CASE FOR SUPPORT

GO FOR LAUNCH

THE CAMPAIGN FOR UCF'S NEXT MISSION



UCF | CREOL, The College of Optics and Photonics

UNIVERSITY OF CENTRAL FLORIDA

ILLUMINATING THE FUTURE



WHAT WE SEE WILL INSPIRE YOU

If you don't see optics and photonics everywhere, pick up your smartphone and think about the foundational impact of these technologies today and the influence detecting, generating and harnessing light will have on the future.

The University of Central Florida knows fresh ideas and a specialized workforce are required to satisfy the broadening scope of optics and photonics applications – especially in the defense, aerospace, healthcare, telecommunications and energy sectors. Our College of Optics and Photonics (CREOL) is behind the push for increased miniaturization, accuracy and reliability that will lead to innovative modern technologies and ensure economic growth.

As one of the top three public universities for optics in the United States, CREOL welcomes the current demand for the deep proficiency of its faculty and students; yet understands any enduring impact they might have on the future of light-based technologies will require collaboration and financial support.

We invite you to come aboard on a historic mission. Go for Launch is more than a UCF philanthropic campaign — it's our commitment to shape what's possible. Be the engine that blasts CREOL into a realm without boundaries. Prepare for liftoff. The trajectory is clear: innovation, impact and opportunity. Our future. Your move.

WHAT STUDENTS SAY



NEW LEASE ON LIFE

When he enrolled at UCF, **Edward Perez** had just the clothes on his back. He knows what it's like to be homeless; yet, as an undergraduate research assistant, the optics and photonic engineering major is at the cusp of laser technology that promises to signal new opportunities for both him and his emerging field.

"Receiving the **Ge and Wu Scholarship for CREOL** has taken a tremendous load off my back," says, Edward, who balances his roles as vice president of UCF's chapter of the Society of Optics Students and as an advisory board member of the Homeless Services Network of Central Florida with his research and coursework. "The financial support has given me the opportunity to focus on things I enjoy, work on myself and continue toward my degree."

A NAME TO REMEMBER

There's more to **Jeremy Goodenough '26** than more than just a "cool last name." The photonics science and engineering major sees becoming an astrophysicist as his way to change the world. A **Soileau Family-SPIE Optics and Photonics Undergraduate Scholarship** allows Jeremy to strengthen his career pursuit by collaborating on unpaid research with CREOL faculty.

"I can pay rent, I can pay for groceries and I can really just focus 100% of my time to my academics and my extracurriculars that are getting on my resume," says Jeremy, who also serves as vice president of UCF's SPIE student chapter. "The financial freedom has provided me the time for research and extracurriculars that will build my resume and enhance my career possibilities."





INFLUENCER PRACTICES WHAT HE PREACHES

As a talented digital content creator who once promoted opportunities in higher education to aspiring college-bound students, the greatest influence **Chad Jordan '27** had was evidently on himself. After enrolling at UCF, Chad received a Soileau Family – SPIE Optics and Photonics Undergraduate Scholarship, which supports photonics engineering students who are the first in their family to attend college.

"While working for a nonprofit in South Florida (Bridge 2 Life), I became familiar with the UCF scholarship page," says Chad, who also finances his education as a part-time social media manager for CREOL. "That's where I found the Soileau scholarship and I had to practice what I preached. I was telling other students how to get involved in the college application process and apply for scholarships — so I also had to apply myself."

DID YOU KNOW?

RANKED BY *U.S. NEWS AND WORLD REPORT* AS ONE OF THE **TOP THREE PUBLIC UNIVERSITIES FOR OPTICS IN THE UNITED STATES**, CREOL PLACES UCF IN THE COMPANY OF STANFORD, HARVARD, CALTECH AND MIT.

WHAT DONORS SAY

DID YOU KNOW?

2,200 NEW JOBS IN THE TRILLION-DOLLAR OPTICS AND PHOTONICS INDUSTRY ARE ESTIMATED TO OPEN ANNUALLY IN THE U.S. THROUGH 2030.



LASER FOCUS ON BUILDING TALENT POOL

The U.S. Department of Labor reports that each year there are 10,000 job openings for photonics engineers — 700 of which reside in Florida. In Winter Park, Fla., Industrial Laser Machines established a Graduate Endowed Fellowship to ensure the next generation of students and researchers are well-equipped to accommodate the explosive growth of Central Florida's optics and photonics market.

"Especially today, education is more important than ever, and I've seen the quality of students that have come from CREOL," says Dwight Kimberlin, CEO of ILM, a laser manufacturing company that has access to opportunities in research and a pipeline of talented students as a member of CREOL's Industrial Affiliates Program.



APPETITE FOR PHILANTHROPY

Back when he was a UCF electrical engineering student, **Art Wilson '77** remembers living off 33-cent boxes of macaroni and cheese to "keep his belly full" and his career aspirations moving forward. The experience whets his appetite to give back following his tenure at JDS Uniphase as Chief Technical Officer for the Optical Transmission Subsystems segment and later at L3Harris Technologies as a senior scientist architecting advanced mission solutions.

"This scholarship aims to support dedicated students facing financial hurdles — offering them the stability that I needed in college — so that they can focus on their future," says Art, who, along with his wife, Lynn, established an endowed scholarship to support electrical engineering students taking phonics courses.

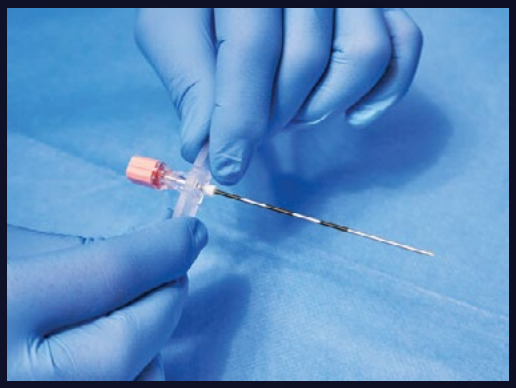
WE WORK HERE

NEW TWIST ON LCDS



The next time you stare into your smartphone, thank **Shin-Tson Wu,** a Trustee Chair Professor at CREOL. His pioneering research in liquid crystal displays is responsible for making modern devices more energy-efficient, vibrant and versatile — from the Apple iPhone, iPad, Nintendo Game Boy, Google Glass and Microsoft HoloLens to recently introduced Meta Ray-Ban augmented reality glasses.

Professor Wu's influence extends beyond liquid crystal research to philanthropy. CREOL's most published faculty member and holder of 105 U.S. patents established the Wu Family Graduate Endowed Fellowship, which is dedicated to mentoring the next generation of scientists and engineers. Under professor Wu's guidance, about 45 doctoral students have graduated, many of whom now work with leading companies, such as Apple, Meta and Google.



SHEDDING NEW LIGHT ON CHILDBIRTH

CREOL researchers have joined physicians and biomedical scientists from UCF's College of Medicine to create an innovative technology that uses sound and light to help healthcare providers better place an epidural in a mother's back during childbirth. The method hopes to reduce the risk of temporary paralysis or more serious complications when the anesthetic is placed by feel.

"Health is personal," says Guifang Li, a CREOL professor and principal investigator in the study. **"And technology is all about looking for solutions. If the doctors can help us understand the need, we can work together to solve it."**

PHOTONICS OFFER CLEARER VIEW OF SPACE

Through a $3.5 million grant from the Air Force Office of Scientific Research, CREOL faculty and students are taking advantage of photonic technologies to view the cosmos. Their research could eventually lead to accurately identifying and characterizing space debris, improving communication between satellites and tracking stars and planets that orbit black holes.

The team's research focuses on two key technologies: photonic lanterns and heterodyne spectroscopy. By capturing, measuring and combining light waves in specific ways, researchers can synthesize images at scales and resolutions never seen before, further unlocking the mysteries of our reality.

HUGE POSSIBILITIES FOR TINY TECHNOLOGY

In the push to shrink and enhance technologies that control light, the Nanophotonics Chair of the Florida Photonics Center of Excellence sees nothing but big opportunities.

"I think CREOL's right at a nexus," says Eric Johnson '89MS, whose research efforts have received more than $20 million in support from ONR, AFOSR, DARPA, NSF and other federal agencies. **"All the pieces are in place. Now it's a matter of, let's coalesce around a few things, and get people to come together from a strategic standpoint."**

WHY GIVING MATTERS

SUCCESS STORIES



Fiber Feeds AI Boom

If the future of artificial intelligence runs on fiber, then **Jason Eichenholz '95MS '98PhD**, founder of Florida-based Relativity Networks, and Rodrigo Amezcua Correa, a CREOL professor, believe they have developed a technology capable of satisfying the hunger for massive data-processing infrastructure.

The research partners say their solution is a patent-pending hollow-core fiber (HCF) cable that moves light through an air-filled chamber rather than the traditional glass core. The catch: data transmission is 50% faster and almost 20 miles farther without impacting the latency that can throw intricate multilocation data operations and application out of sync.

"My mantra has been 'Why not change the world?' and I think we are doing that," says Jason, whose company has raised $4.6 million in pre-seed funding, and deployed the technology in multiple installations.



Ambassador for Future Generations

Who better than **Gabryella Baldaci '25** to shed light on a field of science that is having an immense impact on everything from communications, transportation and defense to entertainment, health and manufacturing. Weeks before graduating with a B.S. in Photonic Science and Engineering and starting as a fab engineer at Jenoptik, she was inducted into the Order of Pegasus, the most prestigious award a UCF student can obtain.

"My goal is to share our field with the next generation of college students, and excite them about the current and future light-based technologies," says Gabryella, an **SPIE Optics and Photonics Scholarship** recipient who was extremely involved at UCF, collaborating on faculty research, joining student organizations and volunteering at outreach events, including the CREOL Laser and Photonics Summer Camp for high school students. **"I want to remain active because I got to learn from the best and I just have so much to be thankful for."**

GREAT PLACES TO GIVE

STUDENTS
Through the generosity of our alumni, friends and public-private partnerships, philanthropy supports our students by providing essential financial aid, improving campus resources and funding specialized programs, often addressing the gap between tuition costs and affordability. Through scholarships, fellowships and emergency funding, your gifts reduce student debt and boost retention rates. You further influence student success by enhancing research opportunities, upgrading facilities and strengthening support services.

PROGRAMS
When our students have access to better teaching methods, more information and modern technologies or tools, we elevate their intellectual curiosity and expand their learning potential. Your gift to the area that best matches your passion will help us to strengthen and expand our innovative programs, modernize facilities and create a robust and engaged learning community for our students outside the classroom.

FACULTY/RESEARCH
Your gifts to establish endowed professorships, faculty fellowships and joint academic appointments help to attract the top researchers and educators from around the world to the College of Optics and Photonics where they will empower our students with catalyzing ideas and transformative opportunities to solve industry challenges.

WAYS TO GIVE

CREOL offers many meaningful ways to make a difference. From establishing a named scholarship to funding interdisciplinary programs and facilities, you can create life-changing opportunities for the next generation of dreamers, doers and innovators — all while building your philanthropic legacy.

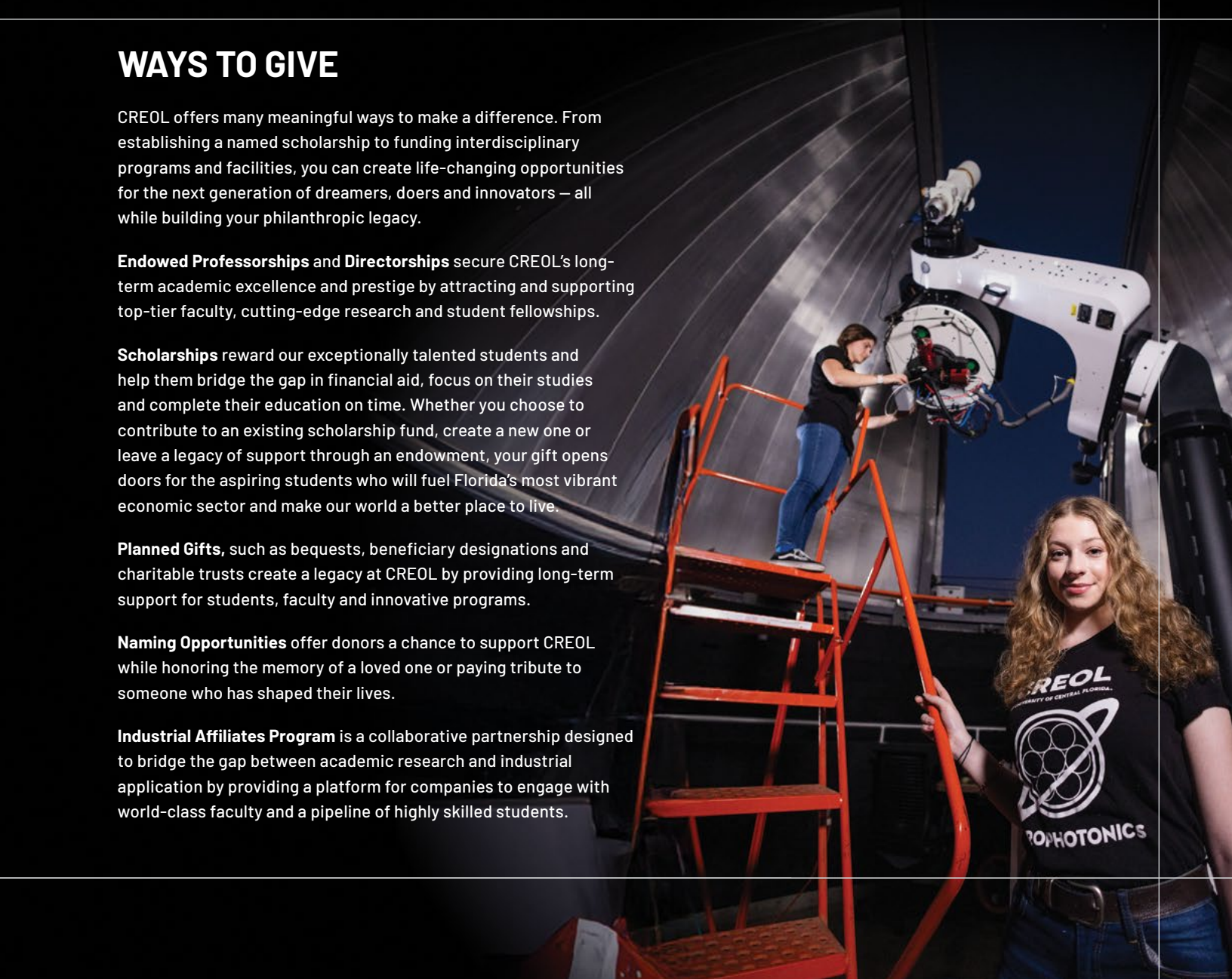
Endowed Professorships and **Directorships** secure CREOL's long-term academic excellence and prestige by attracting and supporting top-tier faculty, cutting-edge research and student fellowships.

Scholarships reward our exceptionally talented students and help them bridge the gap in financial aid, focus on their studies and complete their education on time. Whether you choose to contribute to an existing scholarship fund, create a new one or leave a legacy of support through an endowment, your gift opens doors for the aspiring students who will fuel Florida's most vibrant economic sector and make our world a better place to live.

Planned Gifts, such as bequests, beneficiary designations and charitable trusts create a legacy at CREOL by providing long-term support for students, faculty and innovative programs.

Naming Opportunities offer donors a chance to support CREOL while honoring the memory of a loved one or paying tribute to someone who has shaped their lives.

Industrial Affiliates Program is a collaborative partnership designed to bridge the gap between academic research and industrial application by providing a platform for companies to engage with world-class faculty and a pipeline of highly skilled students.



WHY UCF, WHY NOW

The future is here. Located in Orlando, the University of Central Florida is a leader in developing human capital to meet the needs of the world's largest economy. UCF is the second-largest university in the nation, with about 70,000 students enrolled annually and more than 400,000 alumni worldwide — each of them serving as brand ambassadors, boosting UCF's national and global reputation.

CREOL is internationally known for advancing the fields of optics and photonics. Our students and researchers pioneer cutting-edge technologies in laser engineering, medical imaging, augmented reality, optical materials, metasurface optics, quantum photonics, semiconductors, astronomy, display technology, telecommunications, defense capabilities. We can identify mutually beneficial partnerships that align your interests with our resources and expertise. Whether you choose to support student scholarships, enable research, fund academic programs and facilities or promote initiatives with involved citizenry, businesses, non-profits, and all levels of government working together, we want to hear from you.

OUR STRENGTH IN NUMBERS

TOP 5
MOST INNOVATIVE UNIVERSITY IN U.S.
(U.S. News & World Report)

#1
SUPPLIER OF GRADUATES TO U.S. AEROSPACE AND DEFENSE INDUSTRIES
(Aviation Week)

6
NATIONAL COLLEGIATE DEFENSE COMPETITION CHAMPIONSHIPS

#1
EMERGENCY MANAGEMENT PROGRAM
(U.S. News & World Report)

#1
GRADUATE VIDEO GAME DESIGN PROGRAM IN THE WORLD
(The Princeton Review and PC Gamer Magazine)

#1
CHOICE FOR MODELING AND SIMULATION ADVANCED TRAINING FOR DOD

#1
COLLEGE FOR HOSPITALITY IN THE WORLD
(CEO World Magazine)

$229M
RESEARCH EXPENDITURES

70K
STUDENTS ENROLLED

436,588
DEGREES CONFERRED

400,000+
ALUMNI

WHY CREOL*

TOP 3
PUBLIC UNIVERSITY FOR OPTICS IN U.S.
(U.S. News & World Report)

35
CORE FACULTY

13
JOINT FACULTY

157
PUBLICATIONS

14
PATENTS

$17M+
RESEARCH FUNDING

** Fiscal Year 2024-2025.*

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