

### **Exclusive Tiger Shark Research Excursion.**

The Bermuda based marine research organisation Ocean Tech is offering unique and exclusive tiger shark research experiences for guests during the Americas Cup.

The Ocean Tech team will welcome guests aboard the Bermuda Institute of Ocean Science research vessel Rumline to begin a unique day of discovery on Challenger Bank.

During the journey to Challenger Bank, a little over ten miles South West of Bermuda, guests can expect to learn all about the future Ocean Tech project, the mission, the vision and its technologies. On arrival, the team will switch into research mode and reveal the current techniques and methods used to study the migratory behaviours of the iconic Atlantic tiger shark.

Guests can expect to witness 600-700lb + tiger sharks right at the side of the boat. Guests also will observe the team enter the water with the sharks to collect footage of individual markings for an ID database. If the conditions are suitable the team will also attach highly sophisticated satellite tracking tags. Guests will have opportunity to name any tagged sharks so they can follow their movements around the Atlantic Ocean.

If the conditions are correct guest will also have the opportunity to swim with the sharks. The shark research conducted in Bermuda takes place in deep blue water. To swim with the sharks in this habitat without a cage is an incredible experience not readily available anywhere else in the world.

### **What is Ocean Tech?**

Ocean Tech launches in 2018 and is bringing together the world's top marine scientists with the world's most advanced underwater autonomous vehicle called REMUS. REMUS is an un-manned underwater drone that is capable of autonomously following and filming endangered marine species such as whales, sharks and rays. The vehicle's job is to rapidly reveal how a species uses its underwater habitat so we can identify the areas that need protection.

The data collected by REMUS will be analysed by Ocean Tech scientist and multiple scientific papers will be created. The scientific papers will be delivered to local policy makers. Ocean Tech helps governments establish data led marine protection that will help people and businesses sustainably use the marine resource.

Ocean Tech is a registered Bermuda non-profit organization. Each research mission provides scientific data to affect policy, inspirational STEM curriculum for schools, 360-degree VR content for a global network of exhibits and a comprehensive media campaign that includes a feature film. The funds raised from the sale of each feature film will be awarded to other marine conservation initiatives operating in the same mission location.

### ***Ocean Tech welcomes you aboard***



## Guest Itinerary. (Rumline)

**09:00** - Guests arrive at specified west-end dock.

**09:15** - Ocean Tech team welcome guests aboard with refreshments and Ocean Tech video brochures.

**09:30** - Rumline research vessel departs towing the Ocean Vet RIB "Harry Lindo"

**09:30** - Introduction to the team and the day ahead by Ocean Tech founder Andrew Smith

**09:45** - Overview of the Ocean Tech project including its history and technological capabilities

**10:00** - Dr. Goodbody-Gringley reveals the tiger shark and humpback whale research design for mission one in Bermuda.

**11:00** - Arrive on Challenger Bank and meet with the support boat Reefrunner. Come along side if weather permits or begin transfer of guest's to Reefrunner so guests can experience the sharking techniques.

### Ongoing work from 11:00 am

- Chum for sharks
- Drop shark fishing baits down onto the bank
- Fish for smaller species to attract sharks (guests welcome to join in)
- Drop Marlin head into the water from Rumline (donated to science from sports fisherman)
- Scrape the Marlin head in the water to replicate attack and chew sounds
- Swim with sharks once they arrive for photographic data collection.
- Bring the tiger sharks to the side of the boat and allow guests to observe the animal up close

### 13:00 - Lunch served

- Fish for a tiger shark and secure it to the side of the boat in the shark harness
- Enter the water with the shark to obtain DNA fin clip
- Allow guests to assist the team with the measuring of the animal
- Choy reveals the full biology of the species to the guests
- Andrew reveals what we know and what we aim to find out with REMUS
- Ocean Tech team secure SPOT 5 satellite tag to dorsal fin if it's a female shark
- Ocean Tech team enter the water to carefully remove the hook and swim the shark free.

**16:30** - latest haul anchor time

**18:00** – Latest Arrive back at west end dock and guest depart.

## Crew itinerary: (Reefrunner)

**08:00** - Support boat Reefrunner is loaded with sharking kit

**08:30** - Support boat "Reefrunner" departs for Challenger Bank.

**09:30:** Reefrunner arrives at Challenger bank & Ocean Tech crew find favourable edge and drop anchor to start shark attraction:

- Chum for sharks
- Drop shark fishing baits down onto the bank
- Fish for smaller species to attract sharks (guests welcome to join in)
- Drop small chew toys.

Reefrunner 26' support boat



Rumline 36' Guest boat



## Your team for the day:



### **Andrew Smith – Ocean Tech Founder & Finance Director.**

Andrew is an environmental entrepreneur and documentary filmmaker and producer who is dedicated to protecting the oceans for future generations. After completing a degree in journalism and filmmaking 10 years ago, Andrew founded the company 'GassProductions' to create films for good. Andrew has produced several award-winning television series in the Natural History, Science/Technology and Adventure genres including the recent TV series Ocean Vet with the late Dr. Neil Burnie, Choy Aiming and Michael Douglas. Since then Andrew has founded and developed the entire Ocean Tech project spending the last two years developing its vision and mission into the internationally endorsed and globally respected marine research organisation that it is today.



### **Choy Aiming – Ocean Tech joint expedition leader & head of wildlife tagging**

Specialist in marine wildlife satellite tag deployment, biopsy sampling, DNA storage and transport. Joint expedition leader and head of wildlife tagging. Mr Aiming has had extensive experience tagging multiple large and small marine species with transponders, cameras and satellite tags. He also has a huge amount of experience working closely with Bermuda's top predatory sharks.



### **Dr. Gretchen Goodbody-Gringley – Chief Ocean Tech Scientists.**

Gretchen is the chief research scientist for Ocean Tech and is overseeing all aspects of the projects scientific research. Gretchen is also an assistant scientist at the Bermuda Institute of Ocean Sciences (BIOS) where she leads the reef ecology and evolution laboratory. Her research program combines large-scale in situ ecological surveys, laboratory based manipulative experiments, and molecular ecology to address questions related to the health, evolution, and resilience of coral reefs, ranging from shallow inshore reefs to the mesophotic zone.



### **Chris Flook – Ocean Tech chief wildlife locator & tracker, Captain of Rumline**

Chris Flook has a truly remarkable skill set, and his understanding of the local and wider marine ecosystem is unparalleled. His ability to locate and track wildlife is born from a lifetime observing the intricate details and relationships found within the Sargasso Seas ecosystem. Chris is instrumental to the project and enables the entire team to reach the desired species for research. Chris has strong ties with PEW and has worked to build support for the world's largest protected marine sanctuary around Bermuda, named the Blue Halo.



### **Dylan Ward – Ocean Tech REMUS & Dive Support & Shark safety team**

An incredible free diver and superb fisherman. A qualified boat captain with extensive experience as part of the Ocean Vet shark safety team. Extensive experience assisting with the tagging and sampling of multiple marine species. Ocean Tech key role: Shark safety diver, fisherman, REMUS-100 launch and retrieval support, ROV, AUV launch and retrieval support.



**Andrew Kirkpatrick – Ocean Tech lead underwater camera technician.**

Andrew has a huge amount of experience filming and working with the planets most iconic marine species from huge 1000lb tiger sharks to 50 ton. Andrew brings a wealth of underwater camera operation experience including extensive experience with specialty camera rigs capable of 360-degree acquisition. Andrew has filmed with many international crews; his most recent underwater project was lead underwater operator for the award-winning Ocean Vet series.



**Tim Noyes – BIOS Research Scientists & captain of Reefrunner**

Tim is a Research Specialist in the Coral Reef Ecology and Optics Laboratory (CREOL) and with the Marine Environmental Program (MEP). He received a BSc degree in Biological Sciences specializing in fisheries from King's College London in 1998. After a 4-year hiatus from science working in the finance industry, Tim returned to King's College London to complete a Masters in Aquatic Resource Management, in 2003. Tim first came to BIOS in 2004.

**Lunch details:**

Every trip will be fully catered to a high standard; the menu will consist of assorted sandwiches and wraps as follows. Please inform us if you have any allergies or any special requests.

**Sample menu**

- Salmon Pesto-baked salmon, basil pesto, tomatoes, goat cheese
- Caprese Panini-sliced tomatoes, mozzarella, basil pesto, balsamic, olive oil, arugula, baguette
- Chicken Santa Fe–pulled Amish chicken, bacon, guacamole, sundried tomato pesto, mozza
- Roasted Turkey-herb rubbed, thin sliced, lettuce, tomato, onion, swiss cheese and ranch
- Philly Cheesesteak-sliced beef, sautéed onions and garlicky kale, provolone cheese
- Pulled Pork-slow cooked pork, provolone cheese, mojo dressing
- Mixed Greens Salad or Caesar Salad, or Pasta Salad
- Seasonal Fruit Plate and Dessert Bites
- Mixed Selection of Potato Crisps
- Mixed Selection of Cold Sodas
- Mixed Selection of Cold Juices

**Alcohol** will not be provided and cannot be consumed at any point.

**Weather**

The weather in Bermuda during June can be mixed. The wind can be strong and cold fronts are an ever-present threat. Each excursion is completely bound by the weather. The Ocean Tech team will make the final go or no go weather call at 6am on the morning of the trip. The Ocean Tech team will also provide a pre - go or no go at 48 hour and 24 hour intervals prior to the departure time.

Guests are strongly advised to take motion sickness medication the night before the scheduled trip and on the morning of departure in order to prepare for open ocean swells. Guest are also advised to apply plenty of sun block and wear clothing that covers skin, we also recommend guests drink lots of water while out on the trip.

### **Wildlife – 80% chance of tiger encounters.**

The month of June welcomes warmer waters around Bermuda and this is synchronised with the inbound migration of many species including tiger sharks. Smaller tiger sharks do reside in Bermuda all year around but June signifies the arrival of the large migratory adults.

As with any field research expedition there is no guarantee that we will encounter the sharks. The Ocean Tech team have made plans to increase the chances by sending a support boat ahead to start the shark chumming process. In any case, we cannot guarantee that guests will see the sharks but are happy to suggest an 80% chance.

### **Trip Cost & Guest Numbers:**

Ocean Tech is a non-profit registered company in Bermuda working with the Bermuda Institute of Ocean Science and the Bermuda Aquarium Museum and Zoo and the Bermuda Underwater Exploration Institute.

All of these entities are non-profit educational and/ or non- profit research organisations based in Bermuda.

For the purpose of the Ocean Tech tiger shark expeditions Ocean Tech is utilising both personnel, equipment and vehicles from the Bermuda Institute of Ocean Science.

The cost of each trip has been calculated at a cost rate. The costs cover the charter of boats and the cost of fuel, crew, scientists and the equipment needed to deliver one research day in the field.

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<b>Total cost of the expedition per person</b>	<b>\$772.44</b>
<b>Total cost of the entire trip for 16 guests</b>	<b>\$12,359.00</b>
<b>Maximum of 16 guests per trip. Total trip cost does not differ if fewer than 16 guests but we welcome small groups"</b>	

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### **Deposits & T&C's**

- 1. Each booking will require a 50% deposit that is non-refundable under any circumstance. The balance will be due no later than 2 weeks prior to the scheduled departure date. The balance is also non-refundable under any circumstance.**
- 2. The Ocean Tech team will do its very best to reschedule trips that are effected by adverse weather conditions that result in a cancelled departure.**
- 3. Ocean Tech will not issue refunds to guests if they cancel for any reason. Ocean Tech will offer to reschedule the trip or place the guest(s) on another trip that has space where possible.**
- 4. The weather will be checked 48 hours out, 24 hours out, the night before and at 6am on the morning of departure for a go or no go call.**
- 5. All guests will be required to sign a participant accident waiver & release of liability agreement from BIOS and Ocean Tech.**
- 6. A copy of our general liability cover is available on request. Our Passenger liability is for a total of 16 guests for \$1m in the aggregate per boat**
- 7. All trips must be booked and deposits received no later than 6 weeks prior to the departure date. (we require a 6-week lead time)**

### **Final note**

This experience will not only provide guests with a unique insight into Ocean Tech and the world of shark research but also help to financially support Ocean Tech & BIOS. Each of these trips will further our collective understanding of tiger shark behaviour and migratory patterns and provide a unique opportunity to meet a team of oceanographers and scientist that work tirelessly to better understand and protect the world's oceans. It will be a trip of a lifetime.

**Watch the video here.**

<http://www.oceantech.global/join-us-americas-cup/>



Registered non-profit company in Bermuda No: 52233