SPEAKERS, BIOGRAPHIES and ABSTRACTS



Day One – Taxonomy / Anatomy / Physiology





B.V.Sc (Hons), M.A.C.V.Sc (Aquatic Animal Health), M. Aquaculture (Deakin)

After more than 20 years as a veterinarian and looking for a career change, I undertook a Masters in Aquaculture commencing in 1999. Later that year I commenced at the Melbourne Aquarium. The Aquarium Vet team (3 full-time and 2 part-time veterinarians) now consult to all the Australian and New Zealand's public aquaria, as well as seven aquaria in Asia. Most weeks one of us is going somewhere. We also consult to the largest importer of ornamental fish in Australia (Aquarium Industries), several breeders and hobbyists, as well as several large zebrafish houses. I was a major contributor to the elasmobranch artificial reproduction research that commenced at Melbourne Aquarium in 2004.

During these years, I realized that there was no shortcut to gaining knowledge in the aquarium field and so I developed the world's first online course for people working in the aquarium

industry - the E-quarist course_{TM}. Initially released in May 2010 it is now an internationally recognized course. The Association of Zoos and Aquariums (AZA) has recognized the course and we are an AZA Learning Partner.



Dr Brett De Poister, BSc., BVMS

I am originally from Reading, Pennsylvania in the USA, but now call Australia home. Like many of us that care for animals, my fascination with animals started as a young child. I was particularly drawn towards ectotherms and looked after a large breeding collection of fish, amphibians, and reptiles.

By the age of 15 my passion for herpetology took me to Australia, where I studied with frog expert Michael J. Tyler at the University of Adelaide (eighteen years later, he is the namesake of my son, Tyler). Under the supervision of Michael, I developed a research project that showed various pollutants interfered with normal frog development. My research received local, national, and international coverage and helped spread the message that frogs are bio-indicators, which means that whatever was causing abnormalities in frogs was also hurting our environment.

My studies with animals continued at Stony Brook University in New York, where I developed a special interest in zebra fish research and investigated nerve regeneration. This research resulted in a co-authorship in Science.

In addition to my studies and research, my interest in science education lead to my involvement with a start-up company that created customized educational software for university level science courses. After several years in the education industry, I missed being involved with animal work, so a career change was in order.

In 2007 I received the Dr. Jerry Thornton Academic Scholarship and moved to Grand Cayman, Cayman Islands to attend St. Matthew's School of Veterinary Medicine. After a year of study and lots of SCUBA diving the opportunity to move to Australia arose and in 2008 I returned to Australia to study veterinary medicine at Murdoch University in Western Australia.

During my final year of veterinary school, I undertook a placement with The Aquarium Vet which transitioned to joining the TAV team as a consulting veterinarian following graduation. In 2012 I moved to Victoria and practised at Dandenong Veterinary Hospital as a companion animal doctor and surgeon and part time work with The Aquarium Vet under the guidance of

Dr. Rob Jones. In 2015 I started fulltime with The Aquarium Vet. Most of my time is looking after the animals at Sea Life Melbourne Aquarium including all of the fish sharks, amphibians, reptiles and penguins. However, I keep busy with overseas animal movements, sea turtle rehabilitation, zebra fish facilities, and the E-quarist course...just to name few projects!

ABSTRACT

Coral Anatomy

In this presentation we will discuss the key anatomical features of corals. We will examine the gross anatomical structures and work our way down to the cellular layers and components of corals. Lastly, we will explore the anatomical structures of the coral skeleton.



Russell Kelley (BYO Guides)

Russell Kelley is a science communication consultant with a special interest in coral reefs. He was an avid marine aquarist back in his youth before being seduced by the Great Barrie Reef and the Coral Triangle where he has dived now for 40 years. A coral reef biologist and geologist by original training Russell is passionate about communicating the inner workings of reefs to anyone who will listen \bigcirc

Russell is the author of the Indo Pacific Coral Finder (the first easy-to-use visual coral ID system) and the Reef Finder. He has trained over a thousand people in the basics of coral identification and in 2017 was awarded the Australian Coral Reef Society medal for science communication. Currently a Churchill Fellow, he is road testing a new edition of the Coral Finder that will make it easier to learn all those pesky new molecular coral names!

ABSTRACT

Coral Taxonomy 2020 - where it's at & how to use it.

Over the last decade coral taxonomy has undergone a revolution with the advent of molecular science. In the process many useful resources have been rendered obsolete and the already dark art of coral identification has become even more opaque to the interested person. The first part of this talk provides an overview of how coral taxonomy has changed, what parts of it are stable, and where future change is likely. The second part extends this information by explaining how to reliably use coral taxonomy going forward. Finally, I introduce Coral Finder 2021, the new molecular compliant edition, genus level coral ID tool that is practically focussed and easy to use.



Dr Paul R Jones, PhD

ABSTRACT

Coral Physiology with an Emphasis on Zooxanthella and the effects of climate change.

Daniel Kimberley (Monsoon Aquatics)

ABSTRAC Collection and Transport of Corals Dr Rob Jones (The Aquarium Vet)

ABSTRACT

Palytoxins

Palytoxins represent a major Health and Safety risk when working with corals. In this presentation, I will discuss what they are, what harmful effects they can cause and how to prevent this potential problem when handling corals.



Julian Sprung (Two Little Fishies)

Julian Sprung grew up on a residential island on Biscayne Bay in Miami Beach, Florida, where he spent a lot of time collecting and observing all kinds of marine life. He is a graduate of the University of Florida with a Bachelor of Science Degree in Zoology, and is President of the aquarium industry manufacturing company Two Little Fishies, Inc. that he co-founded in 1991.

Julian has been keeping marine aquariums for more than 40 years, and currently maintains 6 marine aquariums plus a planted freshwater display. He also has a marine pond at home that utilizes natural sunlight.

Julian became well known in the aquarium hobby through his monthly column Reef Notes in FAMA magazine, and many years of traveling the lecture circuit at aquarium club meetings and trade exhibitions around the world. His books include The Reef Aquarium, volumes One, Two and Three, which he co-authored with J. Charles Delbeek, Corals: A Quick Reference Guide, Invertebrates: A Quick Reference Guide, and Algae: A Problem Solver Guide. He has also edited and published several other books and is currently working on three new titles, Fishes by Lemon Yi-Kai Tea, Diadema Culture Manual by Martin A. Moe, Jr. and The Coral Reef Aquarium volume Two by Tony Vargas.

ABSTRACT

Coral Nutrition: Food for Thought and practical applications in Reef Aquarium Husbandry

Corals eat. That's what they do. Sitting around on the sea bottom they don't really have much else to occupy their time. That's why their surface is largely filled with mouths. Each hungry polyp capturing planktonic food from the passing water supplies nutrients to the whole colony, or in the case of LPS corals, multiple mouths on a single polyp each contribute to the nutrient supply. But corals don't depend entirely on capture of plankton, nor only on the nutrition provided by what passes through these mouths. They have other ways of feeding that complement prey capture. Symbiosis with zooxanthellae is a key feature for corals' nutrition, but other modes of feeding are important as well. This lecture provides an overview of how corals feed and how aquarists can apply this knowledge to support healthy corals in a reef aquarium.

Day Two – Water Chemistry / Quality and Life Support Systems



Dr Michael Grima DVM

I have always loved animals and had a particular fascination with the ocean and its inhabitants. From a very young age I always dreamt of becoming a marine biologist or a veterinarian.

Since the age of 15 I have worked in the retail aquarium industry and have learnt invaluable husbandry and practical skills.

I graduated from the University of Sydney in 2010 with a Bachelor of Science, First Class Honours degree majoring in immunology and microbiology with a minor in marine biology. My honours project was in immunology investigating the interactions between mycobacterial and influenza A virus infection in the lung. I have worked as a medical scientist at a number of research institutions in Sydney including the Centenary Institute of Cancer Medicine and Cell Biology and the Heart Research Institute. During my time as medical scientist, I held casual employment as an immunology, haematology and parasitology demonstrator at the University of Technology.

Following this, I volunteered for a number of animal welfare organisations including; Sydney Wildlife Rescue, Taronga Wildlife Hospital and the Australian Registry of Wildlife Health as a diagnostic laboratory assistant.

In 2012, I completed a Graduate Certificate in Veterinary Studies focusing on wildlife health and population management and in 2015 commenced the Doctor of Veterinary Medicine program at the University of Sydney as part of the inaugural cohort from which I graduated in 2018. Since then, I have worked as a veterinarian at a number of busy small animal clinics in Sydney's Inner and North Western suburbs. I have a particular interest in all things pathology as well as internal medicine, dermatology, oncology, exotic, wildlife and most importantly, aquatic medicine. I routinely consult for the Wildlife Assistance and Information Foundation veterinary clinic in Sydney's Upper North Shore. In early 2020, I was offered a veterinary position with The Aquarium Vet, predominantly consulting at Sea Life Sydney Aquarium and feel extremely honoured to be able to contribute to the field of aquatic medicine, welfare and conservation.

In my free time, I love spending quality time with family and friends. I enjoy relaxing by the coast and am an avid snorkeler, frequenting the many coves, bays and rock platforms of Sydney. I tend to spend my time bush walking, cooking, gardening, singing and caring for my tropical freshwater and marine aquariums, tree frogs and my cheeky feline son Chartreuse.

ABSTRACT

The Nitrogen Cycle and Biofiltration

A concise summary of the nitrogen cycle in marine systems from bacterial establishment, chemical reactions, toxic waste products and their effects, maintenance and nitrogen cycling in corals.



David Lee (Seachem)

David Lee is a Sales Manager with Seachem Laboratories, Inc. He earned his degree in Marine Science from the University of Connecticut and is a passionate hobbyist keeping various aquariums over the past 20 plus years. Before joining Seachem he worked as a professional aquarist and also has some experience propagating corals and breeding marine ornamentals. Although he considers himself an equal opportunity aquarist his main interest is in marine and reef aquaria.

ABSTRACT

Reef Chemistry

Corals rely on a delicate balance of water chemistry. Keeping successful reef aquaria is dependent on maintaining appropriate water parameters and a stable environment as needed by the corals. This presentation will look at some of the important parameters pertinent to coral health and discuss the key elements and chemical interactions at play in a reef aquarium.



Ehsan Dashti

Ehsan Dashti, the founder and owner of TRITON Applied Reef Bioscience, established the company back in 2008 in Düsseldorf Germany.

TRITON was the first to employ cutting edge technology to analyse artificial and natural seawater for aquarium professionals and hobbyists.

His chemist father and pharmacist mother helped teach Ehsan a deeper understanding of chemistry from the early age of 12, when he began to first keep reef tanks. They supported him with their knowledge and he started the company, with his wife Linda Dashti, while still studying chemistry and production technology. The entire family continues to work in the development and laboratory area of TRITON, until the present day.

TRITON quickly became the industry leader in water biochemistry, not only through the development of several groundbreaking innovations, but because for the first time in history, it brought an unprecedented level of transparency to the industry and the aquarist. Ehsan, as CEO and founder, was an integral part in all of these keys developments.

Ehsan's focus is not only directed at innovations in reef husbandry but also a long term commitment to sustainability and his was the first company in the aquarium industry to make an effort to move away from plastic bottle packaging to a more environmentally friendly alternative.

Ehsan has also presented talks at numerous international conferences around the world like the IAC, MACA, Pet South America, Pet ASIA, EUAC and MACNA



Julian Baggio

Julian has been an aquarist for almost 40 years and completed a degree in marine science at the University of Queensland, majoring in marine parasitology.

First employed in the aquarium industry by Cairns Marine back in 1997 as a coral and fish collections diver, Julian moved into the role of aquarist, specialising in the care and transport of aquarium fish and coral.

During the 20 years of working for Australia's largest fish and coral wholesaler he was employed in numerous roles finally being elevated to the position as senior manager of export sales and freight logistics.

Julian has also presented talks at numerous international conferences around the world like the IAC, RAW and MACNA.

ABSTRACT

ICP-OES Lab Testing of Marine Aquarium Water - The Foundation of Modern Reef Keeping

Dr Rob Jones (The Aquarium Vet)

ABSTRACT

Foam Fractionation and UV

Foam Fractionation (protein skimming) and ultraviolet (UV) form vital components of modern Life Support Systems (LSS) that are essential for maintaining excellent water quality for the inhabitants of our aquariums. In this presentation, we will examine what they are and how they function.



Brendan Sullivan

Brendan started with aquariums as a kid growing up with a 20-gallon freshwater tank with a school of Neon Tetras in it. As his professional career developed, long-term environmental sustainability and animal welfare became the two driving forces for him, which led him to a variety of positions, ranging from residential solar panel sales to running a local "big-box" pet store. He settled in at DiCon Lighting in 2019, and started working with both the Kessil (aquarium) and Fiilex (movie set) lighting brands about how to bring high end LED technology to the professional market. He currently has 7 fish tanks running at the office and 4 at home, with plans for plenty more in the future. Feel free to contact him at <u>Brendan@Kessil.com</u> or visit <u>www.kessil.com</u> for the variety of lighting options Kessil provides.

ABSTRACT

Happy Corals - It's about the Lighting

This presentation will examine the physics and biological aspects of how LED technology can not just recreate, but improve on the tried and true results of Metal Halides, as well as the R+D that went into bringing the industry to where it is today.



Charles Delbeek (Curator, Steinhart Aquarium)

Charles Delbeek is currently Curator of the Steinhart Aquarium, California Academy of Sciences in San Francisco, California. Previously Charles spent 13 years working at the Waikiki Aquarium in Honolulu, Hawaii. He is a member of the Association of Zoos and Aquariums (AZA) and serves on the Steering Committee for the Aquatic Invertebrate Taxon Advisory Group (AITAG). Charles' professional interests include the ecology and captive husbandry of marine and freshwater fishes, live corals, mangroves, seagrasses, freshwater aquatic plants and cephalopods. Charles co-authored three popular aquarium books with Julian Sprung from 1994 to 2005; The Reef Aquarium series. In recognition of his long history of contributions to the marine aquarium hobby he was honored with the MASNA Award in 2008.

ABSTRACT

Water Motion for Reef Aquaria

One of the key components of marine aquaria is water motion. A coral reef is a dynamic, high energy environment with vast amounts of water being passed over and through this environment. Sessile organisms such as corals and anemones rely on this movement of water to bring nutrients, carry away waste products and to spread offspring. Fish also rely on water motion to disperse off-spring and many are designed to live in a variety of water flow regimes; without proper water flow, many fish simply do not behave normally or thrive. This presentation will focus on the role water motion plays in coral and fish health, explore the various types of water motion and examine the tell-tale signs of inadequate water motion. The last two decades have seen a marked improvement in the quality and capability of water motion generating devices and we will examine the history of water motion devices and some of the recent developments in the area.

Day Three – Breeding and Conservation



Skylar Snowden, Sea Life Arizona

I am absolutely passionate about the conservation of corals, coral reefs, and the associated flora and fauna that are so important to reef health. I am particularly interested in reproduction. The synchronous nature of spawning events has always been a fascination of mine. I am fortunate and have had the privilege to work with and sexually reproduce at least 15 species of coral in both the Caribbean and the Pacific oceans. Over these years, I have seen and been a part of numerous innovations in rearing techniques and the equipment used to facilitate successful rearing of embryos. We still have so much to learn, and this presentation is about what we think we know currently.

ABSTRACT

Coral Reproduction an Overview: What We Think We know

There is still so much information that we need to learn about corals, but we do know some about how they live their lives, what keeps them healthy, what makes them sick, and how they reproduce. In the coming years, becoming intimately familiar with the ways that corals reproduce will be necessary to help conserve and save them. There is a lot of work being done on cracking the code on more species when it comes to timing and the mechanism that they use for synchronization, but the fact remains that we have much to learn. This presentation is an overview of what we do know, or what we think we know currently.



Beth Firchau

A 30-year public aquarium and zoo professional, Beth started out at the Columbus Zoo and then relocated to Virginia for 21 years as Senior Curator of Fishes and Dive Operations Supervisor at the Virginia Aquarium. A stint as Director of Husbandry at the Audubon Aquarium of the Americas and her years of leadership within the AZA community opened the door in 2018 to her current position as Project Coordinator for the AZA Florida Reef Tract Rescue Project (FRTRP), the largest coral rescue in US history.

Presenters:

Brian Nelson - Assistant Curator –Blue Wonders; National Aquarium <u>bnelson@aqua.org</u>

Beth Firchau – AZA- FRTRP Coordinator; AZA

bfirchau@aza.org



Brian Nelson

ABSTRACT

It Takes a Colony: The Impact of AZA Member Facilities on Coral Conservation

In 2014, Stony Coral Tissue Loss Disease (SCTLD), was first observed off the coast of Port St Lucie, Florida. As of recent reconnaissance dives, SCTLD has no spread almost the entire length of the Florida Reef Tract and is knocking on the door of the Dry Tortugas National Park. The disease is aggressive, its progression is rapid, and, for the 22 reef building corals affected by SCTLD, it is nearly a 100% mortality event.

Since 2018, at the invitation of the Florida Fish and Wildlife Conservation Commission (FWC), Association of Zoos and Aquariums (AZA) members have embarked on the largest coral conservation effort in AZA history. The AZA-Florida Reef Tract Rescue Project is engaging nearly 30% of AZA membership, will have housed nearly 2000 rescued corals by the end of 2020, and it project participants have invested millions of dollars to bring hope to Florida's coral reef, the Florida Reef Tract.

But AZA member facility coral conservation efforts did not start with the Florida Reef Tract Rescue. Coral conservation has been a mainstay of AZA accredited aquariums and zoo-aquariums for over 30 years. That foundation, that collaborative desire to make a difference for our oceans, has led to significant, positive impacts on the understanding and improved management of coral reefs worldwide, and has been the readiness springboard from which the success of projects like the AZA-FRTRP have sprung.



Rachel Serafin

Rachel Serafin is currently the Senior Coral Biologist at The Florida Aquarium's Center for Conservation in Apollo Beach, Florida. Originally from Tampa, she went to Marist College and returned to work at The Florida Aquarium at the downtown Tampa campus. While there, she was able to work with various aquatic and avian species, specializing in syngnathids, elasmobranchs, and pacific corals.

In 2017 an opportunity to work with corals at the newly formed Center for Conservation arose. Working with endangered and threatened species of Caribbean corals has had its own challenges but the success with breeding, rearing, and out-planting has been overwhelmingly rewarding. Her most memorial moments as a biologist include producing her first larvae from pillar coral (successfully reared and currently thriving) and diving with Pang Quong videoing pregnant male weedy dragons in southern Australia.

ABSTRACT

The Florida Aquarium's Coral Conservation Program

The Florida Aquarium's Coral Conservation Program is effectively addressing the coral crisis by focusing efforts on several interconnected strategies designed to: protect living species approaching or are at risk of extinction in the wild; increase coral reproduction rates; advance coral health; and restore the Florida Reef Tract. The Florida Aquarium provides long-term care for 17 species of healthy coral, including five Threatened species most of which were rescued from the Florida Reef Tract before being affected by SCTLD. Successful restoration of the Florida Reef Tract will require a significant and consistent supply of genetically diverse corals to be out-planted in tandem with the release of herbivores on an annual basis. To assist in that mission, we successfully raise coral offspring from gametes collected, both in the wild and our living genetic bank. The Florida Aquarium also has been sexually propagating long-spined sea urchins and other reef herbivores in a laboratory setting and is successfully rearing them from gametes to healthy juveniles for release.



Mitch Carl

Mitch Carl is currently the Curator of Aquatics at Omaha's Henry Doorly Zoo and Aquarium. Mitch has been involved in corals since his days as a hobbyist over 25 years ago and has been involved with SECORE since 2005. He has been on over 20 workshops with SECORE on locations around the world. He technically has only been asked to be part of four workshops, but keeps finding out where they are and just showing up.

ABSTRACT

Saving the Seas with Sex

SECORE (SExual COral REproduction) was founded in 2004 by Dr. Dirk Petersen. What started out as an attempt to bring together coral aquarists from around the world to solve the mystery of captive coral sexual reproduction, has turned into a global effort to use coral sex as means for meaningful coral reef restoration. The evolution of SECORE since the first workshop in 2004 has been quite extraordinary and this talk will look back at where we started to where we are today.



Lauren Marcon

I am a senior aquarist at Sea Life Michigan. I studied Zoology with a concentration in Marine Biology at Michigan State University and shortly after starting work at Sea Life where I've been for 5 years. Working at a small aquarium has given me the opportunity to work with a variety of different animal species, corals being my favourite. Being a part of the Curacao "Brain Project" and the Florida Reef Tract Rescue Project have been amazing learning experiences and have allowed me to work on what I'm most passionate about - conserving our coral reefs.

ABSTRACT

Conservation in Curaçao - Facilitation of Sexual Reproduction in *Diploria labyrinthiformis*

Diploria labyrinthiformis is a hermaphroditic, pelagic spawning brain coral. In late May 2019, a group of Sea Life aquarists from each U.S. site travelled to CARMABI research station on Curaçao to facilitate the sexual reproduction of this stony coral species. Cross fertilization of gametes collected from different sites provided a better opportunity for increased genetic diversity in the planulae. This conservation effort produced about 43,000 developed polyps settled on ceramic tetrapods that were outplanted to GPS plotted areas on the reefs where degradation had previously occurred.



Johnny Gaskell

Johnny has worked in the industry for 15 years beginning his career with southern ocean focus after studying Marine Biology at Deakin University, Warrnambool. More recently Johnny's work has shifted to corals while living in the Whitsundays for the past 7 years. His primary role is managing the Living Reef lagoons and leading Daydream Islands coral restoration program which uses custom design ex-situ raw water raceways to facilitate a nursery stage before outplanting. With great success so far, the aim of the project is to trial a range of restoration methods at one of the regions cyclone damaged sites to determine which is most suitable.

ABSTRACT

Daydream Island Coral Restoration Program

In 2019, Daydream Island developed a restoration program using ex-situ nurseries to assist with the recovery of Lovers Cove which was damaged by Cyclone Debbie. The custom-built coral raceways were developed to facilitate the growth stages of coral fragments that are to be used for restoration off the Island. The aim of the project is to trial a number of restoration methods to determine which is most suitable for the region.



Dr Jon Daly PhD

Jonathan Daly is a Research Fellow with the Smithsonian Conservation Biology Institute, based at the University of Hawaii's Institute of Marine Biology. He has over 16 yearsexperience working in cryopreservation in aquatic species and has worked on cryopreservation of coral gametes, larvae, symbionts, and fragments since 2016 in Australia, Hawaii, French Polynesia, and the Caribbean. Jon has led coral biobanking activities in the Great Barrier Reef Marine Park since 2016 and is a world leader in the development of advanced cryopreservation technologies for coral reef species. He is co-chair of the newly established global CRC Working Group on Coral Cryopreservation and Repository Building.

ABSTRACT

Using Cryopreservation to Secure Coral Reef Biodiversity

Day Four – Biosecurity / Disease and Management AND Building / Maintaining a Reef Tank



Sam Parker

Sam Parker – Reef Aquarium Enthusiast and YouTube Creator

Sam has only been in the reef aquarium hobby for 8 years, but has achieved a lot in this short time. From growing stunning reef tanks that have been featured around the world, to operating a hugely popular reefing related YouTube channel and even creating and running Australia's newest and largest Aquarium Expo; Underwater Pet Expo – Sam has gained a wealth of experience in the industry.

ABSTRACT

A Simple Methodology to Finding Success with Home Reef Aquariums

An honest, simple-to-follow guide to achieving success with the home reef tank. Regardless of your experience or expectations, this guide will help you reach your reefing goals.



Bradley Dohnt

Starting out in the aquaculture industry before landing a dream job as Dive manager at SEA LIFE Melbourne aquarium I have always had a passion for marine animals. Since Working at Melbourne, I have gone on to be part of the construction and commissioning team for the Cairns aquarium until taking on my current project as Curator of the Ningaloo Aquarium & Discovery Centre in remote Exmouth, Western Australia. I am very passionate about Life Support systems and specialise in fully recirculating closed systems. If I'm not flat out at work I'm flat out exploring the local reefs in this amazing location.

ABSTRACT

Design Consideration with Large Scale Public Reef Aquariums

Looking at what should to be taken into account when designing a larger reef system and some considerations that will make long term operation more feasible and efficient.

Key aspects to look at such as Volume, Shape and theming of exhibit, lighting and flow considerations and General LSS design

Coral Fragging Techniques



Barrett L. Christie

Barrett is currently the Director of Animal Husbandry for the Maritime Aquarium at Norwalk in Connecticut, USA. He was educated at Texas A&M University and has worked in public aquariums for 19 years, getting his start at the Moody Gardens Aquarium in Galveston, Texas before overseeing the renovation of one of the world's oldest aquariums, the Dallas Aquarium at Fair Park. He was part of the opening team for OdySea Aquarium in Arizona before relocating to New England to take his current position at the Maritime Aquarium where he oversees the animal husbandry, dive operations, and research and conservation teams.

His research interests include fish parasitology, coral reproduction, cephalopod husbandry, and freshwater mussel conservation. He has authored or co-authored a number of scientific papers, book chapters, and animal care manuals and serves as a referee for several journals. Barrett serves on a number of professional committees including as the Vice-Chair for the AZA Aquatic Invertebrate TAG, on the AZA Animal Population Management Committee, and as an advisor to the AZA Freshwater Fishes TAG, among others.

He also enjoys SCUBA diving, has over 1000 dives and is a certified divemaster and cave diver. When not working he enjoys fly fishing, backpacking, and zymurgy.

ABSTRACT

Overview of Common Coral Pests and Management Strategies

The successful husbandry and propagation of scleractinian and hydrozoan corals should include considerations of parasites which may cause morbidity and mortality. Until recent years there has been a paucity of information on this topic, and the science of health management of corals is as much in its infancy as fish medicine was some thirty years ago. There is still much work to be done to understand the etiologies of microbial disease in corals, but largely through the efforts of aquarium hobbyists and public aquaria we can successfully manage a number of parasitic organisms. Parasites and micropredators (pests) of corals include protozoans, flatworms, molluscs, and decapod crustaceans, among others. Some of the more common organisms like Acropora-eating flatworms, *Prosthiostomum acroporae*, and the copepod *Tegastes acroporanus* will be discussed, and the spectrum of known coral parasites and micropredators will be reviewed, with some chemotherapeutic and biological options for control presented.



Dr IIze Berzins, PhD, DVM, MPH

IIze K. Berzins has an interdisciplinary approach to her clinical, teaching, conservation and research skills focused around the concept of One Health – healthy ecosystems, healthy animals, and healthy humans. She is trained as an ecologist, a veterinarian, a comparative pathologist and public health official. She holds both a Bachelor and Masters Degree in Biology from Stanford University, a PhD in Zoology from University of California, Berkeley, a DVM from the University of California, Davis, and a MPH from the University of Iowa. She also completed a 3-year post-doctoral fellowship program in Comparative Pathology from The Johns Hopkins Medical Institutions in Baltimore.

She currently is an aquatic health consultant through One Water, One Health, LLC. She served as the Executive Vice President for Animal Health, Conservation, and Research at the John G. Shedd Aquarium in Chicago. Prior to this position, she was the Vice President of Biological Operations and Veterinarian at The Florida Aquarium in Tampa, Florida. Research and teaching opportunities have taken IIze around the world, and she holds several adjunct positions including with the Program in Fisheries and Aquatic Sciences, School of Forest Resources and Conservation at the University of Florida, and in the Veterinary Population Medicine Department in the College of Veterinary Medicine, University of Minnesota. She

currently is a member of the AZA-Florida Reef Tract Rescue Coral Project Health Management Advisory Group.

ABSTRACT

Coral Disease

This presentation will provide an overview of the challenges faced when evaluating coral diseases. It will provide an overview of how to evaluate for health and disease, review some of the common issues faced in captive coral situations, introduce select disease issues in the wild and summarize some of the initial efforts in treatment options. The topic is vast, the intent is to provide some insight into what is needed for investigating coral health and disease.

Dr Rob Jones (The Aquarium Vet)

ABSTRACT

Biosecurity and Quarantine of Corals

In this presentation we will examine the principles of biosecurity and quarantine and how we can apply those principles to corals.