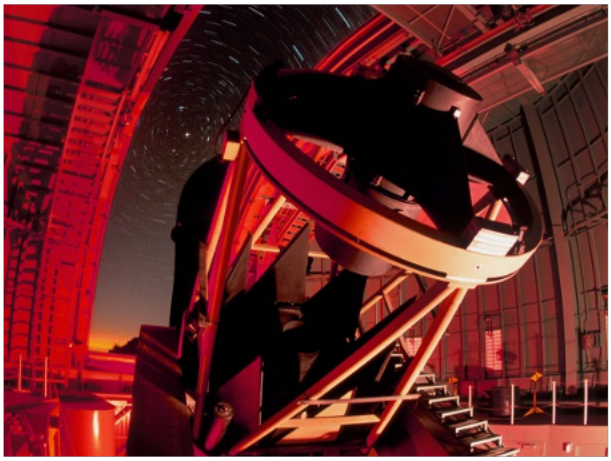
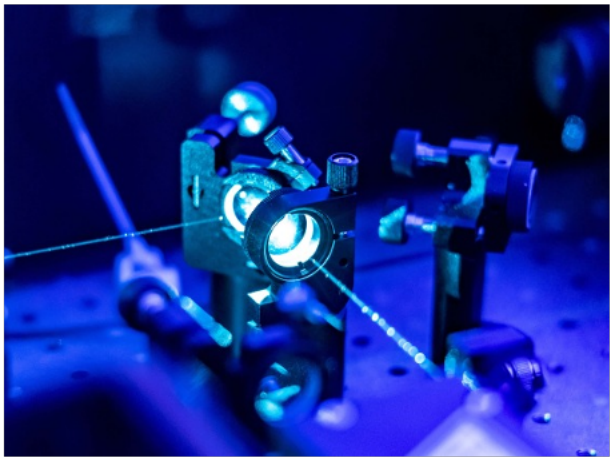
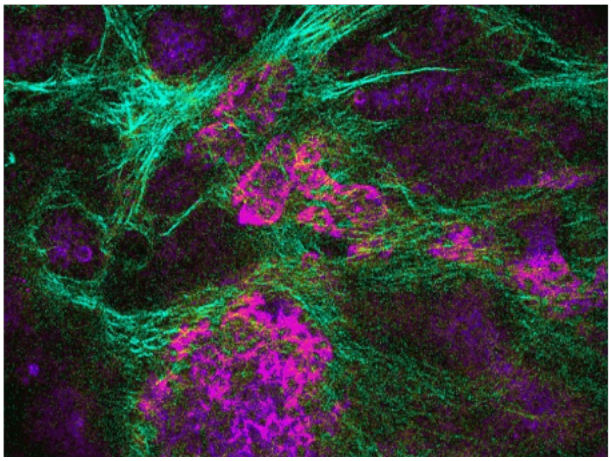
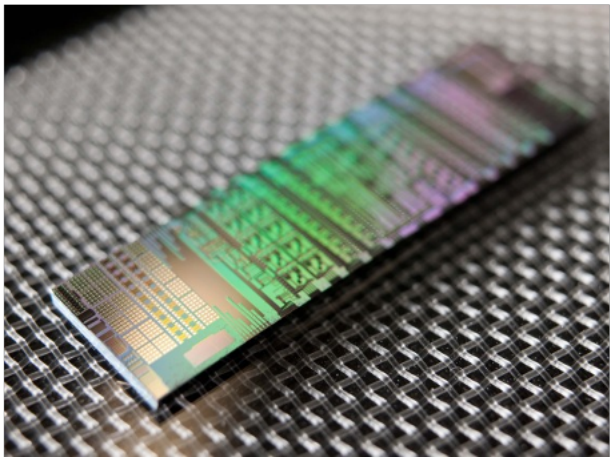
Optical Sciences Winter School And Workshop

Wyant College of Optical Sciences
University of Arizona
Tucson, Arizona
Jan. 6 - Jan. 9, 2026









Optical Sciences Winter School 2026

College of Optical Sciences Organizing Committee

Brandon Chalifoux
Lars Furenlid
Poul Jessen
Jason Jones
Dongkyun (DK) Kang
Daewook Kim
John Koshel
Channel Lemon
Masud Mansuripur
Kanu Sinha

Special Thanks to Our Sponsors:

DeMund Foundation
Gretler Foundation
SPIE
OPTICA
State of Arizona Technology and Research Initiative Fund
James C. Wyant College of Optical Sciences

Schedule – Optical Sciences Winter School 2026

(All sessions at Optical Sciences building, Room 307 except for Jan. 9 morning sessions.)

Tuesday, Jan. 6, 2026

8:00	Breakfast	
8:45	Welcome	Prof. DK Kang
9:00	*Introduction to Photonics*	Prof. Euan McLeod
10:00	Break	
10:20	New applications of multiphoton microscopy	Prof. Khanh Kieu
10:50	Photonic quantum machine learning	Prof. Daniel Soh
11:20	Break	
11:40	*Optics of Photography*	Prof. Lars Furenlid
12:20	Lunch (Optical Sciences building)	
1:30	*Introduction to Optical Engineering*	Prof. Brandon Chalifoux
2:30	Open labs (including Thorlabs Mobile lab, CAVE)	
4:00	Additive manufacturing of optical components	Prof. Rongguang Liang
4:30	From the foveation of human eye to foveated display technologies	Prof. Hong Hua
5:00	Break	
6:00	Dinner (No Anchovies Restaurant)	

Wednesday, Jan. 7, 2026

8:00	Breakfast	
9:00	*Introduction to Optical Physics*	Prof. Brian Anderson
10:00	Open labs (including Richard F. Caris Mirror Lab tour, Thorlabs Mobile lab, CAVE)	
11:20	Lunch (Optical Sciences Building)	
1:10	A taste of quantum material optics	Prof. Kyle Seyler
1:40	Space Optical Technologies for Astrophysics and Earth Sciences	Prof. Felipe Guzman
2:10	Break	
2:30	*Introduction to Image Science*	Prof. Travis Sawyer
3:30	Break	
3:50	Super cameras	Prof. David Brady
4:20	Modern Computing and Imaging Sciences: The use of Monte Carlo Simulation in Evaluating Imaging Systems	Prof. Matthew Kupinski
4:50	Graduate student panel discussion (Moderator - Clarissa DeLeon) Sofia Hillman, Hope Dannar, Nico Malamug, David Bloom	
5:50	Break	
6:30	Dinner and Poster Session (Bear Down Gymnasium)	

Thursday, Jan. 8, 2026

8:00 Breakfast

8:30 DK Kang, University of Arizona
Welcome, Introduction to Optical Sciences Winter School

8:40 Session Chair: DK Kang
Thomas Brown, University of Rochester
Microshear interferometry and the legacy of Jim Wyant

9:10 Peter Delfyett, University of Central Florida (CREOL)
Ultrafast Photonics – Communications and Signal Processing at the Speed of Light

9:40 Break, Winter School photo

10:10 Session Chair: Jason Jones
Charles Falco
The Science of Optics; The History of Art

10:40 Jie Qiao, Rochester Institute of Technology
Ultrafast-Laser–Enabled Freeform Optics and Photonics

11:10 Tom Hausken, OPTICA
The Future of Optics and Photonics

11:40 Lunch (Optical Sciences building)

1:00 Session Chair: John Koshel
Glenn Boreman, University of North Carolina - Charlotte
Career Advice

1:30 Anurag Gupta, Clyvera
TBD

2:00 Dominique 'Nikki' Galvez, Ansys ZEMAX
Diversify Yourself

2:30 Break

3:00 Session Chair: Brandon Chalifoux
Benjamin Cromey, BAE Systems
Inside a career making Optics Hardware for Space

3:30 Kyle Myers, Puente Solutions LLC, Former U.S. Food and Drug Administration Official
Inside an Image Science career at the US FDA

4:00 Break

4:30 Panel discussion on career in optics (Moderator – Travis Sawyer)
Anurag Gupta, Dominique 'Nikki' Galvez, Benjamin Cromey, Kyle Myers

5:30 Break

5:45 Banquet (Bear Down Gymnasium)

7:30 Session Chair: DK Kang (Flandrau Science Center and Planetarium)
Keynote: Stuart Elby, Former SVP, Madison Square Garden Ventures
SPHERE: Inventing a New Entertainment Medium

Friday, Jan. 9, 2026

8:00 Breakfast **(GCRB lobby)**

9:00 Session Chair: Brandon Chalifoux **(GCRB conference room)**
Keynote: Tayyab Suratwala, Lawrence Livermore National Laboratory
Optic Technologies Enabling Fusion Ignition

10:00 Break

10:20 Session Chair: Jason Jones **(GCRB conference room)**
Brian Monacelli, Pasadena City College/ NASA Jet Propulsion Laboratory
Science, Development, and Optical Alignment of the Roman Space Telescope's Coronagraph

10:50 Joe Shaw, Montana State University
Diffraction colors in clouds

11:20 Russell Chipman, University of Arizona
New Lenses for Virtual and Augmented Reality

11:50 Lunch **(GCRB lobby)**

1:20 Session Chair: DK Kang **(Meinel 307)**
You Zhou, University of North Carolina - Charlotte
Flat Optics with Metasurfaces: From Devices to Image Processing

1:50 Momoka Sugimura, University of Arizona
Detecting cancer without a biopsy: non-invasive confocal microscopy

2:20 DK Kang, University of Arizona
Closing remarks

2:30 Break

3:15 Buses to outing (Optical Sciences)

5:00 Dinner and outing (Tohono Chul) led by DK Kang

Keynote abstracts – Optical Sciences Winter School 2026

SPHERE: Inventing a New Entertainment Medium

Dr. Stuart Elby
Former Senior Vice President
Advanced Engineering at Madison Square Garden Ventures

Thursday, January 8th, 7:30 pm
Flandrau Planetarium

Why was Sphere created? What technical challenges had to be overcome? Answers to these questions and descriptions of some of the key innovations, will be presented.

Optic Technologies Enabling Fusion Ignition

Dr. Tayyab Suratwala
Program Director, Optics & Materials S&T
National Ignition Facility & Photon Science,
Lawrence Livermore National Laboratory

Friday, January 9th, 9:00 am

Abstract forthcoming
