

Our Speakers on Cosmic Trails 2 are:
Alan Boss, Ph.D., Alan Dyer Harold McAlister, Ph.D.
Steven Miller, Ivan Semeniuk

## Observing the Sky

## Pricing \& Booking Information

(Full details:<br>http://www.InSightCruises.com/ booking d/st02 booking.html)

Course Fees: $\$ 1,375$. Only passengers booked through InSight Cruises will be admitted. The fee includes all 90minute seminars below.

Deposit: $\$ 400$ per person.

| Cabin Type: | Cruise Rate (per person) |
| :--- | :--- |
| Interior | $\$ 899$ |
| Outside | $\$ 1,099$ |
| Verandahs | $\$ 1,249-\$ 1,449$ |
| Suite | $\$ 1,799-\$ 2,699$ |

The pricing above is subject to change.
Physically Challenged: The ship has a very limited number of specially equipped cabins for the Physically Challenged. Please let us know your specific needs.

## The Power and Progress of Radio Astronomy

Speaker: Ivan Semeniuk
In a geologic formation near Arecibo, in Puerto Rico, the world's largest dish antenna points skyward and tunes us into to the radio universe. Whether it involves probing the nearest asteroids or spotting the most distant galaxies, the science of radio astronomy has created a crucial window into the cosmos - and it remains our most likely channel for contact with other civilizations. This session explores the scientific program underway at Arecibo and at new facilities around the world where radio astronomy is being taken to the next level. Discover a universe that is forever unseen by human eyes.

## Superscopes: The Future of Cosmic Exploration

Speaker: Ivan Semeniuk
More than four centuries since Galileo first turned a telescope to the heavens, the primary tool of astronomers is continuing to evolve and grow. Now, plans are underway for giant mountaintop observatories, like the Thirty Meter Telescope (TMT), that will dwarf the largest telescopes working today, and usher in a new era of astronomical discovery. From the light of the first stars to the search for life on other worlds, this session will explore the scientific questions that are driving the next generation of big telescope and speculate about how much larger telescopes on Earth and in space could be by the end of this century.

Sharing: For those wishing to share a cabin with another passenger in our group in an interior, outside, or outside w/ verandah cabin only. The prices are the same as the per person double occupancy rates.

3rd Person Rate: \$550 (\$450 for infants)

Single Occupancy: If you would like to be the sole occupant of a cabin, there is a single-occupancy surcharge: 50\% for cabins without a verandah; $100 \%$ for cabins with a verandah.

Port Charges, Taxes, and Gratuities: Government taxes, cruiseline fees, and port charges are approximately $\$ 79$, gratuities are $\$ 11$ per person per day, and there's an InSight Cruises service charge of $\$ 50$.

Full payment is due on December 1, 2010
(or, if you book after December 1, at the time of booking).

Air Add-ons: Airfare from most major cities is available through the cruise line. You can call our office for this pricing. (These rates include transfers to/from the dock/airport plus transfers to/from your hotel if we've booked the hotel as well.) In most cases, however, you will find better airfares on your own.

NOTE: The cruiseline will not accept any booking unless a fully completed Reservation Form is accompanied with a per-person deposit:
http://www.InSightCruises.com/ booking d/st02 booking.html. Have questions? Want to book voice-tovoice? Please give us a call: 650-7875665

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## Observing the Sky, Cont.

## Choosing and Using a Telescope

Speaker: Alan Dyer
Thinking of buying a new telescope? Alan walks us through the marketplace of hundreds of telescopes, picking out some of his favorites and suggesting what to look for to ensure you get a great telescope you'll use a lot! Can you find one telescope that will "do it all?" What's the most important feature you should look for? Or ... are you perplexed by the telescope you already own? Not sure how to get it to "Go To?" How to find things in the sky? How to make sure its optics stay sharp and clean? Alan dispels myths and misconceptions many telescope owners still hold, and reviews tips and techniques all telescope owners should know.

Small Telescopes in the 21st Century
Speaker: Hal McAlister , Ph.D.
Astronomers now tag optical telescopes with apertures of 4 meters and below as "small" telescopes, and great momentum exists to design and build super telescopes with apertures of 30 meters or even larger. So, do "small" telescopes still have a role? We will attempt to answer that question by exploring issues such as scientific productivity, ease of access, cost of operation, developing new instrumentation, and training of students. Examples of innovative new ways of using small telescopes and their impact on astronomy will be highlighted.

## A Second Century for Mount Wilson Observatory Speaker: Hal McAlister, Ph.D.

With its 60-and 100-inch night-time telescopes and 60-and 150-ft solar tower telescopes, Mount Wilson Observatory reinvented astronomy and gave birth to "astrophysics" early in the 20th century. The names of Hale, Adams, Shapley, Hubble, Humason, and Baade are among the brightest stars in the Mount Wilson constellation, and the 100 -inch Hooker Telescope is arguably second only to Galileo's original instruments in its impact on astronomy. While MWO is most certainly a world heritage science site, it is by no means an astronomical relic. Its excellent seeing conditions, enabled by a prevailing flow of stable air off the cold Pacific Ocean, make the site a great location for modern work emphasizing high resolution of stars by night and the sun by day. You will take a virtual insider's tour of MWO facilities and learn all about plans for a major new Visitor Center and outreach programs at "America's Observatory."

## Shooting the Sky

## Choosing and Using a DSLR Camera

## Speaker: Alan Dyer

Digital single lens reflex (DSLR) cameras have revolutionized astrophotography, providing powerful digital cameras the rest of us can actually afford and use. In a three-part workshop Alan takes us through all the steps for taking great photos suitable for publication in Sky and Telescope! In this session Alan reviews what to look for in a DSLR camera for astrophotography. Do you need megapixels? A modified camera? What accessories are essential? Once you have a camera, you're ready to take publication-quality photos with no more than surprisingly simple techniques. Alan presents his suggestions for shooting great nightscapes and stunning time-lapse sky movies.

## DAY TRIP TO ARECIBO OBSERVATORY

Get an insiders' tour of this iconic facility, and absorb an in-depth look at the unique contributions derived from Arecibo research and development.

Join us as we wind through the rainforest-blanketed karst terrain of Northern Puerto Rico. We'll get a sense of the massive physical scope of the Arecibo radio telescope. We'll boldly go where ordinary visitors are not permitted. NAIC scientists will update us about the radio astronomy, planetary radar discoveries, and climatology research at the observatory. From the monitoring of near-earth objects to cosmology, astrophysics, and global warming research, you'll gain insight into the vital activities at Arecibo. (Optional eight-hour tour price: $\$ 175$. Includes transportation, entrance fees, and a private luncheon at the Arecibo Observatory.)

## Shooting the Sky, Cont.

## Tips and Techniques at the Telescope

Speaker: Alan Dyer
Hook a camera to a telescope and you have a powerful combination for taking longexposures of deep-sky targets. This is the area of astrophotography most aspiring imagers aspire to! But it's the most complex. Yet, when used right, a DSLR camera can take images that compete well against much more costly astro-cameras. In this session Alan provides recommendations for setting your camera for maximum performance and minimum noise, how to find and focus targets, and whether to guide or "track-and-stack" short exposures. Many specific examples and test results will demonstrate that the received wisdom for using DSLRs isn't necessarily correct.

## Processing Images, the Finishing Touch

Speaker: Alan Dyer
In making a great deep-sky photo, the secret of success is in the image processing. In this session Alan steps us through his "workflow," from file transfer from the camera to final publication-grade photo. The workflow stays entirely within the Adobe Photoshop family of programs, including Adobe Camera Raw, an essential tool for working with RAW files, yet which is almost entirely ignored by most astrophotographers. By taking a set of images "from RAW ... to remarkable" Alan demonstrates the wonderful but little-known tools Adobe Photoshop offers for astronomers. The demo focuses on Photoshop's non-destructive editing, showing how to use Adjustment Layers and Smart Objects, as well as plug-ins such as Noise Ninja.

| DAY | PORT | ARRIVE | DEPART | CONFERENCE SESSIONS |
| :---: | :---: | :---: | :---: | :---: |
| SUNDAY, MAR. 6 | FT. LAUDERDALE | - | 5pm | 7:15pm, Bon Voyage COCKTAIL PARTY* |
| MONDAY, MAR. 7 | AT SEA | - | - | 4pm - 7pm |
| TUESDAY, MAR. 8 | GRAND TURK, TURKS AND CAICOS | 7 am | 2 pm | $2 \mathrm{pm}-5: 30 \mathrm{pm} \& 6 \mathrm{pm}-7 \mathrm{pm}$ |
| WEDNESDAY, MAR. 9 | SAN JUAN, PUERTO RICO | Noon | 8pm | Arecibo Observatory (Noon - 7pm) |
| THURSDAY, MAR. 10 | PHILIPSBURG, ST. MAARTEN | 7 am | 3 pm | 3:30pm - 7pm; 7:15pm, COCKTAIL PARTY* |
| FRIDAY, MAR. 11 | AT SEA | - | - | 8:30am - NOON \& 1:30pm - 5pm |
| SATURDAY, MAR. 12 | HALF MOON CAY, BAHAMAS | 8 am | 4pm | 4pm - 7pm; 7:15pm, COCKTAIL PARTY* |
| SUNDAY, MAR. 13 | FT. LAUDERDALE | 7 am | - |  |



Better Interior: \$899
Better Outside: \$1,099
Verandah: \$1,249-\$1,449


## PRE-CRUISE TRIP TO THE KENNEDY SPACE CENTER

Guided by tour specialists, see the giant structures that make up the world's largest launch facility. Get an up close look at the coastal launch pads that unleashed the power to put people on the moon and send space shuttles to the International Space Station. Discover what it takes to launch the space shuttle from preparation to liftoff. All of this and more are included in our full day of tours and events. Our tour will include:


## LC 39 Observation Gantry:

The 60-foot-tall Launch Complex (LC) 39 Observation Gantry provides a breathtaking 360-degree view of the two giant Shuttle Launch Pads, 39A and 39B. In addition to the bird's-eye view of the launch pad structures, the panorama also includes the Launch Control Center, the well-traveled crawlerway and the massive Vehicle Assembly Building.

## International Space Station Center:

This fascinating attraction gives you an up-close glimpse inside the facility where NASA prepares the components of the International Space Station. In an elevated observation room, you'll see the processing bay where each Space Station component is checked out, processed, and readied for its trip into orbit. After the observation room, you can enter a full-scale mock-up of the Habitation Module and see how Space Station crew members live, sleep, and work.
continued

## Celestial Navigation

Introduction to this series of six classes: This hands-on, six-hour class (delivered in six sessions over a few days) is about determining your exact position on Earth using the Celestial bodies visible in the sky as your references.

While celestial navigation was primarily developed for position finding at sea, the techniques can be used on land as well. I am sure nearly everyone has heard of Lewis \& Clark and their exploring and mapping the Louisiana Purchase in the early 1800s; well, they used celestial navigation techniques to determine their position for their mapping portion of the expedition.

This seminar will cover the tools used for celestial navigation, primarily the sextant and an accurate timepiece. The coordinate system of both the Earth and the sky will be explained as will the relationship between longitude and time. The navigator's traditional Noon Sight will be discussed and the procedures will be explained and demonstrated. This type of sight is the only one that can produce a latitude and longitude from a single body (the Sun) at a special time of the day. A hands-on session will find the attendees up on deck with a sextant in hand to do their own Noon Sight. Back in the seminar room, the Noon Sight will be "reduced" and the position at Noon will be determined and plotted on a chart. Time and weather permitting, we'll do a Polaris Sight out on deck, with the reduction accomplished afterwards.

By actually finding your position the way mariners have been doing it for the last few centuries is, as you'll see, an enlightening and rewarding experience!

## The Basics of Latitude and Longitude <br> Speaker: Steve Miller

This session will cover the basics of latitude and longitude on Earth and the coordinate system used in the sky. The latitude and longitude will refer to our position on the Earth. For the Sun, in our discussions, we will discuss the declination (latitude) and the Greenwich Hour Angle (longitude) and their relationship to the latitude and longitude on Earth. The relationship between longitude and time will also be discussed. The attendees will get an understanding of the basic relationship of the coordinate systems on Earth and the sky along with the importance of time.

## The Tools Used in Celestial Navigation Speaker: Steve Miller

In this session the tools used in Celestial Navigation will be discussed. The primary tools are the Sextant, a watch, the Nautical Almanac for the current year, and a Universal Plotting Sheet. There will be a hands-on exercise with the Sextant in the classroom and in a later session it will be used to do an actual sight of the Sun. The Nautical Almanac will be introduced and the pertinent information that is required for the Sight will be revealed.

## The Two Types of Sights

## Speaker: Steve Miller

We will learn about the two types of Sights that we will be doing our cruise. These are the Noon Sight and a Polaris Sight. The Noon Sight actually takes place at a specific time of the day determined by the rotation of the Earth around its axis. We will learn how to determine this time, and, in practice on our cruise, determine this time for actually going out on deck to do a Sight. An overview of what we do with the information after our Sight will be given. The Polaris Sight can be done before sunrise or after sunset and we will learn how to determine exactly when you can "shoot" Polaris. In our case, we will go do a Sight of Polaris after the sunset.

## PRE-CRUISE TRIP TO

THE KENNEDY SPACE CENTER
continued from above

## Lunch With an Astronaut:

We'll pause for lunch and meet a veteran member of NASA's Astronaut Corps. An impressive roster of astronauts have appeared since the program's inception in 2001, among them Wally Schirra, John Glenn, Jim Lovell, etc. While we don't know yet who we'll be lunching with we do know that after lunch we'll participate in a 30-minute interactive Q\&A with the Astronaut.


IMAX Space Films:
In two giant IMAX theaters, the dream of spaceflight comes alive. Dramatic footage shot by NASA astronauts during actual missions will make you feel like you're floating alongside them.

## Astronaut Hall of Fame:

Explore a rare collection of astronaut artifacts and see remarkable displays, exhibits, and tributes dedicated to the heroes. From Wally Schirra's Sigma 7 Mercury spacecraft to stunning glass etchings that line the Hall of Heroes, the U.S. Astronaut Hall of Fame celebrates the accomplishments of astronauts everywhere. After you see the Astronaut Hall of Fame, it's your turn to take the controls with handson activities such as the G-Force Trainer that lets you feel the pressure of four times the force of gravity, the shuttle landing simulator, and riding a rover across the rocky Martian terrain.
continued

## Celestial Navigation, Cont.

## Our Hands-on Workshop (out on deck)

## Speaker: Steve Miller

Now we get to go out into the Sun and fresh sea air to actually do a Sun Sight with our sextant and watch. A Sight will be done approximately 10 minutes before our calculated time of noon, another Sight at the noon time, and then a final Sight at approximately 10 minutes after the time of noon. Later than evening, we'll go back out on deck to "shoot" Polaris. We only have a window of about 35 minutes to do so, as you learned in our previous session.

## Determining Our Latitude and Longitude at Noon Speaker: Steve Miller

Here we will "reduce" our Noon sight to get our Latitude and Longitude at noon from the information we collected in the first half of our last session.

## Determining Our Latitude and Longitude From Our Polaris Sight Speaker: Steve Miller

In this session we will determine our Latitude from our Polaris Sight. We will also discover how all the information "fits together" in the overall picture of our Navigating by Celestial.

## Beyond Our Solar System

## The Race to Find New Solar Systems

## Speaker: Alan Boss, Ph.D.

The first robust evidence for a planet outside our Solar System appeared in 1995, in spite of decades of searching by ground-based telescopes using the astrometric detection technique. Somewhat surprisingly, a little-known Swiss team was able to discover the first extrasolar planet in orbit around a sun-like star, 51 Pegasus, by using a different technique, that of Doppler spectroscopy, to measure the wobble of the host star about the center of mass of the star-planet system. Once the 51 Pegasus exoplanet was confirmed, the floodgates opened wide, and Doppler spectroscopy has become the method of choice for exoplanet discoveries, though other techniques (pulsar timing, transit photometry, gravitational microlensing, and direct imaging) have also found success. Astrometry, however, still awaits its first detection.

## The Search for Living Planets

Speaker: Alan Boss, Ph.D.
What are the chances that life exists elsewhere in the universe? Astronomers have discovered over 400 planets outside the solar system, and are on the verge of determining what fraction of sun-like stars shelter habitable worlds similar to Earth. The expectation is that most such stars will harbor habitable worlds, and hence that life will be commonplace in our galaxy, and throughout the universe as well. NASA's Kepler Mission will determine the frequency of Earth-like planets by 2013. NASA then has plans to build other space telescopes that will discover the Earth-like planets closest to our Solar System, and characterize their atmospheres by detecting molecular features in their spectra. The detection of biomarkers such as water, carbon dioxide, oxygen, and methane may allow us to determine whether these worlds are not only habitable, but perhaps even inhabited.

## PRE-CRUISE TRIP TO THE KENNEDY SPACE CENTER <br> continued from above

## Apollo/Saturn V Center:

The Apollo/Saturn V Center is the home of the largest rocket ever built $\tilde{N}$ a real Saturn V 363-foot long moon rocket.


Price: \$225. Includes the tour as described above, plus: lunch onsite at the Kennedy Space Center (KSC), transportation from the KSC to our pre-cruise hotel in Ft. Lauderdale (March 5), and dinner (on March 5). If you book by June 1, 2010 this trip is included with your \$1,375 Conference fee.

## Beyond Our Solar System, Cont.

## Planet Formation Theories <br> Speaker: Alan Boss, Ph.D.

How do planetary systems form? There is general agreement about how rocky, Earthlike planets form, through the slow but sure process of collisions between progressively larger and larger solid bodies. Starting with tiny dust grains, this collisional accumulation process is thought to take tens of millions of years to culminate in the formation of terrestrial planets the size of Earth. The conventional viewpoint is that the inner cores of the giant planets form in the same manner, but faster, growing to masses roughly ten times that of Earth in a few million years, after which they pull in the majority of their mass from the gaseous disk, the solar nebula, in which they formed. However, there is an alternative mechanism for giant planet formation that is much faster, producing self-gravitating clumps of gas and dust in thousands, rather than millions, of years. Both mechanisms appear to be needed to explain the incredible variety of giant planets found in orbit around other stars to date.

## Twenty Five Years of Seeing Double

Speaker: Hal McAlister, Ph.D.
Speckle interferometry, discovered by Antoine Labeyrie in the early 1970s, is the simplest means for coping with atmospheric blurring and reaching the full diffraction limit of a telescope. Hal earned his spurs as an astronomer tailoring the method to accurately measuring binary stars with angular separations as small as 0.030 arcsecond, and speckle interferometry has now replaced visual micrometry, the last application of the human eye to making direct astronomical measurements, as the standard means for observing "visual" binaries. He will describe the method, which can be practiced by amateurs, and take you on a visit to some of his old friends among the double stars.

## Zooming in on the Stars

Speaker: Alan Boss, Ph.D.
Stars are so distant that only a handful of supergiants are within the resolution limit ideally obtained by large telescopes. The only way of measuring the sizes of normal stars and to resolve the tightest binary star systems is to observe them with multipletelescope, long-baseline interferometers. The premier instrument of this type for stellar astronomy at present is the CHARA Array, an array of six 1-meter telescopes laid out on the grounds of Mount Wilson Observatory. CHARA has a limiting resolution of 0.0003 arcsecond (or 0.3 milliarcsecond). It is measuring the diameters of hundreds of stars and has imaged stars distorted by their rapid rotation as well as binary stars with orbital periods of hours and separations of 1 milliarcsecond. We'll follow the paths of photons traveling through an interferometer, where they encounter dozens of mirrors, filters, and optical windows before they combine and do their high resolution magic. Science highlights and prospects from CHARA will demonstrate the unique contributions long-baseline interferometry is making to our knowledge of stellar properties.

## ARECIBO MESSSAGE



Transmission of the Arecibo message to star cluster M13 in 1974 marked the remodeling of the telescope we'll be visiting (see below). The 73 row by 23 column message depicts: the numbers one through 10; the atomic numbers of the elements hydrogen, carbon,
nitrogen, oxygen, and phosphorus (the components of DNA); the formulas for the sugars and bases in the nucleotides of DNA; the number of nucleotides in DNA, and a graphic of the double helix structure of DNA; a graphic figure of a human, the dimension (physical height) of an average man, and the human population of Earth; a graphic of Earth's solar system; and, a graphic of the Arecibo radio telescope and the the physical diameter of the transmitting antenna dish. For a full explanation of this data, visit the Wikipedia page dedicated to this graphic.

Have questions? Want to book voice-to-voice? Please give us a call: 650-787-5665

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## Beyond Our Solar System, Cont.

## A Journey to the Center of the Milky Way <br> Speaker: Ivan Semeniuk

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## Within Our Solar System

Supernovae, Stardust, and the Formation of our Solar System Speaker: Alan Boss, Ph.D.
Supernovae and other evolved stars are known to be the source of the heavy elements that make life possible: we are literally made of stardust. The discovery of the daughter products of certain nuclei with short half-lives has confirmed long-held suspicions that a supernova or other energetic stellar wind may have directly triggered the collapse of a dense cloud of interstellar gas and dust that led to the formation of our Solar System. The Sun appears to have been born in the midst of a region where many stars were forming, many of them massive enough to emit copious ultraviolet radiation and massive enough to explode as supernovae. Given that most stars are believed to form in similar environments, the fact that our Solar System supports life implies that similar planetary systems, and hence life, may be commonplace in the galaxy.

## New Voyages to Mercury, Mars, and the Asteroid Belt

## Speaker: Ivan Semeniuk

2011 will be a banner year for the exploration of the inner solar system, including the first missions to orbit Mercury and the first encounter with a major asteroid (Vesta). It will also bring the launch of NASA's Mars Science Laboratory, the most ambitious robotic lander ever sent to another world. These three missions, among others, will answer key questions that address our emerging picture of rocky planets, including their origins, diverse histories and role in fostering the emergence of life. This session will review the science behind these missions and bring you up to date on the reconnaissance of our neighboring worlds.


LIDO DECK

OBSERVATION DECK
Staterooms 11001-11010
252 ft . from bow to
Staterooms 11001 \& 11002.

## ms Nieuw Amsterdam

## DECK PLANS \& STATEROOMS

The deck plans are color-coded by category of stateroom, and the category letter precedes the stateroom number in each room. All staterooms are equipped with flat-panel television, mini-bar, DVD player, mini-safe, data port, telephone and multi-channel music.
Important Note: Not all staterooms within each category have the same furniture configuration and/or facilities. Appropriate symbols within the rooms on the deck plans describe differences from the stateroom descriptions below.
VERANDAH SUITES
PS
Penthouse Verandah Suites: Bedroom with
1 king-size bed, oversize whirlpool bath \& shower \& additional shower stall, living room, dining room, dressing room, private verandah with whirlpool, pantry, 1 sofa bed for 2 persons, microwave, refrigerator, guest toilet, private stereo system, floor-to-ceiling windows.

## $\square \mathbf{S O}^{\mathbf{V}} \square$ SA $\square$ SB $\square$ SC

Deluxe Verandah Suites: 2 lower beds
convertible to 1 king-size bed, bathroom with dual-sink vanity, full-size whirlpool bath \& shower \& additional shower stall, large sitting area, dressing room, private verandah, 1 sofa bed for 2 persons, floor-to-ceiling windows.

## SS $\square$ SY $\square$ SZ

Superior Verandah Suites: 2 lower beds
convertible to 1 queen-size bed, bathroom with dual-sink vanity, full-size whirlpool bath \& shower \& additional shower stall, large sitting area, private verandah, 1 sofa bed for 1 person, floor-to-ceiling windows.

VERANDAH STATEROOMS
$\square \mathbf{V Q}^{\mathbf{V}} \quad \square \mathbf{V}$
$\square$ VD $\square$ VE $\quad \square$ VF
$\square$$\square$ VC

Deluxe Verandah Ocean-view: 2 lower beds convertible to 1 queen-size bed, bathtub \& shower, sitting area, private verandah, floor-to-ceiling windows.

## OCEAN-VIEW STATEROOMS

OCEAN-VIEW STATEROOMS

|  |
| :--- | :--- | :--- | :--- | :--- | :--- |

$\square \mathbf{F}$
Large: 2 lower beds convertible to 1 queen-size bed, bathtub \& shower.
G $\square$ GG
Large: 2 lower beds convertible to 1 queen-size bed, bathtub \& shower, floor-to-ceiling windows G-category staterooms have partial sea views. GG-category staterooms have fully obstructed views.

H
Large: 2 lower beds convertible to 1 queen-size
bed, bathtub \& shower, floor-to-ceiling windows.
$\mathrm{H}-\& \mathrm{HH}$-category staterooms have fully obstructed views.
INTERIOR STATEROOMS

|  | IA $^{\mathbf{V}}$ | I |
| :--- | :--- | :--- |
| Large or Standard: 2 lower beds convertible |  |  |

to 1 queen-size bed, shower. Staterooms IA10043 and IA10044 have fully obstructed windows.
$\square \mathbf{J} \quad \square \mathbf{K}$
Large or Standard: 2 lower beds convertible to 1 queen-size bed, shower.


Standard: 2 lower beds convertible to 1 queensize bed, shower.

- Spa Suites and Staterooms. Opt for the serenity of a new Spa Suite or Stateroom, featuring modern spa amenities.

