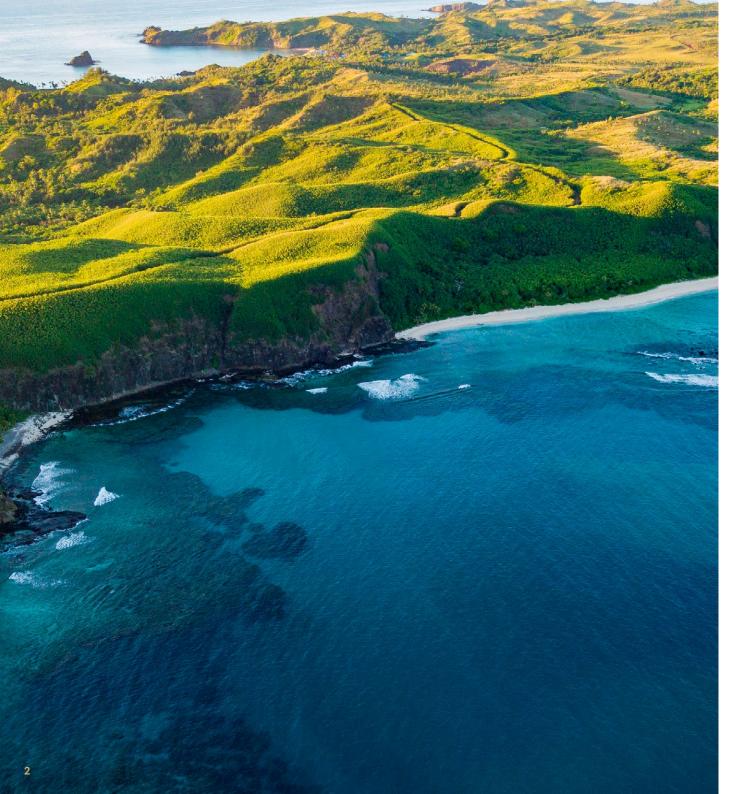




TOGETHER TO EXPLORE





Sail to the stars with the SETI Institute

Swan Hellenic is a proud partner of the SETI Institute – a space and earth science research organisation that supports NASA, NSF (National Science Foundation), private industry and academia in answering some of humanity's most profound questions.

In our partnership with the SETI Institute, we aim to provide our guests with expert insights into the history and latest discoveries in astronomy, astrophysics, astrobiology and planetary science. SETI stands for the 'Search for Extra-Terrestrial Intelligence.' SETI is a scientific endeavor to look for evidence of technology beyond our solar system as a proxy for life and intelligence. But the Institute's research also includes the search for basic life forms within our Solar system and the study of life and habitability on our own planet.

We are thrilled to have several SETI Institute scientists join us as guest speakers on a selection of our voyages. Through their research, SETI scientists gather data from some of the most extreme and remote environments on our planet to better understand the prospect of life elsewhere and how to look for it. Swan Hellenic sails to many of these faraway destinations, offering our SETI speakers a chance to conduct research and speak to our guests about their findings in situ.

These scientists will engage our guests with never-before-seen presentations on explorations around Earth and beyond. Our guests will also receive a demonstration of the SETI Institute equipment installed on board, including an advanced, portable, deep-space telescope.





The SETI Institute

Founded in 1984, the SETI Institute is a non-profit, multi-disciplinary research and education organisation whose mission is to lead humanity's quest to understand the origins and prevalence of life and intelligence in the Universe and to share that knowledge with the world. Its research encompasses the physical and biological sciences and leverages expertise in data analytics, machine learning and advanced signal detection technologies. The SETI Institute is a distinguished research partner for industry, academia and government agencies, including NASA and NSF.

The Institute began small, with just one project – NASA's SETI program – and two employees, founder Tom Pierson (a former grants administrator at San Francisco State University), and astronomer Jill Tarter. Over the years, other research disciplines have been added to the Institute's portfolio, all unified by their relevance to the search for, and understanding of, life beyond Earth. Today, the Institute has approximately 100 scientists as well as specialists in administration, education, and outreach.



See what others don't

Some people see things as they are, others look further. Let us take you on a journey that will change the way you see the world. Sail to some of the most incredible, remote destinations on the planet. When you travel with us, the wonders of the world take on a richer hue.

Over 70 years of cruise expertise

That's how long we've been navigating the world's waters. Swan Hellenic is built on a passion for exploration, a reputation for safety and professionalism of the highest standard.

Boutique ships

Just you and nature, that's how you'll feel on our 5 star contemporary 'Scandinavian inspired' ships. With open-plan design, panoramic views and a focus on wellness, they're the perfect place to relax, recharge and explore.

Intuitive service

When it comes to anticipating your needs, no request is too big or too small. To us, personal and unobtrusive service means everything from making sure you're fully equipped for an Arctic excursion to remembering your favourite gin serve when it comes to pre-dinner drinks.

Enriching cultural expeditions

Once, we travelled to educate – professors, scientists, researchers. Over the years, we've developed a deep knowledge of the world. Today, we use this knowledge to create immersive cultural experiences that take you to the heart of a place.





PAMELA HARMAN SETI INSTITUTE DIRECTOR OF EDUCATION

Lecture Topics

Visible and Invisible Light: Multiwavelength Astronomy

Learn about the amazing technology that allows astronomers to investigate the universe's biggest mysteries. Electromagnetic (EM) radiation includes everything from X-rays to radio waves and is a vital tool in understanding deep space.

Introduction to Astrobiology

Dive into the fascinating field of astrobiology, which investigates the conditions required to support life on other planets and moons. Learn how these studies begin here on Earth, by studying the planet's most extreme climates.

Comparative Planetology: Earth, Mars and Venus

We have surprisingly little in common with our two closest planetary neighbours, Venus and Mars - but we definitely have a lot to learn from them, including what our own past and future might look like.

Biography

Originally trained in civil engineering, Ms Harman spent her early career as a project engineer, and then a project manager, in the construction industry. She then spent time as a high school science and math teacher, where she honed the art of captivating science presentations. A keen interest in astrobiology and the opportunity to manage education programs led her to the SETI Institute. Ms Harman currently serves as the SETI Institute's Director of Education, a Principal Investigator and a co-investigator with hundreds of

presentations and workshops on her CV. She has facilitated the placement of undergraduates with mentors at the institute and serves on the institute's panels for both the annual SETI Forward and the REU Award of Excellence awards for undergraduates. Leading youth campers through science activities is one of the many rewarding experiences she undertakes. Her focus is on building better STEM learning and STEM career opportunities for the next generation of investigators and explorers.

Antarctic Peninsula in Depth

\odot	8-21 Jan 20)24	
9	Ushuaia - U	shua	ia
₩	13 nights	-	SH Diana

	Day	Visiting
>	1	Ushuaia
	2-4	At Sea
	5-11	Antarctic Peninsula
	12-13	At Sea
5	14	Ushuaia

transfer



ARGENTINA

airport/hotel in Buenos Aires hotel/airport Buenos Aires/Ushuaia airport/port Ushuaia/Ushuaia port/airport Ushuaia/Buenos Aires

SIMON STEEL

GALACTIC ASTRONOMER

Lecture Topics

Cosmic Revolutions: Humanity's Quest for Meaning and Place in the Universe How did the universe begin? How is life possible? Are we alone in the cosmos? Learn about the technology that

may just be on the verge of being able to answer some of the biggest questions science can ask.

In the Wake of the HMS Beagle through the Chilean Fjords: Pioneers in Discovery Aboard the HMS Beagle is where Darwin himself contemplated the origins of life. And the 5-million-year-old hu-

man quest to find the answer to this question now takes us into the depths of outer space.

Biography

Simon is the Deputy Director of the Carl Sagan Center for Research at the SETI Institute. Specialising in optical spectrophotometry, he also has an interest in the star formation histories of galaxies. Simon has held lectureships at Harvard University, University College London and University College Dublin. He is also an eight-time recipient of Harvard's Certificate of Distinction in Teaching award for undergraduate education. With an interest in special needs audiences, Simon co-wrote for NASA and the Chandra X-Ray Center the first ever braille book on multiwavelength astrophysics: Touch the Invisible Sky. Back on Earth, Simon is an avid photographer, hiker, and supporter of Tottenham Hotspur Football Club.

In the Wake of the HMS Beagle through the Chilean Fjords

25 Feb - 9 Mar 2024
Ushuaia - Valparaiso
13 nights SH Diana



cruise

Ports, port order and itinerary duration may vary, for the most up-to-date details see swanhellenic.com

transfer

hotel/port

transfer

airport/hotel

one nigh

pre-cruise

transfer

port/airport



JEFFREY C. SMITH PLANETARY SCIENCE / AI AND DATA ANALYTICS



Lecture Topics

How Do Astronomers Find Exoplanets?

Thanks to NASA's highly successful Kepler and TESS Missions, we now know that planets, even Earth-sized planets in the habitable zone, are common. Learn how scientists find these extraordinary planets, some as far as 600 trillion miles away from Earth.

Yes, look up! Utilizing AI to Find Exploding Meteors and to Help Protect the Earth from Dangerous Asteroids

Funded by NASA's Planetary Defense Coordination Office, or PDCO (yes, it really does exist!), Dr Smith's team studies weather satellite data searching for potential asteroid collisions with Earth. Learn how this incredible team of scientists conduct this very important work.

Why do Scientists Love Antarctica so much?

Antarctica is the coldest, driest, and windiest continent on Earth and is barely habitable by humans. So why do scientists love it so much? Find out about the potential for scientific discovery waiting on the White Continent.

Will we ever really find E.T.?

SETI's mission is to lead humanity's quest to understand the origins and prevalence of life and intelligence in the universe and share that knowledge with the world. In this lecture we'll look at current evidence and how our world might respond to irrefutable evidence of ETs.

Biography

Dr Smith began his academic career in the field of Accelerator Physics. After building a cyclotron, a small particle accelerator, as an undergraduate at Knox College, Jeff matriculated at Cornell University furthering his passion for high-energy particle accelerators. After a successful career looking into the tiniest of inner spaces, Jeff decided to look up to the stars. Dr Smith switched fields and began developing data processing and planet detection algorithms for the Kepler and TESS Missions. Between them, these missions have discovered thousands of extrasolar planets. Among other projects, he is centrally involved in a project funded by NASA's Planetary Defense Coordination Office to develop an automated pipeline to identify bolides (exploding meteors) in weather satellite data. The goal is to create a rich data set to inform the planetary defence community of the risks associated with large asteroidal impacts.

South Atlantic Semi-Circumnavigation

\odot	4-25 Mar 2	024	
9	Ushuaia - C	ape ⁻	Town
iii	21 nights	-	SH Vega

	Day	Visiting
Q	1	Ushuaia
- +	2-3	At Sea
- +	4-6	Antarctic Peninsula
- +	7-8	At Sea
- +	9-11	South Georgia
- +	12-15	At Sea
- +	16	Gough Island
- +	17	Tristan Da Cunha
- +	18-21	At Sea
Ó	22	Cape Town





Costa Rica & Panama Canal Discovery

\odot	20-30 Apr	2024	1
9	Puntarenas	- Ca	rtagena
₩	10 nights	-	SH Diana

airport/hotel

pre-cruise

hotel/port

Ports, port order and itinerary duration may vary, for the most up-to-date details see swanhellenic.com

	Day	Visiting
0	1	Puntarenas
+	2	Curu Wildlife Refuge
+	2	Isla Tortugas
+	3	Quepos
+	4	Golfito, Marina Golfito
+	5	Cebaco Island
+	6	Darien Jungle
+	7	Panama City
+	8	Cruising Panama Canal
+	9	San Blas Islands
0	10-11	Cartagena



BENTON CLARK SCIENCE ADVISORY BOARD BIOPHYSICS / SPACE SCIENCE

Lecture Topics

Are We All Martians?

Scientists have now discovered that a certain group of rocks, some found in Antarctica and others in African deserts, are actually from Planet Mars. Discover how they might have got there and what the future of humans on Mars looks like.

How to Build a Robot for Exploring the Planets

It's more than just rocket science. Learn about the latest Rovers now driving around Mars. They are not just the most expensive cars ever built; they are also the only ones capable of sustainably operating on Mars.

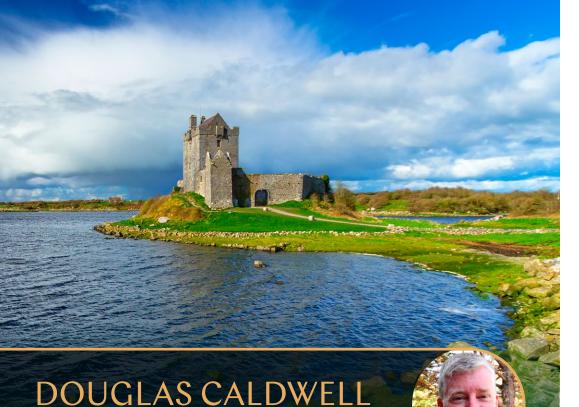
Searching for Life in Our Solar System, and Beyond

From the planetary bodies around us that could have hosted life at one time in their history to the search for intelligent beings in the furthest known universe, the search for life beyond our planet is comprehensive, complex and endlessly fascinating.

Biography

Benton Clark earned his PhD in Biophysics from Columbia University and a Masters in Nuclear Physics and Engineering from the University of California, Berkeley. He is currently a Senior Scientist at the Space Science Institute. In 1976, the XRFS instrument he designed for the Viking missions discovered the overall composition and high salt content of the soils on Mars. <u>His 40-plus years as Chief Scientist for Deep Space Exploration</u> with engineers at Lockheed Martin aerospace spanned the development of more than a dozen spacecraft, including Mars orbiters and landers, missions to Venus, Jupiter and the Moon. He is also on the science teams for all four NASA rover missions to Mars (Spirit, Opportunity, Curiosity, Perseverance). His extensive publications span 200 science papers, including over two dozen in the highest-ranked scientific journals, Science and Nature

port/airport



PLANETARY SCIENCE / EXOPLANETS

Lecture Topics

Extrasolar Planets - from Speculation to Understanding

In the last three decades, we have gone from speculating about the existence of exoplanets to confirming more than 5,400 of these planets orbiting other stars. Discover current scientific understanding of exoplanets and learn about what scientists hope to do next.

Earth as an Exoplanet

To help us better understand the limited information we get from observations of exoplanets, scientists are developing technology that will allow them to observe the Earth from a distance.

Biography

Doctor Douglas Caldwell, chair of the SETI Institute's Exoplanet research group, is a scientist in the TESS Science Processing Operations Center and served as the Instrument Scientist for NASA's Kepler/K2 Mission from 2006 through 2020. His work focuses on the interface between instruments and data processing and how both affect scientific results. He worked on all aspects of Kepler's science from mission design to planet validation and follow-up. Dr. Caldwell now works with the TESS mission to understand the interplay between the instrument and the science data to improve the pipeline processing and to help scientists better understand biases in the data. Dr Caldwell has recently been working to employ machine learning approaches to improve the speed and accuracy of planet detections in both Kepler and TESS data, and separately on a self-supervised learning recommender that can facilitate data selection from NASA's Planetary Data System archive.

Spirit of the Celts



MICHAEL GARRETT SCIENCE ADVISORY BOARD RADIO ASTRONOMY / SETI

Lecture Topics

Exploring the Cosmos for Signs of Extraterrestrial Life

The question of whether we are the sole intelligent inhabitants of the Universe has intrigued humanity for millennia. Join Professor Garret on an exploration of the possibility of technically advanced societies beyond our solar system.

Unveiling the Mysteries of the Universe: Advances in Astronomy and the Future of Space Exploration

As science hurtles forward into the cosmos, we're confronted with the stark reality that the universe still guards many of its secrets with a cosmic shroud. Learn what pieces of the puzzle are missing in order for us to become a truly spacefaring society.

Radio Astronomy's Odyssey: From Cosmic Whispers to the Square Kilometre Array

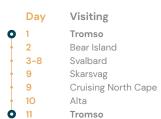
Embark on a journey through the history of radio astronomy, from the serendipitous discovery of cosmic radio waves at Bell laboratories to the cutting-edge technologies that have redefined our understanding of the universe today.

Biography

Professor Michael Garrett is the Sir Bernard Lovell Chair of Astrophysics at the University of Manchester, and Director of Jodrell Bank Centre for Astrophysics. He was previously General Director of ASTRON (2007-2016), the Netherlands Institute for Radio Astronomy, and responsible for the final design, construction, and operational phase of the 150M€ LOFAR telescope. Garrett's scientific interests are broad, but he is particularly interested in searching for anomalies in large astronomical data sets, looking for the potential signatures of energy-intensive extraterrestrial societies. He is the chair of the International Academy of Astronautics (IAA) SETI Permanent Committee and serves on the SETI Institute's Science Advisory Board and the Breakthrough Listen Advisory Committee. He has published over 160 refereed papers in various scientific journals and is passionate about communicating his own research to public audiences.



10-20 Jul 2024
Tromso - Tromso
10 nights SH Diana





MARK SHOWALTER PLANETARY ASTRONOMER

Lecture Topics

The New Horizons Mission to Pluto and Beyond: An Insider's View

Mark Showalter was a member of the New Horizons science team for its historic flybys of Pluto in 2015. Mark will discuss this pioneering mission and its scientific significance. He'll also explain what life was like behind the scenes at New Horizon.

The Chaotic Worlds of the Outer Solar System

Dive into the world of planetary rings and moons with Mark. Discover what was learned on the Voyager flybys of Jupiter, Saturn, Uranus, and Neptune, and find out how the seemingly simple laws of physics can sometimes lead to remarkable results.

The Antikythera Mechanism

An ancient shipwreck was discovered off the coast of the tiny Greek island of Antikythera in 1900. Among the artefacts recovered was an astronomical clock – pre-dating the invention of the geared clock by 1200 years! Learn about this deeply fascinating discovery.

Biography

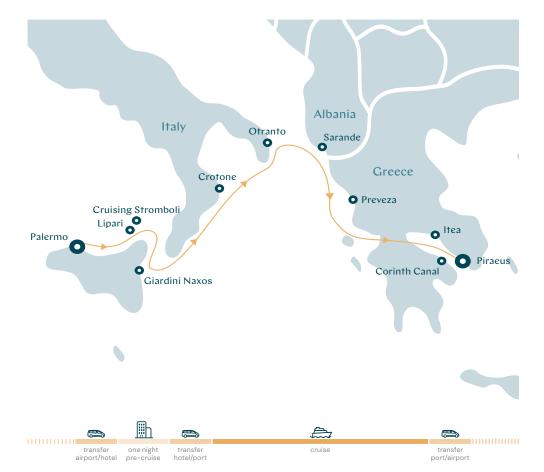
Planetary astronomer Mark Showalter's research career is one that has steadily progressed outward through the solar system. He's hitched a ride on some of NASA's highest-profile missions to the outer planets – most notably Voyager's 'grand tour' of the giant planets. While everyone knows about Saturn's spectacular ring system, it is often forgotten that Jupiter, Uranus, and Neptune are also encircled by fainter and narrower rings. Each ring interacts closely with a family of small, inner moons. This fascinating interplay has been the focus of Mark's research. Known for his persistence in planetary image analysis, Mark's work on the Voyager mission led to his discoveries of Jupiter's faint, outer "gossamer" rings and Saturn's tiny ring-moon, Pan. Mark's work has included the discoveries of two small moons and two faint rings of Uranus, the tiny moon Hippocamp at Neptune, and Kerberos and Styx, the smallest known moons of Pluto.

From Magna Graecia to Greece

28 Aug – 5 Sep 2024
Palermo – Piraeus
8 nights

SH Diana

Day	Visiting
1	Palermo
2	Lipari
2	Cruising Stromboli
3	Giardini Naxos
4	Crotone
5	Otranto
6	Sarande
7	Preveza
8	Itea
8	Cruising Corinth Canal
9	Piraeus





Voyage to the Northwest Passage

⊙ 9 - 25 Sep 2024
♥ Kangerlussuaq - Kangerlussuaq
I6 nights ► SH Vega

Day	Visiting
) 1	Kangerlussuaq
2	Sisimiut
3	llulissat, Disko Bay
4	Qeqertarsuaq
5	At Sea
6	Pond Inlet
7	Dundas Harbour, Croker Bay
8	Radstock Bay, Beechey Island
9	Port Leopold, Elwin Bay
10	Fort Ross
10	Cruising Bellot Strait
11	Cruising Peel Sound
11	Coningham Bay
12	At Sea
13	Sam Ford Fjord
14	Qikiqtarjuaq
15	At Sea
16-17	Kangerlussuaq





Ports, port order and itinerary duration may vary, for the most up-to-date details see swanhellenic.com

UMA GORTI ASTRONOMER / STAR AND PLANET FORMATION



Lecture Topics

Star and Planet Formation

Stars and planets form deep within the densest parts of molecular clouds of hydrogen in galaxies when gravity overwhelms all other forces. Follow the unlikely birth story of stars and their resultant planetary systems.

Astrochemistry

Where does everything come from? Hydrogen and some helium were made in the first three minutes at the beginning of our universe. Follow these elements on their journey from the beginning of the universe to everything we know in our world today.

Biography

Uma Gorti studies the formation of stars and their planetary systems, from their beginnings in cold interstellar clouds through the formation of life. She develops theoretical models and tests them by piecing together clues from telescopic observations, ranging from sub-millimetre facilities such as the Atacama Large Millimeter Array to the recently launched James Webb Space Telescope. Along with her colleagues, including observers and astrochemists working in laboratories, she is trying to determine the physical and chemical processes that lead to the formation of solar systems like ours.



SETI INSTITUTE PRESIDENT AND CEO

Lecture Topics

The Search for Life Beyond Earth – How it Works, How it's Going, and Why it Matters Humans have long pondered the question 'Are we alone in the Universe?' Learn how Swan Hellenic connects its passengers to extraordinary destinations all over the world that connect directly to the research of the SETI Institute.

Astrobiology, Field Expeditions and the Search for Life Beyond Earth

This talk explores the fascinating work of astrobiologists in the field and in the lab and how their work connects to the study and search for life beyond Earth and a better understanding of life right here at home.



Bill is a Silicon Valley technology veteran with over 30 years of experience in laser photonics and optical communications networks, X-ray imaging, and semiconductor processing technologies. Prior to joining the institute in 2015, Bill held various executive management positions and his corporate background ranges from venture-backed start-ups to Fortune 100 multinationals. Bill is a current member of the Optical Society of America, the International Astronomical Congress and the American Association for the Advancement of Science. He also serves on the Board of Directors of the Bay Area Science and Innovation Council (BASIC) in San Francisco.

Greenland to Nova Scotia exploring the Canadian Arctic

25 Sep - 10 Oct 2024
Kangerlussuaq - Halifax
15 nights SH Vega

	Day	Visiting
0	1	Kangerlussuaq, Greenland
Ŧ	2	At Sea
- +	3	Qeqertarsuaq
- +	4	Ilulissat
- +	5	Sisimiut
•	6	Nuuk (Godthab)
- +	7	At Sea
•	8	Iqaluit
- +	9	Lady Franklin Island
•	10	Torngat Mountains National Park
- +	11	Hebron
•	12	At Sea
- +	13	L'Anse aux Meadows
•	14	Bonne Bay
- +	15	At Sea
0	16	Halifax, Nova Scotia





JANICE BISHOP

PLANETARY SCIENCE / ASTROBIOLOGY

Lecture Topics

Phyllosilicates on Mars and What They Tell Us About Water and Habitability

Mars is currently a cold desert, but clay minerals have shown that 3-4 billion years ago, the planet was home to a warmer climate - and probably even rain. This gives us valuable insights into how life might have evolved, both on Mars and here on Earth.

Exploring Volcanic Islands as Analogs for Mars (e.g., Iceland, Santorini, Hawaiian Islands, and Canary Islands)

Although Mars is a cold and desolate place today, much of the surface is volcanic and early Mars may have resembled volcanic environments on Earth today. Through studying these locations, we are able to retrace the geologic history of Mars.

Biography

Dr Bishop is the Chair of Astrobiology at the SETI Institute and on the Science Council, holds a B.S. in Chemistry and a M.S. in Remote Sensing from Stanford University and a PhD in Chemistry from Brown University. Her work primarily involved investigating the rocks on Mars at the SETI Institute and NASA Ames Research Center, constraining its early geochemical climate and defining sites that could have supported life on Mars. Dr. Bishop has given numerous public lectures on Mars and mentored several undergraduate students through SETI/ NASA research programs. Additionally, she has received awards from the Geological Society of America, the Mineralogical Society of the UK, the Clay Minerals Society, and the Helmholz and Humboldt Foundations in Germany. Having authored over 160 publications in peer-reviewed journals and edited a book on Planetary Remote Sensing that is available at Cambridge University Press, Dr. Bishop is a revered expert in her field.



KENYA

Mombasa 🖸

MOZAMBIQUE

Madagascar and its Islands

- ⊙ 26 Oct 6 Nov 2024
- Mombasa Maputo

🛗 11 nights 🛛 📥 SH Diana

Day	Visiting
1	Mombasa
2	At Sea
3-4	Aldabra Islands
5	Assumption Island
6	Nosy-Be
7	Mahajanga
8	At Sea
9	Morondava
10	Toliara
11	At Sea
12	Maputo

Aldabra Islands
 Assumption Islands

• Nosy Be

MADAGASCAR

• Mahajanga

• Morondava

Toliara



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