

7 in 2017: District 7 Meeting

**Outreach Beyond Borders:
Collaborating with Colleagues to Progress
the Field of Laboratory Animal Science**



District 7 Meeting & 55th Annual TBAALAS Conference

Meeting Program

February 15-17, 2017

Marriott Sugar Land

Sugar Land, TX

www.tbaalas.net



Texas Branch AALAS Board & Committee Members

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Past President	Jamie Greaver, BS, RLATG	
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Metro Coordinator	Michelle Johnson	Houston / Galveston
Metro Coordinator	Mitchell Moore	San Antonio
Metro Coordinator	Gabby Kapp, CMAR	Central
Metro Coordinator	Brittany Hubbard	Dallas / Fort Worth
Metro Coordinator	Igor Smiljic	Dallas / Fort Worth
Metro Coordinator	Oscar Sanchez, LATG	West Texas
Metro Coordinator	Velvet Lee Finckbone, MS, RLAT	Panhandle
2017 Meeting Planner	Paula Rigling	
2017 Program Co-chairs	Eli Rodriguez, BA, LATG & Jennifer Volkmann,	
2017 Local Arrangements	Stephanie Fowler & John Parks	
2017 Awards Chair	Pamela Huskey, CMAR, RLATG	
2017 Awards Co-chair	Amanda Trimble, LVT	
2017 Sponsorships	Becky Blackwood, DVM, DAACLAM & Michelle Sager	
2017 Silent Auction	Chris Southern, CMAR, RLATG & Elizabeth Magden, DVM, MS, DAACLAM	
2017 Tech Olympics	Julie Roller & Kristin Flora	
2017 Meeting Logo	Melissa Wren-Dail, DVM, Kyle DeBruhl	

Oklahoma Branch AALAS Structure: 2017

President	Treva Lawson, CVT, LATG
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President Elect	TBA
Secretary	Adeline Machalinski, RLAT
Treasurer	Summer Adams, RLAT
TBR	Morgan Holmes, A.S., RLATG, ILAM



Schedule of Events

Wednesday: February 15, 2017

8:00-10:00	Set up in the vendor exhibit area	Sugar Land 6-10
8:00-5:00	Registration	Conference Lobby
8:00-5:00	CMAR Prep Course	TBD
9:00-12:00	Leadership Training: Management 101	Cane I & II
9:00-1:00	AREA Student Program	Bluebonnet
10:00-12:00	Exhibit Hall Open	Sugar Land 6-10
10:00-12:00	Silent Auction Bidding	Sugar Land 6-10
10:00-12:00	Technician Fun Fair	Sugar Land 6-10
10:00-11:00	Resume Review Panel	TBD
10:45-12:00	Vendor Presentations	Sugar Land 1-4
12:00-1:00	Lunch Break	
1:00-4:45	Scientific Session	Sugar Land 1-4
1:00-5:00	Silent Auction Bidding	Sugar Land 6-10
1:00-5:00	Exhibit Hall Open	Sugar Land 6-10
1:00-5:00	Technician Fun Fair	Sugar Land 6-10
1:00-5:00	Poster Session (3:00 - 4:00 Authors present at poster display for judging)	Pre-function area
5:00-5:00	Shuttle Transportation to Skeeters Baseball Field	Outside Hotel Lobby
5:30-9:00	Welcome Reception	Skeeters Baseball Field
6:00-6:30	K9s4Cops Police Canine Demonstration	Skeeters Baseball Field
6:30-7:00	Home Run Derby	Skeeters Baseball Field
7:00-7:30	Technician Olympics	Skeeters Baseball Field

Thursday: February 16, 2017

7:30-9:00	Continental Breakfast in Vendor Exhibit Hall	Sugar Land 6-10
7:30-10:30	Exhibit Hall Open	Sugar Land 6-10
8:00-4:30	Registration	Conference Lobby
8:00-10:30	Silent Auction Bidding	Sugar Land 6-10
8:00-10:30	Technician Fun Fair	Sugar Land 6-10
9:00-10:00	Resume Review Panel	TBD
8:00-10:00	Scientific Session	Sugar Land 1-4
10:00-10:30	Break	
10:30-11:30	KEYNOTE SPEAKER	Sugar Land 1-4
11:30-12:00	Break	
12:00-2:00	Awards Banquet & Luncheon	Sugar Land 5
2:00-2:45	Break	
2:00-2:30	Silent Auction Final Bids & Item Payment/Pickup	Sugar Land 6-10
2:00-3:00	Exhibit Hall Open – Last Chance to Visit with Vendors	Sugar Land 6-10
2:00-3:00	Technician Fun Fair – Last Chance to complete entries!	Sugar Land 6-10
3:15-3:15	Technician Fun Fair Entries Due	Registration Table
3:00-5:00	Scientific Session	Sugar Land 1-4

Friday: February 17, 2017

7:30-9:00	Continental Breakfast	TBD
8:00-9:00	Registration	Lobby
8:00-11:30	Scientific Session	Sugar Land 3-4
9:45-9:45	Shuttle Transportation to Zoo Tour & Wet Lab	Outside Hotel Lobby
10:30-1:30	Houston Zoo Behind The Scenes Tour	Houston Zoo
11:00-2:00	Mouse Methodology Wet Lab	UT Health
11:30-1:30	TBAALAS Board Meeting	Cane 1 & II

Scientific Session List of Speakers

Wednesday Morning: February 15, 2017

Location: Sugar Land 1-4

Moderator: Eli Rodriguez

10:45-11:00	Geoffrey Hunt	The Benefits of RFID (Bio Medic Data Systems Inc.)
11:00-11:15	Stephanie Devlin	The Importance of Recycling (Labex of MA)
11:15-11:30	J. Patrick Guider Jr.	a-tune software (a-tune software, Inc.)
11:30-11:45	Pat Sykes	New Zealand White Rabbit Production (Charles River Laboratories)
11:45-12:00	Bob Schrock	Waste Anesthetic Gas Management (VetEquip, Inc.)
12:00-1:00		Lunch

Wednesday Afternoon: February 15, 2017

Location: Sugar Land 1-4

Moderator - Eli Rodriguez

1:00-1:15	Lindsay Holmes	Opening Remarks, 2016 TBAALAS President
1:15-1:45	Paige Ebert	Leadership: It Takes a Team!
1:45-2:15	Kristin Flora	Utilizing your Enrichment Program to Promote Employee Engagement
2:15-2:30	Julie Roller	The Importance of Education: Starting an Outreach Program
2:30-2:45	Orighomisan Okpe	Redesigning the Interface between Investigators & Animal Care Operations...
2:45-3:00		Break
3:00-3:15	Anita Richert	Manzanita Wood as a Sanitizable Enrichment Item for Laboratory Canines
3:15-3:45	Erica Dean	Use of Miniature Marshmallows to Reduce Stress, Enhance Safety...
3:45-4:00	Stacey Piotrowski	Anorexia in a Postoperative Sheep
4:00-4:15	Georgina Dobek & Amy Pierce	Chemicals and Amphibians Don't Mix: Lessons Learned...
4:15-4:30	Sherrelle Milligan	Dippity Pig (Erythema multiforme) in a Yucatan
4:30-4:45	Robert T. Dauchy	The Influence of LED Light on Laboratory Animal Health and Wellbeing

Thursday Morning: February 16, 2017

Location: Sugar Land 1-4

Moderator: Eli Rodriguez

8:00-8:30	Christopher Southern	Keeping Up in Cagewash
8:30-8:45	Charley Sikes	Cage Washing With Unheated Water: Do You Need the Steam?
8:45-9:15	Iva Morse	Innovation: How Does it Work?
9:15-9:45	Diana Baumann	Reptiles in Research
9:45-10:00	Robert T. Dauchy	The 2016 AAALAC International Fellowship
10:00-10:30		Break
10:30-11:30	Keynote Speaker	
11:30-12:00		Break
12:00-2:00	Awards Banquet	
2:00-3:00		Break

Thursday Afternoon: February 16, 2017

Location: Sugar Land 1-4

Moderator: Eli Rodriguez

3:00-4:00	Marcel Perret-Gentil	Rodent Surgery... Aseptic Technique Made Easy... and Other Tips
4:00-5:00	Nicole Monts De Oca & Cynthia Lockworth	The A to Z of Rodent Health Conditions

Friday: February 17, 2017

Location: Sugar Land 3-4

Moderator: Eli Rodriguez

8:00-8:30	Keely McGrew	Interpretation of Primate Behavior in Context of Social Housing
8:30-9:00	Elizabeth Magden	Laser & Cancer: The Effects of Low Level Laser Therapy on Oncogenesis in vivo
9:00-9:15	Kelly Ham	It's Time for an Upgrade
9:15-9:45	John Donaho	Facility Fire Safety - A Review and an Innovation
9:45-10:00	Pat Sikes	What does the AALAS Foundation Do?
10:00-10:15	Break	
10:15-11:15	Cindy Buckmaster	Homes for Animal Heroes: The truth has never felt so good!
11:15-11:30	Ryan Bird	Closing Remarks, 2017 TBAALAS President



ELEPHANT BARN & CLINIC TOUR!

Friday, February 15th
10:30 - 1:30pm

- Meet members of the elephant care team and walk through the elephant barn to see where our herd spends some of their time!
- Afterwards, tour the Houston Zoo clinic where veterinary staff are hard at work keeping the zoo animals healthy and happy!

• Registration is limited. Sign-up form available at www.tbaalas.net



MOUSE METHODOLOGY LAB

Friday, February 15th
11:00 - 2:00pm



- Techniques will include basic handling and restraint for physical exam, blood collection and injection. An assortment of isoflurane anesthesia systems will be provided, to allow for hands-on comparison, with emphasis on gas delivery, plumbing, nosecone configuration, and active v/s passive waste gas scavenging.
- The anesthetized animals will be humanely euthanized and made available in the adjacent necropsy suite to review anatomy and tissue handling.

• Registration is limited. Sign-up form available at www.tbaalas.net



The University of Texas
Health Science Center at Houston

Laurie Pycroft:
Stand Up For Science!
Thursday, 10:30-11:30,
Sugar Land 1-4



2017 KEY NOTE SPEAKER SPONSORED BY:



At 16, Laurie was frustrated with the way that those opposed to vivisection were dominating the public debate on animal research and created Pro-Test. Pro-Test aims to counter the irrational arguments of anti-vivisectionists by raising public awareness of the benefits of animal research and creating an environment where scientists can speak out about their work and be proud of the contributions they make.

Currently, Laurie is working on a DPhil (Oxford's PhD equivalent) in surgical sciences, focused on neuromodulation for treating chronic pain in the Oxford Functional Neurosurgery lab. For his MSc, Laurie worked with ferrets on an auditory neuroscience project. He maintains his personal license to work with research animals under the United Kingdom's Animals (Scientific Procedures) Act 1986.

District 7 in 2017: Outreach Beyond Borders

2017 Vendor Booths (Current as of 12-21-16)

Ancare
a-tune software
Beta Star Life Science Equipment
Bio Serv
BMT USA
Biomedical Solutions
Charles River
ClearH2O
Getinge Group
LabDiet
Lab Products
Lab Supply
LABEX of MA
LGL Animal Care Products
LSP
Lynx Product Group
MedWaste Solutions
Micronova Manufacturing
NEPCO
Rocky Mountain Lab Supply
Scimetrics
Spray Master Technologies
STERIS
Systems Engineering
Taconic Biosciences
The Andersons Bedding Products
The Jackson Laboratory
Thoren
Total MRO



**TECHNICIAN
FUN FAIR**



**THE HUNT
IS ON!**

Make your way around the exhibit hall and learn about the cutting edge technology and amazing products available to the laboratory animal field!

Pick up entry form at the registration table. Once the form is complete, return it to the registration table by 3:15 on Thursday for a chance to win amazing prizes!

2017 POSTER PRESENTATION ABSTRACTS

★ denotes award eligible ⊙ denotes first time presenter

⊙ Cellulose-based Bedding as an Alternative to Corn-Cob for Breeding Colonies

Brianne Hibl, DVM; S. Fowler, PhD, RLATG; G. Esquivel; C. Southern; C. Buckmaster
Baylor College of Medicine

Bedding material used in rodent cages is constantly re-evaluated in terms of cost efficacy, animal preference, and advances in animal welfare. Determining which bedding choice is ideal for a facility can be challenging due to lack of directly comparable metrics. This study was designed to determine if utilizing cellulose-based bedding, instead of the facility standard of corn-cob, would decrease the frequency of off-cycle cage changes without negatively affecting reproduction (as assessed by litters born and deceased pups). Two breeding rooms containing 450 cages per room of mixed strains were placed on cellulose bedding for 4-6 weeks, followed by a return to corn-cob bedding for 2-4 weeks. The total number of cages spot-changed (cages that required changing during the non-change-out week), as well as total number of new litters and deceased pups were tallied daily in each room. Data was compiled over the course of the study and compared statistically to detect meaningful differences between bedding types. The total number of cages spot-changed on cellulose bedding showed a 3 fold decrease compared to corn-cob and did not affect breeding. Decreasing off-cycle cage changes reduces personnel time, supply cost, and animal-stress associated with re-establishing dominance and scent markers within the cage.

★⊙ Effects of Isoflurane on Heart Rate and Respiratory Rate in Mice

Chitra L. Reddy, Kanthi R. Reddy, A. Reddy
Baylor College of Medicine

The recommended level of Isoflurane (Iso) for anesthetizing mice is 1.5% Iso with some surgical procedures needing higher levels. But at higher levels Iso is also a potent coronary vasodilator and may affect heart rate (HR; bpm) and respiratory rate (RR; brpm). We measured HR and RR in mice at (calibrated) 1%, 1.5%, 2%, 2.5% Iso in 7 mice (4♂ + 3♀; c57BL/6J). HR was measured from the ECG signals and RR was measured by impedance pneumography in anesthetized mice maintained at $\approx 37^{\circ}\text{C}$ body temperature. Paired t-tests of data (mean \pm SE) showed that HR increased significantly from $468\pm 12@1\%$ Iso to $537\pm 15@2.5\%$ Iso and RR decreased significantly from $144\pm 11@1\%$ Iso to $35\pm 1@2.5\%$ Iso. The results demonstrate that HR increased and RR decreased as Iso increased from 1% to 2.5%. Therefore, care must be taken to minimize undue influence on outcomes while maintaining adequate anesthesia.

★⊙ Evolution of a Nonhuman Primate Enrichment Program

Kristin Graika, BS, LATG, Dana Toomey, T. Rodriguez, N. Monts De Oca, M. Cabrera, C. Lockworth
UT M.D. Anderson Cancer Center

At our institution we continuously strive to improve animal welfare and wellbeing and are committed to producing high quality research, which can only be achieved through physiologically and psychologically sound research subjects. For many years, we maintained a nonhuman primate (NHP) enrichment program that met minimum standards. Common provisions for occupational enrichment, produce and documentation were followed. Nevertheless, after examining the program, it became clear that although we were meeting basic requirements, there were numerous opportunities for development and improvement within the program. With effort and innovative ideas gathered from within our team and from colleagues at nearby institutions, we were able to dramatically transform our program into one that more closely meets the behavioral needs of the NHP colony under our care. We were able to do this by investing in significant upgrades and additions to our enrichment preparation facility to meet our requirements of space, ergonomics, and versatility. Additionally, we developed an efficient logging system, coded calendars to quickly and efficiently manage tasks, and visual standard operating procedures for enrichment preparations and personnel

training support. This foundation permitted the augmentation and enhancement of the entire behavioral management program at our facility. We were able to increase options and provide novelty, standardization and structure by implementing a rotating system for the management of the occupational, nutritional, and sensory enrichment devices. Moreover, we expanded our social enrichment, positive reinforcement training, and behavioral monitoring programs. Together, all of these changes resulted in a more complex, yet efficient program, and most importantly, improved animal wellbeing for our NHPs.

★◎ Getting the Green Light for the Red Light: Husbandry and Management of Rodent Rooms on Alternate Light Cycles

Carolina Cuatzo, LAT, Angelica Gomez
The University of Texas Health Science Center Houston

Research using mice to study circadian rhythm often requires that the light cycle in a mouse room be set to something other than the standard 12 hours of daylight and 12 hours of dark. This might require a reversal of light cycle, with the lights off during the workday, or continuous 24 hour darkness. We modified a standard mouse room to provide 24 hour darkness for a researcher to study animal activity as related to circadian rhythm. Because the introduction of any light into the room during the dark cycle can affect the behavior and circadian rhythm of the mice, all routine work had to be done in the dark. Vivarium lighting is controlled by a computer system, which allowed the building engineers to alter the cycle for one specific area. A temporary double door was constructed and we also utilized light detecting data loggers that record any light that may accidentally enter the room. In order to move around the room, special head lamps with red lights, not seen by rodents, were worn. With the proper plan in place we were able to work without complications and maintain the integrity of the study. Researchers must work closely with animal care staff in order to perform this type of study.

Implements of Education: The Building Blocks of an Effective Rodent Health Training Program

Cynthia Lockworth, DVM, Nicole Monts de Oca, DVM, DACLAM
UT MD Anderson Cancer Center

A technician training program must equip technicians with the resources necessary to provide quality care to research animals. We have utilized common educational methods, such as didactic training and mentoring; but, we have also incorporated training aids to further augment learning, including algorithms, a pocket reference card, and a rodent health conditions poster. These tools can later function as references materials when needed most, while working cage-side. Consistency in training with such aids, as well as the ready availability of these tools cage-side, has resulted in earlier health issue identification, rapid animal treatment and disposition, and overall consistency across health activities of both husbandry and health technicians. Utilizing these tools at one facility, we demonstrated a 2.5 fold increase in the identification of health issues by husbandry staff and a 14% decrease in the number of animals found dead.

★◎ Masters of Laboratory Animal Science: What's it all about?

Malea Williams, BS, RLAT
UT MD Anderson Cancer Center

“Much of modern day medicine is indebted to irreplaceable animal research. With the need for technically sophisticated, humane and well-considered use of animals in biomedical research, the demand for qualified individuals in the field of laboratory animal science is very high, especially in universities, pharmaceutical companies, and biotechnology companies. In order to advance within this highly competitive industry, it is essential to have the training advantage that a specialized master's degree provides.”

This poster will outline my experience in the Masters of Laboratory Animal Advanced Degree Program at Eastern Virginia Medical School. The curriculum is set at a graduate level and in depth material encompassing a wide variety of laboratory animal science topics is imparted to the students. A hands-on internship to train students on proper examination techniques, suturing methods, ultrasound, radiology, and other skills is a highlight of the program.

★ Pigeons: Flying to New Heights

Jennifer Volkman, MLAS, CMAR, RLATG, Cindy Evans, BS, RLATG; C. Buckmaster
Baylor College of Medicine

When pigeons are singly or pair housed in cages their species specific behavior is limited, relative to natural settings. We redesigned the pigeon holding room, removed the cages and created “flight rooms” for breeding and study animals. Construction costs for this project were minimal and included pvc tubes, mesh netting, domed covered dishes for food, water and grit, rubber bowls for bathing and foraging, nest grills and bowls for breeding pigeons, wall mounted perches and ceiling mounted swings. Over the past six months, the pigeons have demonstrated a much larger repertoire of species-typical behaviors than they had when housed in cages. In their “flight rooms”, pigeons are seen walking, flying, stretching their wings, perching, foraging, cooing, and swinging. Some animals demonstrated aggressive behavior during the first two days, but they appeared to settle into their pecking order quickly. No abnormal behaviors have been observed in these animals in their new housing arrangement and egg production has increased in the breeding group. Housing pigeons in “flight rooms” with the space and complexity to support a large repertoire of species-typical behaviors appears to have improved animal health and well-being.

★ Reducing Cost and Sentinel Mouse Use Through Implementation of Exhaust Air Duct Plenum (EAD) Testing: Out with Old Technology and in with New?

Cadie Larson, RALAT, Julie Roller, BS, MS, CMAR, M. Fields, M. Wright-Carter
UT Southwestern Medical Center

The Allentown SENTINEL™ is new technology developed to assist with colony health monitoring in rodent facilities. Instead of using live sentinel mice, this product uses the exhaust air dust plenum (EAD) on ventilated racks to capture a variety of pathogens that are commonly monitored with traditional sentinel testing. The filter is pulled from the rack, and a PCR analysis is performed to test for pathogens. Making changes to the long standing procedures of using sentinel animals may cause some apprehension, but there are some tremendous benefits when looking at the 3 R's and the principle of reduction.

This technology has been trialed at UT Southwestern on a very small scale, as our program has over 65,000 rodent cages with multiple housing types and rack types. Our test yielded some promising results, but we noted some pros and cons with use of this technology at our institution. This poster will outline the trial process of the SENTINEL™ at our institution, and discuss some of the results that we obtained with our initial testing.

Challenges that we face implementing this new process in a program our size, as well as an analysis and comparison of cost and potential reduction in animals used will be provided. Overall, it appears that the introduction of this technology as an option to the traditional methods of sentinel testing can benefit institutions and provide users with a method as sensitive as previously proven methods.

★ © Reducing the Occurrence of Alopecia in Captive Rhesus Macaques

Rena M McMahan, AA, LVT, LATG, Angelina Williams, DVM, DACLAM
University of Houston

Alopecia is a challenge in the care of Rhesus macaques in a research setting. It is a maladaptive behavior in which they will pull out their own hair or the cage mates hair (allo-grooming). In this study we worked to minimize this behavior and learned that giving additional enrichment aids in reducing the alopecia. We observed 19 adult macaques over 15 months and started by introducing extra enrichment devices to the affected primates 5 days a week. We chose from assorted foraging devices, which we filled with produce or Monkey jumble. We gave 1 kind of device to each primate once a day over a 3 week period and would change it to a novel device if there were no decrease in hair loss during the 3 weeks. After 9 weeks, and if still no improvement we would increase giving the devices out to 2 times a day. We discontinued the foraging devices once the hair growth was renewed. This poster will show which devices worked best for us.

★ The "Baa"sics of Sheep Flocking

Cindy Evans BS, RLATG, Jennifer Volkmann, MLAS, CMAR, RLATG
Baylor College of Medicine

When sheep are pair housed in standard stalls grazing and ruminating behaviors are limited, relative to what is seen typically in natural settings when sheep are in groups of five or more. We converted a large rodent room into a “flock room” used to socially house all of our sheep, in an effort to stimulate more normal flock behaviors in our animals. Construction costs for this project were minimal and included mounting hay bale bags, swine scratchers, and feed and water containers on the wall to maximize square footage for roaming and grazing. A livestock gate was installed a few feet from the entrance to provide a small ante space for caregivers to observe animals before entering their living space. Over the past 13 months, we have observed an increase in walking while grazing and ruminating behavior for our six sheep that are currently housed in the room. When pair-housed our sheep stood while ruminating, but are now lying down.

★ The Importance of Education: Starting an Outreach Program at UT Southwestern Medical Center

Julie Roller, B.S., M.S., CMAR
UT Southwestern Medical Center

Over the last few years, there has been a tremendous push in the laboratory animal science community to dedicate time and energy to further educate the public regarding the use of animals in research through outreach activities. The importance of changing peoples’ mindset cannot be denied, with animal activist groups hard at work to continue to provide the public with inaccurate information. The Animal Resource Center at UT Southwestern Medical Center was presented with a unique opportunity to provide outreach through an already existing university program. This has allowed our group to impact hundreds of students and teachers from surrounding area high schools, and provide them with presentations, discussion, and facility tours to show them exactly what the laboratory animal science field is about. The participants are provided with a bag of outreach materials, and we complete surveys to gauge the knowledge level of the groups before and after the presentation. This experience has allowed us to combat the negative information that may be present in the schools, and also hopefully introduce the field of laboratory animal science as a potential career path for some of these young students.

★☉ Transformation of a Frog (*Xenopus laevis*) Housing System

Latisha R. Gray, AS, LATG, Nicole Monts de Oca, DVM, DACLAM
University of Houston

Historically, the Animal Care Operations department housed African Clawed frogs (*Xenopus laevis*) in 75-gallon static tanks. In order to maintain the water quality parameters within acceptable levels for the frogs, these tanks required twice weekly complete water changes. Due to the large size of the tanks and the housing room arrangement, this was an extremely labor intensive task as well as a stressful process for the frogs, as they had to be removed from the tanks for water changes. Therefore, in the fall of 2015, a major project was undertaken to transform these large tanks into recirculating systems. This required the development of comprehensive water quality monitoring program, retrofitting the tanks with 2 filtration systems and retraining of all the staff involved. These improvements resulted in a 50% decrease in the amount of time spent weekly on frog husbandry as well as significantly improved animal welfare.

2017 VENDOR ABSTRACTS

The Importance of Recycling
Stephanie Devlin, Labex of MA

TBD

a-tune software
J. Patrick Guider, Jr., Maty Celine N'Diaye, a-tune software, Inc.

TBD

New Zealand White Rabbit Production
Pat Sykes, Charles River Laboratories

TBD

The Benefits of RFID
Geoffrey Hunt, Bio Medic Data Systems Inc.

TBD

Waste Anesthetic Gas Management
Bob Schrock, VetEquip Inc.

The use of inhalant anesthesia offers many advantages over injectable, but investigator exposure to trace and waste gas can be somewhat hazardous. We will discuss current Permissible Exposure Limits as well as methods and products to minimize exposure.

2017 PLATFORM PRESENTATION ABSTRACTS

★ denotes award eligible ☉ denotes first time presenter

Leadership: It's a Team Effort

Paige Ebert, MBA, CMAR, RLATG, American Association for Laboratory Animal Science

Being a leader takes drive and determination. While it is a debated topic whether leaders are born that way or can be created, either way it is a team effort. This presentation will discuss my path to being leader in my organization as well as the AALAS.

★ Utilizing Your Enrichment Program to Promote Employee Engagement

Kristin Flora, BS, RLATG, & Sherry Walters, DVM, Alcon Laboratories Inc.

Animal enrichment programs are very well-known in the lab animal science community both nationally and internationally. Enrichment, as we all know, is an ever evolving and always innovative aspect of lab animal science. Each year new devices are introduced and new techniques are tried in animal facilities across the world. Enrichment programs are now multi-faceted in order to execute the very best enrichment program for each animal species. Many of these facets often incorporate the husbandry staff. Whether they are key stakeholders in the program or just the end users/providers of enrichment they tend to always play some part in the program. So how can we engage our husbandry staff to retain their talent or build their talent while using the enrichment program? What are some mechanisms of the enrichment program that provide engagement opportunities? How can we provide the time for them to engage in the enrichment program while also performing their daily tasks? This presentation will detail experiences with various mechanisms used to engage the husbandry staff through the creation of enrichment teams, resource utilization and engagement activities.

★ The Importance of Education: Starting an Outreach Program at UT Southwestern Medical

Julie Roller, B.S., M.S., CMAR, UT Southwestern Medical Center

Over the last few years, there has been a tremendous push in the laboratory animal science community to dedicate time and energy to further educate the public regarding the use of animals in research through outreach activities. The importance of changing peoples' mindset cannot be denied, with animal activist groups hard at work to continue to provide the public with inaccurate information. The Animal Resource Center at UT Southwestern Medical Center was presented with a unique opportunity to provide outreach through an already existing university program. This has allowed our group to impact hundreds of students and teachers from surrounding area high schools, and provide them with presentations, discussion, and facility tours to show them exactly what the laboratory animal science field is about. The participants are provided with a bag of outreach materials, and we complete surveys to gauge the knowledge level of the groups before and after the presentation. This experience has allowed us to combat the negative information that may be present in the schools, and also hopefully introduce the field of laboratory animal science as a potential career path for some of these young students.

★☉ Redesigning the Interface between Investigators and the Animal Care Operations Unit at a Research Institution Using Design for Six Sigma

Orighomisan Okpe, BS, Jamison V. Kovach, Ph.D., David W. Brammer, D.V.M., Jason L. Erikson, Ph.D.
University of Houston

Animal use in research studies is highly regulated, and it requires close coordination among users and administration. Unfortunately, gaps in understanding regarding the roles and responsibilities of investigators and those who oversee animal care operations (ACO) can lead to delays in research activities. To address this issue, this research demonstrates an approach for strengthening the communication and collaboration between investigators and ACO units in order to provide support for research activities. This case study

focused on redesigning the interface between investigators and the ACO unit at the University of Houston using the Design of Six Sigma methodology. This systemic, problem-solving approach helped to identify the following areas of concern: two-way communication, animal related communication, information technology, information dissemination, facility administration and operations, and communication content. This allowed investigator's expectations regarding the role of ACO in supporting their research to be identified and prioritized through semi-structured interviews and online surveys. Finally, ideas obtained through focus groups were used to design a new method for collaboration. After the new collaboration process was implemented, data were collected to verify the effectiveness of the process. By more clearly enumerating the roles of both parties involved in research, this research helped to eliminate ambiguity and create an environment for more successful animal research endeavors.

Manzanita Wood as a Sanitizable Enrichment Item for Laboratory Canines

Anita Richert, DVM, Texas A&M University

Environmental enrichment of canines used in biomedical research is required by federal guidelines. This is typically accomplished via group housing, exercise, human interaction, and manipulable toys (manipulanda). Manipulanda typically consist of a rotating set of toys, most of which are chew toys. It is imperative that these items be durable, safe, and sanitizable. Manzanita wood is a hard wood that is often used as enrichment for nonhuman primates in the form of chewing and manual manipulation. This wood has the properties of being considerably non-absorbent and does not splinter, thus making it an ideal candidate for canine enrichment. We compared the safe use and sanitizability of manzanita wood with commercially available plastic bones when used as a chew toy for canines deemed heavy chewers. Safety was determined by daily physical exams while sanitizability was determined by both an ATP luminometer device and bacterial culture before and after sanitation via a commercial tunnel-washer. Results showed that the manzanita wood poses no significant adverse health risks and was cleaned as efficiently as the traditional plastic bone toy.

★© Use of Miniature Marshmallows to Reduce Stress, Enhance Safety, and Increase Efficiency When Working With Sinclair Miniature Swine...

Erica Dean, BS, BSN, RNMS, 59th Clinical Research Division, United States Air Force

“The views expressed are those of the authors and do not reflect the official views or policy of the Department of Defense or its Components. The experiments reported herein were conducted according to the principles set forth in the National Institute of Health Publication No. 80-23, Guide for the Care and Use of Laboratory Animals and the Animal Welfare Act of 1966, as amended.” This is original work done by the author.

We are constantly being asked to do more with less- more research studies with more animals to care for but with less time and fewer employees. How do we continue to keep our quality of care top notch while still meeting the desired pace? Enrichment is the answer. Enrichment reduces animal and employee stress, enhances safety, and increases facility efficiency. Our facility has found Sinclair Miniature Swine are calmer and less stressed if they are provided extra human interaction and enrichment during their acclimation period. At first glance the initial cost of employee time may appear prohibitive but the resultant savings are priceless. Sinclair Miniature Swine familiar with people and mini-marshmallows are easily trained to perform simple husbandry behaviors such as standing still or walking from one cage to another. These behaviors minimize the need for physical handling thereby reducing stress, decreasing procedure time, and enhancing safety. Everyone wins with enrichment.

Anorexia in a Postoperative Sheep

Stacey Piotrowski, DVM, Chris Smith, DVM, University of Texas Health Science Center Houston

A pregnant adult Dorper Cross sheep underwent multiple surgeries as part of a research protocol at an academic institution. Surgery creating fetal spinal defects was performed, and postoperative recovery was unremarkable. Approximately three weeks later, a second surgery was performed to apply repair techniques. Postoperative recovery was unremarkable until six days after surgery when the animal was noted to have

anorexia and loose stool. NSAID treatment and probiotics were started, with no improvement. Bloodwork the next day showed dehydration and hypocalcemia. Intravenous fluids and oral calcium supplementation were implemented. Bloodwork after initial treatment showed minimal calcium improvement, and the sheep's clinical condition remained the same. Intravenous calcium gluconate treatment was initiated, and animal's clinical condition seemed improved. The sheep was found deceased the next morning, the third day after anorexia was noted. Necropsy showed extensive fibrinous abdominal adhesions and a dark hemorrhagic and necrotic small intestine. Changes in surgical technique were made to avoid abdominal adhesions in subsequent animals. Additional mineral supplementation was given to pregnant sheep to avoid future complications.

Chemicals and Amphibians Don't Mix: Lessons Learned in Treatment and Prevention

Georgina Dobek, DVM, DACLAM, Amy Pierce, MS, RLAT, Tulane University

This presentation describes a case of accidental chemical exposure in a satellite facility housing a colony of Strawberry Poison Dart Frogs (*Oophaga pumilio*). Amphibians are extremely sensitive to chemicals in the housing environment, and even small exposures can result in high morbidity and mortality. At our institution, a satellite facility housing over 200 frogs was accidentally exposed to a caustic chemical during routine maintenance of equipment in the room. We will discuss the challenges and lessons learned in the treatment of the chemical exposure and the inter-departmental collaborations created to prevent future issues.

Dippity Pig (*Erythema multiforme*) in a Yucatan

Sherrelle Milligan, DVM, Clay Ashley, DVM, Christine Heaps, PhD, Texas A&M University

Erythema multiforme, also known as “Dippity Pig”, is an acute, painful skin condition that occurs along the back of otherwise healthy miniature pigs. The manifestation of this condition can vary but the most common clinical signs are sudden onset, pain in the lumbar area and serum oozing lesions that run side to side. The cause of these lesions is unknown but has been attributed to stress. A 10 month old female Yucatan miniature pig presented with five cylindrical, erythematous, weeping lesions that were painful when touched and not observed the previous day. She was treated with a topical antibiotic, steroid ointment for seven days and the lesions resolved. A month after the initial presentation, moments after receiving glycopyrrolate and ketamine, the lesions reappeared and disappeared within five minutes. There is no current test to confirm the diagnosis of *erythema multiforme*. Our diagnosis was formed by ruling out other possible causes.

★ The Influence of LED Light on Laboratory Animal Health and Wellbeing

Robert T. Dauchy, MS, CMAR, RLATG, Tulane University School of Medicine

Light emitting diode (LED) technology is rapidly emerging globally replacing cool white fluorescent (CWF) and other lighting systems. LED lighting has many advantages over CWF lighting including higher efficiency, lower heat production, significantly longer operating life, and superior spectral control. However, little is known regarding the long-term use of LED lighting on human or laboratory animal metabolism and physiology.

Here we examined male Buffalo rats (BUF/CrCr1; n = 12/group) exposed to standard high-blue emission (460-480 nm) LED light during light phase, compared to standard, broad-spectrum (300-700 nm) CWF. Animals maintained on a common lighting regimen 12L(172.0 ± 12.3 lx [within cage]; lights on 0600):12D were assessed for arterial blood acid/gas, metabolic, and neuroendocrine hormone levels at 6 circadian time points. Results showed lower dietary and water intake, and body growth rates in LED vs. CWF (P < 0.05). Daily rhythms of plasma melatonin, corticosterone, insulin, leptin, total fatty acids, glucose and lactic acid levels were significantly lower (P < 0.05) in LED vs. CWF.

These findings suggest that daytime exposure to high-blue emission LED light, compared to CWF, positively influences circadian regulation of neuroendocrine, metabolic and physiological parameters normally associated with human and laboratory animal health and wellbeing.

★ Keeping Up in Cage Wash

Christopher Southern, CMAR, RLATG, Baylor College of Medicine

The overtime amount being spent, specifically, because of lack of equipment/supplies was \$75K/year. We were experiencing a lack of equipment/supplies due to the fact that there were so many equipment failures that were happening across our eight cage wash facilities. When equipment was failing, the dirty caging was being trucked to another facility to be processed, therefore putting two facilities behind. When equipment was processed and made available the care staff would rush, resulting in improper handling of the equipment (breaking things) and other facility duties to be pushed aside (sanitation).

We investigated several options to reduce the overtime money being spent, such as bulk purchasing equipment that was routinely malfunctioning on the machines to have it in-stock on-site. Another option investigated was to completely replace equipment, but this was not financially realistic. Ultimately, the decision to create an 8 hour/day, 7 days/week cage wash schedule was made. The schedule was created by the Operations Manager and discussed with the Director. There was staff hesitation at the beginning of the implementation, as they did not agree that the issues would be resolved. After speaking with them about the issues and explaining specifically how this schedule would eliminate the problems they became excited. After implementation and observing the process over several weeks, some small changes were made in regards to staffing numbers, and ultimately the issue was resolved. Overtime was eliminated, equipment/supplies were readily available, all facility duties were being completed, and preventative maintenance was scheduled and performed for all cage wash equipment.

★☉ Cage Washing with Unheated Water, Do You Need the Steam?

Charley Sikes, BA & Shelley Harkness, University of Houston

Cage washing sanitation uses water, temperature, and rack/tunnel washers. Chemical detergents and sanitizing chemicals may also be used. Mechanical washers use large amounts of water, chemicals, steam, and time. We conducted this study to develop a cage sanitation protocol that would save energy, materials, and time. We compared the rack washer sanitation of soiled primate caging at wash temperatures of 85F, 95F, and 140F. Rinse temperature was also varied from 85F to 180F. Detergent concentration was observed at 0.5% and 0.25%. Sanitation was validated using ATP bioluminescent swabs. Swab samples were taken from the side and bottom of each cage after pre-wash and after rack washing. The unheated wash condition was bacterial plate validated. Data confirms unheated water wash validated at 97.5% passing is possible. Unheated water washing does produce clean caging, does not require excess chemicals, eliminates heat-up time, and allows for a 38.5% reduction in building steam production.

Innovation: How does it work?

Iva Morse, DBA, MBA, MS, Charles River Laboratories

Innovation is a key concept that is shaping organizational life, and helping leaders conceive and implement previously unimagined options and solutions. While most organizational leaders agree that in today's highly competitive environment companies must innovate in order to succeed, only a few implement successful innovation programs that ingrain innovation in the fabric of their institutions and generate ideas that continuously deliver on expectations.

In addition to explaining the basic principles of innovation, common misconceptions about innovation will be discussed together with insights for managing innovation to create new forms of value, satisfy the needs and expectations of institutional stakeholders, and ultimately gain industry advantage. Processes affecting innovation from technology scanning and needs assessment to ideation, selection, and a successful use of the resulting outcomes will be laid out. Internal R&D, strategic partnering, and M&As and their role in the innovation process will be discussed.

Two main pillars of innovation will be outlined: Strategic innovation, usually a top down driven approach, which evolves around technology, competitive and customer needs scanning with the intention to identify better solutions that meet new requirements or fulfil unarticulated needs; and Grass-Roots innovation, a

bottom up solution, focused on every single employee and their potential to find in their daily work small problems and recurrent improvement opportunities and empowering them to drive solutions.

★ Reptiles in Research

Diana Baumann, BSc, RLATG, CMAR, Stowers Institute for Medical Research

There are almost 10,500 extant species of reptiles (compared with approximately 5,400 species of mammals), offering a genetic diversity that far exceeds that found in mammals. Reptiles inhabit every continent except Antarctica, existing in habitats ranging from arboreal to fossorial, from deserts to deep ocean. Studies of reptiles have played a key role in biomedical research, often as a result of the unique characteristics of the animal model being studied. This talk presents a look at why so few reptiles are used in research and some of the insights gained from those studied.

★ The 2016 AAALAC International Fellowship

Robert T. Dauchy, MS, CMAR, RLATG, Tulane University School of Medicine

Bob Dauchy was the co-recipient of the 2016 AAALAC International Fellowship Award. The AAALAC Fellowship consisted of visiting and speaking at several biomedical research and laboratory animal facilities in and around England, to include the famed Francis Crick Institute in London and the Frederick Sanger Institute in Cambridge. Other venues visited included Kings College, The Wellcome Trust Institute, NC3R's, and Cambridge University. The 2-week Fellowship concluded with attendance at the Institute for Animal Technology (IAT) Congress, similar to our National AALAS Meeting, held this year in northern England. On the final day of the IAT Congress, Bob presented the Kevin P. Dolan Memorial Lecture entitled, *The Influence of Light on Human and Laboratory Animal Health and Wellbeing*. Bob, a cancer researcher in the Tulane University Department of Structural and Cellular Biology at the medical school, works closely with his colleagues in the Department of Comparative Medicine and has been member of LA Branch AALAS since 2009. The presentation will provide an overview of this unique 2-week experience from the perspective of the 2016 AAALAC Fellow.

Keynote Speaker: Stand Up For Science!

Laurie Pycroft, MSc, Oxford Functional Neurosurgery Laboratory

In 2006 I founded Pro-Test, a UK-based campaign group dedicated to promoting the importance of research using animal models. At the time, Oxford University was under attack from animal rights activists opposed to the research, and many scientists were afraid to speak out. Today, much has changed. Researchers no longer live in fear for their lives and animal research rarely makes headlines, but there are still substantial challenges to undertaking vital in-vivo research, some of which I have experienced firsthand as a neuroscience graduate student. In this talk I will discuss the history of Pro-Test, the context in which it was founded, and the developments in public opinion and institutional support for animal research. I intend to relate a mixture of my personal experience and a broader perspective on animal research advocacy in the UK and elsewhere, hopefully providing some insight into how the situation has developed over the last decade.

Rodent Surgery... Aseptic Technique Made Easy... and Other Tips

Marcel Perret-Gentil, DVM, MS, University of San Antonio

Many of us who believe in the importance of aseptic rodent surgery have lived through the frustration of trying to implement rodent aseptic surgery in our programs because it seems that application of this technique is so difficult to illustrate and implement. For years, I have in vain searched the internet and other sources for easy, well-illustrated materials to teach our investigators proper technique.

The search is over! My frustration has led us to create easy to follow illustrations to help investigators, veterinarians, trainers and IACUCs everywhere to develop aseptic surgery skills. This presentation will rely heavily on images and videos. The presenter will walk the audience through very simple and fun steps in the application of aseptic technique. Other practical rodent surgery tips will be discussed as time allows.

The A to Z of Rodent Health Conditions

Cynthia Lockworth, DVM, MDAnderson Cancer Center, Nicole Monts de Oca, DVM, DACLAM, Charles River Labs

The objective of this presentation is to aid rodent healthcare personnel in the laboratory animal field develop their skills in the identification and subsequent management of the most common clinical conditions found in rodent facilities. It will address the importance of early condition recognition as it pertains to the success of treatment or the performance of humane animal euthanasia. Common presentations, etiologies, and typical management choices for over forty conditions will be reviewed, including severe conditions requiring immediate attention.

Interpretation of Primate Behavior in Context of Social Housing

Keely McGrew, BSc, CVT, RLATG, Charles River Laboratories

Understanding how to interpret primate behavioral cues can speed up, enhance, and reduce risks of social housing in the captive environment. This presentation will explain these behavioral cues, and demonstrate how interpretation of cues has increased pairing success of adult males (from 83% to 91%) by analyzing pre-pairing behavior cues exhibited during a modified version of the human intruder test. Interpretation of cues to assess compatibility of groups and pairs, increase technician efficiency, and decrease animal stress at a nonhuman primate quarantine facility will also be discussed. Pairing strategies learned in the evolution of the social housing program at our facility will be shared, including temperament characteristics of successful social housing sets. Sharing strategies may help other facilities advance their programs.

Laser and Cancer: The Effects of Low Level Laser Therapy on Oncogenesis In Vivo

Elizabeth Magden, DVM, MS, DACLAM, Beth Chaffee, Sriram Chitta, Lawrence Williams, UT MD Anderson Cancer Center

Low level laser therapy (LLL T) is a treatment modality that is commonly used to alleviate pain and promote wound healing. It promotes wound healing by increasing fibroblast proliferation and modulating inflammation. Since LLL T increases proliferation of some cell types, its use in cancer therapy has been considered contraindicated despite the lack of in vivo research to support these concerns. LLL T is also known to produce a wide range of positive immunomodulatory effects, which could lead to potential benefits in cancer treatment. In this study, we analyzed the effects of LLL T on mammary tumors in rats. Rats were administered MTL mammary tumor cells subcutaneously in the right cranial mammary tissue. Three groups of 14 rats each were assigned to sham (no laser), low dose (1-250Hz) and high dose (1000-3000 Hz) laser treatment groups. We used the Multiradiance® ActiVet MR4 Laser unit for treatment, and assessed the effects of laser therapy on tumor growth, metastasis, tumor cell immunohistochemistry, and blood chemistry parameters. Preliminary results suggest that the low dose laser may increase tumor metastases, and final results will be presented during this presentation.

☺ It's Time for an Upgrade

Kelly Ham, BA, Allentown Inc., Cristopher Southern, CMAR, RLATG, Baylor College of Medicine

Purchasing new ventilated racks and caging equipment can be a daunting task. Implementation of this new equipment can be even more daunting. Knowing what to look for in your own existing equipment and looking ahead for future expansions is key in deciding when it is time to for an upgrade and what it is time to upgrade to. This talk will educate individuals on the most appropriate way to upgrade, integrate and expand their existing areas with appropriate implementation of new caging equipment.

Facility Fire Safety - A Review and an Innovation

John Donaho, BS, CMAR, University of Texas Health Science Center Houston

Fires in health care and animal facilities present a clear and ever present danger. Animals and personnel are at risk as is the reputation of the facility. Fire in health care and animal facilities is probably more common than you realize. In addition to normal fire risks, we often work with electrical devices, flammable chemicals

or materials that accelerate fire such as oxygen. We will review some case studies to determine the causes and effects and determine some best practices. In addition a new type of fire extinguisher suitable for health care and animal facilities will be discussed. We can work safely and mitigate fire risk on the job.

What does the AALAS Foundation do?

Pat Sikes, MS, Charles River Laboratories

The AALAS Foundation is a non-profit organization separate from AALAS. Our primary role is public outreach through education. We rely on support from donors to develop important public awareness campaigns and outreach materials that will allow us to bring awareness to the general public about the compassionate professionals working in the field of laboratory animal science; communicate the important role of animals in research; offer free resource materials to assist laboratory animal science professionals conducting outreach activities in their local communities. How can you help? Volunteer at AALAS Foundation activities at National Meetings; volunteer to serve on AALAS Foundation Board and/or Committees; donate items to the annual Silent & Live Auctions; make a monetary donation (memorial/honorarium) by mail or online; like us on Facebook.

Homes for Animal Heroes: The truth has never felt so good!

Cindy Buckmaster, PhD, CMAR, RLATG - TSBP President, AMP Chair, Baylor College of Medicine

The Beagle Freedom Project (BFP) has been acquiring research dogs and using them as props to promote and fund a dangerous and misleading anti-research campaign, globally. Several research institutions in the US have fallen prey to BFP's dishonest tactics and have shut down their adoption programs to avoid further victimization by this animal rights group; and many adoptable dogs have been euthanized as a direct result of BFP's actions.

Homes for Animal Heroes (HAH) is a rehoming network that research institutions can trust completely. HAH will have the capacity to foster, train and place more research dogs, annually, than all of the existing groups combined. And this network will provide us with the first ever nationwide platform for engaging the public in truthful discussions about our work and their demands for it! We will talk about how we care for our dogs and what they help us learn for human and animal well-being, and we will answer their questions openly and honestly. It's time for us to partner with other loving Americans who are grateful to our animal heroes for all they have given us. And it's past time for us to take back the conversation and engage the public in loving solutions, rather than harmful arguments. It's time for all of us to show our gratitude; share our love; and support our heroes!

2017 Workshop & Wet Lab Abstracts

Leadership Training - Management 101

Julie Roller, B.S., M.S., CMAR, UT Southwestern Medical Center &

Ann Turner, PhD, FASAE, CAE, American Association for Laboratory Animal Science

Kick off & Ice Breaker: Ann Turner, Executive Director of the American Association for Laboratory Animal Science will kick off the leadership academy and discuss her rise in the ranks and what it means to be a leader!

Part 1: The ability to be able to effectively manage a difficult conversation with an employee is a skill that many managers spend years trying to develop. Being able to manage a conversation full of complex emotions, different personalities, and having the ability to think quickly and adjust to changing scenarios can be very challenging. This interactive presentation will give some tips and tricks to help managers in every stage of their career learn to be better prepared for the twists and turns that can take place when tackling employee issues. Interactive scenarios will display some of these techniques, and members of the audience can practice and get feedback from their peers. This presentation's goal is to assist managers gain the confidence and skills that they need to handle most situations that they are presented with on a daily basis in their facilities.

Part 2: Have you had challenging employee situations? How have you handled them? This team building session will task leaders to resolve employee scenarios that have happened in the work place. Discussions will include who gets involved in the resolution, what impact the situation has on the facility and its employees and does the scenario violate any policies, regulations and laws.

Mouse Methodology Wet Lab

Jamieson L. Greaver, BS, RLATG & Christopher F. Janssen, DVM, University of Texas Health Science Center

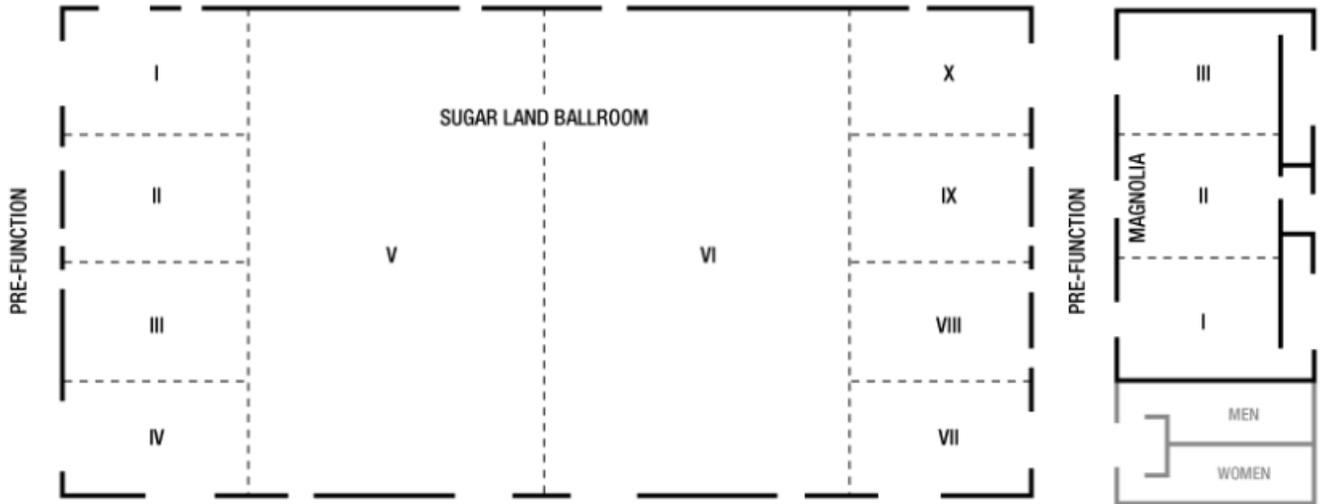
Based on our investigator training program, the wet lab will be flexible to allow for those new to rodents to practice basic handling, injection and anesthesia technique, but also to allow the more advanced student to explore variations on each technique with the goal of refinement. Techniques will include basic handling and restraint for physical exam, blood collection and injection. A variety of blood collection, injection, and intubation techniques will be demonstrated and practiced on conscious or anesthetized mice, as appropriate for the method. An assortment of isoflurane anesthesia systems will be provided, to allow for hands-on comparison, with emphasis on gas delivery, plumbing, nosecone configuration, and active v/s passive waste gas scavenging. Finally, the anesthetized animals will be humanely euthanized and made available in the adjacent necropsy suite to review anatomy and tissue handling.



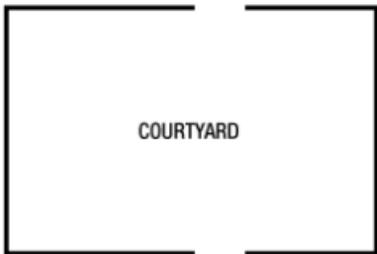
MARRIOTT
SUGAR LAND
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Conference Space

FIRST FLOOR



BALLROOM FOYER



SECOND FLOOR

