Animal Behavior Management Alliance

2016 Annual Conference

Welcome!

Greetings and welcome to the 2016 Animal Behavior Management Alliance Conference!

The week is packed with some amazing talks. As I read through the schedule I am really excited to see every one of them. I have always loved going to ABMA conferences because I learn from each and every training or enrichment talk. I get new ideas and come back revitalized and inspired to continue to improve the welfare of all the animals in our facility.

We are kicking off the conference with our keynote speaker Dr. Susie Ellis, the Executive Director of the International Rhino Foundation (IRF). She will be educating us on the partnership between zoos and IRF that help them reach their goals of *in-situ* conservation to prevent poaching and habitat loss. They have been working for 25 years with one of the most threatened species on earth and now it is more critical than ever to collaborate and unite our efforts.

Some of the highlights will be focused on welfare talks. Margaret Rousser, past president of ABMA and manager at the Oakland Zoo, will start off the talks with an out of the box matrix on how to shift our priorities in favor of psychological well-being and why. Another talk people must attend is the integration of operant conditioning and veterinary care in wildlife management by Ray Ball D.V.M at Busch Gardens. As a veterinary technician and animal trainer this has always been a passion of mine to train animals to cooperate in their own health care. Mark Simmons will also be telling a cautionary tale about the Killing of Keiko, the killer whale from the movie Free Willy. We have to understand and be able to speak to the opposition about wildlife that live in captivity and why we cannot just "set them free". We will also have daily training demos with the local SPCA, great panels, and our Research and Evaluation workshop by Dr. Nicole Dorey, a former ABMA board member.

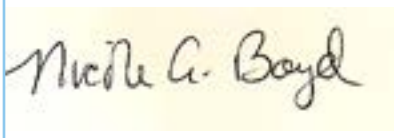
Also it wouldn't be an ABMA conference without some great site visits starting with the Ice Breaker at the Florida Aquarium. Then, since we know animal care professionals can't sit in a room too long, we head to Busch Gardens our second day and on the fourth day head out to see the Lowry Park Zoo. All of these facilities have been working really hard to make our visits extra special. A big shout out to the conference committee for all their hard work.

Thank you to the other facilities that have offered pre and post conference trips, and in the learning spirit, Precision Behavior also offered a pre conference workshop from a founding member Thad Lacinak and former board member Angi Millwood, two of the best in the business!

We hope you all enjoy this conference, get to attend every talk, network with people from other zoos, aquariums, training facilities, and laboratories, and create contacts and friends that will last a lifetime. ABMA is always looking for enthusiastic members to join in committees and even board positions. Please consider getting more involved - we can always use the help! Just find a board member or join the program council Wednesday night and see where you might be the most help.

Thanks again for supporting ABMA!

Sincerely,



Nicki Boyd, President Elect

Breaking Down Barriers:
New Possibilities in Animal Welfare
April 17-22, 2016
Tampa, FL

Conference Hosts

Busch Gardens TAMPA, FL

TAMPA'S LOWRY PARK ZOO

Icebreaker Host

THE FLORIDA AQUARIUM DOWNTOWN TAMPA

Disclaimer

One of the core values of the ABMA states that:

"*The sharing of knowledge and new ideas is fundamental to advancing animal behavior management.*"

We do this in many ways, such as through our conferences, publications, and social media. This week you'll be seeing a lot of fascinating and thought-provoking talks, workshops, and presentations. Some you may agree with, others may challenge your perceptions and ideas. And while the content that you see in each presentation reflects the views of the author and does not necessarily represent the feelings of the ABMA or the board of directors, we think that the diversity of subjects and viewpoints represented by our members, at our conferences, in our publications, and via our social media outlets is one of the strengths of this organization. We encourage you to listen to all that you hear this week with an open mind, because you might be surprised by what you learn. Thank you and enjoy the conference!

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GENERAL INFORMATION

Badges
Please make sure to wear your badges throughout the conference. These badges are your admission to the various events and programming.

Behavioral Management Fund
The BMF Committee overlooks the Scholarship/Grant process by developing the criteria for the application, review of the applications, and selection of a recipient. The committee is also responsible for the fundraising and development of the Behavior Management Fund. The proceeds a portion of the silent auction support the Behavioral Management Fund.

ABMA Travel Scholarship
The purpose of this scholarship is to assist an ABMA member who would otherwise be unable to secure financial support to attend the conference. The Travel Scholarship will help the award recipient by giving them the ability to present their work and it will help the organization by giving ABMA members the opportunity to hear presentations that they would not have otherwise been able to. The Travel Scholarship supports the ABMA Core Value of "Sharing the Knowledge". The Travel Scholarship is made possible by the Behavior Management Fund (BMF) Committee.

This year's recipient is:

"Here and Now with Your Animal"- Techniques to Improve the Mental Awareness of Trainers and So Enable More Effective Training

František Šusta, Petra Jaškówová; www.trainingisdialogue.com

For more Travel Scholarship information or to apply for next year's conference, please visit *www.theabma.org*.

Conservation Gift
Each year the BMF provides a conservation-related gift to conference delegates. This year we are doing something new! There are three different conservation organizations that delegates can vote for when registering for the conference. Each vote will correlate to a dollar amount given to that organization.

Gopher Tortoise Council
http://www.gophertortoisecouncil.org/
Guardian Angel Dog Rescue
http://guardianangeldogrescue.org/
The Nature Conservancy-Florida Panther Land Acquisition
http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/florida/explore/save-the-florida-panther.xml

Conference Survey
Once again this year ABMA is being green and doing the conference surveys online. The results of these surveys help the ABMA to make each conference successful and better suited to the members' needs. Your responses are greatly valued and do ensure the ABMA's future conference programming is suited to the interests of our members. The survey will be emailed to registered delegates at the closing of the conference or accessed by the following link:

http://survey.constantcontact.com/survey/a07ecc74bjtil9lzqj9/start

These surveys are an important component to the assessment of the ABMA, and we thank you for your

time in completing them.

Silent Auction Donations
Silent auction items can be dropped off at registration. If you did not already, please send us an email with the item you are bringing and its value, please let us know when you drop the item off so that we can create a bid sheet.

SCHEDULE AT A GLANCE

SUNDAY, APRIL 17

7:15am	**Depart for Pre-Conference Workshop**	*Valet Drop off/Pick up*
8:00am – 4:00pm	**Pre-Conference Workshop at Busch Gardens** **Presented by Precision Behavior**	
1:00pm – 5:00pm	**Registration**	*Ballroom Foyer*
6:00pm – 9:00pm	**Icebreaker at Florida Aquarium**	

To get to the icebreaker delegates can take the trolley, walk, bike, get a taxi, etc. The trolley station is about two blocks away and there are passes in the registration bag. The aquarium is about 1 mile from the hotel if you choose to walk or bike.

MONDAY, APRIL 18

*****All activities are in the Ballroom unless otherwise noted*****

7:00am - 8:00am	**Registration**	*Ballroom Foyer*
8:00am–8:30am	**Welcome**	
8:30am – 10:00am	**Keynote Address** Dr. Susie Ellis, International Rhino Foundation ***Break***	
10:20am – 10:50am	**International Training Conference Presentation**	
10:50am – 11:10am	**Presentations**	
11:10am – 12:10pm	**Special Presentation:** *Integration of Operant Conditioning and Veterinary Care in Managed Wildlife* Ray Ball, DVM, Tampa's Lowry Park Zoo	
12:10pm - 1:20pm	**Lunch on your own** **OR** **Lunch and Learn**	
1:20pm – 2:10pm	**Presentations** ***Break***	
2:40pm – 3:30pm	**Research and Evaluation Workshop** *Methods to Aid in Behavioral Choices for the Individual Animal* Dr. Nicole Dorey, University of Florida ***Break***	
3:50pm – 5:00pm	**Research and Evaluation Workshop continued**	
5:00pm – 5:20pm	**Collabornation Demonstration**	
7:00pm – 8:30pm	**Professional Development Workshop**	

TUESDAY, APRIL 19

6:15am	**Depart for Busch Gardens**	*Valet Drop off/Pick up*
12:00pm – 1:00pm	**Lunch**	
6:00pm – 7:00pm	**Dinner**	
7:00pm – 9:00pm	**Poster Night**	
9:30pm	**Return to hotel**	

WEDNESDAY, APRIL 20

7:30am – 8:00am	**Registration**	*Ballroom Foyer*
8:00am – 10:10am	**Presentations** ***Break***	
10:30am – 12:00pm	**Training 101: Terminology Panel**	
12:00pm – 1:20pm	**Lunch on your own**	

	OR	
	Lunch and Learn	
1:20pm – 2:40pm	**Presentations**	
	Break	
3:00pm – 4:00pm	**Special Presentation:**	
	Killing Keiko: A Cautionary Tale of One Whale	
	Mark A. Simmons, Executive Vice President, Ocean Embassy, Inc. and Managing Partner, OERCA	
4:00pm – 5:00pm	**Committee Meetings**	
5:00pm – 6:30pm	**Program Council Meeting**	
7:00pm – 9:00pm	**Silent Auction**	*Terrace*
	Book Signing	
	Killing Keiko: A Cautionary Tale of One Whale	
	Mark A. Simmons, Executive Vice President, Ocean Embassy, Inc. and Managing Partner, OERCA	

THURSDAY, APRIL 21

8:45am	**Depart for Lowry Park Zoo**	*Valet Drop off/Pick up*
12:00pm – 1:00pm	**Member's Business Meeting**	
5:00pm	**Depart for the hotel**	
7:00pm – 10:00pm	**YBOR City Pub Crawl**	*Trolley Station*

FRIDAY, APRIL 22

7:30am – 8:00am	**Registration**	*Ballroom Foyer*
8:00am – 10:10am	**Presentations**	
	Break	
10:30am – 12:10pm	**Presentations**	
12:10pm – 1:20pm	**Lunch on your own**	
	OR	
	Lunch and Learn	
1:20pm – 2:00pm	**Presentations**	
2:00pm – 3:00pm	**Advanced Training**	
	Break	
3:20pm – 4:40pm	**Presentations**	
4:40pm – 5:00pm	**2017 Conference Announcement**	
6:30pm – 7:00pm	**Cocktails**	*Terrace*
7:00pm - 9:00pm	**Banquet**	

SATURDAY, APRIL 23

8:45am	**Depart for NEI Ranch Post-conference Trip**	*Valet Drop off/Pick up*
3:00pm	**Return to hotel**	*Main House*
7:45am	**Depart for Sea World Post-conference Trip**	*Valet Drop off/Pick up*
4:15pm	**Return to hotel**	

DAILY SCHEDULE Sunday, April 17

7:15am **Depart for Pre-Conference Workshop** *Valet Drop Off/Pick Up*
8:00am – 4:00pm **Pre-Conference Workshop at Busch Gardens**
Science, Common Sense and Compassion for Optimal Animal Training & Welfare
Thad Lacinak & Angi Millwood
Precision Behavior

Take your training up a notch! This full day workshop is designed to equip animal trainers to be the best they can be. Appropriate for novice to advanced animal keepers and trainers, participants will learn the details and strategies that can shift their training success into high gear. Although this is an advanced workshop, all concepts are explained in depth with real-world examples. The goal is to arm trainers with information and tools they can implement immediately into their daily training routines for the continued growth of the animal training field. Potential topics include:
-Clear communication: a primer for teaching any species
-Advanced reinforcement concepts that can benefit all trainers
-Frequently misunderstood ideas or strategies in animal training
-What matters the most
-Husbandry & medical training

In 2008, Thad retired from a 35-year career at Busch Entertainment Corporation as Vice President and Corporate Curator of Animal Training where he directed animal training and enrichment efforts for all U.S. SeaWorld and Busch Gardens theme parks. Thad oversaw and coordinated the efforts of over 450 animal trainers and keepers at these parks. In short, he had the world's largest animal training staff as well as the world's largest collection of trained animals under his purview. Lacinak was instrumental in developing SeaWorld's and Busch Gardens' industry-leading techniques, husbandry procedures, and spectacular killer whale shows. Thad led the team that won the prestigious THEA Award for the *Believe* killer whale show. He was key to developing the original concept for Discovery Cove and served as an integral member of the design and implementation teams. Lacinak is a member of the International Marine Animal Trainers Association where he served as Vice President and he was a founder and President of the Animal Behavior Management Alliance. In addition, he has won numerous awards for presentations and workshops at professional conferences. Since the publication of the New York Times' best-seller, *Whale Done!* in 2001, which sold over a million copies in eighteen languages, Thad continues to present keynote speeches, seminars and workshops globally to major corporations explaining the Whale Done process, vastly improving working relationships. *Whale Done Parenting* was released in the Fall of 2009. The third book in the Whale Done series, *The Whale Done School* was released in the Spring of 2012.

Previous to founding Precision Behavior, Angi held positions at several top-ranked animal facilities. She was a Manager of Marine Mammals at the Atlantis Resort in Dubai and a member of Disney's Animal Kingdom's opening team, working with carnivores, apes and rhinos and assisting with the implementation of a variety of behavioral husbandry initiatives. She was the Animal Training Coordinator at the Fort Worth Zoo, responsible for the Zoo's animal training programs for more than 350 animal species. She was also the Director of Behavior Programs at Natural Encounters, Inc. (NEI) and earlier, worked at the Lubee Foundation, a bat conservation center. Due to her background in both animal show production and her extensive human theater experience, Angi has knowledge of storyboarding show concepts, coaching individuals for stage presence, and critiquing show production. Angi is currently a professional member of the Animal Behavior Management Alliance (ABMA), where she served for years on the Board of Directors. She is also a professional member of the International Marine Animal Trainers Association (IMATA). Angi has conducted numerous workshops for national and international zoo staff, college students and busi-

ness professionals. She has served as a Course Instructor for the AZA professional courses: Animal Training Applications in Zoo and Aquarium Settings and Meeting Your Institutional Goals through Program Animals. She has presented numerous papers and workshops at professional conferences world-wide and in 2005 received the prestigious Animal Welfare Advancement Award from the ABMA. She is a graduate of Jacksonville State University with a double major in Theater and English.

1:00pm – 5:00pm **Registration** *Ballroom Foyer*
6:00pm – 9:00pm **Icebreaker at Florida Aquarium**
To get to the icebreaker delegates can take the trolley, walk, bike, get a taxi, etc. The trolley station is about two blocks away and there are passes in the registration bag. The aquarium is about 1 mile from the hotel if you choose to walk or bike.

DAILY SCHEDULE Monday, April 18

*****All activities in the Ballroom unless otherwise noted*****

7:00am - 8:00am **Registration** *Ballroom Foyer*

8:00am–8:30am **Welcome**

8:30am – 10:00am **Keynote Address**

Dr. Susie Ellis, Executive Director of International Rhino Foundation

Break

10:20am – 10:50am **Presentation from Twycross Zoo International Animal Training Conference**

There's Nothing Wrong with a Pig in Sh*t!

Shifting Our Priorities in Favor of Psychological Well-Being!

Margaret Rousser, Oakland Zoo

Animal welfare is a hot topic worldwide, but we still do not have a practical definition that addresses the most common concerns. That shouldn't stop animal care givers from striving to enhance an animal's well-being. In the past 30 years, we have witnessed changes in the quality of care we provide our animals from improved nutrition and veterinary care to new substrates and disinfectants. These improvements in animal management and husbandry have enhanced the lives and health of our animals immensely which has led to increased longevity in nearly all species. But we still need to ask ourselves are we providing good *psychological* welfare for our animals? Even more recently, operant conditioning and environmental enrichment have become easily applicable tools for improving animal welfare, but time is a significant factor in administration of these tools. Too often, we favor basic husbandry over enrichment and training, but an animal's psychological welfare should be considered a top priority. Oakland Zoo in California is addressing the issue of prioritizing psychological welfare by creating clear expectations for keepers and managers so that time for training and enrichment is not just possible, but mandatory! The resulting psychological well-being matrix, individually developed for each species, allows keepers to constructively prioritize their time and find a balance between basic husbandry and psychological well-being. Not only has this matrix enhanced the quality of life for our animals, but it creates a practical infrastructure for keepers and managers to offer the quality of care their animals require on a daily basis.

10:50am – 11:10am **Presentations**

Breaking Down Barriers: What Dog Trainers Can Learn from Zoo Animal Trainers

Anna Oblasser-Mirtl; AnimalTrainingCenter

Worldwide there are approximately 6 million dogs living in our homes, some of which do amazing things like guiding blind people or detecting mines. Dogs are without a doubt intelligent creatures that have great learning abilities and deserve force-free and respectful handling. Even though there has been an increase in positive reinforcement training in the dog training world, almost all medical and most husbandry procedures are done without giving the dog a choice. Very often they are forced into stressful and painful situations, which compromises the dog's welfare and can severely harm the individual human-dog relationship. Inspired by the training done with many zoo animals, we decided to train dogs to participate voluntarily in medical and husbandry procedures. We created a program utilizing a variety of easy-to-train cooperative behaviors that give dogs choices and control in scenarios where previously they had none. Our training has been very successful and is a great example, both of how different types of animal trainers can learn from each other regardless of what species they typically work with, and how this learning can significantly improve an animal's welfare.

11:10am – 12:10pm **Special Presentation**

Integration of Operant Conditioning and Veterinary Care in Managed Wildlife

Ray L. Ball, D.V.M., Tampa's Lowry Park Zoo

The primary focus of the modern zoo veterinary clinician is to ensure the heath and well -being of the collection. There are many components and disciplines involved in this charge. All the basics of domestic animal medicine and surgery have a significant role in this. Nutrition and the proper design and use of physical facilities are also important for obvious reasons. Psychological and sociological aspects of zoo animals are relatively new concepts into their overall health. Environmental enrichment has become its own discipline and is ever growing into the everyday care of these animals. A comprehensive preventative health care program involves not only those items we take for granted as veterinarians (physical exams, screening for infectious agents, etc.) but also looks at the mental health of the collection. While enrichment and operant conditioning can provide a means for good mental health it can also become a very powerful tool in the zoo veterinarians' arsenal to help them achieve their goal of ensuring the best possible care for the collection they are responsible for.

Operant conditioning (OC) is an extremely useful tool for the clinical staff, a method to help manage animals, an addition to the enrichment plan, and generally well received by the animal care staff. For OC to work for facilitating veterinary care several aspects must be synchronized. First, trained animal care staff must be able to work with the animal, or group, using positive methods to achieve the desired behavior. Second, physical facilities must allow, or be re-designed to allow, the physical manipulation or behavior to be carried out. The veterinary staff must then be willing to commit a substantial amount of time into the entire project before any results come. The same standards of training apply for the veterinary staff and discipline must be maintained. Consistency with what you do as a clinician around the animals is as important as it is when the staff works with them.

From a clinical standpoint, behavior is best thought of as a summation of the physical, sociological, environmental, and psychological health or an individual or group of animals. Behavior is actually one of the most sensitive indicators that one of these systems is being affected adversely and therefore a sensitive barometer to health. Being able to simply have animals comfortable around the veterinary staff is a huge step in advancing health and welfare of any collection or individual. Perhaps the first and most important step for a veterinarian is developing a rapport with the animals. This can be achieved by simply having them comfortable with you and in this context can become play. Consistent follow up is in order to maintain established criterion of behavior or just a level of comfort with individual animals. All take considerable time but can be very rewarding for yourself as a clinician, the staff, and especially for your patients. Investing in the animals and the care staff equally is essential and interpersonal relationship are especially critical. It is important for veterinarians to remember that every animal or group of animals has some person(s) responsible for its care. If you cannot manage that relationship there is no possibility to improve the care of the animals involved.

Ray Ball, DVM, is the current director of medical sciences for Tampa's Lowry Park Zoo. In addition to his work at Tampa's Lowry Park Zoo, Ball serves as a contract veterinarian at Homosassa Springs Wildlife Park. "The Zoo has a long proven history and dedication to providing vital care for sick and injured manatees, and the selection of Dr. Ball serves to further complement the Zoo's experienced manatee critical care staff," said Patrick Rose, executive director of the Save the Manatee Club. Ball had nearly a decade of experience working with the Zoo's animal department as a relief veterinarian before becoming the Director of Medical Science for the zoo. Prior to his Director role, he served as a senior veterinarian at Busch Gardens Tampa Bay for 14 years. His leadership in conservation programs managed by the Association of Zoos and Aquariums (AZA) includes advisory roles with Species Survival Plans (SSP), Population Management Plans (PMP) and the Nutrition Scientific Advisory Group (NAG) for elephants. Ball graduated from the University of Florida's College of Veterinary Medicine and spent a year in private practice. He gained zoological experience through an internship at Riverbanks Zoo in South Carolina and a residency

specializing in zoo and wildlife medicine at Kansas State University and the Topeka Zoo. Ball's academic publications include numerous articles on topics ranging from wildlife anesthesia and epidemiology to operant conditioning as a tool for improved veterinary care.

12:10pm - 1:20pm **Lunch on your own**
OR
Lunch and Learn

Lunch and Learns will be taking a new twist this year in Tampa!
Guardian Angel Dog Rescue is a non-profit animal rescue that is dedicated to rescuing dogs from needless euthanasia. Doing what it takes to help stray dogs and owner surrenders, including getting medical treatment at a vet, and finally finding these dogs good and loving homes. This year at the annual ABMA conference, we will be showcasing a couple of foster dogs as they begin their training with ABMA members Heather Samper and Trelle Dandridge from Mutts with Manners. During lunch on Monday, Wednesday, and Friday bring your lunch and watch these dogs as they start their training from the very beginning and progress through the week. These animals will be highlighted on social media to raise awareness of the organization and aid in finding these animals a forever home!

1:20pm – 2:10pm **Presentations**

Advantages to Tuning Your Guitar (Fish)
Blake A Schembri; Disney's The Seas with Nemo and Friends®

Training in an underwater environment has been a rewarding task. Giant shovelnose rays (*Glaucostegus typus*) have a life history of being bottom dwellers, therefore often making them less visual to guests and aquarists. To help overcome this in a 5.8 million gallon main environment at The Seas, we developed two separate training plans. The first plan was a targeting behavior to enhance the visibility of the animals to our guests. The second plan was a voluntary capture behavior, which guests were able to view, that helped make medical procedures less stressful for everyone involved, most importantly the animal. Underwater communication between trainers and competition in a mixed species setting were two of the biggest challenges. After overcoming those challenges and finding success with these training plans, we noticed that the guitarfish have been more confident swimming around our large environment and do not seem to have the same fearful behaviors. With these positive sessions, we have been able to build their confidence, in turn increasing their visibility to our guests, and enhance their health and husbandry by better managing their diets and accomplishing capture with ease.

Big Cats Inspiring Conservation by Demonstrating Natural Behaviors on Cue
Amy Schilz and Rachael Hahn; Cheyenne Mountain Zoo

Many zoos, Cheyenne Mountain Zoo (CMZ) included, have been doing animal demonstrations for years. At CMZ, keepers were challenged to take these interactions one step further and really stay true to our mission statement: connect guests with wildlife and wild places. We knew our animals were extraordinary; we saw their amazingness every day. We started challenging ourselves to think outside of the box and create opportunities for our guests to see our animals the way we do. CMZ began pushing the limits with what we refer to as "Natural Behavior Shows". During these shows, guests get to experience what it would be like to see our animals in the wild by training them to perform the behaviors they're built for and to show people what helps the animals to be successful within their natural environments. For our big cats, we have put behaviors like running, jumping, chuffing, hiding and "hunting" on cue. Our training is paired with exciting, educational dialogue which we hope inspires people to go home, take action, and save our felid friends. The goal of each show is not necessarily to fill guests' heads with tons of natural history facts, but instead to break down barriers and connect them with our animals. We want to give our guests new possibilities and opportunities to learn more about big cats. During this presentation, we will

cover how we trained some of these innovative behaviors, how we put novel spins on classic behaviors, and show how you can do the same.

A Challenging Past With a Promising Future: Successful Management of African Great White Pelicans Through the Use of Operant Conditioning
Tiffany Burns, Heather Statz, and Brooke Bowersox; Clearwater Marine Aquarium

In 2012, to support the mission of the Clearwater Marine Aquarium (CMA), two African great white pelicans (*Pelecanus onocrotalus*) were provided with a permanent residence. Upon acquisition, it was evident that the pelicans would present us with a unique challenge. Commonly practiced classical conditioning techniques were initially ineffective due to the pelicans' diverse training history. The pelicans also appeared to have a history of aversion and avoidance behavior associated with the presence of trainers. In order to provide the highest quality of care for all resident animals our goal was to develop a trusting relationship that would allow us to successfully manage the pelicans through operant conditioning. In the span of 3 years the pelicans have made significant behavioral progress. The success of the program was due to the utilization of primary trainers, proper desensitization practices, positive reinforcement training, and significant interaction time. Some of the notable outcomes include established husbandry behaviors and exercise alternatives. By using the fundamentals of training one can break down even the biggest of barriers with any species to ensure their well-being in human care.

Break

2:40pm – 3:30pm **Research and Evaluation Workshop**

Methods to Aid in Behavioral Choices for the Individual Animal
Dr. Nicole Dorey, Professor of Psychology, Professor of Animal Science, University of Florida

It is widely acknowledged that environmental enrichment plays an important role in promoting the welfare of captive animals. The most common approach to evaluating environmental enrichment (EE) strategies for captive animals is direct observation of behavioral measures over time. Although this method can be valuable it can also be time consuming and may not always be practical; as a result zoo personnel may rely only on non-systematic or subjective methods, without quantitative analysis to assess enrichment efficacy (Watters, et al. 2009). Therefore, caretakers may benefit from an alternative method of enrichment evaluation that is both efficient and reliable, when observational evaluations are not possible. Preference assessments, an alternative method for evaluating enrichment, allow the animals to choose directly which enrichment strategy they prefer. Not only will this method allow zoo personal to collect data on these preferences, but it could improve the welfare of the animal if an animal is found to strongly prefer an EE item (eg. Mason et al., 2007) and will help with the goal of most zoos to increasing the animal's behavioral choices and decisions within their own environment.

The purpose of this workshop would be to teach the attendees about the different types of preference assessment; where it has been used traditionally, the research we have done so far with non-human animals and how it can be further expanded in a captive animal setting. The second half of the workshop would be to demonstrate to the attendees how to implement one type of preference assessment (a paired-stimulus preference assessment), with data collection and analysis. EE for this demonstration will be determined by the zoo staff beforehand. To increase motivation and maintain equal levels of deprivation across the EE I will ask, if possible, that those items not be given a few days before the demonstration (other EE can be given). Also it is important for this demonstration, that we either the EE that is not associated with food or if food is used that each EE item have the same food and be of the same size.

Prior to implementing a paired-preference assessment, EE are given one at a time to the participating animal so that they have a chance to interact with each one. After they have been presented with each item,

the EE are then presented in a paired arrangement. The order of the pairs are randomized and counterbalanced, such that every combination of pairs in every possible position is presented to the subject exactly once.

Individuals will have two minutes to make a choice (or some other length of time determined by the keepers) before the trial will be terminated and deemed as NC (i.e., no choice). Additional trials may be need to be run if two or more EE are chosen for the same number of trials overall. I have included a video of a trial so that you can see 1) what they look like 2) the time each trial could take.
I will explain how to analysis the data collected (quick quantitative assessment) and can provide graphs later that day if there is time and interest.

Nicole R. Dorey, Ph. D. is faculty at the University of Florida, where she teaches courses in psychology and animal behavior. In addition to her teaching, Nicole is co-founder and director of the animal behavior and welfare laboratory which has published many scientific papers with species ranging from dogs to Galapagos tortoises. Her current research focuses on behavior choices to increase animal welfare and investigations to find the most effective positive reinforcement training method. In addition to being a Certified Applied Animal Behaviorist (CAAB), Nicole has served as a board member of the Animal Behavior Management Alliance (ABMA), consulted on animal research and training at a variety of zoos and has been an invited speaker to a number of national and international conferences and workshops. Nicole holds a B.S. degree in both zoology and psychology from the University of Florida, an M.S. degree in behavior analysis with a minor in biology from the University of North Texas and a Ph.D. in animal behavior from the University of Exeter (England).

Break

3:50pm – 5:00pm **Research and Evaluation Workshop continued**

5:00pm – 5:20pm **CollaborNation Demonstration**

ABMA CollaborNation is an exciting member only networking and e-learning environment that includes valuable resources such as:

- Access to all issues of *ABMA Engage*, our newsletter
- Access to all conference proceedings
- Access to conference presentation videos
- Access to a variety of free webinars

Learn how to access this wealth of information during this demonstration.

7:00pm – 8:30pm **Professional Development Workshop**

Get your job inquiry questions ready...What do you wear to an interview? Are internships resume worthy? What is the best way to follow up after applying? What type of end of interview questions are appropriate? A panel of industry professionals will be ready to answer anything you are ready to ask. Afterward there will be times to set up resume reviews and mock interviews. There is something for everyone, whether you're just getting into the field or are interested in moving onward or upward, this workshop is for YOU!

DAILY SCHEDULE Tuesday, April 19

6:15am	**Depart for Busch Gardens**	*Valet Drop Off/Pick Up*
12:00pm – 1:00pm	**Lunch**	
6:00pm – 7:00pm	**Dinner**	
7:00pm – 9:00pm	**Poster Night**	*Dragon Fire Grill*

Did you see a poster and want to know more information about it? Now's your chance to get to speak with the poster presenters.

Tipping the Scale: Arising to Challenges in Weighing a Tiger
Catrena Firth; Cheyenne Mountain Zoo

Animal care professionals typically consider husbandry behaviors such as scale, target and body presentation to be relatively easy behaviors to train. However, this case study at Cheyenne Mountain Zoo reminds us of the "study of one" and how even a "simple and easy" behavior can present training challenges to both trainer and trainee. In this particular scenario many barriers arose that the primary trainer and several staff members overcame by constantly changing environmental factors, reinforcement strategies, and even primary reinforcers.

Zoya, a female Amur tiger, exhibited behaviors indicating an adversity to the board placed on top of our scale. She had a history of behavior that signified to trainers that the board had changed from a positive stimulus to a negative one. It was unknown as to why the stimuli had changed. What was known was that something in the environment and the board itself needed revision. Trainers looked at the board itself, its placement, and worked on bringing the stimulus from negative to neutral and finally to a positive.

When a roadblock is hit during training, there are plenty of ways in which to change the outcome of the situation. Eliminate labeling, change the environment or change antecedents, and reading the animal's behavior. By addressing the different possibilities and deciding what can be changed, difficult training situations can be worked through. This paper explores the changes that can be made when overcoming barriers; with a willingness to reevaluate constantly, success can be achieved.

Check Your Baggage at the Door: A Bear's Journey to Contentment
Jennifer Galbraith and Jaime Vaccaro; Tampa's Lowry Park Zoo

Every time an animal arrives in a new facility, it brings its history, good or bad with it. As animal care professionals, we don't always have the entire story of our animals' past experiences and how it shapes their behavior. This provides a challenge for us to optimize the welfare of the animal, encourage its strengths, and assist in overcoming their limitations. This poster focuses on the trials of conquering stereotypical behavior of a wild born male black bear, removed as a nuisance animal, and brought into a zoological environment. Through a commitment to training, diet manipulation, enrichment, exhibit modifications, and introductions to 0.2 wild orphaned black bear cubs, we were successfully able to decrease our male's undesirable behaviors. His overall welfare has dramatically improved and continues to strengthen.

Voluntary Injection Training Chinese/Reeves' Muntjac (*Muntiacus reevesi*)
Jennifer Hoefs; Palm Beach Zoo and Conservation Society

The Palm Beach Zoo and Conservation Society currently houses 1.0 Chinese/Reeves' Muntjac (*Muntiacus reevesi*) named "Kakan". Born in 2011, he is currently living by himself due to others in the herd passing away. During 2015, he started experiencing health issues such as swelling in his rear right hock. Medica-

tion was prescribed for him to take orally, but after numerous attempts he was not reliably taking his medications. Due to this his treatment was further prolonged. The swelling eventually healed. After this, keeper staff decided to improve the management of how he would be medically treated. This paper will describe the thought process behind training this behavior, the behavioral challenges faced, and the success accomplished from using operant conditioning.

Training a Spot-necked Otter for Voluntary Blood Pressure
Jackie Jella and Leslie Steele; San Diego Zoo

In December of 2014 Mzee, a male African Spot-Necked otter, presented with neurological symptoms and was rushed to the hospital. The exam revealed an enlarged heart and he was prescribed medication. The veterinarian was concerned with monitoring Mzee's condition with regular and accurate blood pressure readings. This presented a challenge and an opportunity to offer an alternative to the current practice of blood pressure readings taken under anesthesia. The Spot-necked otters are managed by protective contact and the blood pressure cuff needed to be placed around the base of his tail for the most accurate reading. In order to accomplish a hands-on procedure while maintaining staff safety, keepers needed to creatively pierce the mental and physical barrier presented by protective contact. Keepers installed a half pipe of pvc to the inside of the mesh. Mzee was then trained to voluntarily enter the pipe and hold while his tail was pulled through an opening in the mesh. This guaranteed proximity of Mzee's tail and maintained protective contact. He was then desensitized to increased pressure at the base of his tail as well as the sounds of the cuff and pump. When he was able to hold the behavior for over one minute a Veterinary Technician was able to get a blood pressure reading. Mzee now has a standing Wednesday morning appointment for a blood pressure read that he voluntarily and willingly participates in and a recent exam showed the accuracy of our readings. In addition to regular blood pressure readings, we will be working on heart ultrasounds without anesthesia as well. These behaviors allow Veterinary staff to monitor his condition and adjust medication as necessary without immobilization, thereby increasing his quality of life with minimal changes to his daily routine.

Preservation of Tomorrow: Expanding Animal Welfare beyond the Zoo
Anastasia Lagarde; Houston Zoo, Inc.

The welfare of animals is no longer limited to caring for the animals that live within our facilities. Zoos are continuing to break barriers by creating conservation initiatives and actions to help wild populations. Anastasia Lagarde, of the Houston Zoo, splits her time between the carnivore and sea lion departments. Both areas have built conservation programs that are changing the lives of wild animals and encouraging zoo guests to learn more about what they can do to change their behavior to help save these animals. This poster will highlight these conservation efforts. The sea lion department at the Houston Zoo has partnered with NOAA to help educate the public on the presence of monofilament in our water ways, and the importance of properly disposing and recycling marine debris items. Several departments within the zoo have collaborated to make this conservation effort a growing success. While the sea lion department is making progress here in the Gulf of Mexico, the carnivore team is working to protect global and local species. Special zoo events are dedicated to bring awareness to specific conservation issues such as dwindling populations, poaching, and maintaining safe wildlife practices. By partnering with outside groups, such as the Niassa Carnivore Project located in Africa, and bringing these organizations into the zoo community, the zoo promotes awareness which sparks action among the guests. The Houston Zoo is continuing to break down barriers and expand the zookeeper's responsibility for wildlife welfare.

Factors Influencing Successful Training in Bottlenose Dolphins (*Tursiops truncatus*)
Lisa K. Lauderdale1, Mystera M. Samuelson1, Mark J. Xitco Jr.2, Evan H. Dart1, and Stan A. Kuczaj II1; 1 University of Southern Mississippi 2 United States Navy Marine Mammal Program

Shaping is a training method in which successive approximations are reinforced until a target behavior is accomplished. Although the techniques for implementing shaping procedures are generally qualitative in nature and vary widely among trainers, using small, achievable successive approximations is widely considered to be effective in animal training. Denser schedules of reinforcement are recommended to increase acquisition rate, and are more effective in achieving shaping criteria than leaner schedules. The current study examines the effects of two types of failure (i.e., attempts and no-attempts), step size, and reinforcement rate during training sessions involving six bottlenose dolphins (*Tursiops truncatus*) at the U.S. Navy Marine Mammal Program in San Diego, CA. The effects of these variables on learning a trained beaching behavior were systematically investigated over a 3 month period. Failure types were categorized as (1) trials in which the behavior was attempted or (2) trials in which the behavior was not attempted. Dolphins were able to learn from both attempted and not attempted trials to be successful on the following trial. There was no correlation between the subjects' mean failure rate and the mean reinforcement rate, suggesting that higher rates of reinforcement during training do not decrease failure rates or increase the acquisition rate. Larger mean step sizes were weakly correlated with higher failure rates, indicating that smaller step sizes may be more effective during acquisition. These results have important implications for training program success, underlying the importance of individualized training plans in order to increase training success.

Focusing on Individual Training and Advanced General Husbandry Practices with Spider Monkeys (*Ateles geoffroyi*) Utilizing Station Training
Nikki Maginness; Brevard Zoo

Brevard Zoo has housed social groups of up to six spider monkeys (*Ateles geoffroyi*). Due to the large number of individuals and limitations in exhibit design, there were several obstacles regarding individual training and certain husbandry practices. For example, the exhibit did not have a built-in scale to voluntarily take monthly weights, which is important data to collect for weight management. Also, as there are not enough areas to individually separate the animals, it was hard to focus on one-on-one training sessions with each monkey. This limited the progress of their training. Training is a helpful tool for general husbandry, but can also be incredibly enriching for the animal. Thus to alleviate some of these issues, we implemented station training. Station training involves having a station, or assigned spot/target, for the animal to stay at while being trained. This allows the keeper to focus on that particular animal and minimize interference from other individuals without separating the animal being trained. This was achieved by assigning each monkey a wooden shape by which they had to stay in order to receive their diet. Moving the stations to different areas allowed us to confirm they associated their target with their station rather than the location in the enclosure. Though there were some setbacks in the training process (mainly due to social changes within the group), stationing helped eliminate most of the problems. This method of station training can be used, not only for primates, but any group of social animals.

Be A Zookeeper Zone: Turning Animal Care into Science
Emily Martin; Denver Zoo

At Denver Zoo, there is a new innovative area in which the Animal Ambassador team is mastering the art of teaching guests the science behind zookeeping. There are several star players on this team: keepers, volunteers, play facilitators and, a family favorite, llamas Jorge and Fernando. In 2015, an acre at Denver Zoo was dedicated to the Be A Zookeeper Zone (BAZZ). The primary focus of this area is to teach guests the science skills a zookeeper must have in order to provide the best animal care.

Sharing the llamas' story is a great way of connecting Denver Zoo's dedication to animal care with the public. The area engages guests to learn about feeding, enrichment, husbandry, and training the llamas using positive reinforcement. (My poster will include training challenges, plus how the llamas fit the goals

of BAZZ).

Throughout the days, there are several other activities happening at Be A Zookeeper Zone. Guests may meet an animal ambassador who is teaching kids about animal nutrition and including kids to help create diets for animals like turtles or guinea pigs. This interactive learning station is a truly unique addition to Denver Zoo and a new way of providing an inside look at zookeepers' lives.

Positive Reinforcement Driven Behavior Management of Cheetahs and Its Effects on Welfare and Breeding Success

Becky McKeel and Bonnie Baird; Busch Gardens Tampa and Cleveland Metroparks Zoo

Cheetahs have been difficult to breed in captivity (Marker & O'Brien, 1989). Studies have suggested that this low reproductive success could be attributed to chronic stress resulting from captive conditions and exposure to humans (Terio et al., 2004; Wells et al., 2004). As a result, breeding cheetahs are often managed using a hands-off approach in order to continue to reach a sustainable ex-situ population. Cheetahs hand-raised and managed as Animal Ambassadors are typically highly trained with a very hands-on approach and have historically been unsuccessful breeders. However, some facilities have recently been able to implement a behavior management approach that allows for managed care without compromising breeding success. Busch Gardens Tampa has gone so far as to partner with White Oak Conservation Center in order to successfully breed two hand raised and highly trained female Animal Ambassador cheetahs that successfully raised their own cubs. This poster will discuss the various ways that cheetahs are managed or trained in AZA institutions in comparison with the positive reinforcement training paradigm at Busch Gardens Tampa and current research that is underway to help determine specific factors that may impact cheetah welfare and reproductive success.

Olfactory Enrichment in California Sea Lions (*Zalophus californianus*)

Mystera M. Samuelson, Lisa K. Lauderdale, Tim Hoffland, Kelly Pulis, Moby Solangi and Heidi Lyn; The University of Southern Mississippi, Long Beach, MS; The Institute for Marine Mammal Studies, Gulfport, MS

Zoological institutions are constantly seeking new and innovative methods of improving captive animal welfare through the use of diverse and varied enrichment techniques. Still, evaluating the effectiveness of these new approaches is critical in ensuring that the highest quality of animal welfare is administered at all times. In this study, we examined the use of olfactory enrichment in reducing stereotypical behavior in captive California sea lions (*Zalophus californianus*). Scent enrichment was of two types: 1.) Natural scents, found in their native environment, and 2.) Non-natural scents, not found in their native environment. Animal welfare outcomes were then assessed by tracking the rate at which stereotypical behaviors occurred before and after the enrichment was introduced. Findings indicated that scent enrichment did significantly impact sea lion behavior as demonstrated by a reduction in pattern swimming, an increase in habitat utilization, and a reduction in stereotypical behavior. However, there were no differences in behavior between natural and non-natural scent conditions indicating that novel scents are likely to be enriching regardless of their relevance to the animals' natural environment. Individual differences did arise also, indicating the importance of varying and individualized enrichment plans to maximize welfare outcomes for each animal.

Methodology and Benefits of Positive-Reinforcement Training with a Small Primate: Self Crating and Latching Capabilities of the Red-Ruffed Lemur (*Varecia rubra*)

Julianne Shabetai; Busch Gardens Tampa

Training a protected contact lemur to shut itself into a crate will benefit the keepers that work with that animal. Zookeepers must learn to be flexible when training the animals under their care as every ani-

mal has a unique background and behavior trend. Sava is a Red Ruffed Lemur that has been successful with behavioral conditioning with trainers. For our behavioral priorities, two keepers are present when working Sava without a barrier. An example of this is a crate session, where she would be asked to enter the crate by one keeper and the crate door was shut by another keeper. For this reason, it was decided that Sava would be trained to assist the keepers by closing the door herself after being asked to go in the crate. If she was asked to crate and was capable of closing herself in that crate, this would allow one keeper to work with her, crating her alone. This paper will explain the process of training Sava and the equipment used to make a suitable crate for this behavior. The idea of an animal crating itself can potentially be applied to many different situations with other species, especially when referring to animals with whom keepers cannot work in a free contact scenario.

Cub Kindergarten: Training Three Lion Cubs for Voluntary Injections in Protected Contact
Jess Thompson, Andrea Bryant, Diana Cartier and Amy Schilz; Cheyenne Mountain Zoo

Imagine holding 20 lbs. of wriggling and snarling fur, teeth, and claws. Now imagine carefully sticking a needle into this writhing mass. Now do it again every 2 weeks for a series of vaccinations, and again when the teeth and claws have grown to 90lbs. This is a common scenario when giving vaccinations to young animals, whether they are domestic puppies or kittens, or wild cats in a zoo. Operating under the assumption that if an animal takes food, it can be reinforced, Cheyenne Mountain Zoo lion keepers decided to spare some strife for all involved, and train three 3-month old lion cubs to voluntarily accept injections in a protected contact setting. We believe this can serve as an example that even the youngest learners are capable of participating in their own care.

Think Fun, Teach Survival
Amber White; National Aquarium

Several marine mammal and sea turtle rehabilitation facilities in the Greater Atlantic Region use similar types of enrichment devices and housing strategies to manage patients. Enrichment items such as foraging devices, hula hoops, carwash strips, sleds, sprinklers, and various textured surfaces can provide rehabilitating marine animals with physical and psychological stimulation, while maintaining animal health. The introduction of environmental enrichment into a daily routine within a rehabilitation facility is an overall effort to alleviate the stress induced by a sterile environment, create an outlet for continued natural behaviors, increase physical activity, provide opportunities for investigation and play, and decrease boredom often associated with a sterile setting. While some facilities may employ similar devices for enrichment, each has their own way of documenting the resulting information gained from the animals. The goal of this poster is to show you how the National Aquarium's Animal Rescue team dives into enrichment with the hopes of using standardized data collection to study the enrichment of rehabilitated animals. As wildlife rehabilitators, we must remember that wild animals already have acquired skill sets, behaviors, and experiences that they have gained from their natural environment-rehabilitation is only a minor part of their experience repertoire.

Paw Crate Pedicures with Amur Tigers
Celess Zinda; Oregon Zoo

The Oregon Zoo, home to 1.1 Amur Tigers (*Panthera tigris altaicia*), was in need of some up close and personal nail care in 2012 when radiographs during a routine physical exam showed that one of our female's front left digits was showing bone loss and a permanent abnormal growth pattern. Our options were to remove the digit or implement a training plan to enable us to keep the claw trimmed enough that it would not cause her injury. Tiger claws had previously been cared for in paw presents at the mesh of indoor holdings while the tigers were in a sit position. Once this abnormal growth pattern was discovered

the keeper team determined that we would need to be able to use a Dremel tool for an extended period of time and our tigress was not comfortable enough in a sit position for this to be possible. Keeper staff salvaged an old polar bear paw crate which was attached to our existing training crate and a paw present was trained. Once trained, keepers were successful in maintaining a filed claw on the abnormal digit and our tigress was so much more comfortable in the crate for her pedicures that she would hold her paw in there for extended periods of time during presentations and tour groups.

A Slam Dunk! Using Creative Training Techniques to Achieve Multiple Goals while Training Caracals and Cheetahs
Beth Foster; Oregon Zoo

Many zoos focus on the use of operant conditioning techniques to train medical and husbandry behaviors. These behaviors help us in our daily routine as well as allow us to take better care of the animals we work with. But what happens once you've taught all of the husbandry behaviors that are needed? This is where creativity and fun come into play! At the Oregon Zoo, we have a training program with our cats that includes typical husbandry behaviors, as well as many silly behaviors. With creativity as one of our driving forces, the keepers here decided to explore more advanced ways of interacting and training with the animals in an effort to accomplish several goals: 1) provide the animals a higher level of mental and physical stimulus, 2) use up the outside exhibit space more for these activities, 3) encourage natural behaviors, 4) provide the guests with a rare opportunity to watch training sessions and 5) dispel some of the guests' myths about why and how we train animals in zoos. In this paper I will discuss how we accomplished these various goals by creating a "fetch and dunk" behavior to encourage our cheetahs to run and a meat toss game that showcases our caracals' jumping abilities.

Integrated Holistic Approach to Managing Elephant Welfare
Erin Ivory and Dr. Corrine Kendall; North Carolina Zoo

Improving elephant welfare requires a holistic management approach that integrates behavior management, health care, and research. At the North Carolina Zoo, elephant care staff are working closely with veterinary and research staff to ensure that the effects of changes in management are carefully monitored and quantified. Behavior management incorporates the assessment of the environment in conjunction with behavior of the individual and group, then utilizes variability in the environment to achieve changes in behavior. In the last year, the elephant care staff have been able to use behavioral management to improve socialization and habitat access by creating complex social groupings of 2.4 elephants. At the same time, changes to diet which include reduced grain, increased browse, andaddition of a new hay balancer, are being carefully monitored by veterinary staff and researchers who are assessing micronutrients in browse and in the elephants. In addition, research staff at the zoo are using novel stable isotope techniques to go beyond body condition scoring to monitor changes in body, and specifically, fat composition in the elephant herd, as changes to exercise level and diet are made. Ongoing behavioral research, done in conjunction with undergraduate students trained at the zoo, also provides background information on elephant activity during the day and with a video system at night. This behavioral research provides vital information on how elephant behavior is being affected by various management changes and is helping to assess existing opportunities for stimulation and protection from the elements.

Increasing Contra-Freeloading Behavior in a North American River Otter by Using Operant Conditioning
Amanda Barnes and Allison Kao; Lincoln Park Zoo

Contra-freeloading is observed behavior in most animals that when offered a choice between food provided or food that requires effort, the animal prefers the food that requires effort. However, due to captive management it is not uncommon for some animals to lose their motivation to forage or problem solve

for food. At Lincoln Park Zoo 1.0 North American river otter (*Lontra canadensis*), Odie, has shown a lack of motivation for solving puzzle feeder enrichment devices. In this study a trainer will use operant condition to teach Odie how to solve a novel feeder puzzle device designed for this study in hopes it will increase his interaction with the item outside of training sessions. By training Odie to carry out the mechanical behaviors needed to successfully solve the feeder puzzle his confidence and motivation should increase when presented with this device or similar devices in the future outside of a training session. The intrinsic motivation of contrafreeloading may be strengthened by having a strong reinforcement history with solving puzzles. Data will be collected using an ethogram program (Zoomonitor) which will provide activity budgets prior to training and after training has been completed. Although only one subject and one species will be involved, this study may provide preliminary evidence for this procedures' effectiveness in increasing contrafreeloading in some captive animals.

Aardvarks as Ambassadors
Susie Krzyzanowski; Busch Gardens Tampa

Aardvarks are a naturally reclusive animal, and are uncommon at zoos in the United States. Since most of our guests will never experience aardvarks outside our parks, the team at Busch Gardens Tampa became interested in adding them to our Animal Ambassador program. This exciting idea presented several challenges, ranging from habitat design and training protocols to developing a breeding program. The Animal Ambassador team has spent the last 8 years developing our best practices and protocols for incorporating aardvarks into an Ambassador Program, and especially raising baby aardvarks to become successful animal ambassadors.

Trimming Techniques
Karena Marrero; Natural Encounters, Inc.

Animal welfare is very important to us as keepers and trainers. Mimicking the natural environment where our exotic birds would normally live is crucial to maintaining the overall health of the animal. When housing birds in a show setting where natural elements may not always be available, other options need to be discovered. In the wild, birds would naturally wear down their nails because of the various perches and surfaces they experience. Maintaining trimmed nails is very important for the safety and health of the bird and trainer alike. In this paper, I will discuss the process of training toucans, birds of prey, cranes, and parrots to voluntarily step on to a specially made perch and have their nails trimmed.

I'd Foot That: Challenges and Successes in Enriching Birds of Prey

Jennifer Lafountain and Helena Starnes; Seaworld

In 2012, Busch Gardens Williamsburg received dispensation from the US Fish and Wildlife Service to assume responsibility for a mixed group of raptors that were serving as exhibit and ambassador animals. As various changes were made to assimilate the birds into our zoological program, one challenge stood out: enrichment. Although enrichment is a vital component of the existing animal program at Busch Gardens, it had traditionally been reserved for use with mammals and parrots. Much of the enrichment used for these animals would be unsuitable for raptors and research into how such birds are enriched at other facilities yielded limited results.

The trainers at Busch Gardens have approached this challenge by adapting existing enrichment to make it more appropriate for birds of prey, experimenting with suggestions from other facilities, and innovating new enrichment based on the natural habits of raptors. Data was collected measuring the level of engagement each animal showed with various enrichment items. This presentation will discuss the responses that were recorded and explore how different factors, such as size, species, life history, or housing

arrangements, may have had an affect on the response. Based on the level of success of various enrichment types, recommendations will be made to other facilities hoping to initiate or expand a bird of prey enrichment program.

9:30pm **Return to hotel**

DAILY SCHEDULE Wednesday, April 20

*****All activities in the Ballroom unless otherwise noted*****

7:30am – 8:00am **Registration** *Ballroom Foyer*

8:00am – 10:00am **Presentations**

Transforming the Florida Aquarium's Animal Wellness Program through the Use of Positive Operant Conditioning

Michael Terrell, Margo McKnight, Dr. Kathy Heym, Angi Millwood and Thad Lacinak; The Florida Aquarium & Precision Behavior, Florida

In 2015, The Florida Aquarium enlisted the assistance of Precision Behavior to implement a holistic animal wellness program that added behavior management into the excellent animal nutrition, water quality, and veterinary care their animals already enjoyed. The aquariums "no animal left behind" commitment permeated all exhibits from mammals and birds to reptiles and fish. An extensive staff education program completely transformed the Aquarium's culture and the daily lives of their animals. Spotted eagle rays (*Aetobatus narinari*) now swim into their biologists' arms voluntarily for medically necessary fresh-water dips. Sand tiger sharks (*Carcharias taurus*), historically difficult to breed in captive environments, now participate in consortium-driven reproductive research facilitated by operant conditioning. Ring-tailed lemurs (*Lemur catta*) exercise on cue for improved physical fitness. A Goliath grouper (*Epinephelus itajara*) of almost 300pounds shimmies with delight as his biologists sprinkle sand on his body and release bubbles into his mouth as a reward for stationing and allowing body measurements. These are but a few of the dozens of examples of enhanced animal wellness due to the Aquarium's commitment to meeting both the physical and mental needs of the animals in their care. What's more, this intensive process has resulted in higher activity levels for the animals, an enthusiastic staff and ultimately, the opportunity to create meaningful experiences for our guests.

When Enrichment Isn't Helping: The Importance of Identifying the Function of Stereotypic Behaviors before Attempting to Modify Them

Sandy McPadden; The Buzz on Enrichment

It is estimated that over 80% of carnivores housed in zoological facilities worldwide display some form of abnormal behavior. With the publics rising concern for animal welfare and a simultaneous growing need to house rapidly declining animal populations, we have to better understand how to reduce abnormal behaviors in order to effectively increase those behaviors that are species-appropriate. Environmental enrichment will not always compete successfully with the reinforcement currently maintaining the abnormal behavior being displayed. Because the topography of stereotypical behaviors within a species often appear similar, they are often addressed comparatively with little success. By conducting a functional analysis, the caregiver is able to identify the function of the behavior, thus affording the ability to modify the environment so that the animal is no longer receiving the reinforcement maintaining the target behavior. Identifying the function of stereotypic behaviors prior to modifying them will increase the caregiver's efficacy in improving their charges welfare.

Just Hold Still! Voluntary Injection Training of Asian Small-Clawed Otters

Emily Cassell; Busch Gardens Tampa

Training animals to participate in medical care, commonly referred to as husbandry training, is increasingly replacing involuntary restraint in the zoo community (Wagner, 2007). Although they are known for their high intelligence and trainability, (McKay 2008), the husbandry practices for Asian Small-Clawed Otters

(*Aonyx cinereus*) commonly include restraint by netting and hand-grabbing (Andrews, Heap, & Wright, 2008). At Busch Gardens Tampa, 3.0 Asian Small-Clawed Otters were crate-trained for immobilization via inhalant anesthetic. This method, while less aversive than physical restraint, still presented issues. Sessions required multiple trainers and necessitated the crating of all three animals for separation. In addition, the anesthetic did not take effect immediately. As a result, crating became increasingly aversive, resulting in frustration, displaced aggression, and breakdown of the behavior. In December 2014, a plan was developed to train the otters for hand injection, as it was believed to be safer and less stressful for the otters (Keller, 2015). The goals of the plan included eliminating physical restraint, allowing injectable anesthesia to be used, and reducing risk of keeper injury by working in protected contact. The otters were trained to separate, enter a passive restraint tube, and were desensitized to a variety of touches. Ultimately, they were able to operate in a choice-based environment, learned to volunteer for their injections, and experienced safer, more efficient immobilizations.

Replacing Self-Injurious Behavior of an African Elephant at the Zoo Knoxville
Rebecca Wyatt; Zoo Knoxville

This presentation will describe a case study of a 31 year old female African elephant at the Knoxville Zoo that began performing self-injurious behavior (SIB). Generally, her behavior can be characterized as energetic and inquisitive, and as with many elephants in human care, she performs some repetitive behavior throughout the day, e.g., swaying. In October of 2014, the elephant care staff observed that she had developed a SIB of positioning her foot on exhibit holdings and furniture and scraping her tusks across the wrists and nails of the front feet. The staff labeled this behavior "tusking." The focused intensity of the tusking behavior was producing significant wounds and compromising her overall welfare.

In December 2015, with the assistance of a behavior analyst consulting with the team, we conducted a functional assessment of the behavior to identify the most probable times of day and conditions that the SIB would likely occur and the possible consequences produced by the SIB that gives it function. The results of this preliminary assessment were suggestive of changes in the setting and management of this elephant, which led to a systematic, daily approach where the staff has implemented action items and an activity study to further benefit all of the elephants under our care. The SIB has been significantly reduced by the package solution we have implemented. The details of the struggles and paths to success will be explored further in this paper.

Innovative Enrichment: We Never Met Hal Markowitz... But We Sure Wish We Had!
Mark Kingston Jones and Chris Hales; The Shape of Enrichment and Team Building, with BITE.

Across the zoo world there are countless examples of great enrichment ideas, which have remained prototypes despite being partially or wholly successful in meeting their behavioural goals for the animals using them! Since the 80's, innovative designs, such as those by Hal Markowitz's behavioural engineering, have provided access to fantastic inspiration that seems to have rarely led to concepts being rolled out across the captive world. Instead they have remained little gems, hidden and only accessible to those in the know. Issues with technologically complicated designs and initial expense of prototyping, limit our designs and imagination. Problems with budget and design experience can be overcome with collaborations outside of the zoo world however, and with the modern zoo being rightly concerned with increasing the visitor experience and engagement, what better way to achieve this. A lot of the best enrichment ideas we have seen have come from people taking an idea, building and developing on it. With the conference theme of 'Breaking Down Barriers' we would therefore like to take this opportunity to remind people of a couple of those lost gems, and put forward a portfolio of new, untried and untested ideas. These ideas aim to meet goal directed behaviour, increasing animal welfare while enhancing the visitor experience from witnessing these behaviours. The aim is that these ideas might be taken forward, refined, improved

and incorporated into new enclosure designs and refurbishments.

Charging Ahead in Rhino Welfare: Iron Overload Disorder Management in Black Rhinoceros
Melissa Solomon and Malisa Hammell; Disney's Animal Kingdom

It has been shown that browsing rhinoceros species held under human care, unlike their wild counterparts, store excessive amounts of iron in their liver and tissues. Iron accumulates in correlation with time in captivity and can lead to a cascade of other disease processes. At Disney's Animal Kingdom, we have been actively managing our black rhinoceros population to mitigate the effects of iron accumulation through a multifaceted iron overload disorder management program. One key component of this approach has been the implementation of a Large Volume Phlebotomy training program. This presentation will provide a brief history of the program; highlight the improvements we have made in the 7 years since its inception, and offer evidence of the role of LVP in successfully advancing the welfare of captive black rhinoceros. Attention will also be paid to the incorporation of new personnel to facilitate long term sustainability of such a unique and large scale behavioral management program.

Break

10:30am – 12:00pm **Training 101: Terminology Panel**

Training 101 is in a brand new format for the 2016 conference. Learn and SEE commonly misused and misunderstood training terms & applications from a panel of experts. This new Training 101 seminar will feature real life video, a variety of species, and a panel of experts to facilitate an open and constructive discussion. This discussion will create fluency in training application and communication regardless of the species, facility, or trainer.

The panel will include:
Jeff Andrews, Vice President of Zoological Operations, Busch Gardens Tampa
Chuck Tompkins, Corporate Curator of Animal Training - SeaWorld Parks & Entertainment
Susan Freidman PhD, www.behaviorworks.com

12:00pm – 1:20pm **Lunch on your own**
OR
Lunch and Learn

Lunch and Learns will be taking a new twist this year in Tampa!
Guardian Angel Dog Rescue is a non-profit animal rescue that is dedicated to rescuing dogs from needless euthanasia. Doing what it takes to help stray dogs and owner surrenders, including getting medical treatment at a vet, and finally finding these dogs good and loving homes. This year at the annual ABMA conference, we will be showcasing a couple of foster dogs as they begin their training with ABMA members Heather Samper and Trelle Dandridge from Mutts with Manners. During lunch on Monday, Wednesday, and Friday bring your lunch and watch these dogs as they start their training from the very beginning and progress through the week. These animals will be highlighted on social media to raise awareness of the organization and aid in finding these animals a forever home!

1:20pm – 2:40pm **Presentations**

Improving Enrichment and Education in the Pet Shop Environment
Elizabeth Durkin; Dobbies Garden Centre

In 2015, there were an estimated 1 million pet rabbits, 0.7 million pet guinea pigs and 0.4 million pet hamsters in the United Kingdom. With the pet shop being the most popular place to purchase these pets, it is evident that pet shops have a fundamental role in educating pet owners on correct animal care, including leading by example. This education is of key significance, considering the rabbit is one of the most neglected pets in the United Kingdom. Beyond basic husbandry knowledge, enrichment is a key element to

improving welfare, with opportunities to provide mental and physical stimulation. Dobbies Garden Centre has incorporated various shop-bought and recycled, handmade enrichment into daily husbandry, and uses these examples to educate pet owners on providing opportunities for their pets to perform natural behaviours. The introduction of objects including, treat balls, cardboard boxes, paper bags and cardboard tubes has shown to enrich the animals' lives in the shop, and this provides inspiration for pet owners. The use of enrichment has also shown to reduce "problem behaviours" by encouraging animals to perform natural behaviours, such as foraging. Additionally, enrichment encourages pet owners and children to play a more active role in improving the welfare of their pet, and enjoy their pet more, due to increased activity. Enrichment ideas are continually expanding, and practices are being adopted and reinforced by all members of the team, to ensure welfare is prioritised and maintained in animals beyond the pet shop.

Working With a Worried Wallaby: Strategies for Training Fearful Animals
Ellen Dreyer; Brevard Zoo

Obtaining regular weights on captive animals is an important part of captive animal management. Training animals to voluntarily step on a scale and hold still to be weighed is the most positive, least intrusive way to monitor weights to ensure dietary needs are being met. Training animals for voluntary weights is a priority in the Austral/Asia area at Brevard Zoo. Bringing the scale behavior under stimulus control proved challenging with a swamp wallaby (*Wallabia bicolor*) named Thumper. Due to his reclusive nature and wariness of people, he had never made progress in training sessions. The Austral/Asia team devised a new training strategy focused on increasing the swamp wallaby's comfort and encouraging him to participate in training sessions. Important facets of the revised training plan included increased desensitization work, scheduled reinforcement times, use of a laser pointer instead of a traditional target stick to allow increased distance during training sessions, and precise communication between all trainers. Voluntary weights are now obtained monthly on the swamp wallaby. The strategies used for Thumper can be applied to other species and individuals, bringing new possibilities to animal welfare.

Big, Bold, and Back In Alaska; Wood Bison Restoration Project
Sarah Howard, Chandelle Cotter, and Tom Seaton; Alaska Wildlife Conservation Center, Alaska Department of Fish and Game

The last wood bison to roam Alaska disappeared more than 100 years ago. In 1991, a dream began to bring the largest land mammal back to the largest state in the union. In 2003, the Alaska Wildlife Conservation Center (AWCC) partnered with the Alaska Department of Fish and Game (ADFG) to restore wood bison to the USA in Alaska. AWCC accepted and cared for 13 Canadian wood bison in 2003, and 53 more in 2008, growing the population to 145 by spring 2015. With constant stressors facing this project, both politically and environmentally, it would appear an impossible feat. Against all odds, in June 2014, the Nonessential Experimental Population (NEP) rule was agreed upon by ADFG and the US Fish and Wildlife Service. The Alaska governor approved the release in August 2014, and the following 6 months were rigorous with planning, collaborating, and hoping. On March 22, 2015, those hopes were realized. For safe transport and release, a training plan was put in place that conditioned these bison for behaviors that would ultimately lead them to freedom. The staff had to be creative, utilizing techniques that would not potentially establish a dependence on a human-animal relationship that could jeopardize their survivorship. Over the next 6 months, 130 bison traveled by truck, plane, and river boat to start their new journey. At long last, this iconic species has come home.

The Great Escape! Rocky Mountain Goats Climbing Beyond Barriers.
Patty Wallace and Jeremy Dillon; Cheyenne Mountain Zoo

In the fall of 2014, the renovation of our existing Rocky Mountain Goat (RMG) barn was completed with

the addition of a new side yard. The new additions included fencing around an existing concrete retaining wall for containment and a pergola structure at the front of the enclosure as well as a training space for shows. The animal keepers for RMGs were asked to brainstorm ideas for a natural behavior show. The show would be a time for guests to not just see our goats, but to experience them in new ways - helping them to fall in love with a species that was close to their home. As part of this brainstorming two behaviors emerged; climbing on a ledge to demonstrate their amazing balancing skills and climbing onto the pergola, where they would be standing directly over guests' heads. Both of these behaviors are currently demonstrated to our guests in a daily show (weather permitting).

This presentation will outline the process Cheyenne Mountain Zoo staff went through to successfully train these behaviors from start to finish, including antecedent arrangements, barriers we faced and overcame, lessons learned, and how these amazing animals' lives have been enriched and enhanced since the implementation of our Rocky Mountain Goat Training Program.

Break

3:00pm – 4:00pm ***Killing Keiko: A Cautionary Tale of One Whale***

Mark A. Simmons
Executive Vice President, Ocean Embassy, Inc. and Managing Partner, OERCA (Present)
Director of the Keiko Animal Behavior Team on the Keiko Release Project (Past)

Millions *of Free Willy* movie enthusiasts have been led to believe that Keiko's return to the wild was a triumph. After the syndication of the film Blackfish, Keiko's story once again became a rallying cry for anti-zoo proponents calling for the release of other killer whales in zoological care. But according to author Mark Simmons, director of the Keiko Animal Behavior Team on the Keiko Release Project, the whale's riveting story is one of unnecessary tragedy. This lecture, *Killing Keiko: A Cautionary Tale of One Whale,* unveils the shocking evolution and collapse of the whale's rehabilitation, covering his final trek across the North Atlantic to his heart-wrenching death in Norway. Simmons discusses the most influential factors, covering theories behind the rehabilitation plan, behavioral excesses and deficits, the organizations role in the outcome and the concept of captivity and the modern zoo. In life, Keiko was undoubtedly the most famous whale in history. In death, he became the most famous case of animal abuse the world cannot yet fathom. Simmons illuminates the true story of Keiko's journey and shows why it is more important now than ever before.

Mark began his career in 1987 in marine mammal behavioral sciences, working almost exclusively with killer whales. In 1998 he formed a consulting firm, Wildlife International Network along with highly regarded marine mammal expert and close friend Robin Friday. The following April of 1999, Simmons joined the Keiko Release Project as the director of animal husbandry and led the behavior team on-site in Iceland. There he authored and applied the behavioral rehabilitation blueprint for reintroduction that gained approval from the Icelandic Ministry of Fisheries for Keiko's formal release. Simmons went on to create Ocean Embassy, whereby his team assists governments on protective marine legislation, participates in ongoing research with marine mammals and is heavily involved in the rescue and rehabilitation of sick and stranded animals. He has provided consulting on marine mammal health assessment and recovery, training program evaluation and development, and zoological program management to numerous agencies such as NOAA/NMFS and facilities worldwide in the United States, Mexico, Singapore, Bahamas, U.A.E., Philippines, Iceland, Jamaica, Panama, China and St. Lucia. Simmons also created and continues to provide visionary leadership of a large-scale research and conservation database called OERCA that serves global wildlife management needs. He has taught marine mammal behavioral science at the University of Miami and conducted numerous seminars and public lectures on the Keiko Release Project.

4:00pm – 5:00pm	**Committee Meetings** See committee descriptions for a list of the different ways you can become more involved in ABMA!	
5:00pm – 6:30pm	**Program Council Meeting** Meeting of committee chairs. ABMA members are welcome to attend.	*Hospitality Suite*
7:00pm – 9:00pm	**Silent Auction** **Book Signing** ***Killing Keiko: A Cautionary Tale of One Whale*** Mark A. Simmons	*Terrace*

DAILY SCHEDULE Thursday, April 21

8:45am	**Depart for Lowry Park Zoo**	*Valet Pick up/ Drop off*
12:00pm – 1:00pm	**Lunch and Member's Business Meeting**	
5:00pm	**Depart for the hotel**	*Zoo Front Entrance*
7:00pm – 10:00pm	**Historic Ybor City Pub Crawl**	*Trolley Station*

The 2016 ABMA conference is finally here, filled with exciting presentations, speakers, and amazing networking opportunities with likeminded individuals. Tampa offers many great places to explore with your fellow delegates and there is no better way to bring people closer than an exciting pub crawl through Historic Ybor city!

Founded in 1886 and located in the heart of Tampa, Ybor City has transformed historic buildings into stylish restaurants, shops, and has become one of Tampa's main sites for nightlife fun. On this fun pub crawl you will be transported by our very own trolley cart and dropped off in Centro Ybor, to begin your journey through the most popular bars and pubs that Tampa has to offer!

Whether you're with old friends or here to make new friends, the Ybor City pub crawl is sure to be a great way to make fun memories and enhance your ABMA Tampa conference experience. I hope to see everyone there!

DAILY SCHEDULE Friday, April 22

*****All activities in the Ballroom unless otherwise noted*****

7:30am – 8:00am **Registration** *Ballroom Foyer*

8:00am – 10:10am **Presentations**

From Drawing a Blank to Drawing Blood: Training Voluntary Participation in Veterinary Procedures on an Aardvark

Samantha Abrams; Columbus Zoo and Aquarium

Artie, a 9 month old male aardvark, arrived at the Columbus Zoo in 2012 and like all new animals, required a routine veterinary exam before entering into the collection. When it came time to extract blood, veterinarians selected the vein in the ear due to accessibility without anesthesia. Artie is a sound sleeper and we were able to pinch and poke his ear without so much as an eyelid flutter but found that when a needle came near he was up and moving immediately. Veterinarians decided it would not be necessary to anesthetize him to draw blood at that time. In late 2014, keepers noticed he began to look less filled out and his weight started to decrease despite increases in food consumption. A blood draw behavior became first priority and we began training it immediately. After discussions with veterinary staff it was decided that the vein on the inner thigh would be the best place for extracting blood. Now the question became, how could we possibly get access to his inner thigh without anesthesia? Brainstorming lead to a training plan with all approximations to be taken and the construction of an aardvark podium with a small door made from spare screws and scraps of wood. Taking the short amount of time to train Artie to voluntarily expose his leg for a blood draw made it possible for the veterinary staff to give Artie the medical attention that he needed, while at the same time allowing Artie to live a life free of stress.

Training in the Dark

Trelle Dandridge and Heather Samper; Mutts with Manners

A dog trainer who began her career in a zoological setting fortunate to work with a multitude of taxa in mixed-species exhibits doesn't sound that interesting. But try training a dog, or any species for that matter, with the lights off. Seriously. Eyes shut, lights off, pitch black. Will you be as successful? Can you explain what's happening to other people? Can you interpret the body language of a new animal you've never met that has a behavior problem? Trelle lost her vision in 2001 which coincided with landing her dream job at the Aquarium at Moody Gardens, where honing her training skills began. It was an incredible adjustment to say the least. In 2008, she left the aquarium to embark on a new adventure- a business owner. A new career as a dog trainer opened up many doors and Trelle now co-owns three businesses, trains dogs (and people), teaches classes, manages an intern program, and volunteers with three canine non-profit organizations. That's a full plate for anyone! But to do so without the ability to see what she is training, where she is training, or who she is training with is remarkable. How is this possible? Throughout this presentation you will learn various strategies Trelle utilizes to interpret and modify behavior, motivation factors, and specific challenges of training in the dark. Trelle is a constant inspiration to everyone she meets and we wish to share her journey of Breaking Down Barriers with you.

Changing a Perception: Improving Animal Welfare in Vietnam

Erin Ivory and Georgina Allen; Wild Welfare

Captive wild animal facilities in Vietnam, such as wildlife rescue centers and zoos, are playing an increasingly important role in the conservation of endangered species by enabling the effective confiscation and accommodation of animals caught up in the illegal wildlife trade and through educating the Vietnamese public on the importance of species and habitat conservation. However, where wildlife-holding facilities

do exist, it is essential to ensure the best possible care for the animals if such facilities are to engage with, and receive support from, international species conservation programs. Standards to ensure the physical and behavioral well-being of animals must be equal to, or better than, the standards of participating international facilities. Since 2014, we have been working with Hanoi Zoo, Hanoi Wildlife Rescue Center, and the Elephant Conservation Center. These government run facilities were chosen because of their ability to drive change within Vietnam if efforts to improving animal welfare were successful. There are many challenges associated with working in Vietnam including cultural and social differences, facility management structure, and translation. We will explore the challenges, strategies, successes and future initiatives to continue improving the welfare of animals in Vietnam.

Training for Ultrasounds in Xenarthra
Sarah Graham; Busch Gardens Tampa

No studies have been found to document the growth rate and development of a fetus from conception to parturition in xenarthrans. In the three banded armadillo, *Tolypeutes matacus*, ultrasound cannot penetrate through the shell and therefore the ultrasound probe must be placed on the abdomen. This can be challenging due to the armadillo's ability to curl into a ball. The Linnaeus' two toed sloth, *Choloepus didactylus,* has unique anatomy in the digestive tract which can hide the reproductive organs when attempting to view using ultrasound. We present two cases where behavioral training has enabled us to obtain fetal ultrasound images in these otherwise challenging species. A pregnant armadillo, "Zowie," was trained to maintain relaxed open body posture so that handlers could position her vertically. This gave veterinary staff perfect access to place the ultrasound wand on her exposed abdomen. A pregnant Linnaeus' two-toed sloth, "Daisy," who had no previous training, was progressively worked with to develop a complex behavior chain. This training included acclimation to handlers, target training, crate training, and desensitization to abdomen tactile for clippers and ultrasound wands. An innovation in sloth management involved creating and utilizing a transportable device from which the sloth can hang while the ultrasound is conducted without the use of anesthesia. When used at the Animal Care Center, our on-display veterinary hospital, this device allows our guests to view the ultrasound procedure and have in depth discussions afterwards with the veterinary professionals.

Breaking down Classic Animal Care Roles to Find a Common Ground to Care for an Okapi (*Okapia johnstoni*) with a Difficult Injury
Scott Trauger and Lauren Smith, DVM; Natural Encounters, Inc.(Former Animal Keeper of Hoofstock at Tampa's Lowry Park Zoo) and Tampa's Lowry Park Zoo Associate Veterinarian

In 2012, Tampa's Lowry Park Zoo was home to 1.1 Okapi (*Okapia johnstoni*). One morning, upon the staff's visual check after arrival to work, it was noticed that the male okapi, Zach, had done damage to his front right hoof. Our Animal Care and Veterinary teams exhausted all possibilities of treatment to allow the hoof to heal. When progress wasn't happening as we had hoped, it was decided that the best course of action was to amputate one half of this hoof. The question then became, how do we allow this animal to have the best quality of life with this new physical change? Over the next few years of care, our staff realized that it takes a combined effort from a husbandry, veterinary, and behavior management perspective to truly give this animal the best possible quality of life. This is the tale about how we, as Animal Care staff, regardless of title, must figure out how to mesh our roles for the betterment of our animal's life.

Won't They Fly Away? Environmental and Training Foundations that Produces Successful Free Flying Parrots
Chris Shank; Cockatoo Downs

Training a parrot for free flight traditionally requires the use of weight management along with other

training tools to create desired training responses from the parrot. However, for over 30 years I have trained a variety of species of my companion cockatoos to successfully free fly without using weight management. I currently fly seven cockatoos of various ages, both parent raised and hand raised. They fly free each day and have been trained to return to their aviaries on cue. By design the daily flying schedule is neither highly structured nor routine. Their free flying experiences consist of self-chosen activities such as foraging, flock flying, playing, exploring, and, occasionally, even predator evasion. They may choose to spend time with me or other human companions. They are eager participants in any training sessions that I offer during their time out flying or while in their aviaries. They are routinely used as willing subjects for attendees to train at our yearly Positive Parrot Training Retreat. This presentation, through videos and photos, will underscore the importance of creating training strategies meshed with an environmental, social, and diet program which culminate in producing confident, fit, eager, and successful free flying parrots without using weight management.

Break

10:30am – 12:10pm **Presentations**

Voluntary Net Entry for Lemur Husbandry and Medical Care

Chelsea Feast; The Maryland Zoo

Voluntary net entry has become an extremely useful trained behavior that we established with all lemurs housed at The Maryland Zoo in Baltimore. It is specifically vital for our female ring-tailed lemur, "Fern", who is housed with her father and requires birth control injections every 42 days during breeding season. Previously, she would be kenneled in the outdoor exhibit, transported indoors, restrained using the net to receive the injection, then placed back into the kennel and transported back to the outdoor exhibit. This method added stress to the injection due to separation and transport, which we eliminated using this new approach. Voluntary net entry was established through small approximations using positive reinforcement training. She is now desensitized to the net and voluntarily walks into the back of the bag, the net is closed. She is restrained and receives the injection quickly, then is immediately released. Not only is voluntary net entry a great tool to simply decrease negative associations with the net, it is a quickly trained behavior that allows for injections to be done in a controlled setting. To date, we have successfully given "Fern" two birth control injections using this method. I am eager to share how this behavior was trained, challenges that arose, how this training translates into any exhibit or holding space, the benefits we have seen since starting this training program, and other training alternatives we are currently working to establish.

Breaking down Barriers through Barriers: Training Southern Cassowary for Voluntary Injections in a Protected Contact Environment

Samantha Kaeser; Brevard Zoo

An outbreak of encephalitis last year prompted the need to vaccinate Brevard Zoo's ratites against the deadly disease. In order for the process to be the least intrusive and most positive experience for animal and staff alike, the Austral-Asia keeper team was tasked with training the zoo's 1.1 Southern cassowary (*Casuarius casuarius*) to stand for voluntary injections in a protected contact environment. The cassowaries have two different personalities. When training began keepers quickly had to modify the training plan for each individual bird. Small approximations and inventive thinking helped shape the desired behavior from the male. The female required much more time as well as modifying the behavior criteria to make the training plan successful. Both cassowaries successfully achieved the behavior and were able to be vaccinated with less stress to them, to the vet staff, and to the keepers. Voluntary injection training can be applied across all species and is the least stressful method for medicating and vaccinating animals. Empowering an animal to choose to participate in their own health care rather than using restraint or immobilization provides them with the highest level of animal care.

The Eyes Have It: Training 0.1 Jaguar (*Panthera onca*) for Voluntary Application of Eye Drops Following Cataract Surgery
Sarah Colman; Palm Beach Zoo

The Palm Beach Zoo currently houses 0.2 jaguars (*Panthera onca*), ages 10 and 20. The younger female, "Izel", presented with severe cataracts in both eyes. She adapted to the resulting vision loss, showing no issues navigating exhibit areas or finding food. However, in late 2014, she walked off an exhibit ledge and fell ~12 feet to the ground, falling on the edge of the exhibit water feature. Although she escaped lasting injury, it prompted a conversation between veterinary and animal care staff about risks for future injuries and what could be done to mitigate them. Cataract surgery had been successfully performed on two birds at the zoo earlier that year, so the conversation turned to whether a similar procedure would benefit Izel. While the surgery seemed logistically possible, the aftercare presented issues. It was apparent that the difference between the surgical aftercare for the birds and the aftercare for Izel was that while restraining the birds daily for eye drops was possible, it would be impossible for an adult jaguar. Izel needed to learn to voluntarily accept eye drops following her surgery, as she could need drops as often as three times per day for several months. The consensus among all staff was that the behavior would need to be completed prior to scheduling the surgery. This paper will detail the process of training this behavior, the collaboration between animal care and veterinary staff, and the results of surgery and after care for this animal.

Untapped Potential: Enriching Our Animals through Behavioral Research
Jessica Spencer, Lauren Highfill, Otto Fad and Ann Marie Arnold; Busch Gardens Tampa, Eckerd College

While the concept of enrichment in zoos has manifested in a wide variety of forms [e.g. tactile, olfactory, EED's], one underutilized opportunity to enrich our animals' lives is through behavioral research. With constraints on funding, staff, and time often diminishing the priority given to research endeavors, we encourage the zoo community to re-consider the benefits beyond the obvious value of increasing our knowledge and improving the quality of care. By giving animals the opportunity to participate in a behavioral study, we are creating change in the environment, promoting interactive choice-based activity, and stimulating mental and/or physical exercise. We will describe a cognitive experiment recently conducted with the Busch Gardens Tampa elephants as a tangible example of the enriching potential of behavioral research, challenges inherent in applied settings, and ways we incorporated variability into sessions while maintaining scientific rigor.

A Key to the Misunderstood: Relationship Building with an Age-Old Predator
Nelly Rivera; Theater of the Sea

They are an apex predator who have survived since the cretaceous period. They are nurturing mothers, respected in nature, but feared and misunderstood in our modern world. When environmental challenges pushed them to the brink of extinction they rebounded with astonishing success. They are the Crocodilian Species. Theater of the Sea is home to some of these species. Alley, a female American Alligator, came from a local souvenir shop where she was not able to thrive in a natural environment and was fed an inappropriate diet which lead to digestion issues. At our facility she was provided with a lush, natural habitat and was started on a trial of diets to overcome the challenge of digesting her food. Although Alley was on a path to an enriching and healthy life, she still held an aggressive nature that was challenging for trainers to conquer. Eventually, a strong relationship was built through trust, dedicated time, and a deep understanding of this extraordinary species. This paper will illustrate the steps we took towards the husbandry training which now allows us to conduct voluntary behaviors such as ultrasound, radiographs, blood draw, weights, and crating. All of our crocodilians now participate in their own health care and are even capable of learning fun behaviors like painting, carrying a flower, and walking alongside their trainer.

My paper will serve as a guide for other facilities to mirror this training from the beginning and will include recalls and signals, bridging, various types of reinforcers used, and troubleshooting.

12:10pm – 1:20pm **Lunch on your own**
OR
Lunch and Learn

Lunch and Learns will be taking a new twist this year in Tampa!
Guardian Angel Dog Rescue is a non-profit animal rescue that is dedicated to rescuing dogs from needless euthanasia. Doing what it takes to help stray dogs and owner surrenders, including getting medical treatment at a vet, and finally finding these dogs good and loving homes. This year at the annual ABMA conference, we will be showcasing a couple of foster dogs as they begin their training with ABMA members Heather Samper and Trelle Dandridge from Mutts with Manners. During lunch on Monday, Wednesday, and Friday bring your lunch and watch these dogs as they start their training from the very beginning and progress through the week. These animals will be highlighted on social media to raise awareness of the organization and aid in finding these animals a forever home!

1:20pm – 1:40pm **Presentations**

Tsk, No, Eh-eh: Clearing the Path to Reinforcement with Errorless Learning
Dr. Susan Friedman; Behaviorworks.org
We all know the saying, "If at first you don't succeed, try, try again." Unfortunately, trial and error approaches typically result low rates of reinforcement that result in unwanted fallout: Learners practice errors — making correct responding less likely and they become frustrated — setting the occasion for aggressive behavior and giving up. This fallout led researchers and practitioners to ask, are errors really necessary for learning to occur? Errorless learning is a term used to describe a teaching approach that limits incorrect responses. In this presentation, the basic elements of designing an errorless learning environment are discussed in order to design more effective, efficient and humane training plans.

1:40pm – 2:00pm **Behavioral Management Fund Scholarship Winner**

"Here and Now with Your Animal"- Techniques to Improve the Mental Awareness of Trainers and so Enable More Effective Training
František Šusta and Petra Jaškówová; www.trainingisdialogue.com

Successful training is a result of trainer and animal participating effectively. Practically we focus on the behavior and physical state of the animal. But more experienced trainers know that the internal state of the trainer is a large part that cues responses from the animal. As trainers, our focus, ability to be mentally present, and our stress levels directly influence our training success. It is a sad reality, that traditionally connected humans believe they have dominance over animals. This "internal" belief system translates into a subconscious argument between animal and trainer which results, sometimes even with the best intentions, in aversive training methods. This contrasts with science based R+ training which focuses only on the animal choosing the required response. And for many trainers the aversive methods "speaking about their soul" are still more popular than R+ training "speaking only about science."

To address this concern we developed a new method of teaching R+ training. It includes relaxation techniques for the trainers, concentration and breath exercises, and different modifications of clicker games. It is designed to provide trainer's with more self-awareness in training process, and so enable them to communicate effectively through operant conditioning. Examples of how problematic animal behaviour was solved using this techniques will be illustrated. We will show how R+ training skills like LRS, rhythm of work, managing of animal´s stress and others are taught this way. And we want to show how trainers do "find their own souls" through clicker.

2:00pm – 3:00pm **Advanced Training**

Advanced Reinforcement Concepts Combining Science with Common Sense for Optimal Animal Behavior

Thad Lacinak and Angi Millwood Founders, Precision Behavior

"The way positive reinforcement is carried out is more important than the amount." These wise words from B.F. Skinner are as true in modern zoological training as they were when first uttered. As animal training consultants working with facilities worldwide, we often see the same challenges over and over again regardless of the focus species. Frequently, these difficulties are the result of predictability and lack of correct application of some of the most effective tools at the trainers' disposal. This workshop will discuss advanced reinforcement concepts that can benefit all trainers whether they work with dolphins, dogs, alligators or macaws. Topics will include a variety of strategies for avoiding predictability in animal training programs such as choosing the best reinforcement schedule based on the circumstance, ensuring variety in the types of rewards offered, advanced bridging strategies and exploring the latest research on the neurotransmitter dopamine and its relation to "maybe." We will also explore many of the most frequently misunderstood ideas or strategies in animal training such as the purpose behind and application of the least reinforcing scenario (L.R.S.), use of the Premack Principle, and the role of deprivation and satiation as they relate to reinforcement effectiveness. Although this is an advanced workshop, all concepts are explained in depth with real-world examples. The goal is to arm trainers with information and tools they can implement immediately into their daily training routines for the continued growth of the animal training field.

Break

3:20pm – 4:40pm **Presentations**

Assisted Reproduction Using an Alternative Approach to Artificial Insemination in Cheetah

Lisa Gagnon; African Lion Safari

Assisted reproduction has great potential to overcome management challenges such as behavioural or physical incompatibilities in zoo felids. Unfortunately, artificial insemination in felids rarely has a high success rate. Historically cheetahs are artificially inseminated by depositing semen collected by electro-ejaculation directly into the uterus surgically while under anesthesia. This method requires a high level of expertise that is not always accessible at all facilities. By using positive reinforcement training techniques, African Lion Safari is pioneering a new approach to artificial insemination in cheetah. It is our goal to perform artificial insemination so that it more closely resembles a natural breeding event without use of sedation, electro-ejaculation or surgery.

Training our Badger Well: A Badger's Battle with Pneumonia

Sharon Clay and Adrienne John; Turtle Bay Exploration Park

As animal trainers, one of the most important things is knowing your animals' behaviors inside and out. Seeing any change of behavior can indicate many things from: natural behavior, discomfort or comfort in everyday activities, to major health issues. These changes may be very obvious or incredibly subtle so taking any of them for granted can lead to an unfortunate outcome.

In the fall of 2014 knowing what subtle behaviors our American badger showed became a life or death situation as he was diagnosed with pneumonia. What could have been dismissed as natural torpor behavior turned into a long struggle to bring him back to good health.

This paper will discuss the process of diagnosing our American badger, Digger, with pneumonia, the effects of being in torpor, the long process to recovery, the difference training made in his extensive treatment and his resulting behaviors today.

Weight Management Is Not a Four Letter Word
Cathy Schlott and Nicki Boyd; National Aviary and San Diego Zoo
Weight Management: There is a lot of discussion currently about the pros and cons of using weight management in animal training. We have heard the critiques: "Don't starve the animal, feed all the food every day, don't rely on weight to get behavior" and so on. Weight management, done correctly, is one of many tools in a trainer's toolbox. We want to focus on the benefits of using weight management and enrichment to maintain animal health throughout its life in captivity. By carefully balancing body scoring, proper diets, behavioral observations, and monitoring seasonal trends, you can keep your animals in a state of proper welfare, optimum health and receptive to training and enrichment. This paper will cover scenarios in which weight management, regardless of training goals, has benefited animals in captive husbandry settings.

It Takes a Village: Employing a Training Team System for Zebras at the Oakland Zoo
Leslie C. Storer; Oakland Zoo

In order to manage the Oakland Zoo's small herd of Grant's Zebra (*Equus burchellii boehmi*), we actively involve zoo staff from across the departments, from the director to the newest volunteers, in coordinated team-training sessions. Utilizing individuals with varied levels of expertise comes with challenges and benefits, but has ultimately allowed us to expand the zebras' repertoire of trained husbandry behaviors in a way that would not have been possible with a single keeper. These behaviors include, among others, being comfortable in close proximity to and taking food from strangers, shifting on and off exhibit at random times, stepping onto a scale, and entering a stall alone. In addition, the training team system has broadened the knowledge, experience, and confidence within zoo staff by giving those with less training experience the opportunity to hone their skills, as well as experienced staff the chance to refine their consulting and troubleshooting abilities. We continue to use this training team system to prepare for future events with the zebras, including physical separation, injection, and dental radiographs.

4:40pm – 5:00pm	**2017 Conference Announcement**	
6:30pm – 7:00pm	**Cocktails**	*Terrace*
7:00pm - 9:00pm	**Banquet**	

DAILY SCHEDULE Saturday, April 23

SeaWorld

7:45am **Depart for SeaWorld Post-conference Trip** *Valet Drop off/Pick Up*

Immerse yourself in wonder at SeaWorld® Orlando. Experience awe-inspiring shows, one-of-a-kind attractions and up-close animal interactions where the aquatic world comes alive. SeaWorld Orlando® is owned by SeaWorld Parks & Entertainment™, one of the World's foremost zoological organizations and a worldwide leader in animal welfare, training, husbandry and veterinary care. The company collectively cares for one of the largest animal collections on the North American continent and has helped lead advances in the care of species in zoological facilities and in the conservation of wild populations.

4:15pm **Depart for hotel**

Natural Encounters, Inc. Ranch

8:45am **Depart for NEI Ranch Post-conference Trip** *Valet Drop off/Pick Up*

Natural Encounters, Inc. produces and presents bird shows primarily at zoos and theme parks. When not flying in shows, the birds are housed in Winter Haven, Florida at a facility known as "The Ranch". The Ranch was previously an Emu farm that was converted into their bird facility. More than 50 species are represented in the collection, including such diverse species as the Lappet-faced Vulture (*Torgos tracheliotus*), African Fish Eagle (*Haliaeetus vocifer*),Palm Cockatoo (*Probosciger aterrimus*), Hawk Headed Parrot (*Deroptyus accipitrinus*), and 2 stunning Harpy Eagles (*Harpia harpyja*). The Ranch sits on 34 acres, which allows plenty of space for housing and training free flight behaviors. In front, a large 10 acre pasture is the perfect location for lure flying falcons and conditioning other birds for shows. Breeding is also a priority with breeding enclosures for several species including Augur Buzzards (*Buteo rufofuscus*), African Fish Eagles(*Haliaeetus vocifer*), Bateleur Eagle (*Terathopius ecaudatus*), Eurasian Eagle Owl (*Bubo bubo*), African White-necked Raven (*Corvus albicollis*), Pied Crow (*Corvus albus*), Yellow-headed Vulture, and Tawny Eagles (*Aquila rapax*), which are on loan from The World Bird Sanctuary.

3:00pm **Depart for hotel** *Main House*

ABMA HONORS AND AWARDS

Did you know there are awards given out at each conference concluding banquet? These are the awards:

Behavioral Management Achievement Award: Recognizes an outstanding achievement in the application of behavior management techniques.

Behavioral Management Innovation Award: Recognizes outstanding application of novel, unusual or original behavior management technique

Animal Welfare Advancement Award: Recognizes achievements that enhance animal welfare through specific environmental enrichment/conditioning techniques or programs.

Sharing the Knowledge Award: Recognizes achievements in behavior management education to enhance the knowledge of professionals and/or the public to the benefit of animals in human care.

Poster Presentation Award: Recognizes the best poster that represents an achievement in any of the above categories in this format.

ABMA Impact Award: Voted on by all weekly delegates! This award is granted to the person(s), presentation, or conference event/activity that you feel is deserving of special recognition.

How does Judging Occur?

You simply list that you are willing to serve as a judge on your yearly registration! As a judge, you are providing an important service by recognizing conference participants for their extraordinary contributions. Your role as a judge should be taken very seriously as you are acting on behalf of the entire membership in deciding which presentations are deserving of recognition in the various award categories. With this responsibility comes a great deal of honor as your actions are helping to forward the ABMA's mission by reinforcing the values that we have set forth as an organization!

COMMITTEE DESCRIPTIONS

Behavior Management Fund
This committee coordinates the development of descriptions of scholarships and grants including application and recipient criteria, the benefits of each scholarship/grant, the scholarship/grant review process, and the fundraising strategies necessary to support ABMA scholarships/grants that the BMF Committee develops. The Behavior Management Fund Committee ensures the continued financial health of the Behavior Management Fund and the continuing development of ABMA scholarships and grants. The co-chairpersons are Michelle Farmerie and Genevieve Warner.

Conference
This committee works closely with the 1st Vice President to organize the annual conference, including arranging the schedule, speakers, workshops, and events. The chairperson is Linda Castaneda.

Conference Content Advisory
This committee serves the important function of ensuring that the content of the annual conferences is of the highest quality and relevance to the ABMA membership. This committee assists the conference committee by suggesting speakers, maintaining a conference template, ensuring workshops and demonstrations are rotated as needed so that current topics of interest are explored, and acquiring the CEU credits for each conference. The CCA Committee reviews and scores abstract submissions and works with the conference committee to select poster and paper presentations for each conference. The committee also maintains a historical document that contains previous workshop presenters and key note speakers as well as video documentation of the conference presentations. The co-chairpersons are Christine McKnight and Emily Insalaco.

Education
This committee is responsible for educating the membership, future members, and other like- minded organizations about the ABMA and what we offer as an organization. This committee creates brochures and advertisements, as needed, for educational purposes to better promote the function of the ABMA. For the annual conference, the education committee is responsible for organizing career night and hosting the hospitality suite. The chairperson is Missy Lamar.

Government Affairs
This committee monitors and reviews proposed government rulemaking, regulations, and laws regarding animal behavior management for both domestic and exotic species. The committee reviews all proposed rules, regulations and laws on the federal register and recommends action to the board of directors. The chairperson is Justin Garner.

Honors and Awards
The responsibilities of this committee include all aspects of judging and awards at the annual conference. This includes selecting judges, ordering awards, overseeing judges throughout the process, processing the "impact award", tallying votes, and presenting awards. The co-chairpersons are Jennifer Hennessy and Scott Trauger.

Membership
This committee's main objectives are to brainstorm ways to increase new and retain current memberships. This committee works cooperatively with other ABMA committee to ensure that the ABMA member' expectations and needs are met. It continues to search for ways that ABMA can better serve its members. In addition, the Membership Committee also looks for ways to reach out to prospective members. To do this, committee members distribute information about the ABMA at their facilities, conferences or other related meetings. Finally, the Membership Committee also looks for ways to promote the ABMA and its core values. The chairperson position is currently open.

Merchandise
The Merchandise Committee is responsible for anything related to the merchandise needs for the organization. This includes providing ideas and prices to the board of directors for items to sell at each annual conference, working with the conference committee for ideas for the conference bags and giveaways, and making sure the appropriate permits are in place for sales and raffles for each conference location. The committee chair is also responsible

for working with the conference committee to coordinate the scheduling of volunteers to help with sales at each conference. During the rest of the year, the chair is responsible for any merchandise inquiries and mail order sales. The chairperson is Susie Ekard.

Nominations and Elections
The Nominations and Elections Committee, chaired by the past president, solicits and reviews nominations for the board of directors; puts together a slate for approval by the board; and coordinates the election of the slate by the membership. The chairperson is Margaret Rousser.

Proceedings
The proceedings committee collects, edits, and formats papers from all of the presentations and posters at the annual conference. The committee then compiles these papers into a PDF file. This PDF file can be found on the website as a member benefit. As a member you can read the online proceedings from all our conferences even if you did not attend! The chairperson is Jen Hickman.

Public Affairs
The Public Affairs committee is responsible for communications with the membership and marketing of the organization. This committee maintains social media such as the ABMA's Facebook and Twitter sites and is responsible for maintaining regular contact with the members through bulk email at least once per month. In addition, the committee maintains records of any press coverage received by ABMA and sends out press releases on behalf of the ABMA. The public affairs committee coordinates joint press releases with hosting institutions in advance of the annual conference. The chairperson is Margaret Rousser.

Publications
The Publications Committee is responsible for putting together and publishing the quarterly member newsletter, the ABMA Engage. This involves solicitation of articles and other content, reviewing and editing submissions, formatting the newsletter, and working with the printing company to have it printed and mailed to members. The interim co-chairpersons are Cathy Schlott and Missy Lamar.

Research and Evaluation
The responsibilities of the Research and Evaluation Committee are to address the use of behavioral research as a husbandry tool to enhance animal welfare and management in both captivity and the wild and to increase awareness of on-going behavioral research relevant to member interests. The committee also facilitates contact with in-situ research projects in collaboration with the Behavior Management Fund. Finally, the committee conducts inquiry-based assessments, governance evaluations, and other research-related endeavors as needed by the ABMA, including annual conference and member surveys. The co-chairpersons are Darren Minier and Clint Lusardi.

Site Selection
The Site Selection Committee is responsible for determining conference locations by making the initial connections with institutions looking to host a future conference. Ultimately, a conference site is chosen based on this committee's recommendations. Once a site is chosen, this committee's responsibilities include securing contracts with host facilities and hotels, identifying conference hotels, and working closely with the Conference Committee chair. The chairperson is Kelly Elkins.

Sponsorship
The ABMA is a 501c(3) non-profit organization. This committee is responsible for researching, identifying, and securing funding sources to support the ABMA. The chairperson is Cathy Schlott.

Website
The Website Committee is mainly responsible for the maintenance of all aspects related to the website including making updates to the site, handling website feedback, managing job postings, maintaining website security, working with the website administrator, and determining future improvements for the website. The chairperson is Heather Samper.

DELEGATE LIST

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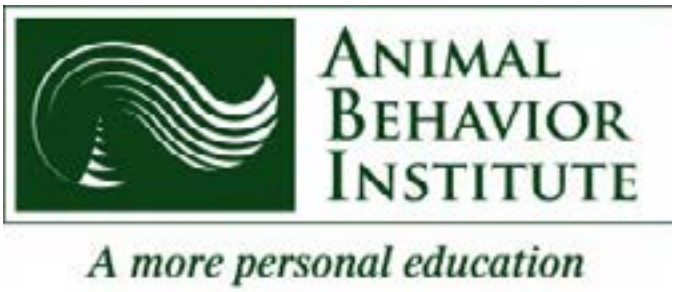

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April 24-28, 2017

www.theabma.org

Join us in Cincinnati Ohio where we will be connecting conservation through training. The week will start off across the river in Kentucky at the Newport Aquarium for the icebreaker event. We will show off all Ohio zoos have to offer with site visits to the Cincinnati Zoo & Botanical Garden and the Columbus Zoo and Aquarium. The conference meetings will be held at the Historic Hilton Netherland Hotel in downtown Cincinnati. The hotel is located in the heart of downtown Cincinnati on the bank of the Ohio River- home to the Cincinnati Reds, local and national restaurants, and celebrated micro-breweries.

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