Mission Statement

The Theriogenology Foundation is a global resource that supports education and research in reproductive medicine; ensuring that future generations of animals continue to enrich our lives through service, companionship, and food for a growing human population while conserving our natural resources.

From the pen of the president

I never thought I’d be caught trying to outdress a cow with a cheese hat. Our annual meeting in Wisconsin brought out my cheese tie collection, inspired by the Bovines leading the charge at the 2018 Symposium, the Packers producing Green Bay fever, and the Brewers banging out a win for our members who enjoyed a summer night at Miller Park.

AVMA President, John de Jong, addressed our ACT/SFT business meetings and reiterated his desire for our profession “to optimize our visibility using every means possible—print media, social media, radio, and television. I will harness my energy and enthusiasm and love of veterinary medicine to do so.” He challenged all veterinarians to join him in his efforts. Game on.

TF visibility in print: In the October 15, 2018 Journal of the American Veterinary Medical Association, the AVMA reported on the need for more veterinary specialists and the shortage of veterinary residency programs. They soon followed by publishing a letter to the editor that outlined the TF approach to finding a solution within our specialty: our initial commitment to thirteen AKC/AKC CHF/TF Residencies in Companion Animal Theriogenology that has already generated 5 specialists who have passed board certification. This would not have happened without partnership.

TF visibility in social media: Thanks to the initial generous funding of the Foundation and AKC Reunite, the Working Dog Project launched in June, 2017. Our scientific partner, The Broad Institute of MIT and Harvard, is examining the genetics of behavior in our working dogs through whole genome sequencing. A short PSA was made by Natural Light Films to explain the shortage of working dogs, traditional approaches to the problem and now what needs to be done to solve it. This transformational study in canine genomics will now be shared on the AKC Reunite social platforms, reaching tens of thousands of pet owners. This would not have happened without collaboration.

TF visibility in radio: The NY Dog & Cat Film Festivals have reached out for an interview showcasing the Working Dog Project for NPR radio. This is an opportunity to educate listeners that theriogenologists are not just the technicians who breed dogs, but the scientists who determine which dogs to breed. Stay tuned. This would not have happened without our membership spreading the word.

TF visibility in television: What about a Jumbotron instead? On November 3rd, a 30 second game compression film clip of the Working Dog Project was shown on the Jumbotron as part of the gameday script at the Auburn vs TAMU football game at Jordan-Hare Stadium! I hope all 87,451 were captivated, inspired and cheering! This would not have happened without leadership. Thank you Dean Calvin Johnson.


Anita M Migday DVM MS
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Samantha Cubbage Externship Grant Report

My name is Samantha Cubbage, and I am a rising second year student at Virginia Maryland Regional College of Veterinary Medicine. Over the summer, the Theriogenology Foundation sponsored me to spend two weeks working for Belle Fourche Veterinary Clinic in Belle Fourche, South Dakota. The clinic is a mixed animal practice with five practicing veterinarians. I was lucky enough to be able to shadow all five clinicians during my visit. I worked in the equine hospital shadowing Dr. Elizabeth Boos, who strongly focuses on equine reproduction and osteopathic orthopedic medicine. I was able to assist her in ultrasound pregnancy checks and four castrations. Interestingly, Dr. Boos found correlations between lack of reproductive success and forelimb lameness to deficiency of dental care and temporomandibular joint dysfunction. I was also able to shadow Dr. William Marlatt with food animal reproduction. Over the course of two weeks, the clinic performed over forty breeding soundness exams on multiple bulls. I was able to assist in multiple breeding soundness exams, palpating for the prostate and seminal vesicles and evaluating the semen under microscope. I was also able to assist in caesarian sections. Working at Belle Fourche Veterinary Clinic was a once in a lifetime opportunity. I was able to cross the country and learn about large animal medicine from different positions. I plan to take all that I learned over the summer and apply it next year during my clinical rotations.

Emily Ligon Externship Grant Report

My externship at Rood and Riddle Equine Hospital focused on equine reproductive techniques, and common reproductive pathology seen in the mare. During my time at RREH, I spent most of my time with Dr. Maria Schnobrich, Dr. Charlie Scoggins, Dr. Etta Bradecamp, and Dr. Woodrow Friend.

Throughout my time at RREH, I continued to strengthen and build my equine reproductive knowledge while adding in technical skills. I was able to rectally palpate and ultrasound mares as well as perform uterine lavages and intrauterine infusions. In addition, I observed and assisted in several procedures such as transvaginal oocyte aspirations, embryo transfer, and stallion collection and processing.

Foal work is a passion of mine and I was able to see some interesting cases that will soon be very applicable to my career. I was able to be a part of assessing a neonatal isoerythrolysis case, assist in casting of contracted tendons and perform an umbilical hernia repair.

Becky Riedel Externship Grant Report

This fall I had the opportunity to travel to Utah to work with Dr. Isaac Bott for one of my externships of my clinical year at Auburn University College of Veterinary Medicine. My small animal experiences were at Mountain West Animal Hospital, where I was able to ultrasound several dogs to diagnose pregnancies along with learning how to manage daily appointments. During my time there I had not only the opportunity to expand my knowledge of small animal medicine, but large animal as well. I was able to join Dr. Bott on a trip to an elk farm to participate in their artificial insemination program. The insemination process of elk was surprising similar to cattle and a transcervical technique was used for their inseminations. Working with these animals felt like a once in a lifetime experience and I could not have been more grateful for the opportunity.
Canine Breeder Excellence Seminar Track Report - Penn Vet

The Theriogenology Foundation was proud to sponsor the 2018 Canine Breeder Excellence Seminar at PennVet’s College of Veterinary Medicine on March 3, 2018.

This year’s seminar was expanded to include not only Veterinary CE credits, but also AKC Bred with H.E.A.R.T. CE credits!

The seminar began with a presentation on “Male Infertility” by Dr. Carol Margolis. The other morning sessions included “ART of AI” by Dr. Samantha Souther, “The Genetics of Behavior” by Dr. Carlo Siracusa and Dr. Victor Stora, a panel discussion of the morning session and a lunch talk sponsored by Purina on “GI Nutrition” by Dr. Lauren B. Pagliughi. The afternoon sessions began with a presentation on “Treatment and Control of Parasitic Infections” by Dr. Thomas Nolan, followed by talks on “Dermatologic Conditions of the Juvenile Dog” by Dr. Christine Cain, “Updates on Canine Brucellosis and Canine Herpes” by Dr. Margret Casal, and a panel discussion of the afternoon session.

The seminar attracted 26 webinar participants and 25 onsite participants. The Theriogenology Foundation extends a special thank you to Dr. Margret Casal, Dr. Carol Margolis, and the PennVet team facilitating the program and onsite management of the seminar. The proceeds from registrations benefitted the Theriogenology Foundation and the PennVet Section of Medical Genetics.

Canine Breeder Excellence Seminar Track Report - Milwaukee

The Theriogenology Foundation was proud to sponsor the 2018 Canine Breeder Excellence Seminar in Milwaukee, Wisconsin at the Hilton Milwaukee City Center on August 5, 2018.

Immediately following the annual Therio Conference, the seminar attracted an audience of 68 breeders with presentations from Drs. Carla Barstow, Victor Stora, Karen Von Dollen and Tessa Fiamengo, all residents from the AKC/AKC CHF/TF residency program. The audience also had the opportunity to hear presentations from Mr. John Lichty with MOFA Global and Dr. Erin Chu from Embark.

The Theriogenology Foundation extends a special thank you to Dr. Marty Greer for facilitating the program.
Theriogenology Foundation
2018 Review

Research Grants
The Theriogenology Foundation offers research grants up to $5,000 for proposals that focus on all aspects of theriogenology including (infertility, endocrinology, neonatology, obstetrics, etc.). In exceptional circumstances, grants up to $10,000 may be considered. Active Diplomates, Honorary Members of the American College of Theriogenologists, veterinarians who are Society for Theriogenology members in private practice, industry or on faculty, or residents enrolled in ACT approved residency programs (including the alternate route) and have a minimum of one year remaining in their training program are eligible to apply for these grants.

- Four equine research grants were awarded in 2018: Dr. Mohammad Ibrahim, University of Georgia, “Evaluation of mare endometrial cytology using the novel cytotape technique”; Dr. Soon Hon Cheong, Cornell University “Treatment response for equine fungal endometritis”; Dr. Kristina Lu, Hagyard Equine Medical Institute “Transrectal ultrasonography of the pregnant mare cervix: correlating cervical dimensions with combined thickness of the uterus and placenta (CTUP) and pregnancy outcome”; and Dr. Fabio Pinaffi, Auburn University “Effect of platelet rich plasma on quality and longevity of semen in stallions”.
- One student canine research grant was awarded in 2018: Ms. Blair Hooser and Dr. Kari Ekenstedt, Purdue University, “Genetic Investigation of Congenital Hypomyelinating Polyneuropathy in Golden Retrievers”.

Travel Grants
In 2018 the TF also awarded $4,400 in Student Travel Grants to assist veterinary students who were travelling to attend the Therio Conference in Milwaukee, WI. These students were presenting abstracts, posters, student case presentations or taking part as a quiz bowl team member at the conference. $750 was awarded in New Faculty Travel Grants.

AKC, AKC-CHF, TF Residency Travel Grants
All of the residencies are made possible by generous grants from the American Kennel Club and the AKC Canine Health Foundation. Each resident was awarded $750 towards their travel to the annual Therio Conference.

Student Externship Grants
Student Externship Grants are grants intended to support experiential educational advancement of students interested in theriogenology. Three grants totaling $3,392 in student externship grants have been awarded.

Student Chapter Grants
The TF receives and considers requests for funding of student chapter grants intended to provide educational advancement of students interested in theriogenology. Furthermore, primary consideration is given to funding requests which provide an educational experience in theriogenology that is beyond the scope of the basic curriculum. The TF may consider all or partial funding of a request based on the annual budget and the merit of the educational experience to students. Funding to cover a speaker’s travel expense is also available. Three student chapter grants have been awarded in the amount of $2,325.

Zemjanis Outreach Fund
This grant is intended to aid veterinarians traveling from developing countries to the United States for educational purposes or for sending a trainer to a developing country to conduct training on-site.
2018 Funds Raised at Annual Theriogenology Conference

Thank you to all of the individuals, companies, and organizations that supported the Theriogenology Foundation by donating or participating in the 2018 Live and Silent Auctions at the annual Therio Conference in Milwaukee!

Working Dog Project: $40,550.00
Live Auction: $30,000.00
Silent Auction: $5,667.00
Beer Tasting: $1,720.00
Quiz Bowl Clickers: $350.00
Total: $78,287.00

Complete report of 2018 support will be included in the summer issue.
The Working Dog Project

Our goal is to find the genetic loci associated with key behavioral traits of military and service dogs. While decades of selective breeding practices have shaped the canine genome, we now look to genetics to guide our selection of dogs for specific training and career paths.

THE BROAD INSTITUTE

The Broad Institute of MIT and Harvard was launched in 2004 to use genomics to advance science and human health. In 2005, Broad scientists led an international team to decode the DNA of Tasha, the first dog ever sequenced. Since then, scientists have compared the DNA of hundreds of dogs and found millions of differences. Hidden in this complexity are the genetic variants shaping each dog’s behavior.

INVEST IN IN-GENE-UNITY!

We have a unique opportunity today to apply cutting edge technology to identify the genes driving dog behavior. This is a critical first step. With the key genetic factors found, we can strategically select better working dogs, saving time, energy and dollars. Rarely do we have the opportunity to make such an impact for our national security and our disabled Americans. Please consider supporting the effort.

For the Working Dog Project, it is critically important that we include both successful and unsuccessful dogs. We are interested in:

- Dogs who about to enter a training program
- Dogs who are currently enrolled in training
- Successful working dogs
- Dogs who were unable to complete their training program for behavioral reasons

We will compare the behavioral and genetic profiles of successful and unsuccessful dogs to identify genes associated with working dog performance. By setting concrete and measurable goals with the two year Working Dog Project, we expect to powerfully advance any future phases, which may take years to explore. Our long term goal is to provide our partners with practical guidance, based on our research, that will increase the number of dogs succeeding in our program.

To donate to the Working Dog Project or learn more, please visit: www.workingdogproject.org

AKC Reunite Mission Statement

AKC Reunite, formerly AKC Companion Animal Recovery (AKC CAR), founded in 1995, is North America’s largest not for profit pet ID and recovery service.

Microchips and Pet ID

AKC Reunite is committed to Pet Identification, specifically ensuring pets have two forms of ID, a collar or pet id tag and a microchip (or tattoo), to aid in their quick identification and return home if they get lost.

Recovery

With your help, AKC Reunite will maintain its position as the national recovery database of choice in the companion animal community. AKC Reunite offers an incredible value for its microchip and ID service, with proceeds supporting the needs of the animals that inhabit and enrich our lives.

Giving Back

Our reach goes beyond identifying and reuniting pets, one-at-a-time. It is our hope to remain a pipeline of support through microchip and scanner donations, the AKC Pet Disaster Relief program, and our many other charitable programs.

Thank you to AKC Reunite for their continued support!
In its first year, the Working Dog Project has made substantial progress. We are on schedule to complete all work currently funded within the next year, and are poised to rapidly scale up the project when additional funding is secured.

In September 2017, Dr. Jessica Hekman (DVM, PhD) joined the Working Dog Project to coordinate sample collection, computational infrastructure development and data analysis.

During the first year, we focused on three main components: (1) collecting the DNA and phenotype information needed for the work currently funded; (2) developing the technology needed to analyze this data; (3) establishing new relationships with working dog organizations, including the International Working Dog Registry, American Humane, Southeastern Guide Dogs, The Seeing Eye, Diggity Dogs, Service Dogs Inc, and Leader Dogs.

The working dog community is enthusiastic about the project, and the majority of organizations we’ve spoken to are aligned with our goal of building a large, shared data resource as the best way to make rapid progress. Currently, our growth is constrained primarily by the need for additional funding to implement collaborations with all the interested organizations. We have presented the project at the Penn Vet Working Dog Conference in April and participated in the stakeholder’s meeting immediately following. Dr. Jessica Hekman is invited to speak at the Assistance Dogs International Conference (Minnesota, August 2018). Dr. Elinor Karlsson will be a keynote speaker at the International Guide Dog Federation conference and the subsequent breeder’s workshop (Sydney, Australia, September 2018).

We now have substantial buy-in from the guide and service dog organizations. Over the next year, we will focus on broadening our collaborations with law enforcement organizations. We’re also interested in developing new ways to reach individuals breeding diverse types of working dogs, potentially through members of the Theriogenology community.

**Component 1. Collect detailed behavioral phenotypes and DNA samples.**

Proposed work: We will include dogs from three different populations: (1) We will collect saliva samples and behavioral assessments from 100 NEADS assistance dogs, including both dogs in training and dogs that have been placed; (2) the Canine Performance Sciences group at Auburn University, led by Dr. Paul Waggoner, has already assembled a databank with DNA samples and full performance evaluations for 140 dogs from their breeding program, and will be a partner on this project; (3) Our Darwin’s Ark citizen science project (darwinsdogs.org) has enrolled over 13,000 dogs and collected detailed owner-reported behavioral phenotypes. We are currently generating dense genotype data for 600 of these dogs through an NIH R21 grant, and we will include these dogs in our project at no additional cost.

**Status:** Underway. ~75% complete.

**Scope.** Taking advantage of our more cost-efficient sequencing technology (see Goal 2), we were able to expand this component to include 96 German Shepherd dogs from Guiding Eyes for the Blind (GEB)

**Behavioral phenotypes.** We have complete phenotype information for the Guiding Eyes for the Blind dogs and the Darwin’s Ark project dogs. NEADS has provided phenotype records, and we are currently processing these into an electronic format. We are negotiating a data usage agreement with Auburn.

**DNA.** All DNA samples have been collected.

**Detailed description of work**

**NEADS:** NEADS continues to be an exceptionally responsive collaborator. DNA. We have exceeded our initial goal of collecting 100 saliva samples from NEADS; in total, we have...
collected 180 saliva samples. **Phenotypes.** NEADS has shared behavioral phenotype data on these dogs. We are working with an outside contractor and the International Working Dog Breeders Association to develop a system for importing the phenotype data (which is not in an electronic format that can be automatically processed) into the International Working Dog Registry (IWDR) database. With this collaborative approach, the data will be accessible to us, and also allow NEADS to access services provided by the IWDR. This integration with IWDBA will facilitate phenotype collection from other organizations in the future.

**Guiding Eyes for the Blind:** Guiding Eyes for the Blind (GEB) is an extremely supportive and responsive collaborator. GEB has given us access to their exceptionally well maintained database, which includes detailed records on every dog they have bred for nearly 20 years. **DNA.** GEB has provided 96 DNA samples from German Shepherd guide dogs, providing the critical second breed needed to develop our cross-breed meta-analysis approach. These samples will be sent for sequencing within the next month. **Phenotypes.** We are collaborating with GEB and statistician Eldin Leighton (IWDBA) to analyze heritabilities for traits important to guide dog success. We are currently analyzing the heritability of Behavior Checklist (BCL) phenotypes (the guide dog industry standard) for fifteen generations of guide dogs (5,338 dogs total).

**Auburn CPS group:** We have launched the collaboration with the Auburn CPS group, providing a critical second type of working dog for our pilot project. **DNA.** Auburn has sent 198 DNA samples from their performance scent dog breeding program. **Phenotypes.** We are currently negotiating a data use license they have requested prior to sharing phenotype information.

**Darwin's Ark citizen science project:** We now have both genetic data and behavior phenotypes for 768 pet dogs (an increase from 350 dogs at our last report). This includes 332 dogs with genome sequence data and over 400 with dense genotype array data (our older approach). We anticipate this will increase to over 1000 within the next 3 months. We also launched the new Darwin's Ark website (darwinsark.org), which offers owners the opportunity to fund the sequencing of their own dogs, enabling us to expand even more rapidly. This work, done using funds from other sources, will significantly benefit the Working Dog Project.

**New relationships.**

We have established new relationships with working dog groups who are enthusiastic to share both DNA and phenotype information. Because some of the groups, such as American Humane, do not currently rigorously phenotype their dogs, we are building capacity to collect working dog phenotype information into the Darwin's Ark website. American Humane is serving as our pilot project in this capacity, encouraging eight of their working dog handlers to report on their dog's behavior through the Darwin's Ark site. Based on these results, will assess what additional, working dog specific surveys we need to build into Darwin's Ark to ensure we collect robust phenotype data. All results will be shared with American Humane to support their training program.

**Next steps.**

We anticipate completing this component within the next 3-6 months. This will include collecting DNA and behavioral phenotype information from our existing collaborators, and processing that data into an electronic format. We will continue to develop the relationships and systems needed to expand the project in the future.

**Component 2. Generate low-cost, full genome sequence information on each dog using Broad Institute multiplex sequencing and whole genome imputation.**

In component 2, we propose to generate full genome sequence information on each dog by applying genome imputation to low-coverage, whole genome sequencing data. At a price point comparable to using genotyping arrays, we will produce a dataset with far more statistical power, and one in which we can detect interesting genetic variation missed in the smaller panel of markers chosen for the array.

**Status: Underway. ~75% complete**

**Scope.** We are now sequencing through a new relationship with a company called Gencove. Together, we have developed the computational pipelines needed for low cost, low-pass, highly accurate full genome sequencing of dogs.

**Detailed description of work**

**Reference dataset:** We have developed a new low-pass sequencing approach that combines 1x sequencing with imputation. To do this we are using a reference panel, with a large number of deep-sequenced dogs, provided by Elaine Ostrander’s research group at NIH. We are currently processing additional data provided by Dr. Ostrander and others, and anticipate the reference set will exceed 700 dogs by the end of 2018.

**Low-pass sequencing:** The quality of the low-pass sequencing approach has far exceeded our expectations. With just 2ng of DNA (1/350 of that required for a genotyping array), we get over 8.8 million data points per dog and capture nearly all common genetic variation. For comparison, a genotyping array costs more per dog, requires 750ng of DNA, and gives information on fewer than 700,000 data points per dog. To assess the quality of the data, we measured the concordance of low-pass sequencing data with “gold standard” deep-sequencing data, and found it was as accurate as genotyping (~99%), yet provided 12-15x more data. As very little DNA is required for low-pass sequencing, we can collect just a single swab per dog and be confident we will have enough DNA, lowering costs further.

**DNA sequencing status.** We have now shifted entirely to low-pass sequencing. We have sequenced 110 NEADS dogs (exceeding the goal of 100 dogs). The GEB dogs are in process,
The Working Dog Project has caught the attention of national and local breed and obedience clubs! Collectively, with over 5000 clubs nationwide, they have the resources to significantly impact this ongoing genetic research. As all of you work with clubs in your local area and give presentations, the downloadable WDP videos are all available at www.workingdogproject.org. Please contact us for rack cards and promotional materials; we are relying on you to spread the word!

Next steps
We anticipate completing this component within the next 3-6 months. Methods development is complete, and Gencove low-pass sequencing takes approximately 2 months to complete.

Component 3: Develop and apply new statistical methods for meta-analysis of both working dog populations and a cohort from Darwin’s Ark.

Using the data from component 2, we will develop the methods for applying meta-analysis to large, very dense genomic datasets for dogs. We will adapt tests used in human populations to account for factors unique to dogs, including the limited genetic diversity within breeds, the large genetic differentiation between dog breeds, and the mixing of breeds seen in many pet dogs.

We will apply the dog specific methods we develop to the data from component 2 and search for genetic variants associated with scenting and/or retrieving ability.

To facilitate development, we will first assess our overall statistical power to detect any causal variants using the genome-wide distribution of association scores. We will examine in depth the top loci and their effect on phenotype. As we have detailed information for each dog, we will integrate environmental factors that might influence the behaviors of interest into the analysis through a joint meta-analysis for main and interaction effects. We will also use cross-phenotype meta-analysis to check for multiple associations at a single marker for both retrieving and scenting ability, to assess whether they share a common genetic background or are entirely distinct abilities. Finally, we will carry out exploratory cross-phenotype checks, to see if any of our significant markers are also associated with other phenotypes.

Status: Underway. ~25% complete.

Detailed description of work

Data. We currently have low-pass DNA sequence data from 312 Darwin’s Ark dogs and 110 NEADS samples. By the end of September, we will also have data for 96 GEB dogs.

Pilot GWAS and data analysis. Using the current Darwin’s Ark data, we have started developing the analytical methods needed in the Working Dog Project. We began with a genetic study of dog height. This trait is driven by large-effect genetic variants, making it a perfect “proof-of-principle” test (because behavioral traits are more genetically complex, we anticipate they will require many more dogs). The results of this study of 312 dogs were exceptionally strong. The low-pass sequencing data was very high quality, and our owner reported trait (dog height relative to adult human) was sufficiently accurate. We not only found genes already linked to dog size in previous studies (IGF1 and HMGA2), we found entirely new genes (including LCORL, a gene associated with size in horses) not detected in studies using less complete genetic data and less sophisticated analytical approaches.

In collaboration with Guiding Eyes for the Blind, we are also currently doing a pedigree analysis to identify behavioral phenotypes with the highest heritability. These highly heritable traits are most likely to yield results with a relatively small number of dogs.

Next steps
We will run our genetic analysis on our four study populations: the NEADS dogs, the Guiding Eyes for the Blind dogs, the Auburn dogs and the Darwin’s Ark dogs independently, and then combine the results using a meta-analysis. We will focus on four phenotype categories: (1) scenting ability; (2) retrieving ability; (3) toy drive; (4) any additional highly heritable traits.

We will first develop standardized metrics for measuring those phenotypes in each of our four study populations. We will then implement the statistical analyses planned for this component, including meta-analysis across all four study populations for each phenotype.

We anticipate the total number of dogs in the meta-analysis will exceed 1000. This may yield significant results, if large effect variants are responsible, but larger datasets will be needed to fulfill the goals of the Working Dog Project. We will develop algorithms that are easily scaled up as our available data increases.

Thank you!
We deeply appreciate the support we have received from the Theriogenology Foundation, and look forward to working together to grow the Working Dog Project in the future.
TF Donor Recognition

Contributions to the Theriogenology Foundation increase educational opportunities, support research and enhance the field of theriogenology.

Supporting our Future: Levels of Annual Individual Giving

- **Genesis Society**: $5,000 or more
- **Visionary**: $1,000-$4,999
- **Pathfinder**: $100-$999
- **Supporter**: $25-$99

Donors will be recognized in the Foundation publication THERiver.

Rocky Mountain Society

This Society recognizes donors who have made an annual commitment to giving at the Supporter Level or higher for five or more consecutive years. The milestone years for recognition in the Society are 5, 10, 15, 20 and 25 consecutive years.

The 10 year level is known as the Dr. S. J. Roberts Circle of the Rocky Mountain Society.

The 20 year level is known as the Dr. David Bartlett Circle of the Rocky Mountain Society.

First-time Rocky Mountain Society members, or those reaching new milestones, will receive by mail a RMS welcome letter and lapel pin denoting the milestone period of consecutive year giving.

1954 Society

This Society recognizes donors whose legacy gifts play a key role in securing the future of the Theriogenology Foundation. These donors have remembered the TF with a lifetime income gift or as a beneficiary of a will, trust, retirement plan, or life insurance policy.

The 1954 Society is named for the year in which the Rocky Mountain Society for the Study of Breeding Soundness in Bulls (now the Society for Theriogenology) was organized. Circles within the 1954 Society provide for additional recognition opportunities:

- **Legacy Circle**: honors donors whose cumulative lifetime giving totals between $60,000 and $100,000.
- **Founders Circle**: honors cumulative lifetime giving that totals between $100,000 and $150,000.
- **Inventors Circle**: honors cumulative lifetime giving that totals between $150,000 and $200,000.
- **Fertile Circle**: honors cumulative lifetime giving exceeding $200,000.

An appropriate plaque and lapel pin will be presented for each level of recognition. Members of the 1954 Society will be invited to attend a private stakeholders reception at the Annual Conference and will receive updates on Foundation giving news.

Planned Giving Donors

Thank you to the following supporters for their generous designated gifts to support theriogenology and the Theriogenology Foundation. Have you been thinking about this but just not finished setting it up? Please give us a call for more information or to let us know when you have included TF in your will. Your planning now will support theriogenology in the future and insure that your wishes are fulfilled.

1954 Society

- Steven Brinsko
- Russell Crisman
- Lowry Heussler
- Ira Kaplan
- Michelle LeBlanc
- Carol McLeod

Anita Migday
- Tom Riddle
- Mike Thompson
- Warren Wilson
- Dwight Wolfe

Rocky Mountain Society

- Ana Adams
- American College of Theriogenologists
- Barry Ball
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- Iris Zinck
Donate your required minimum IRA distribution to the Theriogenology Foundation

Did you know? People age 70½ or older can transfer funds directly from an IRA to a qualified charitable organization like the Theriogenology Foundation. While the contribution isn’t deductible, it’s not subject to income tax, either. Since the donation of the IRA money would otherwise be taxed when you withdraw it, this equates to a 100% deduction for the amount donated, up to $100,000.

To qualify for this tax break, the distributed funds must go directly from the IRA trustee to the charitable organization. Consult your tax professional for more information or give us a call with any questions.

Donating to the Theriogenology Foundation

Did you know that there are several ways that you can make a donation to the Theriogenology Foundation that will not affect your current lifestyle, or will even pay you an income? You can leave benefits from a Retirement Account, Life Insurance policy, real estate or personal property (collectibles, art, books). Take advantage of the many creative ways to benefit yourself, your beneficiaries and the Theriogenology Foundation while saving tax dollars in the process. Please take a moment to explore the Planned Giving page on the Theriogenology Foundation’s website, http://therio.plannedgiving.org. There are worksheets available and additional information to help you consider all of the options.

Gifts That Pay You Income

Which Life-income Gift Best Fits Your Needs?
- Charitable Gift Annuity
- Deferred Gift Annuity
- Charitable Remainder Unitrust
- Charitable Remainder Annuity Trust

Gifts Anyone Can Make

Popular Giving Arrangements
- Gifts from Your Will or Trust
- Gifts from a Retirement Plan
- Gifts from Your Donor-Advised Funds
- Gifts of Stock and Appreciated Assets
- Gifts of Life Insurance
- Gifts of Real Estate
- Gifts of Personal Property

Gifts That Protect Your Assets

Popular Giving Arrangements
- Retained Life Estate
- Charitable Lead Trust

www.theriofoundation.org