



Arizona Branch AALAS Newsletter

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June 2006

Arizona Branch of the American Association for Laboratory Animal Science

Have you sent in your membership renewal? If not, see form on last page!

Join us July 22nd for the Summer Fun Event at the Flagstaff Arboretum

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Arizona Branch AALAS Newsletter

Arizona Branch AALAS

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President's Message

Summer is here and it is time to escape the heat!! AzAALAS is planning a fun event on Saturday, July 22, at the Arboretum in Flagstaff. Chrystal has arranged for us to have lunch in the picnic area adjacent to a meadow of wildflowers, a guided tour through the gardens, and a and a live birds of prey demonstration. For those who want to spend the weekend in the cooler climate, a block of rooms at the La Quinta for only \$87 a night has been reserved for us. Look for additional information in the newsletter.

The first half of the year has been very eventful for our organization. In February, several of us played the game of Operation with school children from the Phoenix metropolitan area at the Sally Ride Festival. This gave us the opportunity to educate the girls (and some boys) about the benefits society has gained from animal research. The Festival is an annual event and AzAALAS is planning on attending every year. Hopefully more members will volunteer in the future.

In April, Dr. Peder Cuneo gave a very interesting talk on his experiences in New Orleans post-Katrina. It was nice that members from throughout the state were able to hear the talk through videoconferencing. We will be having another video-conference this fall, so please keep a lookout for the announcements.

I hope to see all of you in Flagstaff in July. But if your travels do not take you that way, I still hope you have a very safe and enjoyable summer.

If you have any questions or comments feel free to contact me. Dr. Timothy Martin - (602)406-4003 or (timothy.martin@chw.edu).

Important Branch Dates

Summer Fun Event - 7/22/06 at the Arboretum in Flagstaff
Fall Video Conference - TBA
National AALAS Meeting in Salt Lake City - 10/15-19/06
Holiday Installation Event - 12/2/06

Past Meeting Minutes

Minutes of the 3/16/06 Board Meeting

Meeting began at 12:02 p.m. The meeting was held in the conference room of the Central Animal Facility at the University of Arizona in Tucson, St Joseph's Hospital, Arizona State University and Northern Arizona University.

President, Tim Martin opened the meeting. Minutes from January 26, 2006 were approved as written.

Treasurer, Grace Aranda distributed the financial update. There is currently \$7,796 in our various accounts. This does not include some outstanding money for travel and more. Grace is still working on the raffle proceeds and will be dealing with new membership as they come in. Secretary, Chrystal Redding distributed new membership rosters to the board. We have 82 members and more are coming. Some changes/updates need to be made on the roster. A few people are missing from the list. Grace will make the updates.

Grace reminded everyone that our next newsletter will need a new presidents welcome and a past presidents farewell.

Member Profile - Carole Baskin

Carole R. Baskin is a research-oriented veterinarian who will be moving to Phoenix from the University of Washington. She recently joined the AzAALAS branch and judging from her past experience will become an active member. She graduated from The North Carolina State University College of Veterinary Medicine, received a Master's in physiology and immunology from The Ohio State University and finished a Comparative Medicine Residency at the University of Washington. She is currently a research scientist working mostly with primates and helped design the soon to be built BSL3 animal facility at the UW primate center. She is experienced with all types of laboratory animals and expects to take the ACLAM (American College of Laboratory Animal Medicine) boards next summer before moving to Arizona.

Carole was born in Paris, France. She always wanted to be a veterinarian, loves horses and country music, and partially supported myself through college by training quarter horses to participate in western competitions in Europe. She moved to the states after high school in 1985. She has received more awards and honors than can be mentioned here. She is interested not only in doing research, but in developing animal models to help colleagues get the most out of their chosen model. Carole is married with two step-children. She has very little free time and misses riding horses, but she runs and has competed in several marathons.

When asked, how would you influence others, she said. "I think graduating veterinarians have no real idea of all the career options that are open to them, or if they do, they don't have enough mentorship to get there; in general I also think people have no sense of how critical veterinarians are to research endeavors and to public health matters. I hope I can someday be a role model in this regard, and contribute as best I can to veterinary medicine getting the credit it deserves in those areas, and help younger graduates do the same." Carole is coming to Arizona in July she and will be giving a seminar at ASU for a faculty position around the 22nd of June.

Ellen Taylor - Vendor Liaison

Ellen lives in Denver, Colorado, and has been a member of AzAALAS for over 2 years. In her 25 years of laboratory animal work or sales experience she has been a Research Biologist and Operations Manager at the American Health Foundation; a Vet. Tech. Manager at Rockefeller University; managed the Department of Comparative Medicine at the New York Medical College; the Sales Account Manager at Harlan; the Director of Biological Resource Center at the National Jewish Center; the Production Facility Manager at Emmunovet, Inc.; and Sales Account Manager at BH, Inc. She has a BS in Biology/Education, MS in Biology/Education, and a MA in Human Resource Management.

Ellen has worked primarily with rodents, performing necropsies, gross pathology, prep for histopathology, surgeries, inoculations, skin painting, MAP testing, microbiological screening, and rabies production with suckling mice. She has also been in personnel and facility management. She is familiar with conventional rodent housing, flexible film isolators, isolation cubicles, and other caging systems and requirements. She has been a National member of AALAS for over twenty years and a member of the Arizona Branch for two years. She received the Collins Award, several Mile High Branch awards, was on the AALAS Animal Technician Certification Board, and a RLATG since 1978. All this because she got into the field by answering an add in the local newspaper.

Animal enrichment and research are very important to Ellen. She said, "Animals are naturally curious and need stimulation through enrichment devices, further, enrichment decreases boredom and stress and makes better research subjects." She feels that research is important for both humans and animals and she thoroughly enjoyed the research that she did with chemical and environmental carcinogenesis. In her spare time she takes care of two Siamese cats and enjoys beading, pottery, reading forensic novels, gardening, and she loves scuba diving. Ellen does her best to influence others, "By showing them how much satisfaction that I get out of going to work every day. And by allowing them to grow and learn."

The Louise Brooks Memorial Raffle final receipts summary were distributed by Grace. Since the distribution of the summary we have received more donations. The raffle raised \$45 from Flagstaff, \$194 from Phoenix and \$647 from Tucson. Dr. Martin suggested we make it \$50 from Flagstaff, \$250 from Phoenix and \$700 from Tucson. The motion was moved, seconded and approved.

Grace now has new forms available on the website for the Buyers Guide. There is one month to go to get in the Buyers Guide.

Dr. Martin said the Sally Ride Science Festival was a great success. There were over 700 in attendance. The AZ AALAS booth used a Shrek and original "Operation" game and gave our "Animal Research Saves Lives" bracelets to winners. It was such a

success that it was suggested that we do this every year.

Still need a banner for table. Grace said she will look into the cost of a banner with the AZ AALAS graphics that will hang down in front of the table. A small one 3 x 5 would be fine.

SwAEER rep April Wagner reported so far 3 essays have come in from Phoenix and 18 from Tucson. SwAEER still needs labs for internships and judges to grade

essays. March 17th is the due date for essays.

Spring Video conference will be on April 7th at 1PM with Dr. Peder Cuneo talking about Veterinary Relief Efforts Following Hurricane Katrina.

Crystal had three options for the Summer Fun Event. The Deer farm, Snowbowl and the Arboretum at Flagstaff. Dr. Martin asked that options be sent out to the board via email.

The meeting was adjourned at 12:29 p.m.

The AALAS Community - National Presidents Message

By President Mark Suckow

It is apparent to most members that tremendous opportunity is available within AALAS. For many, professional lives have flourished as a result of the certification and registry programs and the many opportunities for continuing education, through AALAS publications, the National Meeting, and the AALAS Learning Library. Indeed, in the case of AALAS, membership has its privileges!

Inherent with opportunity that extends from membership in a professional community such as AALAS comes responsibility. Most of us in laboratory animal science have a pretty good understanding of responsibility—to animals, to investigators, to administrators. However, we also have responsibility to each other, to the discipline of laboratory animal science. A major strength of AALAS is our membership, not only in size but also in terms of diversity and breadth. For many of our colleagues this represents a tremendous knowledge and support base.

Across the membership there is a stored wealth of information, much of it accrued from years of hands-on, bench-top practical experience. Yet, it is not enough to simply have important information; we must share it. In my 20 years in this field, I have not yet encountered someone from whom I

could not learn. The health of laboratory animal science as a discipline rests upon our communication and sharing of knowledge. Indeed, it is our professional responsibility to do so. In this regard, I encourage you to share the knowledge you have accumulated. You could do so by submitting an article to *Tech Talk*, *JAALAS*, or *Comparative Medicine*. Alternatively, you might propose giving a talk or presenting a poster at the AALAS National Meeting or a branch or regional meeting. Others may wish to share information via the CompMed listserv. An even more basic approach is to simply talk with one another. I encourage you to attend branch, regional, and national AALAS meetings to meet one another, share information, and support one another.

One important way to support our colleagues is to nominate someone for an award. In addition to the many awards offered by AALAS branches and districts, several outstanding awards are offered by national AALAS. For example, the Technician of the Year Award recognizes the animal technician as an integral member of the research team; the Collins Award recognizes contributions to the field of training in laboratory animal science; the Brewer Scientific Achievement Award recognizes major and repeated scientific contributions to laboratory animal science/medicine and comparative medicine; and the Griffin Award recognizes outstanding accomplishment in the improvement of care, quality, and environment of animals used in biologic and medical research. For a complete list of awards, consult the AALAS web site (www.aalas.org). Nominations are due May 1, 2006 for this year's awards. Among our membership—your friends and colleagues—there are a great many people deserving of such recognition, and I hope you will consider nominating a deserving person for an award.

AALAS is more than an association—it is a community of people who deeply believe in the

Technician Certification Tips

When applying for an AALAS technician certification exam, be sure to always download the application form, as well as a copy of the *Technician Certification Handbook*, from the AALAS web site. Several times a year updates are made on these materials, and it's important to obtain the most up-to-date forms in order to submit a complete application. For example, recent changes to the application form now request the candidate to: 1) Indicate if this is a new or repeated exam application. 2) Support the AALAS Mission and Code of Ethics. 3) Provide new verification information required for credit cards.

Many facilities keep an AALAS certification application form on file for staff to reuse whenever they are ready to certify. If your facility keeps such a file, please consider periodically refreshing the version on file. You can cross-check the version date of the application or handbook on the AALAS web site (http://www.aalas.org/certification/tech_cert.asp).

Reduced Price on ALAT Resource Kit

The Certification and Registry Board eliminated the medical dictionary from the ALAT Exam Resource list, which are packaged as the ALAT Resource Kit. This change lowers the price of the kit to \$15 for members (\$50 for nonmembers). Members can also purchase this kit with the *ALAT Training Manual* for \$55 (\$130 for nonmembers). If you are studying for LAT or LATG certification, please remember that these exams are comprehensive over all materials related to the lower certification levels, including the ALAT reference list. For additional information about the ALAT Resource Kit go to <http://www.aalas.org/bookstore>.

(AALAS in Action, April 2006)

If you have any questions or comments feel free to contact me. Cindy Madura - (520)621-1330 or Email: madurac@u.arizona.edu.

Don't forget to check out our new ALAT Puzzle: www.azaalas.org

humane and judicious use of animals to advance science and medicine. As with any community, we will thrive or wither based on our degree of communication with, and support for, one another. It is my hope that all members will be an active part of our AALAS community.

(AALAS in Action, April 2006)

New Method of X-ray Imaging Mice

By Myles B. C. Heimsoth, BS, RALAT, Research Associate, PDL BioPharma, Inc., Fremont, CA

The use of digital technology in research has improved imaging results for many studies. One of the newest areas to be changed by the digital age is the use of x-rays in bone analysis. Previous methods involved using film and analyzing

visual differences between animals and groups. The newest use of sensors for X-rays has made it possible to produce digital images that can be analyzed using computer programs far more sensitive than the naked eye. Recently, our group has been utilizing a new sensor with very clean and reproducible results.

Most of the procedure remains the same as with previous methods. The animals are anesthetized and positioned beneath a standard dental X-ray machine. Beneath the animal, and secured to the table to prevent sliding, is an x-ray sensor from Lightyear Direct. This company also provides software for organizing and analyzing the X-ray images. This sensor is connected directly to a computer to instantly save the image on the hard drive. The user steps out of the room, activates the dental X-ray, and reenters. The sensor automatically detects the presence of X-rays and saves the image to the computer. The elimination of film drastically reduces the amount of time required to set up for the next image. The software provided to communicate with the sensor allows multiple, sequential images; all that is needed is a few seconds pause between each X-ray.

Once the X-ray images have been taken and saved to the computer, the software allows many tasks with the X-ray images. It allows quick and easy organizing to sort between different studies and different images within those studies. One can quickly pull up multiple images from the same animal in a study, or different animals to compare their bone images. One can print the image or images directly from the program or export the image as a picture file to a separate location for later viewing. There are also many built-in features for the enhancement of the image or the measurement of features for easy analysis.

Our group has been using this technique for the analysis of bone degradation in mice. At set times, X-rays are taken of the animal and saved as picture files, using the technique explained above. A

scoring system has been implemented, assigning the degree of degradation in each animal a number from zero to four. A score of zero represents no bone degradation. A score of one represents a visible thinning of the bone edges and a slightly darker center of bone compared to control. Score two represents thinning has progressed to a gap on one edge of the bone and a dark pocket is visible in the center. A score three animal has gaps on both sides of bone and a dark pocket that has progressed further along the bone. Score four animals show physical deformation of the bone, and bending at an angle is common at this stage. Animals are euthanized as soon as a score of four is reached.

Using digital technology in the capturing and analyzing of X-rays provides an efficient alternative to film. Digital also provides an easier method of transferring data between individuals, and using X-ray images in presentations.

Choosing the Right Foster Dam

By Leah Curtin, BS, CVT, RLATG, Small Animal Program Manager, Genzyme, Cambridge, MA

Neglect, abandonment, cannibalism - these are words that all colony managers fear, especially when companies or academic institutions spend thousands of dollars pairing mouse X with mouse Y in hopes of producing that genetically "perfect" offspring for the investigator. Breeding these four-legged creatures has become more challenging with the increased use of transgenic and knock-out strains. Many of these specialized individuals have small litters or are just generally poor parents.

When these conditions arise, consider the use of a foster mother to successfully rear the pups. A foster mother may also be used to enable the transgenic female to mate again more quickly. When choosing a strain to use as the foster dam, there are a few things to consider - coat color, litter size, milk production, historical parenting behavior,

Board Member Report

By Jeff Williams

Jaime White-James, Dustin McAndrew, James Badman and Dr. Michael McGarry from the Department of Animal Care & Technologies at Arizona State University submitted an abstract titled, "Alternative housing of *Xenopus laevis*". For consideration at the AALAS National Convention in October. The abstract has been accepted and Jaime White-James will be the presenter at the poster sessions.

Jaime White-James is the Lead Animal Technologist for the non-traditional species at ASU. Dustin McAndrew is the Animal Technician assigned to the non-traditional species at ASU. James Badman is the DACT, Manager Dr. Michael McGarry is the DACT, Director.

If you have an announcement (certification, award, etc.) you would like posted in a future issue of the AZAALAS newsletter contact your regional board representative or email azaalas@ahsc.arizona.edu.

availability of resources, and the nature of the work being conducted.

Coat Color - Select a foster mother whose coat color is distinct from the pups; i.e., agouti dam to a non-agouti litter of pups to clearly identify her as a foster not raising her own litter.

Litter Size/Milk Production

- The litter size and milk production can also impact fostering. If the transgenic litter is small and the foster litter is large, two specialized litters to one foster dam may be arranged. This will also require fewer foster animals; however, if a large transgenic litter with a foster dam is not producing enough milk, the pups may not survive.

Parenting Behavior -

Parenting behavior is probably the most vital consideration. If the foster female cannibalizes the fostered litter, all efforts and resources will be wasted. Individual project goals need to be evaluated to determine which strain will produce the best results. If the fostered pups need daily manipulation, select a calmer strain, (e.g., BALB/c), over a more aggressive strain (CD1).

Resources - Remember, fostering creates the need for additional time and resources. Prior to fostering, make sure all areas of breeding and production; i.e., fertility of breeders, light cycle, noise levels, enrichment/nesting material, tech handling. Use any and all resources available - consult colleagues, post e m a i l s o n C o m p M e d (compmed@listserv.aalas.org), or contact the vendors about the various strains and "tricks of the trade." If possible, try a couple of different scenarios to see what works best for your colony.

(Teck Talk, April 2006)

Award Programs Recognize Deserving Techs

Lab Products, Inc. is accepting nominations for the third annual Lab Products Animal Technician Award Program. This program rewards an animal care technician from each of the eight

AALAS districts and Canada with the opportunity to attend their first AALAS National Meeting. The award is limited to animal care personnel who have at least one year of laboratory animal care experience and who have never attended the National Meeting.

The recipients of the Lab Products Animal Technician Award will each receive an award recognition plaque; airfare, hotel, and registration for the 2006 AALAS National Meeting; one year membership to AALAS; and \$250 to cover meeting incidentals.

The nominee must be someone that actually performs hands-on animal care work or works in the cage wash area and also must be someone that is not be eligible for travel funds (from a university, institution or company) to attend a National Meeting.

Nominations are to be submitted by letter by the deadline of June 15, 2006. Letters should detail the technician's work history, accomplishments, community involvement, and include a description of how this travel award will benefit the technician and their facility. AALAS/CALAS branch membership, and involvement in branch activities, will be considered in the award selection. Supporting letters are encouraged and will be considered, but are not required.

Send nominations to:

Attn: Awards Selection Committee
Lab Products, Inc.
P.O. Box 639, Seaford, DE 19973.
Award recipients will be notified by August 1, 2006.

After attending the meeting, award recipients must present a paper at their next annual branch or district AALAS meeting on how the meeting experience affected them. Award recipients must also agree to attend the Lab Products, Inc., Tuesday night social during the National Meeting for a formal award presentation. Lastly, award recipients will serve as a judge for the selection of the next year's award winners.

Purina Mills Laboratory Animal Technician Award Call for Nominations

Purina Mills Laboratory Animal Technician Award is one of the most time honored, respected and prestigious awards in the AALAS community. Purina Mills LabDiet® invites you, your colleagues or associates to submit nominations for this award. The unique feature of this annual award is that the winner is chosen by his or her peers.

The winner of the award will receive \$500 and the distinguished 2006 Purina Mills Laboratory Animal Technician Award Plaque presented at our Technician Award Dinner during National AALAS. Nominee's will be considered on the basis of experience, animal care activities and contributions to the advancement of all aspects of the animal technician field. The selection committee will be comprised of the three most recent award winners.

If you feel the work and achievement of a Laboratory Animal Technician from your organization merits the national recognition of the Purina Mills Laboratory Animal Technician Award, your submission must be completed and returned by **July 15, 2006.**

Your submission must detail the nominee's professional experience; contributions to the advancement of technicians; a list of his or her published works; presentations and awards; national, state and local animal care activities; and a summary of "why you believe the nominee should receive the award". Please also include nominee's telephone number and e-mail address, for ease of contact should your nominee become the 2006 award winner. All nominees will receive the same careful and professional consideration.

Send your nomination to:

Purina Mills, LLC;
Attn: Tricia Lutman;
P.O. Box 66812,
St. Louis, MO. 63166-6812

Technician Oriented Events

There are 3 technician oriented events at the AALAS National Meeting: The Technician Fun Fair, the Hunter lecture, and the Technician Lunch & Learn. The Technician Fun Fair is an educational, fun event for technicians held each year during the AALAS National Meeting. This event focuses on a set of questions about AALAS, the AALAS National Meeting, and technical questions from numerous exhibiting companies located in the Exhibit Hall. The Tech Fair is an exciting ay for technicians to expand their animal care knowledge and meet techs from other facilities across the country.

Everyone competing in the Tech Fair will receive a variety of surprises and a certificate of completion worth 4 CEUs toward the AALAS Technician Certification Registry. There will be drawings made for a variety of prizes for those scoring 80% or better on their exam and those making 95% or higher will receive special recognition ribbons.

The Hunter lecture held each year at the AALAS National Meeting has laboratory animal technicians as its focus. Dr. Charles Hunter, a past president of AALAS, was a strong supporter of technician education and training. A fund was developed for technician-oriented educational opportunities, and this lecture was created. The topics and speakers vary each year and may be linked to another round table discussion or seminar. Technicians of all levels are encouraged to attend.

The newest event for technicians at the AALAS National Meeting, the Technician Lunch & Learn provides a relaxed and casual environment for technicians to learn a variety of new things while enjoying lunch with technicians from other facilities. The "learn" portion of the two-hour session will vary from year to year, but technicians can always be assured of useful and worthwhile topics relating directly to the needs of technicians.

AALAS Technician Certification Program and Registry

The AALAS Technician Certification Program was developed to recognize professional achievement and provide an authoritative endorsement of a technician's level of competence in laboratory animal technology.

The demand for fully trained, competent animal care technicians in the field of laboratory animal science will greatly increase as the need for more medical and scientific advances arises. AALAS certification is the highest recognition for technicians in the laboratory animal science profession. The AALAS Technician Certification program is described in detail in the Technician Certification Handbook (http://www.aalas.org/pdf/Tech_Cert_handbook.pdf)

A visible distinction of personal achievement and professional dedication, the AALAS Technician Certification Registry recognizes technicians who maintain high educational standards and choose to maintain a current, credible level of knowledge.

District 8 Oversight Committee Created

The committee was created so all branches within the district would have an equal voice and access to resources available to all branches including:

- 1) a continuity for how a D8 is run by creating a history for what works and what doesn't from year to year;
- 2) Speakers bureau pooling expertise of all branches and vendors;
- 3) greater communication between branches within the district;
- 4) study groups for certification preparation prior to a directed training session at D8
- 5) establishing scholarships or a site for scholarship information to be readily available;
- 6) resource for information on how to write a paper, poster, or reference. For more information check out the new D8 website at www.district8.org

SwAEBR Essay Contest Winners

The Unexpected Gift of Life by Rachel from Chaparral High School

For the past twenty-five years, my grandfather's favorite motto has been "I'm on the eighteenth hole and walking towards the clubhouse." In 1980, this was Poppy's humorous defense for dealing with the knowledge that he had but a few years to live. At fifty-five, Poppy had just suffered a severe heart-attack, which ended his business career and confined him to his home for much of the time. His father had died of an unexpected heart attack at age forty-five, his mother of a heart-attack at age sixty-five. In addition, his brother, also only forty-five, died due to cardiac complications of Marfan syndrome, a hereditary disease affecting connective tissues. Clearly, Poppy had not been blessed with healthy cardiovascular genes. But today, although still professing his pessimism, my grandfather, age eight, is alive, active, and relatively healthy.

Over the years, dozens of new cardiac drugs, devices, and techniques have been developed to save patients suffering from cardiovascular problems. Nearly every medication and procedure has been tested on dogs, cats, or rabbits to ensure its safety for the public. Scientists, for example, have known since the 1800s that electrical currents could stimulate an inactive heart to beat. However, the electronic devices were never small enough to fit inside a human being. In 1950, John Hopps built a functioning pacemaker that did indeed maintain a steady heartbeat. However, this device had to be plugged into a wall outlet and was accompanied by many other liabilities, such as not operating during a power-failure. As 1960 approached, Wilson Greatbatch, a brilliant, undiscovered inventor, began building an oscillator to record heart sounds. When he accidentally installed the wrong resistor into his unit, it began to give off a steady electrical pulse. Greatbatch realized

that the small device could be used to regulate the human heart and create a stable beat. By testing his device in dogs, Greatbatch was able to make many refinements and produce the world's first successful implantable pacemaker.

Cardiac catheterization, another life-saving aid, was first developed during the first decade of the twentieth century. This procedure, which allows doctors to insert a flexible tube into a blood vessel leading to the heart, is used to inject drugs directly into the heart, to measure blood pressure, and to monitor the functioning of the heart. Doctors first used dogs to practice and master this skill. Anticoagulant drugs, which thin the blood and prevent clots, were developed during the 1930's. For this research, scientists studied cats to test the medication's effectiveness and side-effects. If dogs and cats had been unavailable as means of experimentation, advancement in cardiac research may have been virtually impossible.

Poppy, then, is a medical wonder, a testimony to the effectiveness of biomedical research using animals. Each of the procedures and medications described above (I believe) has kept his heart functioning and given him his life back. Numerous times over the past twenty-five years, Poppy has undergone cardiac catheterization. During these procedures, doctors have monitored Poppy's blood pressure and examined the blood flow through his heart. Radioactive material and dye have been injected into Poppy's heart through similar procedures, and have allowed Poppy's cardiologists to determine the exact nature of his heart troubles and the necessary treatments. In 1990, Poppy's heart, having endured much stress and trauma, was again unable to function alone. That year Poppy's life was saved by the installation of Greatbatch's pacemaker. Electrical currents now run through Poppy's heart and ensure a steady heart beat. Just last month, a defibrillator was installed along with a new pacemaker in Poppy's chest cavity.

This new device monitors his heart beat more closely. In the event of cardiac arrest or other arrhythmias, the pacemaker and defibrillator will kick in with more power than ever before. Poppy takes approximately twenty different medications daily to guarantee that his heart continues functioning. These drugs include anticoagulants, which decrease the risk of blood clots, and antihypertensives, which regulate his blood pressure. Thanks to these premiere, high quality treatments, Poppy is alive today.

Each and every one of these procedures and medications would never have been used in human beings if they had not first been tested on animals. I may have never known my grandfather if it had not been for the brilliant scientists and the animals who sacrificed their lives for research. To them all, I am grateful.

With Animals on His Side - a Boy's Fight against Aplastic Anemia by Veronica from Corona del Sol High School

Sammy was a cute little boy with big eyes and an infectious smile. His mere presence enthralled everyone around him, brightening even the surroundings. The son of a professional musician, my piano teacher, Sammy had known many classical piano pieces ever since he was a tiny toddler. He would hum along with the tune whenever he heard the music, sometimes even calling out the composer's name. No one could ever imagine that this bright, little boy would be faced with a life-threatening disease and that the world around him would be turned upside-down.

It was shortly before Thanksgiving two years ago that Sammy, only 3 years old at the time, was diagnosed with aplastic anemia. Aplastic anemia is a rare and potentially fatal condition where a person's bone marrow slows or shuts down its function.

Bone marrow contains stem cells, which produce blood cells - red cells, white cells, and platelets. Red blood cells live for about four

months, platelets about a week, and most white blood cells a day or less. Because blood cells have such a limited life span, bone marrow needs to continually produce new blood cells of all types to replace the old ones.

Doctors could not pinpoint exactly what caused Sammy to suffer from aplastic anemia. There are certain factors that can temporarily injure bone marrow. These factors include viral infection, autoimmune disorders, or exposure to toxic chemicals. However, in a majority of these cases the exact cause of the disease is idiopathic, or unknown. Typically, the condition arises in individuals who were previously healthy with no evidence of malignant disease or exposure to cytotoxic drugs or radiation.

Sammy's doctor determined that the best treatment for him was a bone marrow transplant. Bone marrow transplantation (BMT) started in laboratory work with animals. Early experiments in the 1950's were conducted by E. Donall Thomas and George Santos in the U.S. and by Derk van Bekkum and George Mathe in Europe. Part of the research involved taking mice, rats, or dogs and irradiating them to various degrees to cause bone marrow failure. Then, bone marrow from a healthy animal would be taken and given to an irradiated animal. Laboratory experiments eventually demonstrated that mice with defective marrow could be restored to health with infusions into the blood stream of marrow taken from other mice. Attempts to convert this into clinical practice were initially hindered by immunological problems of transfer between individuals. With further understanding of the human leucocyte antigen system, rapid clinical progress was made during the 1970's and bone marrow transplantation soon became an established treatment for some immune deficiency and malignant diseases. Between 1981 and 1990, the number of allogeneic BMTs performed annually worldwide grew six-fold, from 875 in 1981 and 5,529 in 1990. Allogeneic BMTs, where the bone marrow donor and patient are

two different people, are used most frequently to treat patients with leukemia, aplastic anemia, and immune deficiency diseases.

Sammy was lucky that his older sister was a match for a bone marrow donor. The transplant was successful. Although the recovery of the bone marrow function was slow and at times unsettling, Sammy's blood count eventually bounced back. Doctors said that without the bone marrow transplant, Sammy could have died from infections or uncontrollable bleeding. The bone marrow transplant technique that was started and perfected with animal research saved Sammy's life.

Animal research contributes significantly to the advancement of medicine and is a major reason why we are living much longer than our great-grandparents. Medicines and surgical techniques developed on animals have saved the lives of countless people who would have otherwise died from bone marrow failure, heart disease, cancer and other conditions.

Once considered nearly always fatal, aplastic anemia has a much better prognosis today, thanks to advances in treatment through animal research. But the challenge is not over yet. If the cause of Sammy's illness were known, he could have been better protected and preventive measures could be adapted to deter any possible recurrence. In recent years, animal models have been developed to understand the cause of aplastic anemia and the mechanisms of bone marrow failure. Someday, animal research may bring future medical breakthroughs and put an end to diseases like aplastic anemia. Sammy and many others may never again have to face the staggering amount of suffering and devastation caused by these diseases.

Prednisone and It's Effects Upon My Family by Michael from Academy of Tucson High School

When I was around the age of 10, my parents thought it best for me to have a tiny little animal, besides my dog, to take care of and

nurture. They took me to the pet store to pick out an animal that I thought was the best choice. I chose a guinea pig, and named him Rodney. It turned out that Rodney was actually a female guinea pig that was pregnant with 3 babies. When they were born, the first two were perfectly healthy, and feeding. However, Rodney had stepped on the last guinea pig we later named Penny, because of her copper coat. Penny had a severe spinal arthritis that stopped the use of her hind legs. The choice was to either put her to sleep, or give her medication. We tried the medication in hopes of saving her life, and it worked. Within a week of using the drug Prednisone, Penny's back legs had started to function once again, and she was able to move about her cage just like her siblings. But guinea pigs aren't the only animals able to take it, so are humans, and it has effective results for certain diseases.

Prednisone is a synthetic hormone commonly referred to as a cortical steroid, usually given to treat severe allergies, arthritis, asthma and skin conditions, but may also be used to treat other conditions determined by a doctor. It works as an immunosuppressant. The immune system protects you against foreign bacteria and viruses attacking your body. In some illnesses the immune system may become overactive and cause undesirable effects. An illness like this is referred to as an autoimmune disease. Prednisone suppresses the production of antibodies. However, this can make fighting an infection much harder, but will stabilize the immune system if it is overactive. Prednisone also acts as an inflammatory reducing substance similar to cortisone, which is a common hormone the body naturally produces.

When my dad had a brain tumor on his pituitary gland, the gland that regulates light and cycles dealing with light, they decided to make the malignant mass out by drilling up through his nasal bone. After his entire pituitary gland was taken out plus another quarter of his brain, they reconstructed his nose

and sealed his skull. The procedure was flawless except the area became very inflamed and presented a new danger to my dad. They put him on the life saving drug Prednisone to reduce the swelling. Had the drug not been tested on animals to find the contributing factors that make this drug work, my dad may have not have lived to see me or my brother grow up, or been with my mom to keep her company throughout the years.

Prednisone however, is a drug that has a high adverse effect list. Side effects include insomnia, violent mood changes, and susceptibility to infections, hypertension, and skin changes such as more bruising or longer healing rate, osteoporosis, cataracts, and severe mental depression. Luckily my dad only had high blood pressure known as hypertension as a side effect.

Some say that animal testing is a sin among the medical world, but medicines have been made with the help of animals testing them to benefit people like my dad, who's life was spread with the help of this animal tested drug. An interesting fact is that during a 70-year normal human life cycle, 600 chickens, 5 cows, 30 sheep, and 30 pigs represent the number of animals a thin person will eat. That during our lifetime, only 3 mice and 1 rat will be used on our behalf to create and test a new medicine. And other animals used in testing will only amount to a tiny fraction of human who takes the tested drug. We can contrast this with the fact that during our 70-year life, pest control will kill 8 rats and 8 mice using poison.

Because of biomedical research using animals, my dad and my pet guinea pig named Penny benefited from the drug Prednisone, and have lived beyond what most doctors and veterinarians said they would. Using animals in a way that isn't going to be an experiment, but a way to find cures for diseases that may take away someone's father, mother, or beloved pet are worth the casualties of a laboratory animal.

**Summer Fun Event at the Flagstaff Arboretum - 4001 S Woody Mountain Rd, Flagstaff, AZ (928)774-1442
Saturday, July 22, 2006 at Noon**

Price: \$5 for adults, \$2 for youths (6-17) and includes lunch for AZAALAS members and guests.

The Arboretum at Flagstaff is a botanical garden, research station, and environmental education center. The Arboretum is known for its beautiful collection of 2,500 species of plants, guided tours, and spectacular views of the surrounding mountains, meadows, and forests. AALAS will have lunch at noon at picnic area west of the Wildflower Meadow and then enjoy a guided tour of the Arboretum at 1:00 p.m. *Those signing up for the tour only - we will meet at the entrance/gift shop area.* The hour-long walk allows us the opportunity to sample the best The Arboretum has to offer (see map of arboretum at www.azaalas.org). Staff and docents will explain the unique, high-elevation environment of the region, allow you to experience the wonderful smells of the herb garden (in season), visit other display gardens and explain how the passive solar greenhouse functions. *Persons with limited mobility may ride in a golf cart during the guided tour. Please inform the Visitor Center staff of your request prior to the tour. Please note that the Arboretum does not allow pets or smoking on the grounds. Assistance dogs are allowed if leashed.*

Live Birds of Prey Demonstration - After the tour we will come face-to-face with red-tailed hawks, great-horned owls, gyrfalcons and other Arizona raptors at 2:00 p.m. Program includes "on-the-fist" demonstration and dramatic "free flight" show.

Directions - The Arboretum is located 3.8 miles south of Route 66 on scenic Woody Mountain Road, on the west side of Flagstaff. The last portion of Woody Mountain Road is unpaved, but suitable for all vehicles. **From Flagstaff** - Take Route 66 west through town. When you reach the last stoplight in town (Woodlands Village Blvd.), continue on Route 66 about a mile to Woody Mountain Road. Turn left and continue 3.8 miles to Arboretum.

Hotel accommodations: A room block has been set up at La Quinta in Flagstaff for July 22 at a price of \$87 each. Each person will be calling in reservations directly to the hotel at (928)556-8666 or toll free number (800)531-5900, please make sure that you book under the AALAS group block for the \$87 rate (regular rate is \$116-180). **All reservations must be booked by Friday, July 8, 2006**, after this date you will be subject to prevailing rate and availability.

Flagstaff Arboretum Registration Form

Lunch will be Crystal Creek sandwiches, veggie tray and icy cold drinks.

Each order needs to be entered separately so that they will be ready for you when you arrive.

Name: _____
Address: _____
Phone: _____ Email: _____

First Order: Name _____ Member or Nonmember
Sandwich choices are: served on whole or half sized and served on wheat or white roll
dressed with mayo, italian dressing, tomato, cucumbers, lettuce, sprouts
Grand Rapids - salami, ham, turkey, roast beef, bacon, avocado, cream cheese, cheddar, provolone
Crystal Club - Turkey, ham, roast beef, bacon, avocado, swiss cheese
Turkey and Avocado - cheddar or swiss cheese
Super Crystal Veggie - cheddar, provolone, swiss, avocado, cream cheese, walnuts, olives, carrots, artichoke hearts and sprouts
Sonoran Veggie - cheddar, mild green chilis, picante sauce, tomatoes, cucumbers, avocado, cream cheese and sprouts
Pastrami - provolone or swiss and spicy mustard
Italian meatball - with provolone and parmesan cheeses
Drinks - cola, diet cola, lemon-lime, iced tea or lemonade

Second Order: Name _____ Member or Nonmember
Sandwich choices are: served on whole or half sized and served on wheat or white roll
dressed with mayo, italian dressing, tomato, cucumbers, lettuce, sprouts
Grand Rapids - salami, ham, turkey, roast beef, bacon, avocado, cream cheese, cheddar, provolone
Crystal Club - Turkey, ham, roast beef, bacon, avocado, swiss cheese
Turkey and Avocado - cheddar or swiss cheese
Super Crystal Veggie - cheddar, provolone, swiss, avocado, cream cheese, walnuts, olives, carrots, artichoke hearts and sprouts
Sonoran Veggie - cheddar, mild green chilis, picante sauce, tomatoes, cucumbers, avocado, cream cheese and sprouts
Pastrami - provolone or swiss and spicy mustard
Italian meatball - with provolone and parmesan cheeses
Drinks - cola, diet cola, lemon-lime, iced tea or lemonade

Make check out to AZAALAS and mail by 7/15/06 to AZAALAS, P.O. Box 210101, Tucson, AZ 85721-0101

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(In order to reduce printing costs we are looking to send most newsletters electronically)

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