

Annual Review Form

DHHS/NIH/OLAW ASSURANCE #A-3216-01

EFFECTIVE: 06/12/18-03/31/22

UNIVERSITY of WYOMING INSTITUTIONAL ANIMAL CARE and USE COMMITTEE ANNUAL REVIEW FORM

FOR IACUC USE

Protocol # 20190501YL00360-03

Approved for period (one year maximum)

Approved 5/13/2021 to 5/12/2022

Copy to PI 5/13/2021

Copy to Animal Care Worker _____

This form must be submitted annually for continuing projects. Submit completed form electronically to the IACUC at IACUC@uwyo.edu.

RESEARCH SHALL NOT BEGIN UNTIL THIS FORM IS APPROVED.

Title of project : In vivo calcium imaging at the frontal cortex in mouse models of brain disorders

Previously approved for the period: 5/6/2020 to 5/5/2021

Project leader(s): Dr. Yun Li

Department(s): Zoology and Physiology

Phone: 307-823-2699

Email: yli30@uwyo.edu

Type: Research X Instruction _____

Funding Information- **(Please note that this section is mandatory)**

Source of Funding (Government agency, Grant, Departmental Funds, etc.): NIH (federal)

UW Budget ID/Project Grant number (if applicable): 1004782D, 1004546, 1004545

Name person(s) and/or unit responsible for animal care:

Name:

Yun Li

Rashmi Thapa

Hyrum Ruby

Branden Cahill

Phone:

307-823-2699

307-761-4542

307-620-0901

484-300-8637

Email:

yli30@uwyo.edu

rthapa4@uwyo.edu

hruby1@uwyo.edu

bcahill3@uwyo.edu

Describe any changes in the animal component of the project (e.g. change in anesthetic, species, pain category, surgical procedure, new techniques, changes in number of animals used.)

Nothing has been changed from the original protocol, except for the location of animal rooms and the euthanasia procedure.

The animal rooms listed in the original protocol were BS511 and BS519. During the year of 2020, we were tight in space, due to the single-house procedure for post-surgery mice, as well as, the need of longitudinal studies for Alzheimer's Disease (AD) mice. We have been approved to have an additional animal room (BS508) to temporally housing these single-housed AD mice for the longitudinal studies which are supported by two federal grants.

We will follow the university guideline of euthanasia procedure. Euthanasia will be performed in BS425. To euthanize mice, mice in their home cages will be place inside of a 23.5"x12.75"x13" chamber. Inflow of CO2 gas from the compressed 100% CO2 gas tank will be introduced into the chamber at a fill rate of 25-30 L per min for 3 minutes. Mice will be remained in the chamber for an additional 2 minutes at the current flow rate. Cervical dislocation will be performed to confirm the death of each mouse. Dr. Yun Li has been well-trained at the Jackson Laboratory for cervical dislocation and will perform cervical dislocation.

If significant changes are planned, a new animal protocol form may need to be submitted to the IACUC for review. Please consult with the attending veterinarian, your departmental IACUC member, or the Office of Research, 308 Old Main, 766-5320.

2) List the name, position, and telephone numbers of all personnel associated with this project.

Yun Li	Assistant Professor	307-823-2699	yli30@uwyo.edu
Rashmi Thapa	Graduate student	307-761-4542	rthapa4@uwyo.edu
Branden Cahill	Graduate student	484-300-8637	bcahill3@uwyo.edu
Hyrum Ruby	Technician	307-620-0901	hruby1@uwyo.edu
Hunter Swilling	Undergraduate student	307-421-1347	hswillin@uwyo.edu
Ashleigh Huss	Undergraduate student	307-757-8080	ahuss1@uwyo.edu

Complete the following “Verification of Training for Animal Work” form for new personnel not listed on the original protocol:

Dr. Li’s “Verification of training for animal work” form was on the original protocol. Below are the forms for all other personnel who were not listed on the original protocol.

**UNIVERSITY OF WYOMING
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**

VERIFICATION OF TRAINING FOR ANIMAL WORK

**THIS SECTION MUST BE COMPLETED BEFORE YOUR PROPOSAL CAN BE APPROVED
COPY, PASTE, AND COMPLETE THIS FORM FOR EACH RESEARCHER AND ASSISTANT**

Date: 3/23/2021

Name: Branden Cahill

Position: Graduate Student

Department: Zoology and Physiology **Phone:** 484-300-8637 **Email** bcahill3@uwyo.edu

Supervisor: Yun Li **Email:** yli30@uwyo.edu

Date employed: 12/1/2020

Species to be used: Mouse

Procedures conducted with animals (i.e. types of surgery, routine husbandry, feeding trials, euthanasia, etc.)

1) routine mouse handling/restraining; 2) routine husbandry (group house and single house); 3) routine feeding trials; 4) sexing adult or new born mice; 5) ear notching; 6) I.P. injection; 7) perfusion and harvest brains; 8) various behavior tests (social behavior, novel object recognition, open field, radial arm maze etc) ; 9) various mouse brain surgeries including intracranial viral injection, GRIN lens implantation and miniScope base mounting; 10) in vivo Ca²⁺ imaging


Formal training in animal care and management for species indicated: Branden has been trained and worked with rodents since January of 2018. As a undergraduate student, Branden started working with rats at Temple University's Lewis Katz school of Medicine in Philadelphia, PA. Back then, Branden was trained to performing behavioral tests, preparing and giving intraperitoneal or subcutaneous injections, assisting self-administration surgeries for substance abuse research projects. Branden was also heavily involved in performing euthanasia of rodents, using CO₂ and guillotine techniques before removing and fixing the rodents' brains. After his graduation, Branden worked at the University of Oregon as a lab technician. During this period, Branden took care of mouse colonies, performed various mouse behavior tests, and performed various mouse brain surgeries including cranial window preparation, cranial implants, and tetrode implant. The euthanasia techniques Branden commonly practiced at U of Oregon were CO₂ chambers and cervical dislocations. Branden has finished all required online CITI trainings.

Branden has finished all the required online CITI trainings. Under Dr. Li's supervision, Branden has been working with Dr. Li's mouse colonies for routine husbandry and feed trials for more than 3 months. Dr. Li will train Branden to perform brain surgeries described in the animal protocol. Here is the detailed training protocol. 1) The first step is "watching". Branden will watch Dr. Li or other Li lab staff to perform brain surgeries including viral injection, GRIN lens implantation and miniScope mounting for a couple of times. 2) The second step is "hands-on practice". Dr. Li will closely watch Branden to perform these above brain surgeries. Dr. Li will make sure that Branden precisely follows animal protocols to perform these brain surgeries. During this training period, all mice used for practice will be euthanized immediately after the practice surgery. Mice used for practice purpose will be all surplus mice (i.e., mice with wrong genotype for real experiment). 3) After Dr. Li approves that Branden can independently perform these brain surgeries, Branden will then start to use mice

with correct genotype to perform brain surgeries. Branden will follow animal protocol to provide post-surgery care for these mice.

PLEASE attach copies, if any, of training certificates (CITI, etc.) or other documentation of formal animal care training completed and forward copies of training certificates or documentation completed in the future.

I certify that animals under my care will be cared for according to accepted animal husbandry practices, the NIH Guide for Care and Uses of Laboratory Animals, and the Animal Welfare Act. Animals used for research and instruction will be cared for as dictated in the animal care and use protocol approved by the Institutional Animal Care and Use Committee and according to the Program of Veterinary Care on file. ANY PROBLEMS ENCOUNTERED AND QUESTIONS REGARDING THE CARE OF ANIMALS WILL BE IMMEDIATELY REPORTED AND WILL BE RESOLVED IN CONSULTATION WITH THE UNIVERSITY'S ATTENDING VETERINARIAN, Dr. David Evertson @ 745-7341.

<u>Branden Cahill</u>	<u>03/23/21</u>		<u>03/21/21</u>
Signature of Employee	Date	Signature of Supervisor (required for students, not for PI)	Date

**UNIVERSITY OF WYOMING
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**

VERIFICATION OF TRAINING FOR ANIMAL WORK

**THIS SECTION MUST BE COMPLETED BEFORE YOUR PROPOSAL CAN BE APPROVED
COPY, PASTE, AND COMPLETE THIS FORM FOR EACH RESEARCHER AND ASSISTANT**

Date: 3/23/2021

Name: Hyrum Ruby

Position: Research Assistant

Department: Zoology and Physiology Phone: 307- 620-0901 Email: hruby1@uwyo.edu

Supervisor: Yun Li Email: yli30@uwyo.edu

Date employed: 06/01/2020

Species to be used: mouse

Procedures conducted with animals (i.e. types of surgery, routine husbandry, feeding trials, euthanasia, etc.)

1) routine mouse handling/restraining; 2) routine husbandry (group house and single house); 3) routine feeding trials; 4) sexing adult or new born mice; 5) ear notching; 6) I.P. injection; 7) perfusion and harvest brains; 8) various behavior tests (social behavior, novel object recognition, open field, radial arm maze etc) ; 9) various mouse brain surgeries including intracranial viral injection, GRIN lens implantation and miniScope base mounting; 10) in vivo Ca2+ imaging

Formal training in animal care and management for species indicated: Hyrum has finished all the required online CITI trainings. Under Dr. Li's supervision, Hyrum has been working with Dr. Li's mouse colonies for routine husbandry and feed trials for more than nine months. Dr. Li will train Hyrum to perform brain surgeries described in the animal protocol.

Here is the detailed training protocol. 1) The first step is "watching". Hyrum will watch Dr. Li or other Li lab staffs to perform brain surgeries including viral injection, GRIN lens implantation and miniScope mounting for a couple of times. 2) The second step is "hands-on practice". Dr. Li will closely watch Hyrum to perform these above brain surgeries. Dr. Li will make sure that Hyrum precisely follows animal protocols to perform these brain surgeries. During this training period, all mice used for practice will be euthanized immediately after the practice surgery. Mice used for practice purpose will be all surplus mice (i.e., mice with wrong genotype for real experiment). 3) After Dr. Li approves that Hyrum can independently perform these brain surgeries, Hyrum will then start to use mice with correct genotype to perform brain surgeries. Hyrum will follow animal protocol to provide post-surgery care for these mice.

PLEASE attach copies, if any, of training certificates (CITI, etc.) or other documentation of formal animal care training completed and forward copies of training certificates or documentation completed in the future.

I certify that animals under my care will be cared for according to accepted animal husbandry practices, the NIH Guide for Care and Uses of Laboratory Animals, and the Animal Welfare Act. Animals used for research and instruction will be cared for as dictated in the animal care and use protocol approved by the Institutional Animal Care and Use Committee and according to the Program of Veterinary Care on file. ANY PROBLEMS ENCOUNTERED AND QUESTIONS REGARDING THE CARE OF ANIMALS WILL BE IMMEDIATELY REPORTED AND WILL BE RESOLVED IN CONSULTATION WITH THE UNIVERSITY'S ATTENDING VETERINARIAN, Dr. David Evertson @ 745-7341.

Hyrum Ruby
Signature of Employee

03/21/21
Date

Yun Li
Signature of Supervisor (required for students, not for PI) 03/21/2021
Date

**UNIVERSITY OF WYOMING
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**

VERIFICATION OF TRAINING FOR ANIMAL WORK

**THIS SECTION MUST BE COMPLETED BEFORE YOUR PROPOSAL CAN BE APPROVED
COPY, PASTE, AND COMPLETE THIS FORM FOR EACH RESEARCHER AND ASSISTANT**

Date: 3/23/2020

Name: Hunter Dane Swilling

Position: Undergraduate Student

Department: Molecular Biology/Zoology and Physiology/Wyoming Research Scholars Program

Phone: 307-421-1347 Email: hswillin@uwyo.edu

Supervisor: Yun Li Email: yli30@uwyo.edu

Date employed: 11/4/2019

Species to be used: Mouse

Procedures conducted with animals (i.e. types of surgery, routine husbandry, feeding trials, euthanasia, etc.)

Various mouse behavior tests (radial arm maze test, open field, novel object recognition, social behavior, etc)

Formal training in animal care and management for species indicated: Hunter has finished all the required online CITI trainings. Hunter was well trained by Dr. Li for how to handle mice and how to perform these above behavior tests. Hunter has been independently performing radial arm maze test for more than 4 months.

PLEASE attach copies, if any, of training certificates (CITI, etc.) or other documentation of formal animal care training completed and forward copies of training certificates or documentation completed in the future.

I certify that animals under my care will be cared for according to accepted animal husbandry practices, the NIH Guide for Care and Uses of Laboratory Animals, and the Animal Welfare Act. Animals used for research and instruction will be cared for as dictated in the animal care and use protocol approved by the Institutional Animal Care and Use Committee and according to the Program of Veterinary Care on file. **ANY PROBLEMS ENCOUNTERED AND QUESTIONS REGARDING THE CARE OF ANIMALS WILL BE IMMEDIATELY REPORTED AND WILL BE RESOLVED IN CONSULTATION WITH THE UNIVERSITY'S ATTENDING VETERINARIAN, Dr. David Evertson @ 745-7341.**

Hunter Swilling 3/23/2021
Signature of Employee Date

Yun Li 3/23/2021
Signature of Supervisor (required for students, not for PI) Date

**UNIVERSITY OF WYOMING
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**

VERIFICATION OF TRAINING FOR ANIMAL WORK

**THIS SECTION MUST BE COMPLETED BEFORE YOUR PROPOSAL CAN BE APPROVED
COPY, PASTE, AND COMPLETE THIS FORM FOR EACH RESEARCHER AND ASSISTANT**

Date: 3/23/2021

Name: Ashleigh Huss

Position: Undergraduate Student

Department: Physiology/INBRE Program Phone: 307-757-8080 Email: ahuss1@uwyo.edu

Supervisor: Yun Li Email: yli30@uwyo.edu

Date employed: 1/23/2021

Species to be used: Mouse

Procedures conducted with animals (i.e. types of surgery, routine husbandry, feeding trials, euthanasia, etc.)

Various mouse behavior tests (social behavior, open field, novel object recognition, etc)

Formal training in animal care and management for species indicated: Ashleigh has finished all the required online CITI trainings. Dr. Li will train Ashleigh how to handle mouse and how to perform behavior tests.

PLEASE attach copies, if any, of training certificates (CITI, etc.) or other documentation of formal animal care training completed and forward copies of training certificates or documentation completed in the future.

I certify that animals under my care will be cared for according to accepted animal husbandry practices, the NIH Guide for Care and Uses of Laboratory Animals, and the Animal Welfare Act. Animals used for research and instruction will be cared for as dictated in the animal care and use protocol approved by the Institutional Animal Care and Use Committee and according to the Program of Veterinary Care on file. ANY PROBLEMS ENCOUNTERED AND QUESTIONS REGARDING THE CARE OF ANIMALS WILL BE IMMEDIATELY REPORTED AND WILL BE RESOLVED IN CONSULTATION WITH THE UNIVERSITY'S ATTENDING VETERINARIAN, Dr. David Evertson @ 745-7341.

Ashleigh Huss 3/23/2021

Signature of Employee

Date



Signature of Supervisor (required for students, not for PI)

03/24/21


Date


3) Number of animals used in this project during the last year
Species mouse Number 240

4) Number of animals to be used for this project during the coming year (**Note:** if the number of animals to be used is increasing from the previous year and the rational for this increase is not covered in the original protocol, please explain why more animals are necessary for the upcoming year).

Species mouse Number 320

Principal Investigator Assurance: "I have received a copy of the [NIH Guide for the Care and Use of Laboratory Animals](#) and/or [The Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching](#) and will provide for the care, use and treatment of the animals used for the purpose described above accordingly. I will use procedures which will avoid or minimize discomfort, distress and pain to animals used in my research. I have considered alternatives to procedures that may cause more than momentary slight pain or distress to the animals. These studies do not unnecessarily duplicate previous experiments. **I WILL INFORM THE ATTENDING VETERINARIAN (DAVID EVERTSON 745-7341) OR BACKUP VETERINARIAN ON STAFF AT ALPINE ANIMAL VETERINARY CLINIC IMMEDIATELY IF ANY PROBLEMS OCCUR, INCLUDING UNANTICIPATED PAIN OR DISTRESS, INJURY, MORBIDITY OR MORTALITY.** I will submit a revised protocol for IACUC approval before making any significant deviations from the approved project procedures occurs. I will submit an annual update for IACUC approval for continuation if this project extends beyond one year. I assure the IACUC that all persons involved in the care and use of animals related to this protocol have received the appropriate training and are qualified to perform the procedures described above."

 3/24/2021
Principal InvestigatorDate

 5/13/2021
Veterinary OfficerDate

ACTION BY THE ANIMAL CARE AND USE COMMITTEE: APPROVED ☒ DISAPPROVED ☐

Occupational Health Program Information

As a researcher named on an animal protocol and to ensure your health and welfare while conducting research at the University of Wyoming, you are being offered the opportunity to participate in the University of Wyoming's Occupational Health Program. The University has contracted with occupational health specialists of University of Colorado Health Occupational Health to review the health evaluations at a \$55 cost. If you would like to take advantage of this opportunity please complete the **Baseline Health Questionnaire found at** <http://www.uwyo.edu/research/compliance/animal-care/> under the "Additional Resources" heading to fill out the baseline health questionnaire and risk assessment.

Once completed, submit to Occupational Health Services, UCHealth by email OHSNorth@uchealth.org, or Fax: 970-297-6598.

They will then provide you and the Safety Office with a Physician Evaluation Report. The Physician Evaluation Report lets you and the Safety Office know whether there are any medical conditions that may affect you in your current position. The report does not provide any medical information to UW, just whether follow-up is recommended. If the report recommends further medical follow-up, you will be referred to a physician at no cost to you.

Should you have questions on this program or process please contact one of the Safety Specialists at either 307-766-3203 or 766-2723. A common question asked has been whether UW personnel must complete the form with date of birth, social security number, and mother's first name. UCHealth Occupational Health must have the date of your birth on the form. Your social security number and mother's name helps confirm identity in the medical record, but are optional if UW personnel are uncomfortable supplying this information to them.



Completion Date 01-Sep-2019
Expiration Date 31-Aug-2022
Record ID 32927317

This is to certify that:

Rashmi Thapa

Has completed the following CITI Program course:

Working with the IACUC	(Curriculum Group)
Investigators, Staff and Students	(Course Learner Group)
1 - Lab Animal Research	(Stage)

Under requirements set by:

University of Wyoming



Verify at www.citiprogram.org/verify/?wf5c2b2c8-5873-4fa0-a664-f20257ec4283-32927317



Completion Date 04-Sep-2019
Expiration Date 03-Sep-2022
Record ID 32922646

This is to certify that:

Rashmi Thapa

Has completed the following CITI Program course:

Working with Mice in Research Settings (Curriculum Group)
Working with Mice in Research (Course Learner Group)
1 - Lab Animal Research (Stage)

Under requirements set by:

University of Wyoming



Verify at www.citiprogram.org/verify/?wdb038dec-d6a6-4527-baff-a480ee9a7f19-32922646



Completion Date 05-Sep-2019
Expiration Date 04-Sep-2022
Record ID 32922645

This is to certify that:

Rashmi Thapa

Has completed the following CITI Program course:

Reducing Pain and Distress in Laboratory Mice and Rats (Curriculum Group)
Reducing Pain and Distress in Laboratory Mice and Rats (Course Learner Group)
1 - Lab Animal Research (Stage)

Under requirements set by:

University of Wyoming



Verify at www.citiprogram.org/verify/?w94abfe75-0e06-481e-a9db-7caa075a329f-32922645



Completion Date 02-Sep-2019
Expiration Date 01-Sep-2022
Record ID 32922647

This is to certify that:

Rashmi Thapa

Has completed the following CITI Program course:

Aseptic Surgery (Curriculum Group)
Aseptic surgery (Course Learner Group)
1 - Lab Animal Research (Stage)

Under requirements set by:

University of Wyoming



Verify at www.citiprogram.org/verify/?w84204552-88c3-4691-afa7-3e9c1019e388-32922647



Completion Date 05-Sep-2019
Expiration Date N/A
Record ID 32923135

This is to certify that:

Rashmi Thapa

Has completed the following CITI Program course:

Basic Biosafety Training

(Curriculum Group)

Training for Investigators, Staff and Students Handling Biohazards.

(Course Learner Group)

1 - Stage 1

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w0cc993d8-dc09-4667-86ea-e98f4ff7b20e-32923135



Completion Date 30-Nov-2020

Expiration Date 30-Nov-2023

Record ID 39759727

This is to certify that:

Branden Cahill

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Working with the IACUC

(Curriculum Group)

Investigators, Staff and Students

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w056e844a-5b58-4ed1-8b8a-6c89d134125b-39759727



Completion Date 23-Nov-2020
Expiration Date 23-Nov-2023
Record ID 39759731

This is to certify that:

Branden Cahill

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Aseptic Surgery

(Curriculum Group)

Aseptic surgery

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w9809efad-d875-4b25-9daa-6d14ce124e22-39759731



Completion Date 23-Nov-2020
Expiration Date 23-Nov-2023
Record ID 39759729

This is to certify that:

Branden Cahill

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Reducing Pain and Distress in Laboratory Mice and Rats

(Curriculum Group)

Reducing Pain and Distress in Laboratory Mice and Rats

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w2f6fc69d-b61b-4259-a55c-0014f9f6f816-39759729



Completion Date 23-Nov-2020

Expiration Date 23-Nov-2023

Record ID 39759730

This is to certify that:

Branden Cahill

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Working with Mice in Research Settings

(Curriculum Group)

Working with Mice in Research

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w41231aa2-6658-4513-a588-8efe95bbf613-39759730



Completion Date 25-Nov-2020
Expiration Date N/A
Record ID 39759732

This is to certify that:

Branden Cahill

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Basic Biosafety Training

(Curriculum Group)

Training for Investigators, Staff and Students Handling Biohazards.

(Course Learner Group)

1 - Stage 1

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w55600fc7-9574-497f-b546-9ff536003803-39759732



Completion Date 18-May-2020

Expiration Date 18-May-2023

Record ID 36673958

This is to certify that:

Hyrum Ruby

Has completed the following CITI Program course:

Working with the IACUC (Curriculum Group)
Investigators, Staff and Students (Course Learner Group)
1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w0c82f1b7-52d6-408f-af33-c5a8da87b6ca-36673958



Completion Date 20-May-2020
Expiration Date 20-May-2023
Record ID 36673960

This is to certify that:

Hyrum Ruby

Has completed the following CITI Program course:

Working with Mice in Research Settings (Curriculum Group)
Working with Mice in Research (Course Learner Group)
1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w654790d5-9aa5-44dd-b65e-8456b813ea0a-36673960



Completion Date 18-May-2020
Expiration Date 18-May-2023
Record ID 36673961

This is to certify that:

Hyrum Ruby

Has completed the following CITI Program course:

Aseptic Surgery (Curriculum Group)
Aseptic surgery (Course Learner Group)
1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w6a46a520-07a0-4682-876a-a9d81ac7b45e-36673961



Completion Date 19-May-2020

Expiration Date 19-May-2023

Record ID 36673959

This is to certify that:

Hyrum Ruby

Has completed the following CITI Program course:

Reducing Pain and Distress in Laboratory Mice and Rats (Curriculum Group)

Reducing Pain and Distress in Laboratory Mice and Rats (Course Learner Group)

1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w7ee6358d-a982-4ed9-856c-1026a1b115a9-36673959



Completion Date 20-May-2020

Expiration Date N/A

Record ID 36673962

This is to certify that:

Hyrum Ruby

Has completed the following CITI Program course:

Basic Biosafety Training
Training for Investigators, Staff and Students Handling
Biohazards.
1 - Stage 1

(Curriculum Group)

(Course Learner
Group)

(Stage)

Not valid for renewal of certification
through CME. Do not use for
TransCelerate mutual recognition
(see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?we6fae9db-1396-4503-a2c6-f1552c322ce8-36673962



Completion Date 23-Aug-2020

Expiration Date 23-Aug-2023

Record ID 37964105

This is to certify that:

Hunter Swilling

Has completed the following CITI Program course:

Working with Mice in Research Settings (Curriculum Group)
Working with Mice in Research (Course Learner Group)
1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w1da1edec-bb30-4517-bec4-1f53c6a185b8-37964105



Completion Date 23-Aug-2020
Expiration Date 23-Aug-2023
Record ID 37964106

This is to certify that:

Hunter Swilling

Has completed the following CITI Program course:

Aseptic Surgery (Curriculum Group)
Aseptic surgery (Course Learner Group)
1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w6216c725-b0dc-4025-8cbc-efd8b5997179-37964106



Completion Date 25-Aug-2020
Expiration Date 25-Aug-2023
Record ID 38030816

This is to certify that:

Hunter Swilling

Has completed the following CITI Program course:

Reducing Pain and Distress in Laboratory Mice and Rats (Curriculum Group)
Reducing Pain and Distress in Laboratory Mice and Rats (Course Learner Group)
1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming



Verify at www.citiprogram.org/verify/?w1e4e8f4e-1beb-41dd-8521-3d3acb32a8a7-38030816



Completion Date 24-Aug-2020

Expiration Date 24-Aug-2023

Record ID 37964103

This is to certify that:

Hunter Swilling

Has completed the following CITI Program course:

Working with the IACUC (Curriculum Group)
Investigators, Staff and Students (Course Learner Group)
1 - Lab Animal Research (Stage)

Not valid for renewal of certification through CME. Do not use for TransCelerate mutual recognition (see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w2fb6bffb-63a3-48d3-b137-fd25fc30aafe-37964103



Completion Date 24-Aug-2020

Expiration Date N/A

Record ID 37964107

This is to certify that:

Hunter Swilling

Has completed the following CITI Program course:

Basic Biosafety Training
Training for Investigators, Staff and Students Handling
Biohazards.
1 - Stage 1

(Curriculum Group)

(Course Learner
Group)

(Stage)

Not valid for renewal of certification
through CME. Do not use for
TransCelerate mutual recognition
(see Completion Report).

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wd2c5752c-6102-48b2-b8f4-9848bce716df-37964107



Completion Date 18-Dec-2020
Expiration Date 18-Dec-2023
Record ID 40017384

This is to certify that:

Ashleigh Huss

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Working with Mice in Research Settings

(Curriculum Group)

Working with Mice in Research

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w36b7c24d-354a-48d7-bcda-3cc51e23b191-40017384



Completion Date 26-Dec-2020
Expiration Date 26-Dec-2023
Record ID 40017382

This is to certify that:

Ashleigh Huss

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Working with the IACUC

(Curriculum Group)

Investigators, Staff and Students

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wd3822bac-ccf8-435b-b035-e9cdfaec3c1-40017382



Completion Date 27-Dec-2020
Expiration Date 27-Dec-2023
Record ID 40017383

This is to certify that:

Ashleigh Huss

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Reducing Pain and Distress in Laboratory Mice and Rats

(Curriculum Group)

Reducing Pain and Distress in Laboratory Mice and Rats

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w7fd0a894-ff95-4911-aa51-296bf74f97a5-40017383



Completion Date 27-Dec-2020

Expiration Date N/A

Record ID 40017386

This is to certify that:

Ashleigh Huss

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Basic Biosafety Training

(Curriculum Group)

Training for Investigators, Staff and Students Handling Biohazards.

(Course Learner Group)

1 - Stage 1

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w018b7d2c-574d-4180-86d5-fa611436201b-40017386



Completion Date 18-Dec-2020
Expiration Date 18-Dec-2023
Record ID 40017385

This is to certify that:

Ashleigh Huss

Has completed the following CITI Program course:

Not valid for renewal of certification
through CME.

Aseptic Surgery

(Curriculum Group)

Aseptic surgery

(Course Learner Group)

1 - Lab Animal Research

(Stage)

Under requirements set by:

University of Wyoming

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wcf46f3fb-3542-43a8-9531-9c97478da4bc-40017385