuing noncompliance with the PHS Policy
 2. Any serious deviations from the provisions of the *Guide*
 3. Any suspension of an activity by the IACUC
- C. Reports filed under VI.A. and VI.B. above should include any minority views filed by members of the IACUC.

VII. Institutional Endorsement and PHS Approval

A. Authorized Institutional Official	
Name: Matthew Meyer	
Title: Associate Provost/Director, Office of Research and Sponsored Programs	
Name of Institution: University of Massachusetts, Boston	
Address: <i>(street, city, state, country, postal code)</i> Quinn Building 100 Morrissey Boulevard Boston, MA 02125	
Phone: 617-287-5372	Fax: 617-287-5396
E-mail: Matthew.Meyer@umb.edu	
Acting officially in an authorized capacity on behalf of this Institution and with an understanding of the Institution's responsibilities under this Assurance, I assure the humane care and use of animals as specified above.	
Signature: 	Date: 10/21/2016

B. PHS Approving Official <i>(to be completed by OLAW)</i>	
Name/Title: Office of Laboratory Animal Welfare (OLAW) National Institutes of Health 6705 Rockledge Drive RKL1, Suite 360, MSC 7982 Bethesda, MD USA 20892-7982 (FedEx Zip Code 20817) Phone: +1 (301) 496-7163 Fax: +1 (301) 915-9465	
Signature:	Date:
Assurance Number:	
Effective Date:	Expiration Date:

VIII. Membership of the IACUC

Date: October 21, 2016			
Name of Institution: University of Massachusetts, Boston			
Assurance Number: A3383-01			
IACUC Chairperson			
Name: Jill Macoska			
Title: Chair		Degree/Credentials: PhD	
PHS Policy Membership Requirements***: scientist			
IACUC Roster [<i>Provide below or attach</i>]			
Name of Member/ Code*	Degree/ Credential	Position Title/ Occupational Background**	PHS Policy Membership Requirements***
Jill Macoska, Chair	PhD	Alton J. Brann Endowed Distinguished Professor in Science and Mathematics. Director of the Center for Personalized Cancer Therapy; Professor of Biological Sciences	Affiliated, Scientist
██████████	DVM	Attending Veterinarian	Affiliated, Scientist
(1) ██████████	PhD	Associate Professor of Biology	Affiliated, Scientist
(2) ██████████	BA	Director of Laboratories	Affiliated, Non-scientist
(3) ██████████	BA	Animal Care Technician	Affiliated, Non-scientist
(4) ██████████	PhD	Assistant Professor of Physics	Affiliated, Scientist
(5) ██████████	PhD	Associate Professor of Benthic Ecology and Statistics	Affiliated, Scientist
(6) ██████████	PhD	Associate Dean of Biology	Affiliated, Scientist
(7) ██████████	BA	Research Administration Professional, Community Member	Non-affiliated, Non-scientist
(8) ██████████	PhD	Assistant Professor of Psychology	Affiliated, Scientist
(9) ██████████	PhD	Assistant Professor of Biology and Neurobiology	Affiliated, Scientist
(10) ██████████ ██████s	MC, CEP	Director of Environmental Health and Safety	Affiliated, Non-scientist
(11) ██████████ ██████	BS	Assistant Director of Environmental Health and Safety	Affiliated, Scientist
(12) ██████████	MA	Formulation Scientist, Community Member	Non-affiliated, Scientist
(13) ██████████	PhD	Assistant Professor of Psychology	Affiliated, Scientist

* Names of members, other than the chairperson and veterinarian, may be represented by a number or symbol in this report to OLAW. Sufficient information to determine that all appointees are appropriately qualified must be provided and the identity of each member must be readily

ascertainable by the institution and available to authorized OLAW or other PHS representatives upon request.

** List specific position titles for all members, including nonaffiliated (e.g., banker, teacher, volunteer fireman; not "community member" or "retired").

**** [PHS Policy](#) Membership Requirements:

- Veterinarian* Veterinarian with training or experience in laboratory animal science and medicine or in the use of the species at the institution, who has direct or delegated program authority and responsibility for activities involving animals at the institution.
- Scientist* Practicing scientist experienced in research involving animals.
- Nonscientist* Member whose primary concerns are in a nonscientific area (e.g., ethicist, lawyer, member of the clergy).
- Nonaffiliated* Individual who is not affiliated with the institution in any way other than as a member of the IACUC, and is not a member of the immediate family of a person who is affiliated with the institution. This member is expected to represent general community interests in the proper care and use of animals and should not be a laboratory animal user. A consulting veterinarian may not be considered nonaffiliated.

[Note: all members must be appointed by the CEO (or individual with specific written delegation to appoint members) and must be voting members. Non-voting members and alternate members must be so identified.]

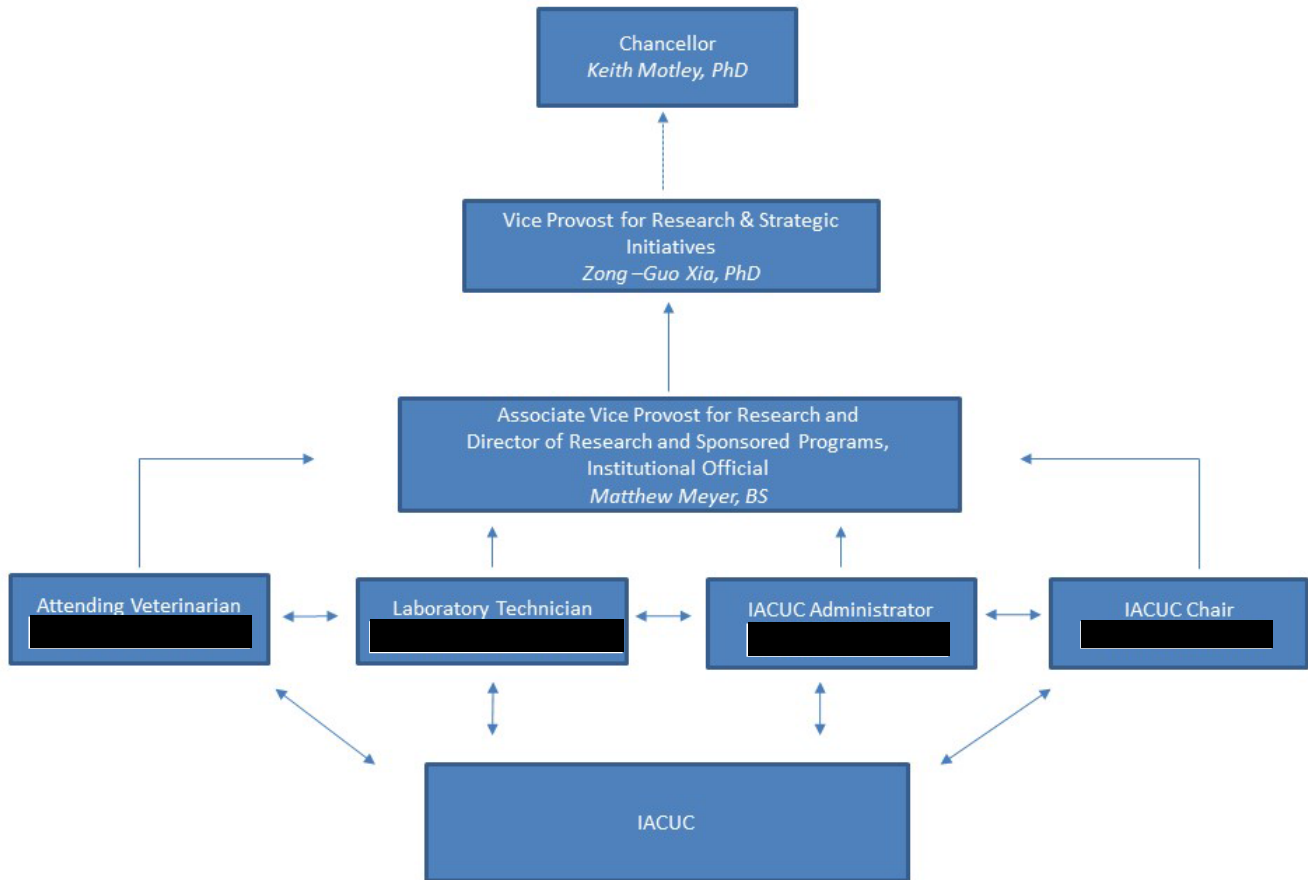
IX. Other Key Contacts (optional)

If there are other individuals within the Institution who may be contacted regarding this Assurance, please provide information below.

Contact #1	
Name: Kimberlee Roselando	
Title: IACUC Administrator	
Phone: 617-287-6256	E-mail: kimberlee.roselando@umb.edu
Contact #2	
Name:	
Title:	
Phone:	E-mail:

Attachment: Organization Chart

Institutional Program for Care and Use: Organizational Structure



Attachment: Facility and Species Inventory

Date: October 21, 2016 Name of Institution: University of Massachusetts, Boston Assurance Number: D16-00246 (A3383-01)			
Laboratory, Unit, or Building*	Gross Square Feet [include service areas]	Species Housed [use common names, e.g., mouse, rat, rhesus, baboon, zebrafish, African clawed frog]	Approximate Average Daily Inventory
Science Building, Animal Facility	2334	Rat	49
		Mice	356
Integrated Sciences Complex	10000	Turtle	18
		Zebra fish	520
		Lizards	129
		Salamander	64
		Axolotl	112
		Rat	40
		Mice	180

*Institutions may identify animal areas (buildings/rooms) by a number or symbol in this submission to OLAW. However, the name and location must be provided to OLAW upon request.