

**SDSC**  
**SAN DIEGO SUPERCOMPUTER CENTER**

**Director of the San Diego Supercomputer Center**  
**University of California San Diego**

The University of California San Diego is launching a search for an experienced, visionary leader to serve as the next Director of the [San Diego Supercomputer Center](#) (SDSC). Since its founding 35 years ago as one of the original National Science Foundation (NSF) supercomputer centers, SDSC has been a leader in the development of high-performance computing infrastructure and the broader ecosystem around data intensive computing. A site of groundbreaking work in advanced cyberinfrastructure design and development and research data management, SDSC collaborates extensively with University of California and UC San Diego academics, and with the research community nationally and internationally, bringing the power of advanced computing to accelerate discovery in every field of inquiry.

As advanced computing continues to rapidly evolve, the Center's new Director will have the opportunity to lead the strategic positioning of one of the world's leading sources of innovation, invention, and application in the field. The Director will also engage the Center more fully in the academic research and public impact missions of UC San Diego and will lead SDSC in its stated mission: to deliver lasting impact across the greater scientific community by creating innovative end-to-end computational and data solutions to meet the biggest research challenges of our time.

UC San Diego is among the ten largest research universities in the nation, garnering over \$1.4 billion in sponsored research funding for fiscal year 2020. The next Director will join the UC San Diego community at a critical moment in its history and will play an important role in its continued innovation and success. The university is expanding its academic programs and distinctive research initiatives, its emphasis on inclusive excellence, and its physical footprint, and thereby making great progress on its mission as a student-centered, research-focused, service-oriented public university. The next Director of SDSC will continue to build on the Center's unique history and institutional assets, leading SDSC through its next iteration of growth and innovation. In doing so, the Director will further enhance and elevate the Center's visibility and impact, foster and deepen a strong sense of community, equity, and inclusion (including public awareness of/access to computing as a social good), expand and diversify financial resources to allow SDSC to fulfill its many ambitions, and strengthen and grow the bonds between SDSC and its campus, UC-wide and national partners.

A list of the desired qualifications and characteristics can be found at the conclusion of this document, which was developed with the support of Opus Partners, a national executive search firm. Confidential applications, inquiries, and nominations should be directed to the parties listed at the end of this document.

## ABOUT THE SAN DIEGO SUPERCOMPUTER CENTER

The San Diego Supercomputer Center was one of the first four centers funded by the NSF-funded supercomputer centers program, opening in 1985 on the UC San Diego campus, operated by General Atomics, an advanced technology company focused on government and commercial applications. This [history](#) of the Center's first 30 years charts its growth since then.

Operating at the nexus of science and technology, SDSC develops and supports numerous multidisciplinary programs spanning a wide variety of domains, from earth sciences and biology to astrophysics, bioinformatics, the social sciences, and health IT. SDSC is a major partner in NSF's XSEDE (Extreme Science and Engineering Discovery Environment) program, a collection of high-performance computing resources and services that supports the US research community. SDSC operates the 5-petaflop Expanse HPC system, which has just entered production and will run for 5 years as an NSF-funded resource; the 2.8 petaflop Comet HPC system; and an experimental AI-optimized HPC system called Voyager that will be deployed this year. SDSC is a leader in services in the HPC ecosystem including cyberinfrastructure at scale that ranges from high-speed networking, large-scale cloud computation, to large-scale storage, including dozens of Petabytes of local storage maintained at SDSC. Beyond these distinctive assets, SDSC is a computational and data resource center for UC San Diego and the UC system, operating the Triton Shared Computing Cluster for UC San Diego researchers and a Colocation facility that provides hosting services to researchers and medical centers across the UC system as well as to partners in the local region.

SDSC has created a number of "Centers of Excellence" as part of a larger strategic focus to help researchers across all domains - including those who are relatively new to computational science - better manage the ever-increasing volume of digitally based information. These centers, the [Center for Applied Internet Data Analysis \(CAIDA\)](#), [Center for Large-scale Data Systems Research \(CLDS\)](#), [Division of Health Cyberinfrastructure \(Sherlock\)](#) and [Workflows for Data Science Center of Excellence \(WorDS\)](#) formalize key elements of SDSC's wide range of expertise, from 'big data' management to the analysis and advancement of the Internet. SDSC is a source of translational data and computational science innovations that receive national recognition, such as WiFIRE Labs, which is in use by fire departments across the country for real-time response and just-in-time modeling for hazard response.

In 2019, in partnership with University of Washington, UC Berkeley, and commercial cloud providers, SDSC launched the NSF-funded CloudBank initiative, a five-year program that provides managed cloud services to computer science researchers and educators. This CloudBank builds upon other leadership and data initiatives including the NSF-funded West Big Data Innovation Hub that supports data innovation, collaboration, and transfer between academia, governments, non-profits, and industry in the 13 Western states. This collaboration, now in its sixth year, is a partnership between SDSC, the University of Washington, and UC Berkeley. SDSC also hosts the EarthCube Office, a coordinating entity funded by the NSF to bridge and foster innovation amongst cyberinfrastructure builders and geoscientists and the GO FAIR US Office, a national presence for adapting best practices in data management and Findable, Accessible, Interoperable, and Reusable (FAIR) data for the US community. Other national leadership level efforts led by SDSC include the NSF-funded Science Community Gateways Institute (SGCI) that assists the nation's scientists in creating and sustaining web-based access methods for computational resources.

With core funding from UC San Diego and the University of California, SDSC competes for external support from federal and state sources, foundations, corporations, and individuals. The Center has secured over \$1 billion in total awards since 1985. Its success-rate with proposals to the NSF Computing and Information Science & Engineering division, its primary sponsor, has averaged 40% over five years through FY 2020.

SDSC's current portfolio comprises approximately 75 research and development awards totaling over \$70 million and over \$7 million in service agreements from universities, companies, and non-profit organizations. SDSC's delivery of world-class projects and services is powered by the expertise of 30 in-house Principal Investigators and supported by a talented staff of research programmers, systems administrators, and business professionals. SDSC also collaborates with campus partners (e.g., [CREATE](#)) to leverage SDSC resources for local opportunities to learn, particularly exposing K-12 educators to the power and potential of computing and computer science.

Fiscal year 2020 saw the Center conclude many of the initiatives called for in the five-year plan it published in 2016, *Maintaining Leadership in Advanced Computing in an Era of Data-Driven Science and Engineering*. These initiatives focused on three overarching themes: versatile computing systems, big-data platforms and applications, and life-science computing. With these foci, SDSC aligned with – and advanced – critical priorities of UC San Diego and the University of California, the nation, and the world more broadly. SDSC's series of comprehensive annual reports, including the 2019/2020 edition, *Computing Without Boundaries*, is available [here](#).

SDSC collaborates strategically and synergistically with entities across UC San Diego that are engaged in high-end computing activities to advance research and/or to contribute to the University's technology ecosystem. These partners include the University's Information Technology Services organization and significant activities and assets focused on bioinformatics that are housed in the School of Medicine. A SDSC partner that has rapidly emerged as of particular importance is the [Halicioğlu Data Science Institute](#) (HDSI). Launched in 2018, HDSI is an academic unit (also housed in Academic Affairs) with the ability to appoint faculty and offer degree programs. It has become a hub for data-science research and education at UC San Diego. The University's [Qualcomm Institute](#), a centerpiece of research and innovation in computer science and electrical engineering, has been an important partner for SDSC since 2000, on projects ranging from mobile computing to advanced networking. SDSC's engagement with HDSI, the Qualcomm Institute, and other school, division and department-based computing data and computing intensive programs, will strengthen its alignment with UC San Diego's academic mission.

## ROLE OF THE DIRECTOR

Reporting to the Senior Associate Vice Chancellor for Academic Affairs within the office of the Executive Vice Chancellor, the Director is responsible for the strategic direction and operational management of SDSC, the leadership of its 220+ employees, the management of its \$40 million+ annual budget, and the development and maintenance of its state-of-the-art office and technology space on the UC San Diego campus.

Advancing SDSC's twin missions of creating leading-edge high-performance computing infrastructure, applications, and services and deploying that infrastructure to support the growing array of computationally intensive research activities of UC San Diego faculty, the Center's new Director will

sustain its capacity for innovation across established, emerging, and possible future domains of supercomputing. These domains include or might include developments in quantum computing, machine learning and other areas of artificial intelligence, sustainable computing infrastructure, and computing at the edge of the cloud. The Director will identify the highest-return areas of investment and make the case for them to external sponsors and internal partners. While fostering and pursuing innovation, the Director will also ensure that the Center meets and contributes to the development of the highest standards of security including the Department of Defense's CMMC framework.

Beyond the research community, the Director establishes and fosters relationships with funding agencies, elected officials, community leaders, philanthropic organizations, and others to ensure that the Center reflects and is responsive to the interests and needs of the community at large.

The Director will hold a full-time academic administrative position as well as an underlying tenured professorial appointment at the Full Professor rank, for which a record of distinction in scholarship, teaching or training, and engagement is required. The appointment will be in an appropriate academic department at UC San Diego.

## **RESPONSIBILITIES OF THE DIRECTOR**

- In consultation with the SDSC Executive Committee and campus leadership, builds on the established success of SDSC by developing a vision and establishing priorities for its future that are mutually beneficial to SDSC, the UC San Diego campus, the UC System, and the broader international field of supercomputing.
- Consults and collaborates with campus academic leaders in areas of mutual interest and on major new undertakings and investments that will further enhance the University's deployment of innovative computing infrastructure, resources, techniques, and services to advance its mission in research, education, and health.
- Provides leadership in defining, obtaining funding for, and implementing new research, educational, and community engagement activities consistent with SDSC's mission.
- Serves as a leading spokesperson for research cyberinfrastructure at UC San Diego, within the UC System, and nationally and internationally.
- Maintains an inclusive environment that supports the professional development of a diverse, talented, and ambitious technical staff.
- Weaves a measurable commitment to equity, diversity, inclusion, and access throughout the core mission, culture, and activities of SDSC.
- Sustains an organizational structure that is flexible, appropriate to the mission and size of SDSC and that optimizes SDSC's local, state, national, and international impact.
- Develops and manages SDSC's budget in a manner that is consistent with University policies.
- Recruits and retains, supports and develops, and leads a staff of approximately 200 managers, academic researchers, and professional, technical, and administrative staff.

## OPPORTUNITIES AND CHALLENGES

The rapidly evolving landscape of high-performance computing, cloud computing and associated technologies requires that the Director be prepared to guide the Center to new distinction as a leader for research and applications in areas including artificial intelligence, machine learning and other disciplines supported by advanced computational infrastructure. The Director will be expected to work with the Halicioğlu Data Science Institute, the Qualcomm Institute, and other campus units to create an enduring structure to support the pursuit of data science and applications of advanced computing at UC San Diego in the coming decades. This will provide an exciting opportunity to expand the impact of the Center on the education of the next generation of data scientists and users of advanced computing, balanced with maintaining and expanding the external recognition and role for the Center that it has played since its founding in 1985.

## DESIRED QUALIFICATIONS AND CHARACTERISTICS

The Director will play a key role in shaping the future of research computing nationally and will contribute to the next wave of computing innovations in a collaborative and competitive global arena. Accordingly, candidates will demonstrate a range of important competencies, experiences, and credentials. The Director will be a strategic, indeed transformative, leader with a compelling vision for the future of high-performance computing, cyberinfrastructure, and the applications and services that enable researchers to make full use of leading-edge, world-class resources to advance human knowledge and health. The successful candidate will be someone who combines this breadth of vision with a leadership style characterized by collaboration, transparency, and community engagement and a management practice that is inclusive, consultative, and empowering.

The SDSC Director will hold an underlying appointment as a tenured full professor at UC San Diego. To be appointed as the Director, therefore, a candidate must demonstrate distinction as a researcher and/or practitioner in a field relevant to SDSC's mission and must possess a record of innovations in and contributions to that field, including appropriate accomplishments in education or training and in engagement that are suitable for a tenured appointment at a campus of the University of California.

In addition to these qualifications and attributes, candidates will possess many if not all of the following:

- A widely recognized record of leadership in areas of scientific computing pertinent to a research, development, and service enterprise whose programs span or may in the future span high-performance computing, high-throughput computing, data-intensive computing, cloud computing, quantum computing, security policies and solutions, and applications across a broad range of research disciplines.
- Integrity, fairness, candor, selflessness, and the highest ethical standards.
- Broadly recognized national and/or international stature.
- A commitment to excellence and a vision for the future of the San Diego Supercomputer Center.
- A commitment to and success in advancing organizational priorities related to equity, diversity, and inclusion that will be manifest in experience working with diverse communities, creating an inclusive culture, and integrating practices and programs that foster equity, diversity, inclusion, and access in the core priorities of a technically and scientifically focused enterprise.

- Leadership skills for team building and for accomplishing successful collaborative programs and projects.
- Management skills required to direct a large, complex, and swiftly evolving organization, including evidence-based decision-making and process-improvement experience.
- The ability to communicate and interact effectively with faculty, administrators, and staff at UC San Diego, across the UC System, and with other U.S. and international universities, government agencies, and industrial organizations.

## ABOUT THE UNIVERSITY

Since its founding in 1960, [UC San Diego](#) has become one of the preeminent institutions in the United States for higher education and research. UC San Diego is an academic and research powerhouse, generating over \$1.4 billion in research funding and over \$5.4 billion in revenues overall in fiscal year 2020. With over 35,847 full and part-time academic and staff employees, UC San Diego is one of the largest employers in San Diego County, giving it a significant economic footprint in the region. In 2020, Washington Monthly ranked UC San Diego the best public university in the nation for contributions to social mobility, research, and public service, and US News & World Report listed the campus as 21st among Best Global Universities, based on research, global and regional reputation, international collaboration, and number of highly-cited papers. UC San Diego also ranked 14th best university in the nation and 18th in the world in the prestigious 2020 Academic Ranking of World Universities, compiled by the Center for World-Class Universities at Shanghai Jiao Tong. In 2017, UC San Diego was designated as a Changemaker Campus by Ashoka U for its role as a leader in social innovation education.

With a wide-ranging portfolio of academic departments, programs, institutes, and research centers, UC San Diego provides a stimulating scholarly and educational environment across traditional disciplines and includes many interdisciplinary specialties. UC San Diego's rich academic portfolio includes seven [undergraduate colleges](#) (Revelle, Muir, Warren, Marshall, Roosevelt, Sixth, Seventh), six academic divisions ([Arts and Humanities](#), [Biological Sciences](#), [Jacobs School of Engineering](#), [Physical Sciences](#), [Social Sciences](#), and [Halicioğlu Data Science Institute](#)), and six graduate and professional schools ([Rady School of Management](#), [School of Global Policy and Strategy](#), [School of Medicine](#), [Skaggs School of Pharmacy and Pharmaceutical Sciences](#), [Herbert Wertheim School of Public Health and Human Longevity Science](#) and [Scripps Institution of Oceanography](#)). The University also operates UC San Diego Health, San Diego's only academic medical center.

UC San Diego enrolls a diverse student body of 40,066 (as of fall 2020), including 31,842 undergraduates and 8,641 graduate students. The University's focus on student success, inclusive instruction, and social mobility serves students of wide-ranging socioeconomic, cultural, and academic backgrounds. Over one-third of new matriculants identify as first-generation college students and nearly one-third are from historically underrepresented groups.

The campus is home to an outstanding faculty of nearly 1,600 full-time tenured and tenure-track faculty representing a diverse array of backgrounds. Faculty honors include two Fields Medalists; three Pulitzer Prize winners; five MacArthur "Genius" Fellows; four recipients of the National Medal of Science; 163 members of the National Academies: the National Academy of Sciences (85), National Academy of Engineering (32), and National Academies of Medicine (46); and several other major honors including a



Tony Award, a Grammy Award, and a Presidential Medal of Freedom. Sixteen Nobel Laureates have taught at UC San Diego. Shared governance - a hallmark of the University of California - is an especially important practice at UC San Diego, where the Academic Senate sets admissions and graduation requirements, and advises on the budget and other matters pertaining to the conduct and welfare of the campus.

## **EQUITY, DIVERSITY, AND INCLUSION**

To foster the best possible working and learning environment, UC San Diego strives to maintain a climate of equity, cooperation, and professionalism. These [principles of community](#) are vital to the success of the University and the well-being of its constituents. UC San Diego faculty, staff, and students are expected to practice these basic principles as individuals and in groups.

UC San Diego is an inclusive community where all have the opportunity to thrive. The University's academic environment encourages the pursuit of intellectual curiosity and enables all community members to have an impact as changemakers. At UC San Diego, we recognize that true excellence is achieved when all feel respected for their perspectives, backgrounds, and heritage and when all feel invited to be part of our collective efforts to improve the university. The University aims for all members of its community to be fully included in campus life and experience equitable opportunity in achieving their goals and aspirations.

## **LOCATION AND CAMPUS TRANSFORMATION**

UC San Diego is located on the oceanside bluffs of La Jolla, California just 12 miles north of downtown San Diego. The campus sits on the ancestral homelands of the Kumeyaay Nation. The Kumeyaay people continue to have an important and thriving presence in the region and are integral to the fabric of the University. San Diego is the eighth-largest city in the United States and second-largest city in California. With a diverse population of 1.54 million, the city has a near-perfect climate and easy access to beaches, mountains, and deserts. San Diego is also a vibrant cultural center, with world-class museums, theater, and music imbued with the traditions of the many cultures that coexist within the city limits, with immediate access to the border with Mexico. The development of UC San Diego's Downtown Center, in alignment with the campuswide Strategic Plan, makes this an exciting time to be on campus. With new buildings and bridges and the arrival of a light rail trolley that will further connect the campus to the San Diego region and directly connect the university's new Downtown building to the main campus, the shift in the campus's physical fabric will be profound. The impact will span far beyond just new construction - it will serve to enhance the student experience, enrich the campus community, spark research and innovation, and provide greater campus access to the thriving communities of the greater San Diego region. For more information about UC San Diego and its Strategic Plan, visit <https://plan.ucsd.edu> and <https://ucsd.edu/about/index.html>.



## APPLICATIONS, INQUIRIES AND NOMINATIONS

UC San Diego has retained [Opus Partners](#) to support the recruitment of this position. Craig Smith, Partner, and Thomas Lapierre, Senior Associate, are leading the search. Confidential inquiries, applications, and nominations should be sent via email to [thomas.lapierre@opuspartners.net](mailto:thomas.lapierre@opuspartners.net). In order to interview with the search committee, candidates must formally apply via Opus Partners and must provide their CV, a cover letter, and a [statement addressing aspirations and contributions to promoting equity, diversity, and inclusion](#). Please consult Opus Partners for more information about the application process. All possible discretion will be exercised to maintain the privacy of applicants through the search process. For best consideration, please submit materials by July 15, 2021. Electronic submission of materials is required.

*The University of California San Diego is an equal opportunity/affirmative action employer. Diversity is a defining feature of the University of California, which embraces it as a source of strength. Differences — of race, ethnicity, gender, religion, sexual orientation, gender identity, age, socioeconomic status, abilities, experience and more — enhance the university’s ability to achieve its core missions of public service, teaching, and research. UC welcomes faculty, staff, and students from all backgrounds and wants everyone at UC to feel respected and valued.*