

#### Dean

# James C. Wyant College of Optical Sciences, University of Arizona Tucson, Arizona

The University of Arizona Wyant College of Optical Sciences is one of the premier educational and research institutions in optics and photonics worldwide. The college is a major conduit for industry collaboration and represents the University of Arizona's highest aspirations for research innovation and impact. As one of the world's most distinguished research-intensive epicenters, the college boasts the largest endowed chair program in the history of the state of Arizona. In FY2024 alone, the College demonstrated its commitment to innovation through 71 invention disclosures, 108 patent filings, 26 patents, and 5 exclusive tech licenses.

The College manages a diverse portfolio of sponsored research initiatives across federal, philanthropic, and for-profit partnerships, with the broadest portfolio of industry research engagements on campus. It serves as a multifaceted research innovation hub with a total annual budget of nearly \$53 million, including \$34 million in annual research expenditures in FY2024. Its 61 faculty members, a highly touted group of internationally prominent scholars in the field, are united in their prioritization of the College's defining purpose: an unequaled educational student experience for optical sciences. The College boasts faculty representation within the National Academy of Inventors Senior Members, the National Academy of Engineering, and recipients of the National Science Foundation Career Award and Bahn-Dole Coalition Innovator Award.

#### THE ROLE

Reporting to the new Provost and Chief Academic Officer, <u>Dr. Patricia Prelock</u>, the Dean is responsible for elevating Wyant College's mission by articulating a bold and dynamic strategic vision that positions the College at the forefront of the rapidly evolving research and academic landscape of optical science, engineering, and physics.

The incoming Dean will continue nurturing interdisciplinary, cross-campus collaborations to bolster research expenditures and ensure the sustained excellence of its high-impact research areas. The Dean will look to provide personnel oversight for the college through the recruitment, development, and evaluation of its world-class faculty and staff. As the external face of the college, the Dean must be a skilled fundraiser, engaging external audiences, partners, and funders while deepening relationships with

the college's exemplary alumni. The successful candidate will have executive-level fiscal management experience and assume a critical role as steward of the College's diverse sources of support. The Dean will also be a transparent communicator, an excellent relationship builder, and a leader who energetically pursues opportunities to broaden the College's local, national, and global reach.

#### KEY RESPONSIBILITIES FOR THE DEAN

The opportunities and challenges facing the next Dean of the Wyant College of Optical Sciences include:

# Revitalize the College's distinctive culture by articulating a shared vision for research, partnership, and education

The Dean will lead a college committed to addressing some of this century's most exciting and challenging questions. From stopping single atoms with laser beams to applying optical nanotechnologies in agriculture, energy generation, and medicine, the Dean will take the lead of a college that strives for excellence in the study of all aspects of the engineering and physics of light. Aligning with the College's rich history, the Dean will focus on articulating and advancing the intellectual vision and collective academic agenda of the Wyant College of Optical Sciences as an integrated hub that combines education, research, and broader scholarship. The Dean will empower a collaborative, transparent, and inclusive culture for the College. The successful candidate will also be expected to advance innovative curricular initiatives, fostering organizational processes that meet the needs of students, staff, and faculty. Just as critically, the next Dean must prioritize external visibility by bringing intentional energy to undergraduate recruitment, marketing of the optical sciences field, and global awareness of Wyant's academic prowess.

#### Support a transformative research portfolio that drives scholarship, innovation, and connection

Celebrated as one of the most productive research engines within the University of Arizona, generating over \$1M in annual awards per tenure; tenure track faculty; the highest per-faculty research output at the U of A, the College nurtures a research culture where foundational science and translational impact intersect. To foster an environment conducive to excellence in research, the Dean must bring an intellectual curiosity and an appreciation for a breadth of research, encompassing image science, optical engineering, optical physics, and photonics. The Dean will also continue strengthening research collaborations between engineers and scientists across the University, bolstering partnerships across the College of Engineering, College of Science, College of Medicine, and more. As the University forges new strategic research priorities—with the Wyant College central to key pillars like national defense, health sciences, and quantum science and technology—the Dean will provide critical leadership in leveraging the College's strengths with those of the university to advance the frontiers of research. Finally, the Dean serves as the key conduit between the College and its Industrial Affiliates, whose historic and steadfast support for the College have made Wyant a destination for top tier faculty, staff, and students since its founding; the Dean must shape and strengthen the College's connectivity with private industry as well as

the national defense community, whose support has helped advanced Wyant's scholarship and opened doors for its students for six decades.

# Advance the core values of student-centered teaching and learning to amplify educational impact and community

Wyant's talented graduate and undergraduate students are attracted to Wyant for the vibrancy of its communities, its diversity and dimensionality, and the tremendous opportunities afforded to them in academe and industry both during their time at the University and well beyond. The College aspires to grow its undergraduate footprint while upholding its commitments to supporting and cultivating its thoughtful, dedicated graduate and doctoral students. To this end, the Dean will champion student success and exemplify Wyant's core commitment to a transformational learning experience for all students. The Dean must address fast-changing academic modalities while reinforcing the core tenets of its educational value. The Dean will continue to champion early and abundant research opportunities for students to work in cutting-edge research labs such as the Large Optics Fabrication and Testing laboratory and the Center for Quantum Networks, and to co-author peer-reviewed publications. They will continue to nurture longstanding relationships with major industry players (e.g., Meta, Raytheon, ASML and others) and the government (e.g., Sandia National Labs, Air Force Research Labs, Department of Defense, MIT Lincon Labs and National Institute of Standards and Technology) to create pipeline for internships, co-ops, and full-time job opportunities. The Dean will continue to promote holistic and personalized professional advising from optics and engineering professionals in addition to university advisors.

#### Recruit, retain, and develop excellent faculty and staff

A crucial measure of the Dean's success will be their ability to recruit, retain, mentor, and develop Optical Sciences faculty and staff. Charged with empowering faculty to pioneer new realms of inquiry and application in the optical sciences, the Dean must foster cohesion across a diverse community that spans disciplines, roles, and research directions. The Wyant Family's continued support has allowed previous Deans the latitude to target and attract excellent faculty from across the nation and around the world, and the Dean will continue efforts to recruit the best of the best. Wyant's faculty are supported by a dedicated cadre of staff who stand at the forefront of the College's technical infrastructure, its enabling of faculty research, the care of its talented students, and the fostering of a culture of dedication and collaboration. The Dean will purposefully advocate for staff professional development and success, emphasizing values that promote a fair, inclusive, and collegial environment in their shared work of meeting the College's and the University's most ambitious goals.

#### Steward Wyant's funding model transition and oversee strategic resource identification and investment

As part of the role and personnel responsibilities, the Dean will maintain an organizational climate and budgetary processes that advance the goals and objectives of both the College's strategic plans and programs and the University's <u>strategic imperatives</u>. Optimizing the College's diverse financial assets to

James C. Wyant College of Optical Sciences, University of Arizona Dean

achieve its strategic goals, the Dean will steward and strategically deploy its resources, including the endowed chair campaign made possible by the transformational gifts from Dr. James C. Wyant.

#### THE WYANT COLLEGE OF OPTICAL SCIENCES

The Wyant College of Optical Sciences, formerly known as the Optical Sciences Center, was established in Tucson, Arizona, in 1964 to fulfill a national need for more highly trained engineers and physicists in the optical sciences. Throughout its 60-year history, the College has stood at the forefront of the field; today, it educates more students in optics than any institution in the U.S. The College creates and translates knowledge, an engine of experiential learning which celebrates intellectual agility and creative problem-solving. The College has extensive ties to programs and departments across the University, most notably the College of Engineering, with which it shares its undergraduate program and significant collaborations in the biomedical engineering and quantum engineering spaces; and with the College of Science, home to the shared Steward Observatory, where College of Sciences faculty are in close constellation with faculty in Astronomy and Astrophysics. The College produces leading engineers and scientists who are technically strong, multidisciplinary, multifaceted, critical thinkers capable of innovation that will advance and create value for society.

The College is comprised of four main research specialties: image science, optical engineering, optical physics, and photonics.

- <u>Image science</u> investigates the ways that image quality can be defined, measured, and optimized. The faculty in image science at the College show particular strength in designing new technology for medical imaging, homeland security, earth sciences and other applications.
- Optical engineering uses classical optics techniques to create novel devices and instrumentation. The College leads the field in designing and fabricating highly specialized optics, from optics constructed with diamond turning machines that have sub-nanometer programming resolution, to astronomical telescope mirrors with 6.5-m and 8.4-m diameters, the largest mirrors on Earth.
- Optical physics studies the interactions of light with atoms, molecules, and semiconductor systems in different contexts. This research specialty includes research groups pursuing projects in quantum gases, theoretical and computational optical physics, experimental and theoretical quantum optics, ultrafast lasers, quantum optomechanics, and more.
- <u>Photonics</u> research at the College is conducted by nine faculty members whose work ranges in scope from fundamentally new tools, such as small-footprint, high-throughput multiphoton microscopes, through exceptionally high-power semiconductor lasers, to components and systems for next-generation optical networks for both the Internet and data centers.

There are 41 tenured and tenure-track faculty affiliated with these research areas. Including part-time faculty, co-op faculty, research faculty, and professors of practice, there are 61 faculty members in the college. The College also hosts 20 joint faculty members with appointments across nine other departments, including Physics, Astronomy, Radiology, and Electrical Engineering. Additionally, the College employs over 60 staff members dedicated to supporting the programs and operations vital to the

James C. Wyant College of Optical Sciences, University of Arizona Dean

success of the college community. The College's total operating budget exceeds \$53 million, and it has a total enrollment of over 500 students, of which 30 percent are undergraduates and 70 percent are graduate students.

The College is also home to the Industrial Affiliates Program, widely regarded as among the country's most active and successful industrial partnership programs. Strengthening the synergy between optics education and the specific needs of the commercial sector, the program includes over 60 member companies engaged with the College. While the program serves as an essential facet of Wyant's external-facing identity and commercial relevance, it also holds insurmountable value as the critical mechanism behind the College's student job placement and research collaboration.

The College recently completed one of the most ambitious fundraising campaigns for a single college in the University's history over a three-year period, 2018-2021, whose efforts were directed at seeding endowed chairs to bolster the College's research prowess. For the campaign, the college received a total of \$28 million in donations to establish 14 new endowed chairs, each with a minimum of \$2 million. This included the historic \$20 million pledge from the college's founding dean and namesake, Professor Emeritus James C. Wyant, Ph.D. Prior to this effort in 2013, Wyant made a \$10 million gift to the college for graduate student scholarships in a campaign called FoTO (Friends of Tucson Optics). As a result of his initial gift, more than 250 additional donors contributed, and 30 first-year graduate student scholarship endowments were established, each bearing the name of a donor; consequently, the Wyant College can fully fund 30 PhD students for their first year of doctoral studies without requiring students to be supported on research or teaching assistantships.

#### Research Facilities

Wyant College is housed within the Meinel Complex, sitting directly off the University of Arizona Mall, and is home to over 100,000 square feet of advanced research labs and educational classrooms. To facilitate the rapid growth of the College, in 2020, the University supported the addition of the Grand Challenges Research Building (GCRB) within the Meinel Complex. The GCRB was completed in 2024, houses four full floors of Wyant College faculty, and serves as the central hub for scientists across optics, engineering, physics, astronomy, and other disciplines to tackle the major scientific challenges of the modern world.

Optical Sciences faculty members are involved in an array of multidisciplinary and multi-institutional programs, including organizations dedicated to increasing the speed of the Internet, building a better solar cell, and finding newer and more accurate ways to detect and diagnose cancer.

#### **Center for Quantum Networks (CQN)**

Entitled the Center for Quantum Networks, CQN is a multi-institutional research effort consisting of the University of Arizona (lead), its ten partner institutions, and twenty-eight principal investigators. This powerful team will research the foundations of the quantum internet, aiming to revolutionize how

James C. Wyant College of Optical Sciences, University of Arizona Dean

humankind computes, communicates, and senses the world. The Center was established in 2020 from a five-year, \$26 million grant from the National Science Foundation.

#### **OSC Micro/Nano Fabrication Cleanroom**

The Optical Sciences Micro/Nano Fabrication Cleanroom enables research in a dust-free, clean environment, utilizing state-of-the-art lithography and deposition equipment. The Cleanroom provides support for the University community, including researchers in the College of Science and the College of Engineering. Additionally, the Cleanroom welcomes industry partners dedicated to the research and development of solar, telecom, electronic, and other technologies.

#### Precision Freeform Optics Design, Fabrication, and Testing Facility

The Precision Freeform Optics Design, Fabrication, and Testing Facility was established in 2015, with the support from the College of Optical Sciences, University of Arizona (TRIF), and the National Institute of Health (NIH). It provides optical and opto-mechanical design; system integration; fabricating precision diamond turning and molding; testing surface shape and quality; and testing geometrical dimension.

#### **Academic Programs**

Wyant College integrates learning and work through cooperative education and a culture of excellence, belonging, innovation, and research. The College currently hosts approximately 150 undergraduate students majoring in Optical Sciences and Engineering and 400 graduate students representing the largest PhD program in the United States of its kind. Additionally, the College offers an online program via Arizona Online that largely facilitates students' graduate education while employed in industry. To learn more about the programs, see the informational links below.

- Bachelor of Science (B.S.) in Optical Sciences & Engineering
- M.S. in Optical Sciences, with emphasis areas in Quantum Information Science & Engineering and Optomechanical Engineering.
- PhD in Optical Sciences

#### THE UNIVERSITY OF ARIZONA

Surrounded by picturesque mountains and Saguaro forests, the University of Arizona is proudly rooted in the land-grant tradition, serving its people through a mission of accessible, excellent education coupled with cutting-edge research to drive social, cultural, and economic impact within the state and around the world. Established in 1885, U of A's extraordinary community – faculty, postdocs, students, and staff – continues to tackle the world's most pressing challenges while enriching student learning and forging transformative partnerships with government, industry, and nonprofit organizations. The flagship institution for the state of Arizona now offers more than 150 majors and programs of study in 20 different

James C. Wyant College of Optical Sciences, University of Arizona Dean

degree-granting <u>colleges</u>. Driven by the work of a top-tier group of 5,212 faculty, 15,312 staff, and a robust array of research institutes and centers, the University ranked among the nation's top 20 public research institutions for the sixth consecutive year according to the NSF, with research expenditures surpassing \$1B for FY24. The University of Arizona enrolls 56,500 students across its four main campuses, including over 11,000 graduate students.

The University also has one of the most diverse student bodies of any major research university in the nation. It is one of only 22 Hispanic-Serving Institutions (HSIs) in the U.S. that have a Carnegie Classification of Highest Research Activity (R1).

### Admissions, Student Success, and Financial Aid

Enrollment and retention are top priorities for the University. In the 2024-25 academic year, U of A received 58,339 applications for an incoming first-year class of 9,240, marking the most applications in university history. Welcoming a cohort of international students from a record-breaking 141 countries in the 2023-2024 academic year, the University of Arizona continues to set new benchmarks for global engagement. This year marks the most globally diverse student body in the institution's history. With a 28% increase in total international enrollment across all campuses and modalities, the extended international student population now reaches 7,247, further emphasizing the university's commitment to providing diverse, high-quality education to students worldwide.

The University continues to pride itself on a strong commitment to student success, which is borne out by the compassionate and dedicated work from staff and faculty across campus. Last academic year, departments within <u>Student Success and Retention Innovation (SSRI)</u> reported approximately 170,000 student visits across our support programming: workshops, tutoring sessions, community-building events, peer mentoring meetings, advising, and coaching appointments. The University awarded students nearly \$398 million in merit—and need-based institutional awards in the 2024-25 year.

## **University Finances and Advancement**

The university's FY25 operating expense budget is approximately \$2.99 billion. The University is in the process of assessing its current budget model, moving away from its Activity Informed Budgeting (AIB) model to implement a centralized planning budget model in FY 2026. The University is currently amidst the largest fundraising campaign in U of A's history, which has already raised \$2.5 billion to invest in key priorities and initiatives outlined in the University's strategic plan.

# **Strategic Transformation**

This is a time of unparalleled excitement and momentum for the University, as many members of the University's leadership have recently transitioned into their new roles. Amid a period of strategic

James C. Wyant College of Optical Sciences, University of Arizona Dean

transformation, the University is undergoing academic leadership realignment to strengthen collaboration and enhance student experience.

<u>Dr. Suresh Garimella</u> assumed the presidency in October 2024, becoming the University's 23<sup>rd</sup> President as appointed by the Arizona Board of Regents. Dr. Garimella has been widely celebrated in higher education for his innovative leadership, his profound commitment to the land-grant mission, and his exceptional record of putting students first. As part of the 2025 <u>strategic imperatives</u> for Delivering on Our Promise, Dr. Garimella will lead the institution in ensuring success for every student, conducting research that shapes the future, and engaging with our Arizona communities to create opportunity.

Additionally, <u>Dr. Tomás Díaz de la Rubia</u> was appointed senior vice president for research and innovation in November of 2024, followed by Dr. Patricia Prelock as Provost and Chief Academic Officer in May 2025. Dr. Prelock is a highly accomplished scientist and scholar, clinical speech-language pathologist, and university leader.

#### QUALIFICATIONS AND CHARACTERISTICS

The successful dean candidate will possess all the following skills, credentials, and personal qualities:

- Visionary leader with at least 10 years of a demonstrated record of innovative, collaborative, and forward-looking leadership in a distinguished, technically diverse research setting associated with optics, engineering, physics, or related fields;
- Doctoral degree (PhD or equivalent);
- Current holder of—or ability to obtain—a U.S. Government Security Clearance at the Secret level;
- Distinguished record of academic achievement, scholarship, sponsored research, teaching, and service in a field appropriate for a tenured appointment in one of the four major discipline areas of the College;
- Proven capabilities in organizational management, strategic planning, and financial stewardship;
- Strong personal record of research excellence and an international reputation for research in a related field;
- Excellent interpersonal and relationship-building skills; positive, collegial, and collaborative;
- An empathetic listener and exemplary communicator; experience communicating with a wide audience of students, faculty, university administrators, alumni, advisory board members, community members, and potential benefactors;
- Demonstrated commitment to academic excellence at the undergraduate and graduate levels;
- Proven ability to build effective partnerships, preferably within a college, across a university, and with the broader community;
- An aptitude and appetite to advance alumni relations and philanthropic outreach;
- High standard of professional integrity and a strong sense of professional ethics.

### APPLICATIONS, INQUIRIES, AND NOMINATIONS

Screening of complete applications will begin immediately and continue until the search process is completed. Inquiries, nominations, referrals, and CVs with cover letters should be sent via the Isaacson, Miller website: <a href="https://www.imsearch.com/open-searches/university-arizona-wyant-college-optical-sciences/dean">https://www.imsearch.com/open-searches/university-arizona-wyant-college-optical-sciences/dean</a>. Electronic submission of materials is strongly encouraged.

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Isaacson, Miller and the University of Arizona are committed to creating an inclusive environment and welcome applications from candidates with disabilities. If you have any accommodation or access needs, we are happy to provide reasonable accommodations.