Arizona Branch AALAS Newsletter

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Arizona Branch of the American Association for Laboratory Animal Science

It's Time to Renew Your AALAS Membership!

WHAT'S INSIDE...

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Incoming President's Message

I am so honored that I was chosen as President and I am looking forward to serving you during the 2012 year. I hope that during this year we can continue to help technicians learn more about AALAS and have the opportunity to study with the AALAS Learning Library. As always AZAALAS hopes to increase membership and get everyone involved anyway we can.

We ended out the 2011 year with the Holiday Installation Event up in Flagstaff. A strong snow storm made travel difficult, and even closed I-17 and I-40 for periods of time on Saturday. Regardless of the snow some of our members braved the icy roads to travel up to Flagstaff. We had a great time at the party and the Louise Brooks Raffle raised over $3000 for the charities designated in the Northern, Central and Southern section of Arizona. What a wonderful way for us to give back to our communities.

I would like to congratulate our new board members for 2012: President-elect – Wendy Sparkman; Secretary – Jane Criswell; Treasurer – Grace Aranda; Central Board Member – Barbara McNally and Technician Branch Representative – Tracey McNamara. I'm also proud to announce this year's Technician of the Year Eric Tolotti, and our Member of the year Grace Aranda.

I would like to thank everyone for participating in the Louise Brooks memorial raffle as well as the officers' elections and submission of technician and member of the year nominations. We really do have a great group of people in the Arizona branch.

Important Dates

Intl Tech Week - 1/29-2/4/12

District 8 AALAS Meeting in Irvine, CA - 4/11-13/12

SwAEBR & MSMR 3 I's Conference in Tempe - 4/30-5/2/12

In the coming year we are looking forward to getting together for some great events. We will start off in January with having some great institutional observances of Tech Week with mementos supplied by Arizona Branch and some great companies too. Many thanks to Allentown, Ancare, Getinge, Innovive, Labex of MA and Nuaire for already sending us some great items. We are also collecting information on who has recently completed their AALAS certification and will be awarding certification pins. If you have achieved this accomplishment, be sure to let us know at azaalas@ahsc.arizona.edu so we are sure to include you.

Other plans in the works include a summer fun event either in Tucson or Flagstaff and Wendy will be organizing our video conference speakers this year. Look for emails and check the web page throughout the year for details. As you can see we will have another great year so don't be left out...renew your dues today!

Feel free to contact me if you have any additional suggestions and/or concerns. - Chrystal Redding, 2012 AALAS President

Member Profiles *by Sandra Schenone*

Nathan Lawyer, Lead Technologist, Arizona State University

Nathan was born in St. Louis, MO, and moved to Arizona in 2006. He holds a BS in Biology, an MA in Educational Leadership, and is certified at the LATG level. He is married with 4 children, and currently works as a Lead Technologist at Arizona State University, where he has been since 2006. Nathan started working in labs at an age younger than most, accompanying his father to work when he was only 4 years old, and says his father was his greatest influence. This early lab experience included US facilities like Ft. Sam Houston in San Antonio, Texas and Walter Reed in Washington, DC, as well as the Kenya Medical Research Institute in Nairobi Kenya.

Nathan has worked with a wide variety of animals including rodents, rabbits, NHP and reptiles. Even though he started his career early, his ambitions were initially to become a veterinarian or a pirate. He finds this field fascinating and is especially interested in selective breeding and phenotyping. When not at work, he enjoys reading Fancy Nancy books to his girls, and turning it into a big show. His pets include a beagle, corn snake and fish. He also moderates a fish keeping web forum, enjoys hunting and fishing, and geocaches.

Nathan would encourage others to follow in his footsteps by presenting a positive outlook on his chosen profession. He enjoys what he does, tries to have fun, and speaks highly of his job.

Maggie McTighe, Clinical Veterinarian, Charles River Laboratories

Maggie was born in Memphis, TN and hoped to be an astronaut or a veterinarian. She attended the Auburn College of Veterinary Medicine. Maggie currently works as a Clinical Veterinarian at Charles River Laboratories and is working toward ACLAM certification. She worked at Vanderbilt University prior to working with the chimpanzees at Alamogordo Primate Facility, and has worked with a large variety of animals. She credits the grasp of a galago (bush baby) with most influencing her interest in nonhuman primates. The areas of veterinary medicine that are most important to her include surgery and imaging. Her dream is to work at a zoo (other than the one in her own yard).

Maggie is currently in New Mexico, has two grown children, 3 dogs and 2 mules. She enjoys “hoarding junk” and making things from what she collects. Something that people wouldn’t guess about her is that at one time she was a paratrooper, working in Special Operations.

Maggie would encourage others to follow in her footsteps by having them spend time working at a vet clinic or following a lab animal vet for a while.

Past Meeting Minutes

Minutes of the 5/19/11 Board Meeting

The meeting was held via conference call. President Tim Martin called the meeting to order at 12:03 p.m.

Secretary Jane Criswell presented the minutes of the March 17 board meeting. Minutes were approved with corrections.

Treasurer Grace Aranda distributed the financial report. Outstanding items include the cost of printing and mailing the Buyer’s Guide; the monetary portion of the Technician and Member of the Year awards (registration and airfare) are likely to be more than a normal year as the National meeting is to be held in San Diego this fall. Grace Aranda announced that the new deadline date for the Buyer’s Guide is June 1st.

President-elect Chrystal Redding reported on the summer video conference. No date has been scheduled yet, but she is looking at August. She may have the speaker come to ASU or U of A so that the Flagstaff members can attend due to the last video conference not being broadcast in Flagstaff.

Grace reported that the newsletter is almost complete. She just needs the President’s corner, a write-up on the ALL and the member profiles. Sandra Schenone has volunteered to write our member profiles. Grace is going to put information on the ALL in the newsletter and listserv so that members trying to get their certification are aware they can use the ALL.

Technician Branch Representative Cindy Madura reported that the ALL is up and running. She needs members to contact her for a username and password if they want access. The board discussed that members will be given ALL access through January 31st to allow time to renew their Arizona AALAS dues in 2012.

The Fall Fun Event was discussed with Tim hosting a barbeque and possibly tubing down the Salt River.

The current Arizona branch roster has 154 members.

Jane reported that she was unable to get access to the registration for the Jackson Labs video conference to get the number of AALAS members that attended.

Meeting was adjourned at 12:20 p.m.

Minutes of the 7/21/11 Board Meeting

The meeting was held via conference call. President Tim Martin called the meeting to order at 12:05 p.m.

Secretary Jane Criswell presented the minutes of the May 19 board meeting. Minutes were approved as written.

Treasurer Grace Aranda distributed the financial report. The branch has $16,000 in its various accounts. Outstanding items include: the cost of printing and mailing the Buyer's Guide; the monetary portion of the 2010 Technician and Member of the Year awards (registration and airfare to the national AALAS meeting in San Diego). The Arizona Corporation Commission renewal; the charity raffle donations. The upcoming video conference should cost less than $700.00.

Grace gave the Buyer's Guide update. The publication date will be Oct. 1st. She reported that additional vendors expressed a positive response to a recent query for logos for the sponser's page. Once compiled she will also use them on our AZAALAS website.

Technician Branch Representative Cindy Madura reported that currently there are 25 registered members statewide for the AALAS Learning Library, primarily from the U of A so far. Sandra Schenone of ASU is currently in contact with Cindy concerning ASU members. Further announcements will be made to the Listserv and members at the video conference to ensure all members hear of this opportunity and can take advantage of it.

The board discussed the general meeting video conferences. The video conference format has been used for general meetings to allow members from across the state to attend. In the past the 3 universities have been utilized as regional sites because using them to broadcast was free. Tim mentioned that for Tucson and Tempe it also made sense since ASU and U of A had the most technicians. Occasionally, Gore has hosted the Flagstaff transmission, as they have the largest number of technicians in Flagstaff. Tim did mention that in Phoenix the issue of parking is a problem as people attending from other facilities have to pay for parking. Northern Board Member Tom Greene and Jane mentioned it is the same for Tucson and Flagstaff unless street or commercial parking is used. There have been problems with transmission of these conferences due to incompatible systems upgrades that have been beyond AZAALAS control, but have affected meeting effectiveness. Tom reported that the speaker will be talking from NAU and Tom and Grace will arrange for a preliminary trial run with ASU and U of A IT personnel the week before the conference to try to resolve any problems.

Tim reported that he has not received any new suggestions for the Fall Fun Event. He will ask for additional ideas from the membership at the video conference on Aug. 8th.

Meeting was adjourned at 12:31 p.m.

Experiences from the 62nd Annual AALAS Convention in San Diego

After winning the technician of the year last year I have been preparing for this opportunity to attend my first AALAS convention. I arrived at the Marriot in San Diego eager and ready to learn. I was greeted by Mr. Curtis Black, my mentor and fellow coworker who gave me the grand tour of the convention center which was located next door and introduced me to a few experienced members (Mike, Dr. Cathy and Jane). I spent my first few hours organizing and labeling about 200 items which were donated to AALAS for resale and my last few hours getting situated.

The next day I woke up earlier than planned, excited to experience my first AALAS convention which began at the registration desk, where I received my name tag, and bag. After checking in I headed to my first session which was an Enrichment Symposium which lasted about 7 hours. After leaving the symposium I headed to the welcome reception where I had an opportunity to commingle with fellow "researchers". It was amazing to see just how many people work in our field and that were just as passionate about what we do as I was.

My Monday was filled with amazing lectures and interesting topics such as "Integrating primate training techniques into a research environment", "How to remain viable in laboratory animal medicine", "What does it take to get 93% of the public to support the use of animals in research?", and "Managing obesity and metabolic disease in captive non human primates".

This day was by far the most reviving of them all, as we were able to hear from Paul McKellips, the legendary motivational speaker. Paul emphasized the importance of us as researchers to be proud of what we do and to not hide behind fear of animals extremist. He spoke passionately about how we should educate our own children and students in our areas about the use of animals in research. We learnt that most activists thrive off of the ignorance of those that truly do not know what we do and why. So how else can we progress unless we make an effort to educate those around us, even if we don't change their minds.

My remaining two days were spent visiting vendors, battling a cold and listening to a few more lectures. I was floored at just how many companies were involved in ensuring the success of our profession, and, just about anything you could think of, there was a company that made it.

Overall this was truly a wonderful experience, which opened my eyes to the numerous opportunities and different organizations within our profession. I look forward to attending more AALAS conventions and to becoming more active amongst the AALAS community. I would like to thank the Arizona branch for AALAS for my award last year and for this awesome opportunity. I am truly grateful. - *Kahrin Prince (Romer), Covance*

Don't Miss D8!

Mark your calendars now for the District 8 AALAS Conference to be held on April 11-13, 2012. The location will be the stunning Hyatt Regency hotel in downtown Irvine , CA .

This exciting meeting will feature two days of great keynote speakers, hands-on workshops, management focused seminars, poster sessions, large exhibit hall, awards presentations, continuing education units (CEUs), networking events, and much, much more. Come before the conference starts to attend the famous IACUC 101 training course or CMAR preparatory classes. RACE approval for CEUs is being sought.

Registration and accommodations are within everyone's budget. The Hyatt Regency hotel is conveniently located on Jamboree Road right off the 405 in Irvine , and is only three miles from the beautiful Orange County (John Wayne) Airport. Visit the District 8 Conference web site at www.district8.org.

Come join your colleagues in April 2012 for an educational, and fun, event that will have you saying you were thrilled to come!

New Benefit for Arizona AALAS Members: You Can Now Access the ALL

The AALAS Learning Library (ALL) provides training that is essential for technicians, veterinarians, managers, IACUC members, and investigators working with animals in a research or education setting. Emphasizing the appropriate handling, care, and use of animals, the courses are designed to meet training mandates of regulatory agencies, improve knowledge in technical areas, and help technicians study for AALAS certification examinations. Launched in 2003, the ALL has grown from 60 courses in 2003 to 157 courses today, with more added every year. The Animal Care and Use Library has courses on certification, regulatory mandates, bioethics, biomethodologies, biosafety, and management. The JAALAS CEU Test Library offers you the opportunity to earn continuing education units (CEUs) by taking the self-administered test based on the scientific articles in *Journal of the American Association of Laboratory Animal Science* (*JAALAS*) online.

Why use the ALL? You can access the training courses on your own schedule and set your own learning pace. It is available 24 hours a day and can be accessed from any computer with internet access, whether it is at work or at home (or at Starbuck's). You can also review courses as often as needed -repetition is a great learning tool! It also provides easy documentation of your learning on a transcript, either to meet work training requirements, for professional growth, or to document CEUs for the AALAS Technician Certification Registry.

It is up to you to decide what your career goals are and how you will meet those goals. The AALAS Learning Library can be one tool to help you meet those goals. Contact Technician Branch Representative, tracey.mcnamara@covance.com for access to the ALL through the Arizona Branch.

Twelve Common Workplace Behaviors that Drain Energy

The source of your exhaustion might not be the tasks you're doing or the hours you're working—it may be the actions of the people laboring beside you. Jon Gordon identifies twelve draining behaviors to watch out for—and explains what you can do to counteract them and create a more nourishing workplace.

If you're like most people, you're tired, depleted, and quite frankly just done with "business as usual." You're laying the blame for your fatigue squarely at the feet of the increased responsibilities and long hours you faced. But according to Jon Gordon, you might be wrong. He insists that working hard—when done with a good attitude in the right environment—can actually be quite invigorating.

"Most people wrongly assume that their tasks and responsibilities are what's grinding them down," explains Gordon, author of the book, Soup: A Recipe to Nourish Your Team and Culture. "However, while 'work' is a convenient scapegoat, the real culprit is often the negativity of the people you work with and for, their constant complaining, and the pessimistic culture that is now the norm in a lot of workplaces."

Don't fret, though: Gordon promises that if managers are able to identify the offending behaviors and fix them, they'll be able to spend more time nourishing their companies' cultures—which will, in turn, make employees happier and more productive, thus increasing the bottom line.

1. The Energy Vampire Attack

DON'T: Let negativity become your go-to response. There's nothing more draining than a boss or coworker who is constantly negative. Gordon calls these folks "energy vampires." They are never happy, rarely supportive, and constantly nay-saying any and all ideas and suggestions that aren't their own. According to them, you might as well give up before you start.

DO: Respond constructively when someone offers up an idea. Even if you know more about a particular project, have more experience than the rest of your team, or are positive that the suggestions others are making are off the mark, hear them out. Let employees and coworkers know that when they come to you with their ideas, they'll be heard with an open mind and received with respect.

2. The Out-of-Control Complain Train

DON'T: Give in to the temptation to whine. It's a well-known phenomenon that can have catastrophic consequences: One person's complaint resonates with someone else, who then proceeds to add grievances to the

pile…and so on. Before you know it, everyone is complaining, and any work that gets done thereafter is marred by a bad attitude.

DO: Push for solutions. The next time a water-cooler conversation threatens to barrel out of control into Complaint Central, step in and ask the complainees how they would make things better.

3. The Vicious Voicemail (or Email)

DON'T: Leave critical or harsh messages on voicemail or send them to an email inbox. Nine times out of ten, these critiques seem much more vehement and condemnatory than they actually are. Plus, any communication you send via electronic methods can potentially last forever.

DO: Suck it up and conduct the tough talks in person. If you need to have a stern talk with someone, or if you need to talk through a conflict or problem, do it in person if at all possible. You'll be able to ensure that your words and tone aren't misinterpreted, and you'll be able to immediately have a constructive dialogue with the other person.

4. The Loaded Monday Morning Inbox

DON'T: Overwhelm your team with a mountain of emails before the week is underway. If you're finishing up your own to-do list late on a Friday night, or if you're simply trying to get a jumpstart on the week ahead, it can be tempting to dish out the details and to-dos as you think of them.

DO: Boil down and bundle your communication as considerately as possible. Be sure to flag any urgent emails so that your teammates know which tasks to tackle first—and include as many details as possible so that 1) you won't forget them, and 2) the recipient can get started as quickly as possible. If you can, combine as many of the tasks and questions as you can into one document.

5. The Busy Bee Bamboozle

DON'T: Confuse activity with progress. You know the person. She's always soooo busy but doesn't ever seem to meet deadlines or get anything done. She's living proof of the fact that just because your day is full of things to do doesn't necessarily mean that you're getting them done.

DO: Set goals and hold yourself and your employees accountable for results. Most importantly, don't put your team in situations where the lines are blurred. If the goals are crystal clear, they'll be easier to accomplish.

6. The Low Performer Look-Away

DON'T: Let sub-par work slide. Simply put, low performers drag the rest of the team down. They are like a cancer inside your organization, creating resentment and generating more work for everyone else. And if you allow them to linger and thrive for too long, your best employees will move on to a more productive environment.

DO: Institute a zero-tolerance policy for low performers. Hold your entire team accountable for meeting their goals and adhering to the same performance standards. If one person consistently misses the bar, then you need to take swift action. Let your employees know that you value their hard work and that you will not allow others to do less and get away with it.

7. The Unclear Communiqué

DON'T: Assume others have all the information they need, or that something you know isn't really all that important. These hastily drawn conclusions that result from chronic poor communication can lead to serious mistakes and major missed opportunities. Plus, lack of clarity is incredibly frustrating to those who must work with you. When employees, coworkers, or supervisors have to spend their time tracking you down for clarification, rather than getting the communication from you that they need, productivity falls and creativity is stifled.

DO: Make a concerted and proactive effort to make sure that the right people are in the know. You'll set your entire team up for success and ensure that your clients get the service they deserve. Also, make sure you copy the right people on emails, promptly return voicemails, and are clear about directions and expectations. And if you say you are going to do something, mean it.

8. The Disorganization Drag-Down

DON'T: Allow disorganization to impede productivity. If you're managing or leading a company, heading up a big project, or traveling non-stop, it's likely you've lost an email, important paper, phone number, or pie chart or two in your day. You're busy, and that's understandable. But constant disorganization can drain your employees and coworkers if they always have to cover your tracks.

DO: Make a concerted effort to keep up with your tasks and responsibilities. And if you can't immediately put your hands on something you need, don't automatically ask others for help. Take a few minutes to try and find what you need on your own. Better yet, try to think of better systems and processes than the ones you're using (or not using) now.

9. The Hasty Plate Clear-Off

DON'T: Sacrifice quality on the altar of expediency. There's a lot of work to do, and you (understandably) want to get your own tasks done so you don't hold up others. If you've rushed, you're more likely to have made mistakes and been sloppy, which isn't fair to the person who gets the assignment after you.

DO: Take the time you need to do the job right. Rather than rushing through a report or clicking "send" just because it's 5:00 p.m., get focused and make sure you do your best work the first time. Pay attention to details, check over your work, and make sure you've followed the proper guidelines.

10. The Chronic Deadline Dodge

DON'T: Allow unmet deadlines to throw everything and everyone off-track. When people chronically miss deadlines, it's a sure sign of a cultural issue. Either people aren't giving it their all—or they're truly overburdened. Either

way, your company's productivity will suffer.

DO: Set reasonable, clear deadlines for everyone involved (and hold them accountable). Once something gets off-track, nobody is willing to own it. Make sure you set reasonable deadlines that you and your teammates can meet in order to avoid setting folks up for failure. And even if it takes some extra elbow grease from time to time, make a conscious effort to meet every deadline every time (and hold your team accountable for meeting them, too!).

11. The Unattainable Atta-Boy (or Atta-Girl!)

DON'T: Get so caught up in what's coming down the pike that you forget to acknowledge what's happening now. Most managers and business leaders would agree that they feel a lot of pressure. However, when responsibilities give you to-do tunnel vision and cause you to skimp on the "job well dones," employees can get discouraged in a hurry—especially if you immediately ask about another goal that's gone unmet or push more work at them to try and make up for losses in other areas.

DO: Express appreciation and admiration when appropriate. Employees don't need a pat on the back and a round of applause at every turn. What they do need is to know that you can be satisfied. If, like a hamster running in a wheel, an employee feels as though no amount of hard work or hours spent will ever garner the boss's approval or satisfaction, his energy and self-motivation will be zapped.

12. The Blame Game

DON'T: Point fingers at others in order to take the heat off of yourself. A mistake is made, the boss is mad, a deadline is missed. If all eyes are on your team and you start pointing fingers, you could be making a huge mistake. If your employees or your coworkers don't think you shoulder your share of the blame or are unapproachable when it comes to constructive criticism, they'll start to shut down toward you.

DO: Accept responsibility for your actions gracefully and humbly. Nobody likes to be the one at fault. But owning up to your mistakes and learning from them are big parts of working together and being successful. If you make a mistake, be the first to own up to it and try to do things differently in the future. Also, be open to suggestions and criticisms—they may make the going much smoother!

If some of these behaviors sound all too familiar, don't despair. The cusp between the year that's just passed and the one that's to come is the perfect time to take stock of what's making your culture less than nourishing—and resolve to make it better.

Jon Gordon is a consultant, keynote speaker, and an international best-selling author. He holds a master's degree in teaching and works with numerous businesses, professional sports teams, schools, universities, and nonprofit organizations.

(ALN Magazine, May 2011)

FREE Online Biocontainment Course

As recently as 10 years ago, the number of biocontainment labs throughout the world could be counted on two hands. But since then, the number and size of these facilities have been increasing due to global awareness and preparedness for bioterror threats, and recognition of pandemic-possible emerging infections.

In response to the growing number of biocontainment laboratories and the public's trepidation about them, Frontline Healthcare Workers Safety Foundation, Ltd., is now offering a free online course.

"This course provides non-laboratorians a glimpse at how dangerous microorganisms are safely worked with in containment laboratories," said course instructor Richard J. Green, MSc, CTM, a biosafety professional with 30 years experience working in/around containment laboratories. "It serves as a great introduction to describe the types of work done in biocontainment environments and how these labs are constructed and operated to protect both the public and the lab employees. We want everyone to understand that these labs are not only designed with safety as the utmost priority but also that these labs, in part, conduct research essential in eradicating deadly diseases."

Although there are no tests, the course is imbedded with questions so that students can test themselves. The free online course can be accessed at anytime. It takes about an hour to complete, and upon successful completion of the course, participants will be able to:

- describe a biohazard;
- discuss the characteristics of BSL- 1, BSL-2, BSL-3, and BSL-4 laboratories;
- discuss standard laboratory practices, and
- describe how to safely enter and exit a biocontainment laboratory.

"Introduction to Biosafety and Biocontainment for Non-Laboratorians" is being offered exclusively by Frontline Healthcare Workers Safety Foundation, a 501 (c)(3) not-for-profit research and education foundation headquartered in Atlanta, GA, with offices in Bethesda, MD, Frederick, MD, and Chicago, IL. Frontline Foundation is dedicated to building national and international biological security and cooperative threat reduction through training, education, and ongoing research that allows communities and nations to best respond to natural and contrived biological incidents, emergencies, and pandemics. Learn more about Frontline Foundation at www.frontlinefoundation.org.

(ALN Magazine, 6/29/11)

A Knockout Resource for Mouse Genetics

An international consortium of researchers report in *Nature* that

they have knocked out almost 40 per cent of the genes in the mouse genome. The completed resource will power studies of gene activity in models of human disease.

The results are founded on a novel, efficient production line that is able to target each specific gene in turn. The consortium has cracked all the challenges of generating mutations of each gene in mouse embryonic stem cells, and has already knocked out 9,000 genes in the mouse genome as part of an international effort to knockout all 21,000. This developing resource will be essential in our understanding of the role of genes in all mammals - including humans.

The cells generated by this approach will allow researchers to ask and answer questions about the roles of genes at the scale of the whole mouse and human genome. The gold-standard method to uncover that role is to mutate a gene in mouse embryonic stem cells: the biochemical and developmental behavior of the mutated cells can be studied in test tubes or in mice. Until this production system was developed, conducting gold-standard research on this scale was impossible.

The problem to be overcome was: how do you scale this approach to tackle the whole mouse genome? "We have pioneered novel methods that enable us to deliver the most complex and accurate high-throughput functional genomics platform yet attempted," says Dr Bill Skarnes, Wellcome Trust Sanger Institute researcher and lead author of the study. "We believe that our work raises the standards of achievement and expectation for genome-scale programs. "It is an investment for the future: the genome-engineering technologies developed here for the mouse will drive future model systems, including work on human stem cells."

Genomics was transformed in the 1990s from individual-based research to large-scale commodity resources: an equivalent success was needed for mouse mutagenesis - to provide resources efficiently and consistently and to release them freely. Previously attempted strategies to develop mouse models on a large scale suffered the twin disadvantages of not producing precise genetic changes and favoring only the genes that were active during the experiment, leaving the remainder unaltered.

The present work solves these problems. The team exploited a system called homologous recombination within mouse embryonic stem cells, which can deliver very precise alteration of any gene in the genome. It is founded on choosing the correct recombinant DNA molecules (vectors) to target genes efficiently.

However, some genes are essential to life of the cell or organism: disruption of these might cause the cell to die and so the mutation would be 'lost' from the project. Crucially, to ensure that all genes can be disrupted, the team developed DNA vectors that create a mutation only when required: gene targeted by the mutation can be identified, but the mutation activated only when it is to be studied.

But in the essential step to realize its ambitions of a comprehensive, freely available resource, the team designed and delivered a 'pipeline' that systematically designs and constructs the vectors, and efficiently introduces the engineered DNA molecules into the mouse embryonic stem cell line developed specifically for these projects.

Finally, by employing a modular approach to the vector design, a number of other valuable resources are created en route to the generation of targeted ES cells: the paper reports that the consortium had produced vectors for more than half of the genes in the mouse genome. All of these outputs are being made available to the mouse research community through the consortium's web portal at http://www.knockoutmouse.org/.

"We are producing mutations in embryonic stem cells with greater efficiency and speed than we predicted and at well above the historical average," says Allan Bradley, senior author of the study and Director Emeritus of the Wellcome Trust Sanger Institute. "We have taken careful steps to ensure we deliver quality resources of maximum utility that will stand the test of time. Indeed, we expect our systems will be increasingly adopted by researchers using human and other cells to seek advances in the understanding of disease."

The methods the team have developed will also accelerate studies on human stem cells - cells that have the potential to grow into many different types of adult tissue. Research into producing such induced pluripotent stem cells from adult tissues (forgoing the need for embryonic stem cells) is expected to be vital in understanding human disease and therapies. The systems developed for mouse stem cells are transferable to human cells and could drive research into mutation in the human genome and its biological and medical consequences.

"Biomedical research needs biological resources on a scale that match genomics resources," explains Colin Fletcher, Ph.D., Program Director of the Knock Out Mouse Program at the National Institutes of Health, a part of the international knockout effort. "Such knockout resources are the foundation for producing thousands of valuable mouse mutants for future large-scale international phenotyping programs and will serve the biological and biomedical research community worldwide."

(ALN Magazine, 6/22/11)

AALAS Foundation Offers Online Learning Resources

While book-filled backpacks are still a common sight outside of American schools, today's students are increasingly learning via the Internet. The AALAS Foundation is adapting to shifting student preferences by continually adding to our collection of online learning resources.

School Resources Library - The School Resources Library on the

Bronze Membership Scholarships Available in the TBR Corner

by Tracey McNamara

AZAALAS is awarding bronze National AALAS memberships to technicians who are financially unable to pay for membership themselves and interested in becoming AALAS certified. Two scholarships per region will be awarded until May 5th; after which, any unused regional scholarships will then be open state-wide.

To apply, you must be an Arizona branch member and preparing to take your AALAS certification exam. Interested applicants should email the scholarship committee at: azaalas@ahsc.arizona.edu stating why they wish to be granted the award.

Not sure what to write? A few things you can include in your letter are: when you plan to take the exam, why you would like the scholarship and your future goals.

Feel free to contact me with any comments, questions, etc. at tracey.mcnamara@covance.com.

AALAS Learning Library (ALL) houses free educational materials tailored for middle and high school students.

The library currently features *Careers for Laboratory Animal Veterinarians, Careers for Laboratory Animal Technicians*, and *Working with Frogs*, a series of two courses that teach high school students about the biology, physiological adaptations, anatomy, evolution, and ecology of frog and toad species in the United States.

Future additions to the School Resources Library include *Introduction to the Field of Laboratory Animal Science* and *Caring for Animals: A Guide to Animals in the Classroom*.

Whyville- The AALAS Foundation joined forces with the award-winning Whyville website to develop the Community Animal Research Environment (CARE), a series of games in a virtual laboratory that teaches young people how animals help scientists in research — and how research, in turn, benefits animals.

In our most popular game, Critter Care, Whyville citizens take on the role of a laboratory animal technician and earn "clams" for keeping animals healthy.

Kids4Research- The Kids 4 Research website provides information to students, teachers, and parents on responsible laboratory animal care and use in biomedical research, testing, and education.

The website includes age-appropriate information on topics ranging from: animal welfare, the biomedical research process, careers in laboratory animal science, animals in research, and the benefits of biomedical research.

The site, sponsored by Charles River, also includes a series of puzzles, games, and posters for students in elementary school and middle school.

Our Future - The Foundation educates the public about the essential role of animals in research by providing students and teachers with a variety of resources to enhance classroom learning experiences.

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Visit www.aalasfoundation.org for more information about how you can help bolster the AALAS Foundation's arsenal of online learning resources. - *Ray Butler, AALAS Foundation Board of Directors*

Since You Asked..."How do you determine appropriate workloads for technicians?"

This question was sent in by a reader and is no doubt one that many people are dealing with on a daily basis. We asked Michele Whelan with The Jackson Laboratory to provide a few thoughts in response to this question.

An appropriate workload for a technician and/or team is going to be based solely on how you, the manager, want it to be and how the group/department operates. It might help to envision the workload distribution as an equation: (A) Total Time Available – (B) Non-study work = (C) Workload

For portion A of the equation, you need to consider each technician's daily rotation. Many have the standard 40 hours/week at 8 hours/day for 5 days, but there seems to be a high demand for requesting the 40 hours/week at 10 hours/day for 4 days. You may also have alternate schedules as well, instead of the regular Monday through Friday. In terms of time available, you can use the time technicians are on site just the same. In regards to the non-study work, portion B, this should encompass the time that is not spent in the animal facility. These would be tasks such as meetings, individual and/or group trainings and deskwork. While they are important facets of the day to day operations, the time required does not get included. Also in this category would be lunch time and breaks, however long they may be. By the end, for portion C, you should have the remaining time estimated for the animal work and study specific support. Animal work can be cumbersome if it needs to occur at multiple times throughout the day. Study support is not limited to just the hands on work (injections, monitoring, etc.) but you should also consider paperwork set up and any prestudy prep and communication. Something that tends to be overlooked is other assigned projects such as supply monitoring, sanitization, etc.

For example, a technician that works Monday through Friday, 8 hours per day starts with just that. Let's say that they receive 30 minutes for lunch and two 15 minute breaks throughout the course of the day. This particular individual also has a 1 hour meeting on Friday morning. All in all, this specific technician is available on Mondays–Thursdays for a 7 hour workload and on Friday for 6 hours.

Following the above equation will assist in the time allotment of a workload, but you will still need to consider the capacities in which you fill that workload. In the previous technician example, she/he is available for 6 or 7 hours of work, depending on the day of the week. It is important that what is expected of them does not exceed that. For this, begin by defining the job responsibilities that each individual carries, as well as the team as a whole. Each task will have its own estimated time in which it is expected to be completed in. You may find by doing this that each technician may have a different possible volume of assigned work. This is absolutely acceptable. It would be valuable to include the members of your team in this part of the process to ensure that you include all potential time required tasks. It would also be advantageous, for current and even future purposes, to make sure that you have a basic framework for both minimum and maximum workload instances.

ALN thanks Michele Whelan, JAX® Services Project Manager, for taking the time to respond to this question. The Jackson Laboratory; www.jax.org.

(ALN Magazine, May 2011)

Since You Asked..."How do I know when to change the filter in my isolator?"

This is a common question about isolators. We asked Frank Razzaboni of Park Bioservices, a designer and manufacturer of flexible front isolators/gloveboxes, surgical isolators, HEPA-filtered transport containers, and other biomedical equipment, to provide a few thoughts in response to these questions.

"Although not a direct measure of airflow, a Magnehelic gauge is the best practical indication of filter condition."

Filtration industry experts state that a filter should be changed when it reaches ½ its rated capacity—for example, if the CFM of the filter decreases from 40 CFM to 20 CFM. Once a filter is in place, however, it can be difficult to determine when it's at the end of the useful life span.

A Magnehelic gauge is usually built into isolators, biological cabinets, and flume hoods to measure differential pressure. Although not a direct measure of airflow, it is the best practical indication of filter condition.

The best and easiest way is upon initial setup to set the Magnehelic gauge to .1" of water then to monitor the pressure on regular intervals (weekly at a minimum). If the isolator is running on positive pressure as particulate builds up and occludes (blocks) the media, it will climb in pressure.When the gauge reads .15" the filter should be changed. If the isolator is run on negative pressure, the gauge will decrease in pressure as it becomes blocked; when it reaches .05" the filter should be changed.

Mistakenly some technicians will move the ball gauge to increase or decrease flow to correct the setting to .1"—doing this then makes knowing the relative health of the filter difficult.

As an alternative to the procedure outlined above a second method can be performed by using a brand new reference filter. First, the used filter is removed. Next, the reference filter is put in its place and with the blower on the Magnehelic gauge set to .1". The reference filter is removed. Next the old filter is reinstalled and the pressure is noted. If the pressure falls outside the proper range, (between .10-.15 for positive/ between .10 and .05 for negative) it should then be replaced.

It should be noted that although it is possible to change filters while in use in some cases it is always best to check and change filters between study groups.

Our thanks to Frank Razzaboni for taking the time to respond to this question. Park Bioservices LLC, 154 Center Street, Groveland, MA 01834; 800-947-5226; www.parkbio.com.

(ALN Magazine, Nov 2011)

Detailed Microbe Database Now Online - www.bioquellus.com

Covering a wide range of microbes, experts from leading environmental bio-contamination specialist, Bioquell, have developed a comprehensive and freely available online 'bug' database. The micro site features over 30 of the most common environmental contaminants of importance in various sectors including healthcare, life sciences, pharmaceutical and defense. This online resource provides valuable insight into the world of bacteria, viruses and fungi.

Each entry includes a high-resolution image and detailed information about the bug's biology, allowing readers to understand key points about its microbiology. The symptoms/effects of the bugs are reviewed explaining its habitat, transmission and control. Finally, technical information is provided for each bug, which typically includes various references to other useful scientific papers/articles.

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