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2021 Conference Speakers and Workshops

International Speakers (in order of presentation)

Emotions Inside Out

Susan G. Friedman, Ph.D

Professor emeritus, Department of Psychology, Utah State University

What does joy feel like to you? Is it the same for the person sitting next to you? Is it the same for the animals in your care? Are emotions pre-wired in the brain or are they learned? Is the topic of emotions even relevant to training animals? These are just a few of the interesting and important questions that surround the topic of emotions. In this session, we will focus on contemporary approaches to understanding emotions with action potential.

Bio: Susan G. Friedman, Ph.D. is a professor emeritus in the Department of Psychology at Utah State University. Susan has co-authored chapters on behavior change in five veterinary texts, and her popular articles have been translated into 15 languages. She teaches courses and seminars on animal learning and consults with zoos around the world. Susan was appointed to the F&WS Condor Recovery Team from 2002 – 2010, after which time the team was retired due to the success of the birds in the wild. She is the Chairperson of the Scientific Advisory Committee of American Humane Association (AHA) Film and TV Unit, and a member of IAATE, ABAI, IAABC, and ABMA.

The Evolution of Animal Training as a Technology

Dr. Robert E. (Bob) Bailey

Animal training, as a non-science-based craft, began thousands of years ago, long before there was a written record. We are left with cave drawings and other tenuous clues to give us a glimpse of what happened in prehistory. The Japanese, the Arabs, and the Romans were the first to document the early craft of animal training. B.F. Skinner, the noted American psychologist, published *BEHAVIOR OF ORGANISMS* in 1938. Without knowing it, Dr. Skinner laid the foundation for a revolution in animal training, what I chose to call “behavior technology.” In my talk I will trace the evolution of behavior technology from the 1940s to the early 21st Century. Featured is the work of Keller and Marian Breland, the pioneers in the commercial application of Dr. Skinner’s work. After Keller’s death in 1965, Bob and Marian (Breland) Bailey continued the evolution of animal training technology. The Breland/Bailey company, Animal Behavior Enterprises (ABE), trained more than 15,000 animals over nearly 50 years. Commercial animal shows and exhibits were given internationally. Birds trained include more than 200 parrots, large and small, hundreds of pigeons, dozens of gulls, vultures, ravens, and many other avian species. Also presented will be some recently declassified government training programs. Later, other trainers using the technology entered the field: Steve Martin, Barbara Heidenreich, amongst others. In my talk I will suggest possibilities for future pathways for those training avian species.

Bio: Dr. Robert E. (Bob) Bailey is an internationally recognized scientist and practitioner of animal behavior technology, with more than 63 years’ experience studying and modifying animal behavior in open and enclosed environments. He is a pioneer in the development and application of complex and prolonged duration trained animal behavior over long distances in open environments. He was the first Director of Training of the US Navy’s Marine Mammal Program. He worked directly with Keller and Marian Breland, who founded Animal Behavior Enterprises (ABE) in 1943. Dr. Bailey joined ABE in 1965, becoming the CEO and COO in 1968, overseeing 50 full time and 50 part time employees. Dr. Bailey has studied and trained more than 3,000 animals representing more than 140 species, including many Psittacine species: macaws, cockatoos, and parakeets. Other avian species include ostrich, emu, rhea, pigeon, vultures, several corvids, and many birds of prey. Dr. Bailey closed ABE in 1990. He continues to consult on various projects and has taught internationally. His academic credentials are: UCLA, UC Berkeley, 1954-1964, Bachelor Degree, University of Central Arkansas 2013, Doctor of Science Degree (Sc.D), in the fields of engineering, chemistry, and biology.

Touch the Heart to Teach the Mind

Wouter Stellard, Animal Programs Training Director, Columbus Zoo and Aquarium

One of the driving philosophies in the animal programs department at the Columbus Zoo and Aquarium has been “Touch the Heart to Teach the Mind”. Over the last 10 years, the department has grown exponentially. We incorporated training in all the ways we work with our animals and audience to help convey our message. Teaching a large variety of species to participate in these cool interactions meant we needed an anchor in our behavior program. Our anchor is the science of behavior change. The laws of behavior go across species lines and the way we apply these laws helps us connect with our animals and audience. With many of our communications now online, it is clear how challenging it can be to even connect with our friends and coworkers on a screen. We are missing the connection and the emotions of real people and animals up close. When our guests come back and we share our amazing animals with them again, the personal experience is going to be paramount and stand out more than ever. Let’s get ready to connect with our audience and “Touch the Heart to Teach the Mind”

Bio: Wouter Stellaard has been in the animal field for 26 years. His passion and career began in the Netherlands while working in a wildlife rehabilitation center. He created his own animal ambulance while finishing his animal care studies. In search for further education he came to the US where he graduated from the Exotic Animal Training and Management Program at Moorpark College. After an internship he was hired at Natural Encounters Inc. As a senior trainer he helped create, set up, train, and present bird shows at zoos and aquariums across the country. As the Director of Behavioral Programs he consulted both nationally and internationally to create zoo wide animal training programs with keepers to grow their training and presentation skills. Currently Wouter is the Animal Programs Training Director at the Columbus Zoo and Aquarium. He is responsible for the training of staff and animals in a variety of areas with a variety of taxa. He and his team produce natural behavior mixed species shows, run an

immersive animal encounters guest area, as well as an African exhibit experience. Wouter's passion is to teach people how to train animals using the science of behavior change and further the industry standards.

10 Things Training Birds Can Teach You About Working With People!

Ryan Cartlidge, Animal Training Academy

Behavior is behavior is behavior! Whether it's your cockatoo's crest going up, your seriema smashing that fake lizard on the ground or your owl participating in voluntary nail/talon care - the laws of behavior are always present. And if you have got this far in this short abstract for this presentation, then the same laws of behavior are also being leveraged by you – the human learner! So what can training birds teach you about yourself, your partners, your colleagues, your managers, and other members of our own species? How can you leverage the skill and knowledge you have been building throughout your career - working with & training birds - to become a more effective operator with your own con-specifics? This presentation will cross that chasm from birds to people. And share 10 ideas and tips to leverage the power of positive reinforcement, antecedent arrangement, observation skills, shaping, and more ... to help boost relationships with the humans in your life [including yourself].

Bio: Ryan Cartlidge has worked internationally as a professional animal trainer since 2007 - including in New Zealand, Australia, Canada, and the US. He has worked specifically with birds for a significant percentage of this time both in education, conservation, and free flight settings. Ryan has trained teams of trainers, developed animal training programs, been published in leading industry magazines, spoken at international conferences, and delivered a presentation in a university on animal training and behavior in zoos. Ryan is also a certified professional dog trainer through the Karen Pryor Academy & the founder of Animal Training Academy! Through the Animal Training Academy he manages an online community of hundreds of animal behavior and training enthusiasts with a large (and growing) library of lessons and tutorials delivered by renowned animal experts.

The Value of Experience.

Greg A. Vicino, Curator of Applied Animal Welfare, San Diego Zoo

As our care programs continue to evolve we find ourselves shifting away from traditional enrichment which is based on objects, more towards developing meaningful experiences for the wildlife in our care. By creating a natural rhythm to their days (even weeks and months), complete with problems to solve and challenges to overcome, we find they develop skills more in line with their wild counterparts. Our intention is to provide our animals' ample opportunity to express a complex behavioral repertoire that allows them to be more responsible for seeking things they want and avoiding things they don't. By avoiding traditional "enrichment" and fashioning our care mindset around a natural pattern appropriate for each different species, we can see wildlife become more skilled at navigating a rich experience filled world. This presentation will focus on developing integrated husbandry programs that eschew traditional norms and daily patterns while shifting the focus on whose experience really needs to be prioritized.

Bio: Greg A. Vicino, Curator of Applied Animal Welfare, studied Biological Anthropology at UC Davis where he focused on non-human primate, husbandry, behavior, welfare, and socialization. Previously, he held positions as an Animal Resources Supervisor at the California National Primate Research Center, Animal Care Supervisor of Primates for the San Diego Zoo, and interim Curator Al In Zoo U.A.E. Greg focuses on integrated management strategies, in which all animals receive the benefit of every specialty at each facility. By emphasizing the frequency and diversity of behavior, he and his team have worked on developing integrated management strategies that exploit the adaptive relevance of behavior and making behavior meaningful for managed populations. This strategy is designed to be applicable to all species both captive and wild and he has extensive experience in the Middle East and East Africa applying these concepts to in-situ conservation programs and rehab/re-release sites. Greg has continued to work towards his institutes' mission of ending extinction, and has staunchly stood by the idea that all animal should be given an opportunity to thrive.

Conserving an African Icon: the Southern Ground-Hornbill

Lucy Kemp, Project manager Mabula Ground Hornbill Project/ Co-Chair IUCN SSC Hornbill Specialist Group

Southern Ground-Hornbills are in trouble across much of their sub-Saharan range. A slow breeding biology coupled with a myriad of increasing anthropogenic threats has led to groups are being extinguished across the landscape, leading to a loss of over 60% of their range in South Africa. The intensive conservation and research efforts in the past 20 years have however brought hope. Their habitat requirements are flexible as long as the people they share the landscape with protect them. A deep intrinsic cultural protection across much of the range has led to safe pockets of groups beyond the borders of protected areas. We are working hard to strengthen these cores through custodianship, reawaken lost cultural appreciation, and then use reintroductions strategically to ensure vital gene flow between fragmented populations. Our science-based approach is multi-disciplinary to account for the strong social components needed for the protection of the species. We have developed multiple innovative tools to ensure their future, including future-proofed artificial nests, wild bush-schools for training of naïve hand-reared juveniles, and a state-of-the-art rearing center to allow us to produce the highest quality reintroduction stock. This is all linked by targeted conservation biology research. The immense, and loyal, support from the US ex situ community has led us to the strong in situ-ex-situ program we lead today.

Bio: Lucy Kemp is the Project Manager of the Mabula Ground Hornbill Project and Co-Chair of the IUCN SSC Hornbill Specialist Group. Her qualifications include PhD (University of the Free State), MSc Zoology, BSc (Hons.), BSc (University of Cape Town) and IUCN SSC CPSG Conservation Planner (in training). Lucy's main interest is how to take sound scientific evidence and use that to formulate on-the-ground conservation action, that considers socio-economic realities, cultural sensitivities, and conservation biology. She has been privileged to work on conservation projects in both Namibia and South Africa: black rhino, wild dog, cheetah, high value plants species, community-based natural resource management, and food security for communities living in national parks. Her greatest need is to be in wild places and so she sees it as her duty to do all she can to help keep wild places wild. Lucy joined the project in 2010 because Southern Ground-Hornbills have always been a part of her life as her parents, Alan and Meg Kemp, did much of the early research on the species in Kruger National Park, and so her childhood was filled with extremely early, but breath-taking, mornings out looking for groups, and helping to locate nests. There she developed her love of the wild. Now as a professional conservation biologist Lucy feels this flagship species is an excellent candidate for testing conservation tools, and connecting people throughout South Africa through a common conservation interest and growing love for this icon of our savannahs.

Behavior and Medical Issues: Separate Issues or One and the Same?

Dr. Yvonne R.A. van Zeeland, DVM, MVR, PhD, Dip. ECZM (Avian, Small mammal), CPBC

Medical and behavioral issues are considered separate entities by many, each requiring a different approach. However, there is more overlap between the two than one may suspect, as medical problems may be underlying to a variety of problem behaviors, and behavior problems, in turn, can also result in medical issues. This lecture will focus on the interaction between physical and mental health in birds, and emphasize the importance of a holistic, integrative approach in which medical and behavioral elements are linked and combined to create a further understanding of the birds' well-being.

Bio: Yvonne van Zeeland graduated with merit from the Faculty of Veterinary Medicine of Utrecht University in 2004. Having worked briefly in private practice, she returned to Utrecht in 2005 to complete an internship in companion animal medicine, residency in avian medicine and PhD on feather damaging behavior in grey parrots. Aside from her recognition as a European Specialist in Avian Medicine, Yvonne became de facto recognized in Small Mammal Medicine, and certified as a parrot behavior consultant. Yvonne is currently employed at the Division of Zoological Medicine in Utrecht, where she devotes her time to teaching, research and patient care of birds and small mammals. She furthermore contributes actively to the international development and advancement of avian and exotic animal medicine through lectures, publications and membership of various professional organizations and committees, including serving as AAV's President for 2018-19.

Assessing Body Condition Score Using CT Imaging with Case Examples.

M. Scott Echols, DVM, Diplomate ABVP- Avian Practice

Mobile Avian Surgical Services

The Medical Center for Birds

Body condition score (BCS) is most often performed by palpating pectoral muscle mass (pectoral muscle score or 'PMS'). However, PMS is more an evaluation of flight (pectoral only) muscle health and activity and not body condition (which relates to overall body fat). Recently, CT scans have clearly demonstrated the lack of correlation between BCS and PMS. This is important because many sedentary animals, typical in homes and collections, are overweight to obese with a low to normal PMS. Chronic obesity can lead to numerous health conditions and can be easily overlooked if relying upon a PMS system. To add to the challenge, many birds lay fat internally first and subcutaneously last. By the time subcutaneous fat is identified on physical exam, the bird patient may be significantly overweight. CT has made BCS more precise and identified numerous other health conditions simply not possible with most currently available diagnostic modalities. This presentation will discuss how CT can help caretakers better assess BCS and make appropriate changes to improve avian health.

Bio: Dr M Scott Echols lives in Salt Lake City and is a board-certified avian specialist veterinarian working primarily in the US. Dr Echols graduated from Texas A&M College of Veterinary Medicine in 1995 and completed his residency in avian medicine and surgery at the Medical Center for Birds in 1999. He is an internationally recognized author, speaker, researcher, adjunct professor, visiting professor and practitioner. His artwork has been featured on several magazine covers and in numerous galleries in the US, Europe and other locations. Awards include Recipient of the TJ Lafeber Avian Practitioner of the Year Award, 2005; Recipient of the Texas Veterinary Medical Association 2007 Non-Traditional Species Practitioner of the Year Award; Wellcome Images Award 2017 Finalist and Texas A&M 2018 Distinguished Alumnus Award. Dr Echols has numerous inventions in the field of imaging which are currently being used in animal and human medicine. Dr Echols splits his time between private practice, research, education, and outdoor activities.

Flight for Health: Understanding the Medical Effects of Flight

Susan Orosz, PhD, DVM, Dipl ABVP (Avian), ECZM (Avian)

Our birds have many unique adaptations for flight! The heart provides increased cardiac output with up to 5 times that of mammals. This allows them to perfuse their tissues and provide oxygen to their flight muscles more efficiently. Their respiratory system has fixed lungs with air sacs that move air in most of the lungs unidirectionally. This unique system increases efficiency of oxygen capture while expelling carbon dioxide in a 2-breath cycle. This anatomy and physiology of the heart and lungs impacts their health. Limited flight in a captive environment, leads to early aging problems. Additionally, the kidneys are a mix of reptilian and mammalian nephrons so that they handle nitrogenous wastes very differently. This allows reduction of fluids retained and keeps the weight down for flight. Bones are also heavy, and birds have fused some, including those in the skull and parts of the vertebral column. Most of the thoracic and pelvic bones are fused to provide a rigid platform for the wings to provide the downward forces to propel the body forward. These anatomic and physiology principles will be reviewed in this lecture relating to health.

Bio: Dr. Orosz is an internationally known avian veterinarian and anatomist. She received her PhD in human neuroanatomy from the University of Cincinnati Medical Center in 1980 and her DVM degree from The Ohio State University in 1984. From 1986-2000, Dr. Orosz taught avian medicine and surgery at The University of Tennessee, College of Veterinary Medicine where she attained the rank of professor. During her tenure at the University, she advanced the Avian and Exotic Animal Medicine Service at the Teaching Hospital as Service Chief and developed the ABVP Avian Residency Program in Avian Medicine. She obtained board certification in Avian Medicine through the American Board of Veterinary Practitioners and the European College of Avian Medicine. Dr. Orosz authored the award-winning Avian Surgical Anatomy: Thoracic and Pelvic Limbs, and co-authored its updated version. She has written on a variety of avian topics for research publications. Dr Orosz is a past president of the Association of Avian Veterinarians (1995) and served as scientific editor for its journal, The Journal of Avian Medicine and Surgery, from 2000-2003. Dr Orosz was awarded the Dr. TJ Lafeber Avian Practitioner Award in 2007. Dr. Orosz is owner of the Bird and Exotic Pet Wellness Center in Toledo, OH.

Addressing the African Vulture Crisis – Challenges, Opportunities and Progress within the CMS Vulture MsAP Framework

André Botha, Co-chair – IUCN SSC Vulture Specialist Group; Endangered Wildlife Trust, South Africa

Africa is currently in the midst of the African Vulture Crisis with several species having experienced extensive declines in both population and range across the continent over the last 50 years. The drivers of these declines are varied and complex and range from habitat loss and fragmentation, poisoning, electrocutions and collisions with energy infrastructure, trade in both live animals and vulture body parts for belief-use and a range of other threats. The impact of these declines and the resultant loss of eco-system services provided by these ecologically important species have to date been poorly assessed within an African context but will likely be severe on both the environment and human communities that benefit from it. The rate and scale of the challenge to reverse these declines through appropriate and effective conservation action require multi-tiered and comprehensive conservation interventions within the framework of the Multi-species Action Plan for Africa-Eurasian Vultures which was adopted by the Convention on Migratory Species in 2017. This talk will focus on some of the challenges, opportunities and progress that has been made towards addressing this crisis since the adoption of the Vulture MsAP.

Bio: André Botha has been working in conservation for more than 30 years and currently manages the Vultures for Africa Programme at the Endangered Wildlife Trust. He has been co-chair of the IUCN SSC Vulture Specialist Group since 2012 and is the Overarching Coordinator for the Convention on Migratory Species Vulture MsAP which was adopted in 2017. He is also Director Southern Hemisphere on the board of the Raptors Research Foundation.

Twenty Years of Species Recovery – What to do with what we've learned...

Chris Parrish, The Peregrine Fund Director of Global Conservation (California Condors - lead)

The near extinction of North America's largest flying land-bird and attempts to recover the California condor is known to many, but the details of the why and how are less known. The trials and tribulations of human history in endangered species management offer landscape-scale insights in an ever-changing arena of conservation. Should we succeed in recovering this species, it will stand as a testament of societies' abilities to observe, study, and respond accordingly to better manage preventable impacts to ecosystems and the species within. Lead poisoning remains the single greatest threat to recovery and implications for other less studied species is equally important. Science alone does not make conservation. How we proceed will be have as much to do with success as the foundations of science we depend upon to detangle these complex issues.

Bio: Chris N. Parish, hails from a small farming/ranching and oil town in the southern San Joaquin Valley of California. After a brief yet impactful introduction to the wildlife of the desert foothills, mostly through hunting and fishing, he moved on to further his education at Northern Arizona University on an athletic scholarship, obtaining a B.S. in Biology with emphasis on Fish and Wildlife Management. Through time, education and reflection of the vast gap between the people of the land and conservation-oriented groups i.e. academics, scientists etc., it became obvious that he would strive to bridge the gap between the people of the lands and the scientific/management communities in efforts to build intentional and successful conservation products. After working for the Arizona Game and Fish Department as a wildlife biologist for the first five years of his wildlife career, he moved to the private sector and served as the Condor Program Director for The Peregrine Fund for nearly two decades, continuing his passion for both field work and converting foundational scientific contributions to conservation by engaging and uniting partners in recovery efforts in Arizona and Utah. Additionally, he has been pursuing a PhD at Northern Arizona University, and has been promoted to Director of Global Conservation for The Peregrine Fund with a primary focus on recovery programs for Aplomado Falcons, California Condors, and the establishment of the North American Non-Lead Partnership to preserve our wildlife conservation and hunting heritage. Chris and his wife Ellen, have two beautiful daughters, Emma and Anna who are now both attending college at Northern Arizona University and the University of Wyoming.

Saving Threatened Vultures in South Asia

Munir Virani – Executive Vice President – The Peregrine Fund

Since the mid-1990s, populations of three species of Gyps vultures occurring in South Asia - Oriental white-backed vulture, long-billed vulture and slender-billed vulture declined at alarming rates. This decline resulted in them being listed as critically endangered. Adult and sub-adult mortality in populations was unusually high resulting in declines of between 95% to 100% (i.e., local extinction) in breeding populations in India, Nepal and Pakistan since 2000. Prior to the crash, Gyps vultures in India were one of the most numerically abundant groups of large raptors worldwide. They were sustained in South Asia mainly by feeding on an abundant source of livestock carcasses in the region. In 2003, The Peregrine Fund and partners identified the pain killing drug diclofenac as the main cause of the population crash. The drug was widely administered to livestock and when vultures fed on carcasses contaminated with the drug, they died from kidney failure within two to three days. In 2006, the drug was banned for veterinary use and populations started to recover in some areas. This presentation takes you through a chronological and scientific journey of the Asian Vulture Crisis and the collaborative steps taken to prevent extinction, engage governments, build regional capacity and highlights the challenges that lie ahead not only for vultures but other birds of prey in the region.

Bio: Kenyan born Dr. Munir Virani is the Executive Vice President of The Peregrine Fund with over twenty years of experience in raptor conservation research, project design, execution, management and delivery. His research spans over four continents and focuses on creative, holistic and effective solutions for conservation problems and developing collaborative conservation ventures. Munir has conducted extensive research on birds of prey in Kenya, India, Nepal and Pakistan and his current strategic conservation portfolio extends to Panama on Harpy Eagle and forest conservation and in the Caribbean on the threatened raptors there. Munir has won several International Awards including The Aga Khan Foundation's award for excellence in the Field of Science and Technology and more recently the prestigious "Green Oscar" Award from the Whitley Fund for Nature's for his work on critically endangered vultures in Kenya. Munir has published over 150 scientific and popular articles, supervised 20 students for graduate degrees and continues to develop conservation leaders around the world. He is also a globally recognized wildlife photographer, wildlife film-maker and an accomplished speaker and his TED talk on "Why I Love Vultures" has generated over one million views. His is passionate about Cricket, Wildlife Photography and Singing and lives with his family in Boise, Idaho.

Conserving the Iconic Andean Condor

Dr. Sergio Lambertucci, Principal Researcher, INIBIOMA-CONICET, Universidad Nacional del Comahue, Quintral 1250 - R 8400 FRF - Bariloche – Argentina

Vultures and condors are a highly threatened group of birds, with species suffering huge population declines within a short time. Their traits turn those species very sensitive to changes, and their demographic response is very slow. The only two extant condor species live in America, the Andean and California condors, and are the most threatened vultures in this continent. In particular, Andean condor populations are better conserved being distributed throughout South America. However, northern populations are scarce and highly threatened. Ecological and conservation studies on this species were very scarce until two decades ago. Now scientific information on Andean condors has increased steeply but mainly on the southern populations. Studies show that condors are exposed to several threats that keep populations at a steady decline. These decreases are mainly associated with direct and indirect persecution and lead poisoning. However, they are exposed to several other problems including human infrastructure, cultural threats, and competition with invasive species, among others. Those threats impact the species in different parts of their distribution, producing unknown local population, and even global, consequences. Continental approaches are needed to protect this wide-ranging threatened species. I will present novel ecological information on this iconic species, and introduce several conservation actions needed that could help to stop the decline of condor populations.

Bio: Dr. Sergio Lambertucci is Principal researcher at CONICET (the Argentine Research Council) and lecturer of Ecology and Conservation Biology at the Universidad Nacional del Comahue (UNCo) in Argentina. He is the head of the Research Group on Conservation Biology (GrInBiC) at INIBIOMA (Research Institute in biodiversity and environment) and investigates general aspects of ecology and conservation of species, particularly birds of prey. His interests are mainly related to investigate the environmental problems caused by anthropogenic impacts and the

desire to promote measures that enable better coexistence between people and nature based on scientific evidence. His studies range from the impacts on wildlife generated by habitat fragmentation, pollutants, persecution, to human-perceptions about the fauna. With his group he carries out trophic ecology, movement ecology, toxicology, genetics, isotopes, and the identification of areas of conservation importance for wildlife, among other studies. He has published more than 100 scientific papers in international journals and has mentored more than a dozen of PhD and Postdoc students.

The Ambassador Owl Conundrum

Steve Martin, President/CEO, Natural Encounters, Inc.

Owls have captivated visitors to zoological facilities for many years. There is no denying the attractive nature of an owl whether it is sitting on glove or flying near the guests. However, getting an owl to voluntarily participate in programs involves many factors, from how the birds are raised to the handler doing the presentation and so much more. This presentation will explore the many strategies, programmatic challenges, and conflicting opinions associated with providing optimal welfare for owls while creating conditions that promote voluntary participation in programs.

Bio: Steve Martin is President/CEO of Natural Encounters, Inc. (NEI), a company of over 40 professional animal trainers who teach animal training strategies and produce educational animal programs at zoological facilities around the world. Though best known for his work with free-flight bird programs, most of his work involves teaching mammal trainers the art and science of behavior change principals. He teaches several animal-training workshops each year and is an instructor at the AZA Animal Training School, an instructor at the Recon - Elephant training workshop, a Trustee with the World Parrot Trust, and a member of the AZA Behavior Advisory Group. He is also President of Natural Encounters Conservation Fund, Inc. a non-profit company that has raised and donated over \$1.3 million to in situ conservation programs. Steve Martin has a strong commitment to conservation and helping people understand their relationship with the living earth. The Mission Statement of NEI is “Connecting Humans With The Natural World” and Earth Day is an official holiday for all NEI employees.

Selection Process for Non-Releasable Raptors: The First Step in Bird Welfare

Kit Lacy, Bird Curator, Cascades Raptor Center, Eugene, OR USA

The selection of ambassador animals coming out of wildlife rehabilitation facilities is an evolving process as information grows regarding long-term physical impacts of disabilities on an animal's quality of life. Ambassador animal welfare traditionally addressed nourishment, length of life, and physical safety while in human care. More facilities are now focusing on cognitive well-being, including examining if individuals are free from pain, fear, and distress as a measure of welfare. And, as more trainers are adopting choice-based training methods using the least number of aversive stimuli possible, bird selection is the first step in the welfare process. Cascades Raptor Center has developed rigorous criteria for all birds before they are added to our team. Because many of our resident birds are wild-hatched individuals deemed non-releasable by rehabilitation facilities, it became necessary to devise a thorough assessment process. Data collected from wellness monitoring of our current bird collection coupled with nearly 30 years of comprehensive necropsy reports have provided information indicating that many disabilities that result in non-releasable status also preclude individuals from having a high quality of life in human care. Setting an ambassador animal up for a successful life in human care begins with appropriate, well considered selection.

Bio: Kit completed a master's degree in biology from the University of Oregon, publishing papers on social behavior and communication in Caribbean Iguanas. Kit began volunteering at Cascades Raptor Center while also teaching college biology. After a major career shift and many years at the center, she now oversees both the ambassador animal collection and rehabilitation cases at Cascades. Kit is passionate about improving the quality of life for all raptors in human care through positive reinforcement training. She has been a board member of the International Association of Avian Trainers and Educators (IAATE) since 2013. She has presented papers on the training, lead workshops and webinars, acts as a mentor to other trainers, and presented on the Cascades' criteria for selection of non-releasable raptors for ambassadors.

Conservation Connection: Training to Save Wildlife

Ken Ramirez

Executive Vice President/Chief Training Officer, Karen Pryor Clicker Training

The science and application of learning theory is growing in use and popularity. From training the household pet to caring for the largest exotic animal in the zoo, applied behavior analysis has led to better behaved pets and improved animal care for animals all over the world. Creative trainers are always finding new ways to apply behavioral science; in the last several decades trainers have used advanced training skills to give back to nature and contribute to a wide range of conservation initiatives. Ken will share his training experiences with several unique conservation projects as well as those initiated by other skilled trainers. Conservation training is an exciting and expanding direction for experienced trainers to put their skills to use. Key applications include the expanded use of husbandry behaviors for conservation research, remote training projects, introduction of species to the wild, and other uses of behavior knowledge to aid in managing and studying animals to contribute to conservation. These applications have been used in assisting with conservation efforts with condors, wolves, sea otters, dolphins, sea lions, polar bears, sea turtles, chimpanzees, elephants and many others. The use of remote training in these projects has great possibilities for application in the pet training world.

Bio: Ken Ramirez is the EVP and Chief Training Officer for Karen Pryor Clicker Training where he helps to oversee the vision, development and implementation of training education programs. Previously, Ken served as EVP of animal care and training at Chicago's Shedd Aquarium. A 40+ year veteran of animal care and training, Ramirez is a biologist and behaviorist who has worked with many zoological organizations and dog programs throughout the world. He helped develop, and has been an instructor for, AZA's Animal Training Applications course. He is past president of the International Marine Animal Trainers Association and has been active in various leadership positions within IMATA for over 30 years. He hosted two successful seasons of the TV series Talk to the Animals. Ramirez authored the book ANIMAL TRAINING: Successful Animal Management through Positive Reinforcement in 1999 and most recently The Eye of the Trainer in 2020. He taught a graduate course on animal training at Western Illinois University for 20 years. He currently teaches at ClickerExpo every year, offers hands on courses and seminars at the Karen Pryor National Training Center (the Ranch), and teaches online courses through Karen Pryor Academy.

Doing our Groundwork: Taking Flightless Birds to New Behavioral Heights

Nicholas Bishop, Animal Behaviour and Creative Programs Manager

Chad Crittle, Senior Keeper, Birds and Herpetofauna

Adelaide Zoo, South Australia.

Australia: land of the uniquely unusual and downright quirky, home to the world's only egg-laying mammals and two weird ratites, the cassowary and the emu. Add to this mix the world's smallest penguin in our oceans, the largest pelican on our rivers and the lyrebird's mimicking mastery in our rainforests, and you have a stellar line up of Aussie Superstars - who also call Adelaide Zoo home. Chad and Nic have spent their lives enjoying Australia's diverse avifauna in field and aviary with careers also focusing on the training of free flight birds. Accustomed to the razor-reflexes of fast fliers, both appreciate that the precision needed in this arena is just as crucial with birds that prefer terra firma. We can be seduced into assuming that when we meet a ground dweller, things are easy street because the sky is not actually the limit. Rather, challenging the limits of perception and bias has helped Nic, Chad and their teams to improve approaches and realise diverse benefits in their terrestrial training adventures.

Join these two passionate bird nerds and explore how the laws of learning apply just as much on the ground as in the air. What strategies help to successfully introduce the world's most gifted songster to visitors in a walk-through wonderland? How do you respond when a gibbon on an unplanned furlough visits a cassowary? Where to start when visitors want to meet a penguin in person? Moreover, just what is needed to help celebrity pelicans make plain sailing of life in retirement?

Bios: Nic has relished his work in the zoo world for the past 21 years in Australia and overseas, with a keen focus on birds and free flight presentations. These have blended with his background as an actor/singer to see him working internationally in the field of Nature Theatre, including collaborations with Natural Encounters, Inc. In 2012, Nic formed Behaviourtects, a learning hub that takes a creatively practical approach to building better behaviour with all animal species. Since then he has collaborated with parrot trainer Jim Mc Kendry and dog behaviour specialist

Petra Edwards to present workshops and consultations in Australia, New Zealand and the USA. He is a member of the Australian Animal Training Community, a zoo-based group focused on providing quality-learning events for industry professionals. One of his favourite gigs is hosting a weekly interactive show on ABC radio, sharing insights on the art and science of training, and chatting with listeners about their animal behaviour experiences and challenges. Natural history illustration, writing, storytelling, theatre performance and budgie breeding are also core passions. His academic achievements are in Performance Arts, Applied Ornithology and Wildlife Management and he is currently the Animal Behaviour and Creative Programs Manager at Zoos South Australia.

Chad Crittle is the Senior Keeper of Birds and Herpetofauna at Adelaide zoo, supervising the most diverse bird collection of any major zoo in Australia. Chads passion for birds started at the age of 7 while watching the free flight bird show at Taronga zoo, fast forward 23 years and Chad is still as nerdy for the feathered friends he shares his professional life with. From support feeding wild cassowary after cyclone yasi in 2011, to releasing birds from the Texas star Ferris wheel at the legendary “Birds of the World” show at the Texas state fair, Chad has many a story to share. During roles working at bird and pinniped shows Chad has enjoyed learning from his colleagues the most and so returning to an IAATE event 9 years after attending his first in Minnesota, Chad is so excited to share and learn from wonderful animal professionals around the world.

Workshops Overview

Behavior-based Enrichment

Megan Stankiewicz, Animal Ambassador Manager, Brevard Zoo

Wild birds display a variety of natural behaviors that are intrinsically important to each species. Enrichment is one of the many tools we have as animal care providers to encourage these behaviors in the animals we care for. This workshop will cover basic concepts of Animal Welfare and Enrichment, and how they are related to each other. Participants will spend time watching animal behavior and breaking down larger behaviors like “foraging” into its smaller behavioral components – which are very different for different species. Together, we will complete Behavioral Workflow charts for a few specific avian species that will help us understand why each behavior is relevant to the species, and how we can stimulate those behaviors with the birds in our care through enrichment. Workshop participants will also be given examples of what a goal-based enrichment program can look like in practice, including record keeping and evaluation through monthly activity budgets. The goal of this workshop is that all participants will walk away with a greater understanding of how enrichment relates to animal welfare, and how targeting specific behavioral goals with enrichment can help increase behavioral diversity for animals, thus increasing positive welfare indicators.

Bio: Megan is the Ambassador Animal Manager at the Brevard Zoo – working with both the Ambassador and Petting Zone teams. While the term “enrichment” has evolved greatly in our field since Megan first started, enriching the lives of the animals she works with has always been a source of happiness for her. She has had the pleasure of collaborating with Brevard Zoo’s Behavioral Husbandry and Wellness Manager on the revamp of a zoo-wide Enrichment Program, moving from an item-based program to a behavior-based program. Megan has been on IAATE’s Enrichment Committee for the past seven years, helping to maintain the enrichment portion of our Facebook group, and has helped facilitate enrichment workshops at conferences past – including in 2020 where she presented a modified version of this workshop.

Holistic Strategies for Cultural Change: Building Sustainable Foundations

Jason Beale, Shaver’s Creek Environmental Center and Sidney Campbell, American Bald Eagle Foundation

The fields of animal care, training, and education are rapidly evolving, and keeping up with best practices can be hindered by stagnant workplace cultures. This workshop will focus on navigating the sometimes daunting task of

leading or supporting your team through cultural change. We will examine leadership and management theory and provide practical examples from the field, emphasizing realistic planning and examples to emulate or avoid. While the focus is on avian facilities, the concepts apply broadly across multiple disciplines. Participants will learn to assess their needs, set goals, and develop strategies for communication and fatigue management, ultimately steering their teams toward positive change.

Bios: Jason Andrew Beale is Animal Care Program Director at Shaver's Creek, Penn State University's environmental center. Jason has a diverse background in conservation and advocacy, with a focus on animal care and education. He has led and served on three major programmatic assessments and redesigns focusing on zoo operations, nature center management, and regenerative agriculture in conjunction with governmental, nonprofit, and community partners. Jason currently serves on the International Association of Avian Trainers and Educators Board, as well as a variety of administrative, conservation, and education committees. He lives in State College, Pennsylvania with his family.

Sidney Campbell is the Raptor Program Manager at the American Bald Eagle Foundation (ABEF) in Haines, Alaska. Sidney has managed the raptor center through a large-scale cultural shift focused on increasing welfare for staff, guests, and ambassadors alike. She led a major facility expansion and renovation, from fundraising to DIY demolition. Sidney is active in the IAATE community, supporting career development through the ABEF's internship program and her work with Alaskan Raptor Centers. When not training with her team she spends her time enjoying the Alaskan wilderness with her dog, Eider.

From Head to Toe – Coping and Foot-care for Raptors and Other Birds Amy Fennell CPBT-KA, Natural Encounters, Inc.

Coping and foot-care for raptors and other birds can be a daunting task, especially considering the variability of species, the individual, and the environment. This workshop will provide an overview of effectively managing foot and beak health in a variety of species (with a particular focus on birds of prey), including preventative care, environmental modifications, live demonstrations of voluntary nail trims and raptor beak coping, and other information designed to be useful for caretakers of a variety of avian taxa.

Bio: Amy began working professionally with animals in 1999, where she learned basic medical care of companion animals at a veterinary hospital before attending the University of Guelph, where she got her start with both birds of prey and environmental education at the Wild Bird Clinic. She moved into a leadership role with that program a few years later while also working as a resource interpreter at the Mountsberg Raptor Centre, focusing on environmental education with non-releasable native birds of prey. As Raptor Centre Lead, she additionally acted as a Program Director for the Eastern Loggerhead Shrike Recovery Program. Amy also worked with and trained a variety of non-avian wildlife, including native insectivorous bats and both native and non-native reptiles and amphibians. She joined the Natural Encounters, Inc., team on a full-time basis in 2014 and has trained birds for mixed species free-flight projects in Chicago, Indianapolis, Dallas, Tampa, and Orlando. Amy has been certified as a professional bird trainer (CPBT-KA) and is always looking forward to the next great avian adventure!

Equipment Making

Kit Lacy, Cascades Raptor Center and Miguel Santos, Zoomarine Portugal.

This workshop will address the appropriate use of jesses with raptors to provide for the health and welfare of birds, facilitate training and educational goals, and demonstrate optimum care for birds in given situations. Discussion will include tethering raptor species such as hawks, eagles, owls, falcons, etc. and the reasons against tethering vultures, caracaras, and all non-raptor species. Discussion will also include the use of positive reinforcement to teach raptors to sit on the glove and replace the behavior of bating off the glove and the consequent use of punishment to decrease the bating behavior. Also discussed will be minimizing the use of jesses to give raptors more control and power over their environment, which often leads to enhanced relationships with trainers and more reliable trained

behavior. Demonstrations of anklet making and paracord jess construction will be included during this workshop. A list of materials will be provided for the workshop participants.

Bio: Kit completed a master's degree in biology from the University of Oregon, publishing papers on social behavior and communication in Caribbean Iguanas. Kit began volunteering at Cascades Raptor Center while also teaching college biology. After a major career shift and many years at the center, she now oversees both the ambassador animal collection and rehabilitation cases at Cascades. Kit is passionate about improving the quality of life for all raptors in human care through positive reinforcement training. She has been a board member of the International Association of Avian Trainers and Educators (IAATE) since 2013. She has presented papers on the training, lead workshops and webinars, acts as a mentor to other trainers, and presented on the Cascades' criteria for selection of non-releasable raptors for ambassadors.