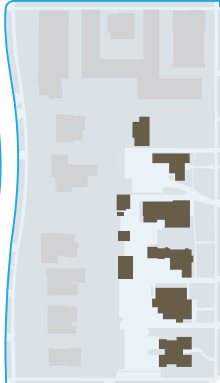




Caltech

A SELF-GUIDED

Walking Tour



- Accessible parking
- Parking structures
- Street parking
- Crosswalk
- Under construction
- Refreshments
- Restrooms

Welcome to Caltech.

You are visiting one of the world's preeminent science and engineering research and education institutions.

Founded in 1891 as Throop University, Caltech has advanced our understanding of the earth, the universe, and the human mind for more than 130 years. With a small community of roughly 300 faculty members, 2,400 undergraduate and graduate students, 600 postdoctoral scholars, 2,500 staff, and 6,600 Jet Propulsion Laboratory (JPL) employees, Caltech has an outsized impact on science and society. Researchers on campus and at JPL, which Caltech founded and manages on behalf of NASA, have launched new fields of study and invented world-changing tools and technologies while seeking answers to the scientific questions that define our times.

Through this 60-minute walking tour (90 minutes with breaks), we invite you to learn more about Caltech's history, study examples of noteworthy campus architecture, learn what it is like to be a student at Caltech, and soak up the beauty of the Institute's 124-acre setting in the heart of Pasadena.

We suggest starting the tour in front of Beckman Auditorium, situated near the center of campus.



Beckman Auditorium

Affectionately known as the "wedding cake," Beckman Auditorium was designed by Edward Durell Stone, the architect behind the Museum of Modern Art in New York and the Kennedy Center in Washington, D.C., and opened in 1964. The auditorium has hosted many notable speakers and performers over the years, including Stephen Hawking, Bill Gates, Jessica Watkins, Bette Davis, Dizzy Gillespie, and Patrick Stewart.

The auditorium also hosts a broad range of Institute events, including the Earnest C. Watson Lectures, which bring Caltech's most innovative scientific and engineering advancements to the public, and the Science Journeys series, in which Caltech graduate students and postdoctoral scholars share their research, what inspires them, and their story to date.



A CLOSER LOOK

Beckman Auditorium Exterior

The auditorium's 32 tapered columns support the overhanging roof of this monumental circular structure. The hanging light fixtures were designed to suggest atoms.

Head to the west side of Beckman Auditorium. Between the auditorium and the Beckman Institute you will see a rectangular reflecting pool, nicknamed the Gene Pool because of the colored tiles laid along its bottom in a double-helical pattern reminiscent of DNA strands.

Behind the Gene Pool you will see the:



2

Beckman Institute

The Beckman Institute was named for Arnold Beckman (PhD '28), inventor of the pH meter, founder of Beckman Instruments, and longtime benefactor of Caltech. Like many others on campus, the building was designed as a center for interdisciplinary research, in this case with a focus on the chemical and biological sciences. The institute supports this work through its 18 resource centers and facilities, including the Neurotechnology Laboratory; the Molecular Observatory; and the CLARITY, Optogenetics, and Vector Engineering Research (CLOVER) Center. The Beckman Institute sub-basement also houses the Caltech Archives and Special Collections.

Walk west through the Beckman Institute arches into the central Glanville Courtyard, and you will find a polyhedron fountain with 38 triangular and square granite faces. It is shaped like an Archimedean solid known as a snub cube, which bears a likeness to ferritin, a protein composed of a core of thousands of iron atoms surrounded by an organic protein shell. With its inorganic and organic components, the protein is meant to represent the Beckman Institute's goal of combining chemistry and biology.

Proceed west past the Beckman Institute, toward Wilson Avenue.



A CLOSER LOOK

The Resnick Sustainability Center

To your left is the future home of the Resnick Sustainability Institute, which brings together researchers who are addressing critical challenges in renewable energy and sustainability. When completed in September 2024, the center will host all the first-year chemistry lab courses, with a focus on sustainability education.

Head north on the walkway until you get to the:



3

Broad Center for the Biological Sciences

The Broad Center is where students and faculty pursue studies in three areas of biology and biological engineering: magnetic imaging, computational molecular biology, and the biology of emotion and perception. The center's proximity to the Beckman Institute enables scientific collaboration and easy access to the institute's facilities and resource centers.

Walk underneath the bridge connecting the Broad Center and Broad Receiving facility. To your right is the Broad Café, where you can find refreshments and restrooms.

Directly to the north, you will see the:



4

Tianqiao and Chrissy Chen Neuroscience Research Building

This three-story 150,000-square-foot facility is the home of the Tianqiao and Chrissy Chen Institute for Neuroscience at Caltech, which was founded in 2016 and brings together faculty from throughout Caltech's academic divisions.

The Chen Institute is a key component of a neuroscience initiative geared toward deepening our understanding of the brain's structure and how the brain works at its most basic level as well as why and how it fails due to disease or aging.

Awarded Gold certification from the Leadership in Energy and Environmental Design (LEED) for its numerous sustainable features, the Chen building consumes nearly 30 percent less energy than a typical lab building and features native and drought-resistant vegetation.

Proceed east along Moore Walk, passing the:



Gordon and Betty Moore Laboratory of Engineering

Named for philanthropists Gordon (PhD '54) and Betty Moore, the former a Caltech alumnus and co-founder of Intel, this building houses the electrical engineering department, in which research labs are pushing the boundaries of wireless communication, networking, distributed computing, and other emerging fields in engineering and applied science. Nanofabrication courses are taught in a sub-basement lab that is one of the most vibration-proof places on campus.

Opposite Moore Lab, on the north side of Moore Walk, you'll find the:



Bechtel Residence

Completed in 2018, Caltech's newest student residence includes undergraduates from all class levels, along with two faculty in residence, six graduate resident associates, and a residential life coordinator. Next to Bechtel, to the east, is **Avery House**, one of the undergraduate residential "houses" at Caltech.

Continue east down Moore Walk until you see, to the south, the:



Walter and Leonore Annenberg Center for Information Science and Technology

Completed in 2009, the Annenberg Center houses most of Caltech's Computing and Mathematical Sciences department, whose researchers investigate high-impact topics such as machine learning, quantum computing and cryptography, and the computational aspects of economic markets. Annenberg is also the home of the Information Science and Technology (IST) initiative. IST is an Institute-wide effort that enables ideas from computation and the information sciences to integrate into and transform disciplines across Caltech, from physics and biology to economics and the social sciences.



A CLOSER LOOK

AWS Center

If you head east to the end of Moore Walk until you reach

Holliston Avenue, near the northeast corner of campus you will find the Amazon Web Services Center for Quantum Computing. The AWS Center, the result of a partnership between Amazon and Caltech, aims to create quantum computers and related technologies that have the potential to revolutionize data security, machine learning, medicine development, sustainability practices, and more.

Head south along Holliston Avenue until you reach San Pasqual Street, passing the Center for Student Services on your left. Make a right and head west on San Pasqual Walk until you reach, on your left, the:



Hameetman Center

The Hameetman Center, completed in 2019 thanks to gifts from Fred (BS '62) and Joyce Hameetman and Steven and Mie Frautschi, is a gathering space for the Caltech community featuring student club rooms, a lounge, music rehearsal space, and other amenities. The center also houses the Red Door Marketplace and the Caltech Store.

To the northeast of Hameetman is the **Lee F. Browne Dining Hall**, which serves breakfast, lunch, and dinner to the campus community daily.

Refreshments and restrooms can be found inside the Red Door Marketplace and the Lee F. Browne Dining Hall.

Directly north of Hameetman you will see the:



Earle M. Jorgensen Laboratory

Jorgensen is the current home of the Resnick Sustainability Institute (RSI), which fosters advances in energy science and technology through research, education, and communication. Jorgensen also houses the Liquid Sunlight Alliance, a research partnership led by Caltech to create liquid fuels from sunlight, water, carbon dioxide, and nitrogen.

Continue west along San Pasqual Walk past the Powell-Booth Laboratory for Computational Science until you reach the:



W. M. Keck Engineering Laboratories

Inside Keck, scientists and engineers with the Cherng Department of Medical Engineering, part of the Division of Engineering and Applied Science, design and create medical technologies including diagnostics, therapeutics, implants, and noninvasive imaging tools that will lead to more affordable, more effective, and more accessible health care. Keck is also home to state-of-the-art applied physics and materials science laboratories.

Proceed west along San Pasqual Walk until you reach the Beckman Mall to the north, at the end of which sits Beckman Auditorium. Turn to the south from San Pasqual Walk and you will see the:



Parsons-Gates Hall of Administration

Now the home of key campus administrators, the building was first constructed in 1917 as the Gates Laboratory of Chemistry, in part to lure chemist Arthur A. Noyes to campus. The building is Caltech's oldest and the first to cross the 100-year threshold.

Across the lawn from Parsons-Gates is **Dabney Hall**, constructed in 1927 and housing faculty in literature, foreign language, and philosophy. Caltech's founders believed the humanities were important to a well-rounded education as well as to the diversity of perspective that makes scientific progress possible.

Returning to San Pasqual Walk, continue west, passing the Gates Laboratory of Chemistry Annex with its ornate stone columns, until on your right you find the:



Warren and Katharine Schlinger Laboratory for Chemistry and Chemical Engineering

Completed in 2010, Schlinger brings together chemists and chemical engineers, making possible disparate discoveries and innovations in areas such as pharmaceutical preparation, catalyst design for solar energy conversion, and air pollution management. The facility has received LEED Gold certification from the U.S. Green Building Council for its incorporation of locally sourced and recycled building materials and energy-efficient design.



A CLOSER LOOK

Calder Arches

Directly opposite Schlinger, on the south side of San

Pasqual Walk, you will see a second-story bridge spanning Church and Crellin laboratories. On the surface of the bridge facing the walk, you'll see the Calder Arches, which were sculpted in 1910 by Alexander Stirling Calder. The figures on the arches represent the vision of Caltech's first president, James Scherer: Nature, Art, Energy, Science, Imagination, and Law.

Continue west on San Pasqual Walk past the Church Laboratory for Chemical Biology until you reach Wilson Avenue. Make a left and walk south down Wilson Avenue, passing the Alles Laboratory for Molecular Biology and Bechtel Mall, which is marked by blue-domed arcades on both sides.

South of the mall sit the:



Seeley W. Mudd Laboratory of the Geological Sciences (North Mudd) and Seeley G. Mudd Building of Geophysics and Planetary Science (South Mudd)

North Mudd, named after a former vice president of Caltech's Board of Trustees, is where scientists study air and water quality as well as the plate tectonics of Earth's crust and the impact of life on the chemical and physical evolution of the planet. It was here that geochemist Clair Patterson discovered that highly toxic lead could be found essentially everywhere on Earth. His findings drove efforts to remove lead from gasoline and pass the Clean Air Act of 1970.

South Mudd, named for Seeley W.'s son, is home to the Seismological Laboratory, a world-renowned center for earthquake research. In the 1930s, Beno Gutenberg and Charles Richter (PhD '28) developed the Richter scale for measuring earthquake magnitude. Today, the Seismo Lab's staff and faculty are pursuing several avenues of next-generation seismological research, including the development of an earthquake early warning system.

Head south to the corner of Wilson Avenue and California Boulevard. Turn left and walk east down California until you see on the north side the:



Ronald and Maxine Linde Center for Global Environmental Science

Scientists at the Linde Center address critical and complex questions about Earth's climate, how pollution influences air quality and climate change, and what happens to carbon dioxide after it enters the atmosphere. While research conducted in the building centers on the earth, the structure's centerpiece is a solar telescope, which was originally intended for Caltech co-founder and solar astronomer George Ellery Hale.

The main part of the instrument, called the coelostat, is situated under the large white dome on the roof of the building. As part of renovations undertaken in 2011, the telescope was adapted to channel sunlight deep into the building, reducing artificial lighting needs.

From the sidewalk, look across California Boulevard to see the:



Cahill Center for Astronomy and Astrophysics

The terra-cotta panels on the distinctive Cahill Center were selected to link the building, which opened in 2009, to the historic campus.

Inside Cahill, researchers study the origins of the universe; the forces that shape the formation and evolution of galaxies, stars, and planetary systems; the nature of space-time; and the question of whether life exists outside Earth's solar system.



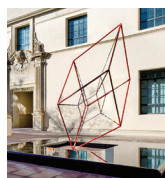
A CLOSER LOOK

Berni the Beaver

For an optional detour (15-20 minutes total) cross California Boulevard and walk to the front of the Braun Athletic Center. There you'll see Caltech's mascot (an homage to nature's engineer), Bernoulli "Berni" the Beaver. Named by popular vote for scientist Daniel Bernoulli and his eponymous scientific principle and equation, Berni joined campus in spring 2023.

Further east along California Boulevard from the Linde Center, on the north side of the street, is the future site of the Ginsburg Center for Quantum Precision Measurement, which will bring together physicists, engineers, and other scientists to study quantum phenomena across all scales. The Ginsburg Center is scheduled to be completed by the end of 2025.

Turn back toward campus and take the path along the east side of the Linde Center. Walk up the stairs up toward the Linde Courtyard.



A CLOSER LOOK

Perception sculpture

Ronald Linde (MS '62, PhD '64), the sculpture's artist and vice chair emeritus of Caltech's Board of Trustees, constructed this work, which includes various allusions and illusions that can be perceived from different vantage points. For example, the number of parallel hexahedron faces (12) in *Perception* equals the number of rare earth elements discovered since the building now known as the Linde Center was built in 1932.

Head through the Linde Courtyard and back to Bechtel Mall, then walk east until you reach:



Caltech Hall

The nine-story Caltech Hall houses administrative departments; library spaces and materials on its ninth floor and basement levels; and the Richard N. Merkin Center for Pure and Applied Mathematics, which hosts the American Institute of Mathematics, on its eighth floor. The building was designed to withstand a magnitude 8.0 earthquake. Each year on Halloween, students from Dabney House drop liquid-nitrogen frozen pumpkins from the top of Caltech Hall at midnight, a tradition which began in 1972. The adjacent pond features a sculpture by local artist George Baker called *Water Forms*, which was built in 1991 in honor of the Institute's centennial.

From the pond, head east and walk down the pathway through:



Throop Memorial Garden

The garden marks the site where Caltech's first building, Pasadena Hall, was built in 1910. It was renamed Throop (pronounced TROOP) Hall a decade later when Throop College of Technology became the California Institute of Technology. The 6.6 San Fernando earthquake of 1971 left deep cracks in the facade of the great hall. Engineers, lacking the original construction plans and thus unable to know if the building was likely to be savable, recommended demolition.

When a wrecking ball started to smash away at the concrete exterior, however, it revealed large amounts of steel rebar, meaning the building likely could have stood for many more years.

In addition to watching turtles bask in the sun, note the boulders surrounding the garden's pools. Chosen by members of the Division of Geological and Planetary Sciences, the rocks represent 2 billion years of California's geological history. A plaque listing the rocks, grouped by age and type, is affixed to one of the large boulders on the east side of the pond.

Exit Throop Memorial Garden to the east, and continue walking until you see on your right the:



Guggenheim Aeronautical Laboratory

The Guggenheim Lab is home to the Graduate Aerospace Laboratories at Caltech (GALCIT), which played a vital role in the development of California's aerospace industry. Guggenheim also houses wind tunnels that have been used to test military and commercial aircraft as well as everything from bicycles to windmills. The aircraft carvings flanking Guggenheim's doors represent two Douglas World Cruiser seaplanes that successfully flew around the world.

Behind Guggenheim is **the Kármán Laboratory of Fluid Mechanics and Jet Propulsion**, where scientists and engineers at the Center for Autonomous Systems and Technologies (CAST) collaborate to develop the hardware and artificial intelligence that will drive autonomous systems for exploration, medicine, and everyday life. Examples of their pioneering work include prosthetic legs that use machine learning and prototypes of flying, self-driven ambulances.

The Kármán Laboratory's namesake, physicist and aerospace engineer Theodore von Kármán, headed a group of researchers whose experiments led to the creation of the Jet Propulsion Laboratory, a world-leading center for robotic exploration of the solar system that Caltech manages on behalf of NASA.

Proceeding east you'll reach a path known as the Olive Walk, designed by landscape architect Florence Yoch, who designed some of Hollywood's most famous movie sets. On the south side of the Olive Walk sit:



The student residences of Blacker, Dabney, Fleming, and Ricketts

These residences, commonly referred to as the South Houses, were built in 1931 and modeled on student residences at Oxford University. Atop the columns outside the South Houses are decorative capitals resembling scientists, musicians, and athletes, designed by building architect Gordon Kaufmann. In the interconnected basement of the South Houses is the Student Activities Center, featuring study rooms, soundproof music rehearsal spaces, and other facilities.

Built decades later, the Page, Lloyd, and Grant D. Venerable houses, known as the **North Houses**, are located on the north side of the Olive Walk. In total, Caltech has 11 undergraduate houses and residences.



A CLOSER LOOK

Fleming Cannon

The 1.3-ton cannon that sits in

front of Fleming House is a relic of the Franco-Prussian War, circa 1870. A harmless, albeit loud, charge is fired from the cannon to celebrate occasions such as Commencement or the last day of each academic term.

Continue east along the Olive Walk until just ahead of you is:



The Athenaeum

Caltech co-founder George Ellery Hale envisioned the Athenaeum as a gathering place for great thinkers at the Institute and other nearby cultural institutions, which is exactly what it has become since opening in 1930. The Mediterranean-style building was designed by the same architect as the South Houses, Gordon Kaufmann, with ceilings in the entry hall and dining rooms designed by Vatican-trained architect Giovanni Smeraldi. The club's first formal dinner was held in 1931 and hosted by the Caltech Associates, the Institute's oldest and most constant support group, in honor of Albert Einstein, who was visiting campus with his wife, Elsa. During the warmer months, the Ath, as it is often called, features an outdoor dining area.

Want to keep up to date on everything Caltech after your tour?

Scan the QR code to sign up for the **Caltech Weekly**, an email newsletter that highlights the most relevant research, news, and events at Caltech as well as the individuals who are advancing the boundaries of discovery.

