2012
Media Guide

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CHABOT SPACE & SCIENCE CENTER – AT A GLANCE

MISSION: ***Chabot Space & Science Center inspires and educates students of all ages about our Planet Earth and the universe.***

Located on 13 trail-laced acres in Redwood Regional Park amid the largest stand of coastal redwoods in the East Bay, Chabot features a world-class planetarium, interactive exhibits, giant-screen MegaDome movies, hands-on science activities and the only research-level telescopes regularly available to the public for live viewing in the Western U.S.

Chabot is a teaching center for science and space literacy and proudly upholds a legacy of serving the community through school field trips, science camps and community outreach focusing on Earth, life, environmental and astronomical sciences.

Perched atop the Oakland hills with stunning views of the San Francisco Bay Area, Chabot's state-of-the-art $84.1 million, 86,000 square-foot complex opened to the public on Aug. 19, 2000, and serves over 150,000 visitors annually. Included in that figure are some 50,000 school children who are encouraged to embrace the sciences and explore a career in the many scientific fields facing alarming personnel shortages.

Chabot Space & Science Center is a non-profit institution that traces its roots to 1883, when hydraulic engineer Anthony Chabot donated an 8-inch Alvan Clark refracting telescope ("Leah") to the City of Oakland. An observatory housing Leah – also funded by Anthony Chabot – opened in Lafayette Square in downtown Oakland on Nov. 24, 1883. The observatory was relocated to Mountain Boulevard in the Oakland hills in 1915, where it stood for 85 years before giving way to the present location. Leah is now housed in her own observatory – alongside observatories containing research-level telescopes "Rachel" (a 20-inch refractor commissioned in 1914) and "Nellie" (a 36-inch reflector which arrived in 2003).

Chabot is governed by a Joint Powers Agency Board, which is comprised of representatives from the City of Oakland, Oakland Unified School District, East Bay Regional Parks and Eastbay Astronomical Society. The institution is supported by the Chabot Space & Science Center Foundation, which raises funds from Chabot's JPA partners, outside partnerships, foundations, corporations and individual donors. Chabot has been a Smithsonian Affiliate since 1998 – a partner in a bold effort to share America's scientific and historic heritage through artifact loans and exhibits.

CHABOT SPACE & SCIENCE CENTER – FACTS AND FIGURES

- 86,510 square-foot complex
- Two freestanding buildings connected by a skybridge: the east building is named for 24-year Oakland city councilman and Joint Powers Agency founder Richard Spees, that board's original chairman; the west building is named for former U.S. Congressman and current Oakland Mayor Ronald Dellums, who was instrumental in securing the federal funds to help build Chabot Space & Science Center
- Four multi-purpose classrooms/meeting rooms with built-in projection screens
- 20,465 feet of exhibition space for permanent and traveling exhibits
- 241-seat Planetarium featuring a full-dome digital projection system – the most advanced technology on the planet
- 205-seat domed-screen Tien MegaDome Theater (named for former University of California Chancellor Dr. Chang-Lin Tien) Theater with 70-millimeter giant-screen projection capabilities
- 32-person capacity Challenger Learning Center® with leading-edge mission control and spacecraft simulators
- Three observatory domes connected by a common observatory deck - housing the center's 8-inch (Leah, 1883) and 20-inch (Rachel, 1915) refracting telescopes, along with a 36-inch reflecting telescope (Nellie, 2003)
- Biology and chemistry/physics laboratories
- Discovery Lab for ages 2.5 - 7, stocked with toys and interactive games to pique young minds
- Scenic outdoor amphitheatre, courtyards and gardens
- Starry Nights Gift Shop, stocked with one-of-a-kind educational gifts and interactive astronomical gadgets
- Full Circle Café, featuring sandwiches, salads and drinks (4-course dinner served Friday and Saturday, reservations only)
- Three-tiered parking structure & surface parking – all free

CHABOT SPACE & SCIENCE CENTER – HISTORY & TIMELINE

The institution began in 1883 as the Oakland Observatory, through a gift from Anthony Chabot to the City of Oakland. The original Oakland Observatory was located in downtown Oakland and provided public telescope viewing for the community. For decades, it served as the official timekeeping station for the entire Bay Area, measuring time with its transit telescope. The observatory was given to the Board of Education in trust for the City of Oakland and was to be forever free to the public and public schools.

The Observatory moved to Mountain Boulevard in 1915 due to increasing light pollution and urban congestion downtown. In the mid-1960s, the facility was expanded considerably with the addition of a 90-seat Planetarium, science labs and classrooms. Throughout this time, Chabot Science Center (as it was renamed) was staffed mainly by Oakland Unified School District personnel and volunteers. In 1977, seismic safety concerns terminated public school students' access to the original Observatory facility. The Observatory remained open to the general public, but school activities were limited to outlying classroom buildings and the planetarium.

Recognizing the need to restore full access to the facility, in 1989 Chabot Observatory & Science Center was formed as a Joint Powers Agency between the City of Oakland, Oakland Unified School District, East Bay Regional Park District and Eastbay Astronomical Society. In 1992 COSC was recognized as a nonprofit organization. The JPA reached an agreement to relocate to Roberts Regional Park high in the Oakland Hills. The project broke ground in October 1996 and construction of the new center began in May 1998.

In January 2000, in anticipation of the grand opening of the new 86,000 square-foot complex, the organization changed its name to Chabot Space & Science Center. On Aug. 19 of that year, Chabot opened its state-of-the-art facility to the public.

TIMELINE

1882 The new superintendent of the Oakland School District, James C. Gilson, resolves that the district should have a fine telescope such as the one he had seen at the Philadelphia High School.

1883 Anthony Chabot, successful hydraulic engineer and provider of water to the city, agrees to fund an 8-inch telescope. Chabot subsequently funds the new observatory, which opens in downtown Oakland on November 24th.

1885 Chabot further funds a Fauth Transit Telescope with its opportunant chronometers and sidereal clocks. This telescope establishes the correct time by measuring the passage of stars across its axis. It was used to set the official local time.

1888 Anthony Chabot dies, endowing the observatory, which assumes his name.

1915-29 A new observatory is built on a low hill, about five miles east of City Hall, and equipped with the existing telescope plus a new 20-inch instrument commissioned in 1914 from Warner & Swasey, with optics by John Brashear.

1924 The East Bay Amateur Astronomical Association, now known as the Eastbay Astronomical Society (EAS), is founded at the new observatory. The Association makes the observatory the focus of a great deal of innovative and enthusiastic scientific activity.

1960-64 Physics and biology programs are moved to the site, and a new planetarium is built and equipped by four Oakland Rotary clubs. Kingsley Wightman is put in charge of the astronomy/space sciences classes.

1976 After several years of discussions, a site planning committee recommends relocating to a new site – 1,543 feet above sea level – several miles away.

1977 A new law bans the use of the Observatory – which sits on the creep zone of the Hayward Fault – by school classes.

1980 The Board of Education votes to support relocation.

1989 The creation of the Chabot Observatory & Science Center (COSC) as a Joint Powers Agency is approved by the City of Oakland, East Bay Regional Park District, and Oakland Unified School District in conjunction with the Eastbay Astronomical Society. This resolution creates a new steward for the Chabot endowment, to which the founding authorities can turn over assets. In the mean time, maintenance at the present site is delayed, and the physical condition of the buildings becomes even more critical.

1991 Dr. Michael Reynolds becomes the first Executive Director of COSC.

1992 The Chabot Observatory & Science Center Foundation is established as a nonprofit organization.

1993 The architectural firms of Gerson/Overstreet and Fisher-Friedman Associates are retained to prepare the master plan and to design the new facility.

1994 A contract with the United States Air Force provides a construction grant of $17 million.

1996 A groundbreaking ceremony is held in October on the site in Roberts Regional Park in the Oakland hills.

1998 Construction of the new center begins in May. The same month, Chabot becomes a Smithsonian Affiliate.

2000 In January, Chabot Observatory & Science Center changes its name to **Chabot Space & Science Center** to better convey the organization's focus on astronomy and the space sciences. On August 19, Chabot Space & Science Center opened to the public.

2003 Alexandra Barnett becomes Chabot's first female Executive Director on Jan. 10. A 36" reflecting telescope ("Nellie") opens to the public on June 21.

2005 More classroom spaces open per Measure G funding. Chabot's Planetarium upgrades to full-dome digital projection, one of just a dozen such projection systems in the world.

2007 Alexander Zwissler is appointed Executive Director & CEO on April 23.

2009 *Tales of the Maya Skies* , the first digital full-dome show produced by Chabot Space & Science Center debuts.

2010 Bill Nye's Climate Lab and companion website, BillsClimateLab.org are launched.

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CHABOT SPACE & SCIENCE CENTER
NORTHERN CALIFORNIA'S PREMIER SCIENCE EDUCATION CENTER

Chabot Space & Science Center is a regional leader in facilitating a scientifically literate society. Chabot strives to ensure that Northern California children have access to top-notch science and technology programs and makes a special effort to reach segments of the community traditionally underrepresented in those two fields. Chabot educational programs comply with California and national science education standards. In addition, Chabot is constantly expanding and developing programs for students, teachers and the public.

Chabot offers a wide range of educational programs for students of all ages. The Planetarium, Tien MegaDome Theater, observatory complex, exhibit halls, classrooms, labs and gardens are the setting for hands-on instruction in the astronomical, physical, life and Earth sciences.

Programs include:

- Classes in astronomy, biology, chemistry, physics and environmental science
- Simulated space missions to the Moon, Mars and a comet in the Challenger Learning Center®
- Space Explorers Camp for grades K-8
- Teacher training workshops
- Workshops and overnights in conjunction with Boy Scout, Cub Scout, Girl Scout and Brownie badges, as well as programs for other youth groups
- Chabot-to-Go traveling science fair, including the STARLAB Portable Planetarium (for rental)
- Hands-on, interactive weekend activities
- Adult astronomy and celestial navigation classes

Chabot's leading-edge programs include:

Techbridge – A grant-funded program designed to enhance girls' interest and training in science, technology, engineering and math
Galaxy Explorers – Teen volunteer and internship program designed to develop leadership skills and inspire careers in science and engineering
Challenger Learning Center® – A unique, hands-on learning experience that uses space exploration to transform participants into scientists, engineers or researchers on simulated space missions; includes mission control and spacecraft.

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CHABOT SPACE & SCIENCE CENTER – PLANETARIUM & MEGADOME

Planetarium

The 240-seat planetarium features a full-dome digital projection system, employing six high-brightness, high-contrast DLP projectors driven by a powerful array of computers and software. The result is a brilliant, seamless image over the entire 70-foot dome surface – accompanied by jaw-dropping digital sound. The images surround the audience, extending beyond the peripheral vision and creating an experience that is fully immersive. As well as presenting pre-rendered shows, the planetarium can also display real-time data visualizations. During live shows, Chabot's astronomy staff transports audiences through three-dimensional space, across the surface of Earth and other planets, through nebulae and to the edge of the known Universe. In addition, Chabot's Zeiss Universarium Mark VIII is one of the most advanced star-projection system on the planet, displaying more than 9,000 celestial objects in their proper perspective, color and brightness.

Tien MegaDome Theater

The 60-foot domed theater seats 205 people and is home to the Bay Area's only 70-millimeter, 8-perforation projection system. Larger-than-life films take viewers on a breathtaking journey through time and space, into the murky depths of the ocean or through the human body. The MegaDome is also equipped with a 35-millimeter projection system, making it an ideal venue for screening blockbuster films (*Night At The Museum* and *The Astronaut Farmer* held Bay Area premieres in the MegaDome in 2007), holding film festivals, or viewing production company dailies. The theater also features a 5000-lumen, High Definition-capable video projection system, a multimedia podium and a well-equipped secondary projection booth offering speaker support and digital video playback. The MegaDome is ideal for lectures and educational presentations.

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CHABOT SPACE & SCIENCE CENTER – TELESCOPES

On Friday and Saturday, Chabot takes on a nocturnal energy unlike any other destination in the Bay Area. Visitors can scan the heavens by entering Chabot from its rear Observatory Plaza Gate – a free entrance on those nights. Each of Chabot's three big telescopes is housed in a separate dome on a common observatory deck atop the Oakland hills, 1,543 feet above sea level. The deck provides stunning views of the Bay Area.

Leah

Chabot's historic 8-inch Alvan Clark refracting telescope is the original 1883 instrument donated by founder Anthony Chabot, a successful hydraulic engineer and provider of water to the city of Oakland. The same year, Chabot funded a new observatory – located in downtown Oakland – to house Leah.

Rachel

With a 20-inch lens, Rachel is the largest refracting telescope in the western U.S. regularly open to the public. Rachel was commissioned in 1914 from Warner & Swasey (with optics by John Brashear) and delivered to Chabot Observatory on Mountain Boulevard in 1916. In the autumn of 1999, Rachel was removed from the site, dismantled, cleaned and extensively refurbished. Early in 2000, she was installed in her new home at Chabot.

Nellie

Chabot's 36" reflecting telescope, which opened June 2003, provides spectacular views through its rolling roof observatory. This modern, research-quality telescope is among the largest telescopes in the U.S. open to the public on a regular basis. Exceeding many university telescopes in size and quality, the Cassegrain collects much more light than either of the refracting telescopes – approximately three times as much light as Rachel. This telescope is fully computer-controlled and images captured by the telescope's CCD digital camera are displayed on Chabot's web site. In addition to public viewing and student research, Chabot's own staff astronomers and members of the Eastbay Astronomy Society conduct regular planetary research using the telescope.

Meridian Transit

In 1885, Anthony Chabot funded a 4 1/8-inch Fauth Transit Telescope with precision chronometers and a sidereal clock. This telescope establishes the correct time by measuring the passage of stars across its fixed meridian axis. Chabot astronomers took transit readings every Friday night in order to establish the official time for the City of Oakland. An observatory clock was electrically programmed to ring a bell twice daily at Oakland City Hall. The Meridian Transit telescope is located inside the center, adjacent to the access door to the observatory deck.

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CHABOT SPACE & SCIENCE CENTER – EXHIBITS

Beyond Blastoff: Surviving in Space

Revealing space travel behind its curtain of glamour, showing visitors how astronauts live and work in the weightless environment of space, with hands-on experiences of exercising like an astronaut and performing tasks on a rolling sled simulating the zero gravity of space. Take a photo in temporary weightless environment and email it to your friends on earth. Artifacts include a Russian Mir Space Station toilet, a Soyuz reentry (descent) module, space suits used during space walks and launches and landings, and hand tools used in space. Multimedia exhibits simulate the view of Earth as seen looking out the window of the International Space Station.

Bill Nye's Climate Lab

Opened in 2010, Bill Nye's Climate Lab is a hands-on exhibition featuring Emmy-award-winning Bill Nye the Climate Guy® as commander of the Clean Energy Space Station, inviting visitors on an urgent mission to thwart climate change. Beginning with a view of Planet Earth from space, visitors explore air, water, and land galleries to discover how climate change affects Earth's connected systems, and how to use the Sun, wind, land, and water to generate clean energy.

Bill Nye's Climate Lab features the tools and techniques used by climate scientists and highlights innovative technology and design in renewable energy, transportation, construction, and architecture. Visitors of all ages will board a hot-air balloon, jump on a bike and ride along with Bill Nye, imagine diving into the ocean in an underwater research vessel, and learn how scientists decipher our planet's climate history with samples of ancient ice, trees, and mud. Using a fun, gaming interface, the immersive, hands-on activities will boost climate literacy and demonstrate energy-saving strategies for daily life.

Chabot Observatories: A View to the Stars

Since 1883, millions of visitors have gazed through the Chabot telescopes at the wonders of the night sky. *Chabot Observatories: A View to the Stars* explores the history of the Chabot Observatories and how its historic telescopes continue to be used today. Daytime visitors can virtually operate a telescope, experiment with mirrors and lenses to understand how telescopes create images of distant objects and travel though more than a century of Chabot's history via multimedia kiosks, historical images and artifact displays.

Destination Universe

Take a journey from our Sun to the farthest reaches of the cosmos. Along the way, you'll see where stars are born, how they die, meet nebulae of all kinds and travel to distant galaxies. Experience the Origins Theater, crawl into a black hole, see what happens when galaxies collide and view stunning space images.

One Giant Leap: A Moon Odyssey

Take a simulated Moon-walk, try on a space helmet, climb into a Mercury capsule and land a lunar module. Chabot's hands-on exhibit explores legends and science fiction about the Moon; the space race and the Moon landings. Learn what the Moon is made of, how it affects the Earth, what causes Moon phases, gravity on the Moon and more. You can even take a look at an ancient piece of the Moon up close. The exhibit includes space artifacts and replicas – from Sputnik and Mercury to Gemini and Apollo.

Tales of the Maya Skies

Chabot's Tales of the Maya Skies planetarium show features the scientific achievements and cosmology of the Maya. The companion exhibit includes ten graphic panels and two interactive exhibits that supplement the planetarium show and engage Chabot's primarily family audience. The exhibit presents the ancient Maya civilization, Maya cosmology, Maya math, Maya language and writing, the Maya calendar, and the significance of 2012. The exhibit will be displayed at Chabot for approximately one year; all content will be bilingual in English and Spanish.

Chabot Staff Available for Media Interviews

Alexander Zwissler – Executive Director & CEO
Ben Burress – Astronomer
Conrad Jung – Astronomer
Eric Havel – Environmental Specialist

Alexander Zwissler, Executive Director & CEO

Zwissler returned home to his native Oakland when he was appointed Executive Director & CEO of Chabot Space & Science Center on April 23, 2007. As the executive director of San Francisco's Fort Mason Foundation from 1999-2006, Zwissler oversaw an organization that provided 15,000 cultural, educational and recreation programs serving 1.6 million visitors annually. A 1975 graduate of Oakland's Skyline High, Zwissler spent the previous 17 years as an executive in the cable television industry. Zwissler has a B.A. in political science from UC-Berkeley. He went on to become a postgraduate research fellow at the University of Leicester, England.

Ben Burress, Astronomer

Burress has been a Chabot staff astronomer since July 1999, 13 months before the opening of CSSC's state-of-the-art facility. After graduating from Sonoma State University with a bachelor's degree in physics (minoring in astronomy), Burress signed on for a two-year stint in the Peace Corps, where he taught physics and mathematics in Cameroon. From 1989-96, he was a crew member of NASA's Kuiper Airborne Observatory at Ames Research Center in Mountain View, CA – the program which is credited with the discovery of the rings of Uranus. There he flew semi-weekly eight-hour missions above 41,000 feet (clear of Earth's troposphere) in a specially modified C-141 "Starlifter" military cargo plane in order to take infrared readings of astronomical objects

From 1996-99, Burress helped pioneer the Naval Prototype Optical Interferometer program at Lowell Observatory in Flagstaff, AZ, the facility where Pluto was discovered. The interferometer program, the first of its kind, allows astronomers to simulate a telescope of enormous breadth (and power) by combining readings from two telescopes in different locations. Burress is an accomplished public speaker whose unique style and easy manner cuts through scientific jargon and makes him a popular interview subject.

Conrad Jung, Astronomer

Jung is renowned as one of the nation's premier astrophotographers. Three of his photographs – of the Trifid Nebula, the Pleiades star cluster and a total lunar eclipse sequence – were featured in a three-month Smithsonian Institute exhibition in 2006. Jung (the "J" is pronounced, not silent) is Chabot's longest-serving employee. He was hired in 1978 as a part-time teacher's assistant under Kingsley Wightman, the pioneer of Chabot's education program. Over nearly three decades, Jung has seen more than 150,000 students pass through his astronomy classes at Chabot. Jung has captured hundreds of images from the night sky over the past 30 years by marrying camera and telescope in a variety of creative ways. His Smithsonian exhibition was praised by that institution's curator of Space History for its ingenious rigging - a Canon 20Da digital SLR camera mounted on a rare 7-inch Schmidt-Cassegrain telescope.

Eric Havel, Environmental Specialist

A Chabot Space & Science Center employee since 1998, Havel has spearheaded Chabot's intense focus on environmental issues since the opening of its state-of-the-art facility high in the Oakland hills in August 2000. Havel (rhymes with gravel) graduated from the University of California-Berkeley with a bachelor's degree in Environmental Sciences. He serves as the board vice-president for the Friends of Sausal Creek, a watershed advocacy group that works to preserve and restore Oakland's Sausal Creek ecosystem. He pioneered Chabot's EnviroGarden program after procuring a grant from Stopwaste.org and is the driving force behind CSSC's environmental teaching program, which now includes five classes for k-12 students. Havel is adept at breaking down complicated environmental issues and is an expert of a wide array of environmental issues, including: global warming; sustainable development; green design and infrastructure; watershed preservation; redwood forest ecosystems; and Bay Area ecology.

Chabot Space & Science Center
10000 Skyline Blvd. • Oakland, CA 94610 • (510) 336-7373 • www.chabotspace.org
Hours – Wed & Thurs: 10 am-5 pm • Fri & Sat 10 am – 10 pm • Sun 10 am – 5 pm

Ticket information:
Passport to the Universe (General Admission) includes two planetarium shows
Adult* $15.95
Youth (3 - 12) $11.95
Members Free

*Seniors & Students receive a discount of $3.00 off Adult admission rate.

*Military Rate: $9.50 adult/$7.50 youth
(Military personnel & immediate family)

Telescope Hours (skies permitting) every Fri/Sat: Dusk-10:30 pm (April-Nov); 7:30-10 pm (Dec-March)
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