

Optomechanix

Bios 2026

Photonics West 2026

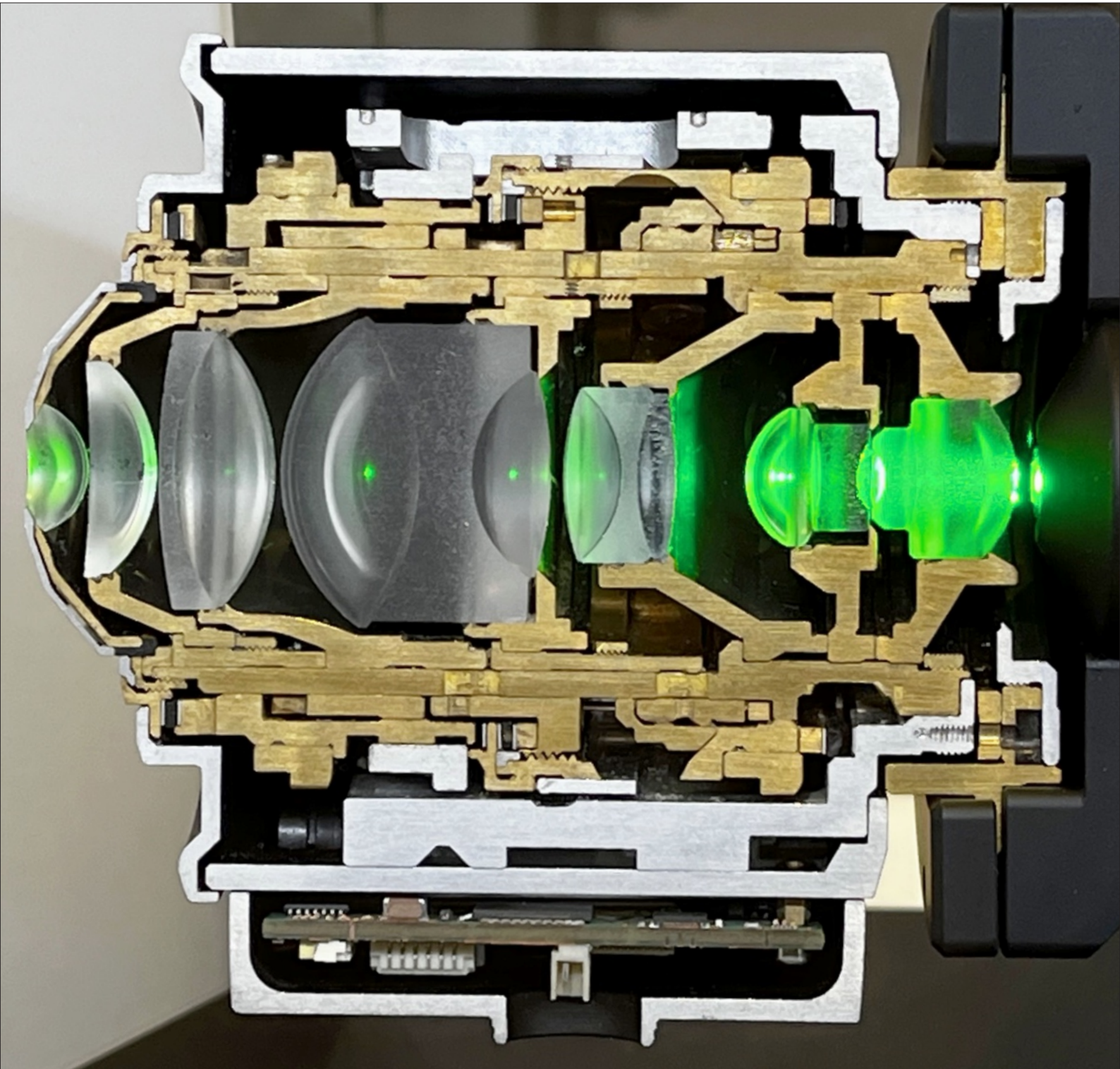
Spie AR/MR/VR 2026

New Products by Optomechanix

God's Hope in Movies

Special Issue Photonics West, Bios 2026 Coverage

Jan 2026



Technical journal of OMiD, Opto-Mechanical Institute of Design



The SPIE Photonics West 2026 event drew a total of 23,000 attendees, compared with 24,000 in 2025 and over 20,000 in 2024. 1,500 exhibitors, with attendees from 75 countries. Second to Laser Munich in Germany, Photonics West show in San Francisco is one of the largest shows in the industry.

It was a combination of **Bios** focused on biomedical optics , **Lase** covered laser technologies, and fiber/diode lasers, **Opto** covered optoelectronics, silicon photonics, **Quantum West** highlighted Quantum 2.0 technologies, **Vision Tech** (new for 2026) Explored intelligent imaging, and sensing.

Contents

Page

Introduction	3
Bios 2026 Show	4
Photonics West 2026	10
The Poster Session	25
SPIE AR/VR/MR Show	26
Web Listing of Exhibitors	30
New Products from Optomechanix	31
New Products from Optomechanix	32
God's Hope in Movies	34



Vision Tech show, and Museum on page 26 ~ 28



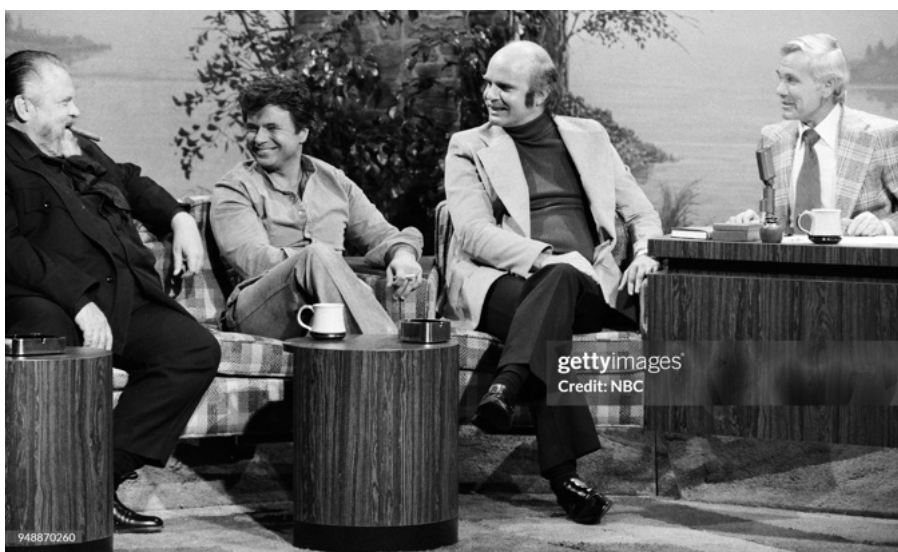
Wayne Dyer (1940-2015) with partner

This issue Dedicated to:

Wayne Dyer (1940-2015) was a psychotherapist and a professor before helping his own self-help empire, but perhaps the most important credential one can have when being in the business of inspiring people and instructing how to pick one's self up by their bootstraps and to achieve is to have done just that themselves.

Born in Detroit in 1940, Dyer grew up an orphan, an experience that molded a self-reliance as well as an aversion to self-pity. Dyer earned a Bachelor's degree in History and Philosophy, a Master's degree in Psychology and an Ed.D. in Guidance and Counseling at Wayne State University. He became a popular professor of counselor education at St. John's University, where he was approached by a literary agent to put his ideas into book form. The result was

his first book, *Your Erroneous Zones* (1976). This launched Dyer's career as a motivational speaker and self-help author, during which he published 20 more best-selling books and produced a number of popular specials for PBS. Influenced by thinkers such as Abraham Maslow and Albert Ellis, inspired by Swami Mukhtananda and New Thought, he promoted themes such as the "power of intention," collaborated with alternative medicine advocate Deepak Chopra on a number of projects, and was a frequent guest on the Oprah Winfrey Show. He was a devoted family man, was with his 3rd wife Marcelene till the end, leaving behind 8 kids.



From left to right: Filmmaker Orson Welles, actor Robert Blake and Doctor Wayne Dyer during an interview with host Johnny Carson on October 27, 1976

Copyright 2026

Web: www.optomechanix.org

Instagram: [optomechanix](https://www.instagram.com/optomechanix)

For digital subscription or suggestions email us at:

info@optomechanix.org

Chief Editor: Ali Afshari

Web Designer: Mojtaba Moradli

Optomechanix is a quarterly journal of Opto-Mechanical Institute of Design (OMiD), with technical articles for practical, hands-on opto-mechanical engineers. This magazine is privately funded.

Cover page photo: Cross section of Zeiss objective for biomedical optics

Front back: Photonics / Bios West registration hall

In This Issue ...

If you couldn't make it to this year's Photonics West in San Francisco, this is a detailed coverage of the show from the eyes of an Opto-mechanical designer. We'll cover newly introduced mounting hardware, mechanical assemblies, interferometers, and wavefront sensors, beam expanders, precision stages, Silicon Photonics, lens testing, measurement tools, rubber optics, and any other interesting hardware, and software that would catch the eye.

Going to global shows like PW is like going to a gym for workout. You'd regain motivation by seeing global efforts to push creativity, and progress in optical engineering. Walking this show, I saw strong Japanese presence, disappearance of names like Olympus whose microscopy division was bought/renamed "Evident". I saw compact replicas of what was previously dominated by names like Zygo. These new generation of interferometers could do both interferometry, and wavefront sensing. Instead of high cost/bulky optics, low-cost beam divergers could snap on their front aperture to allow various testing setups. A separate show for 3D goggles with overlay projection displays, many of them produced in China. Talking to company CEO's, US still remains to be their largest market, after China, Singapore, and Germany.

I have been deliberate in expressing spiritual views, and teachings in the last section of these journals. We truly miss these discussions at the presence of our senior peers. Seeing each other at shows, and growing old together with other company CEO's, there is a feeling of deeper connection as human beings. At the show this year, Omur Sezerman of OZ optics asked me: "Ali, you sold your Optoform line to Edmund Optics, so why don't you want to retire?" I said it gives me something to do Omur, look at you, why are you still working?! You can't stay at your position as an innovator if you don't truly love what you do. It takes so much time, and effort to put out Optomechanix, and specially these show reports, and I don't get paid for it, so, I often ask myself why? First of all, I really love trade shows, but I become more educated while sharing it with others. Rumi says while you are at a market, looking for someone in particular, you'd miss seeing everyone else. Through this publication, and making these show reports, I'd grasp beyond what my eyes wouldn't normally see.

Ali Afshari
Editor in chief
Optomechanix



This extraordinary piece of art on the entry to Mascone center is a painting of SF homes, and the bay, around a heart. It's called "Hearts of San Fransisco", work of artist Eleem David, created in 2012.



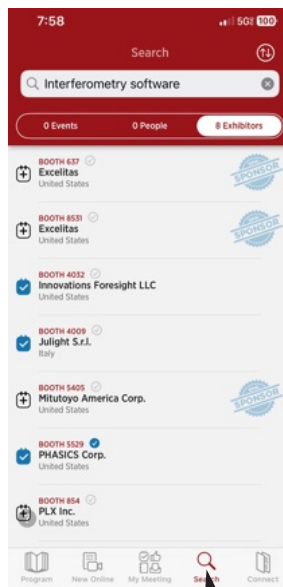
Interior Design: Huge LCD wall displays was money well spent to bring liveness to the whole show attendee experience.



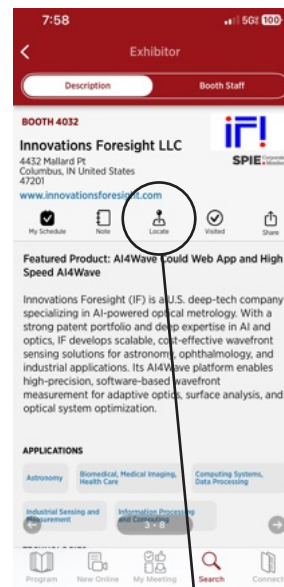
A Global Presence



I saw some visitors looking through the printed map of the show trying to find a particular company. Downloading SPIE's app made it much easier to search for what I was interested in (right). I would click on each search result to see the company description, and could readily find its location at the show. Such a great tool even after the show to search for companies.



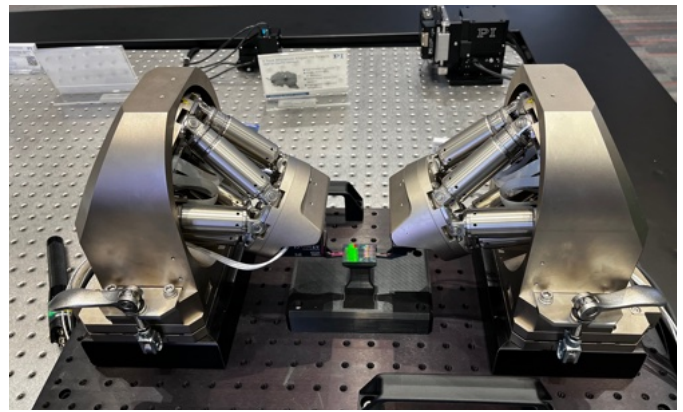
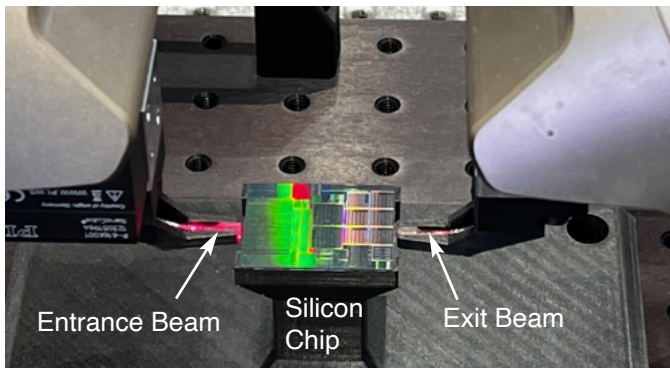
Search



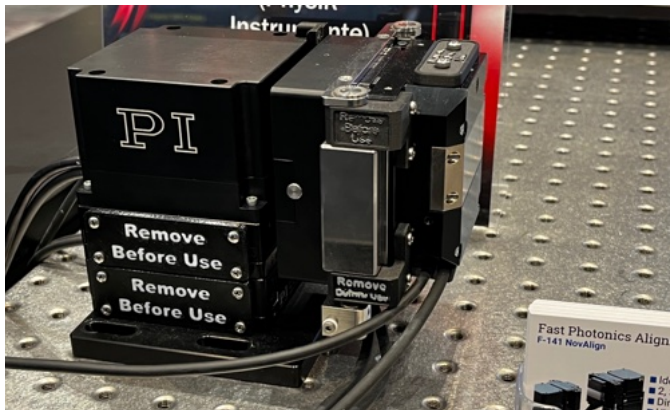
Click on the Locate icon to see its location on the map



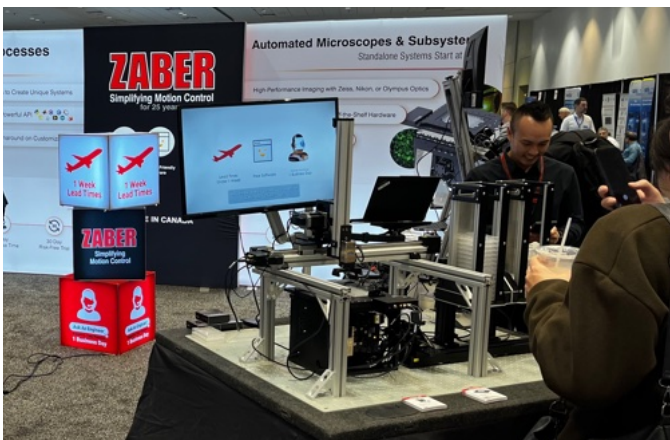
Bios 2026



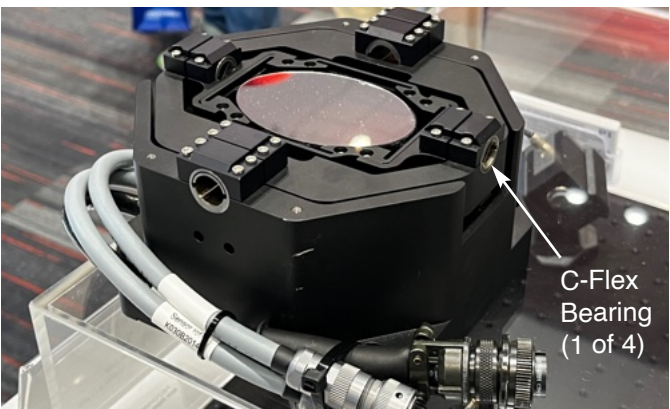
1. PI hexapod pair for aligning fibers on Silicon Photonics chip. There is a search routine executed by accompanying software that facilitates the alignment. PI claims the alignment routine takes less than a minute.



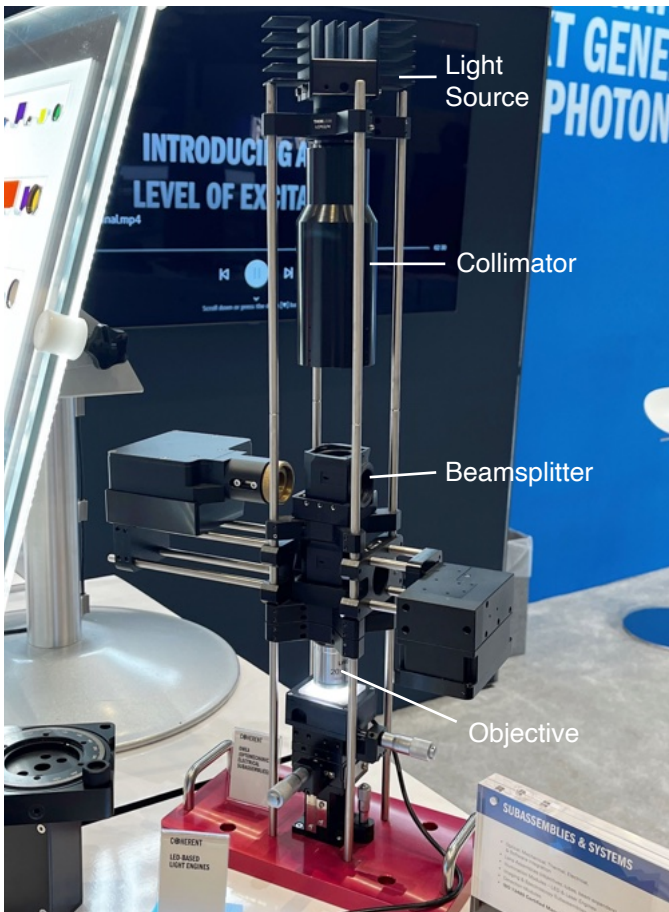
A lower cost, more compact version of the hexapod arrangement is this multi-axis stage (above, left).



2. Zaber builds translation stages for microscopy, and fine focus stages (below, right). On display was their modular platform for automated Fluorescence microscopy (left). One of my favorite designs is this tilt platform utilizing C-flex bearings



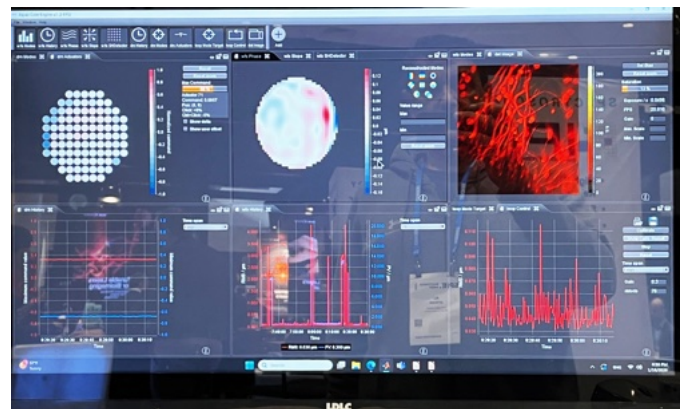
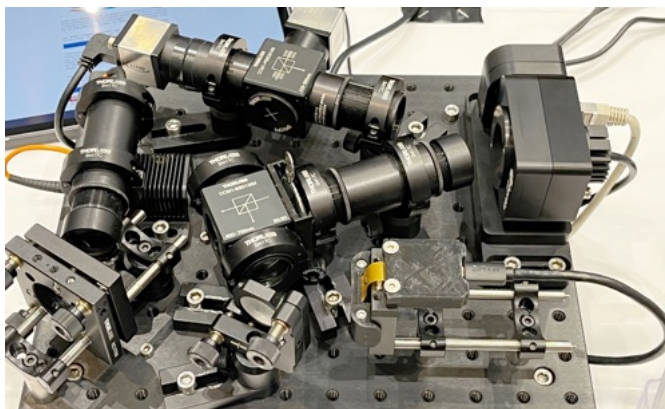
(above). While I worked on the repair group of Hubble Space Telescope at JPL, these bearings were utilized in Wide Field/Planetary instrument's pick off mirror to allow centration of its new corrective optics to cancel out HST's aberration.



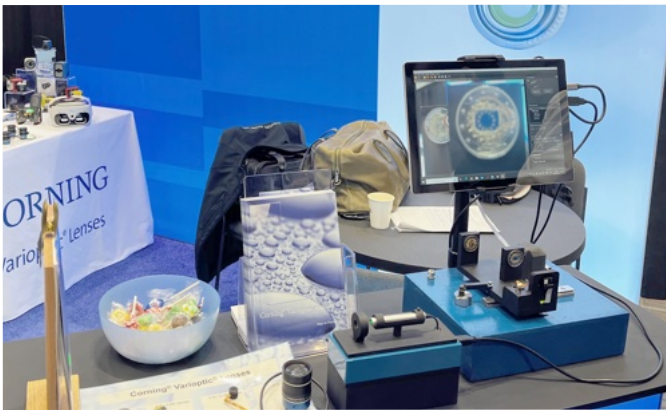
3. Holoeye provides SLM devices for various optics applications such as pattern recognition, etc. Each high resolution SLM is driven by a flex cable, and driver box (right). The signal is fed to SLM by a computer via USB cabling.



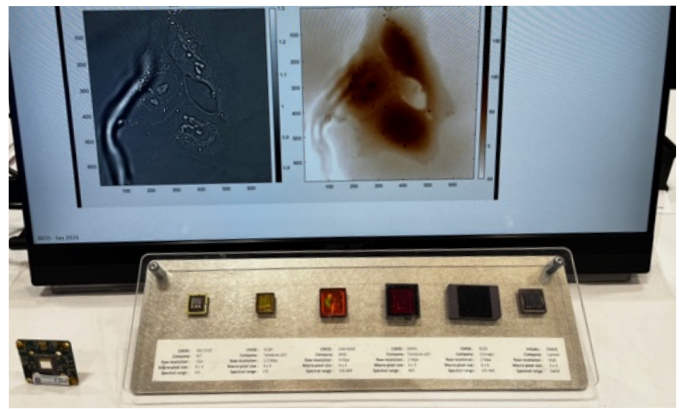
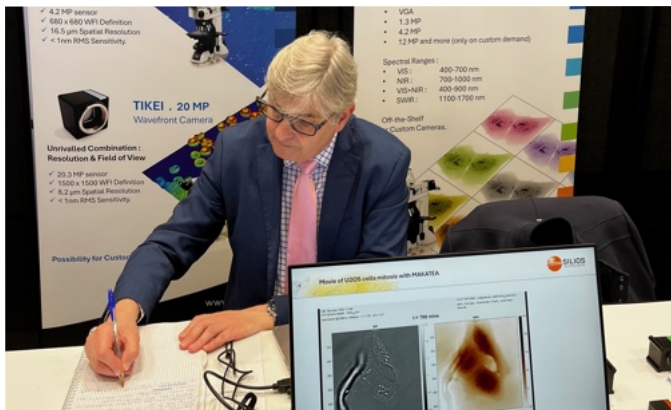
4. Thorlabs' multi spectral LED lamp source (left), and controller (right).



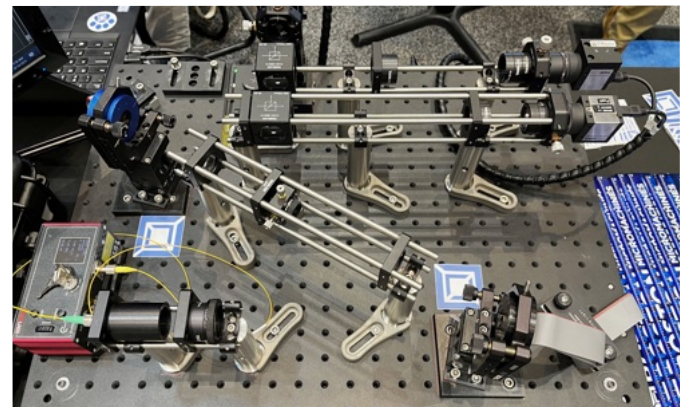
5. Axiom deformable mirror setup with two Shack-Hartman sensors, and accompanied software. The 97 membrane deformable mirror has a response rate of 100 KHZ.



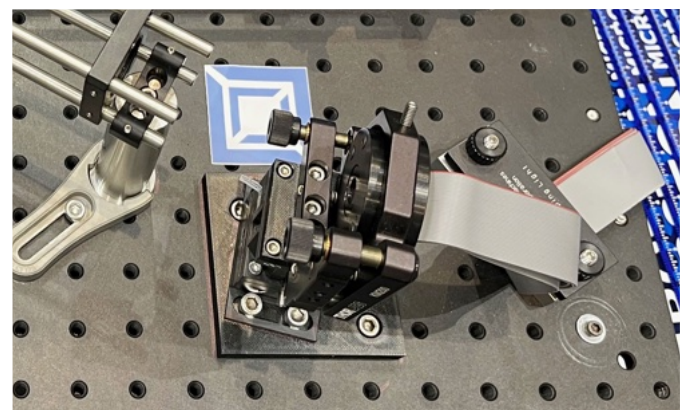
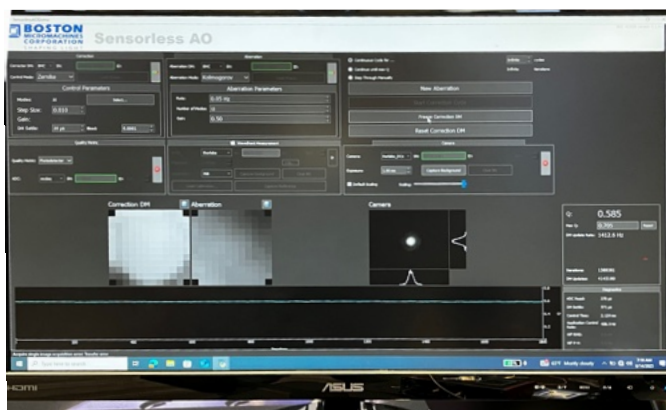
6. Corning Varioptic liquid lenses on display at their booth. Depending on the voltage applied, the lens could be divergent, flat or convergent. It's called electrovetting, and each lens acts as a capacitor. Visible transmission is near 100%. Corning offers both as single element, and imaging lenses.

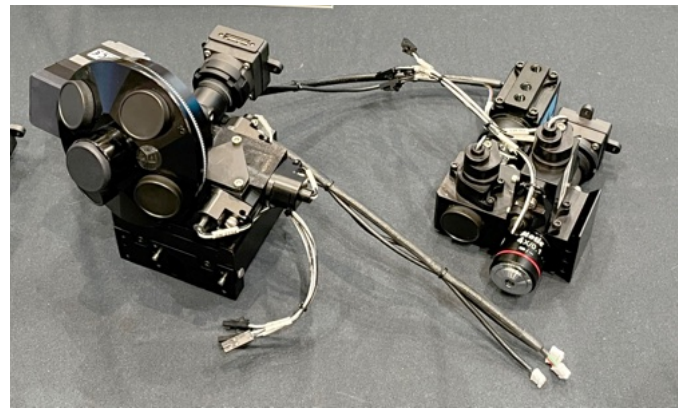
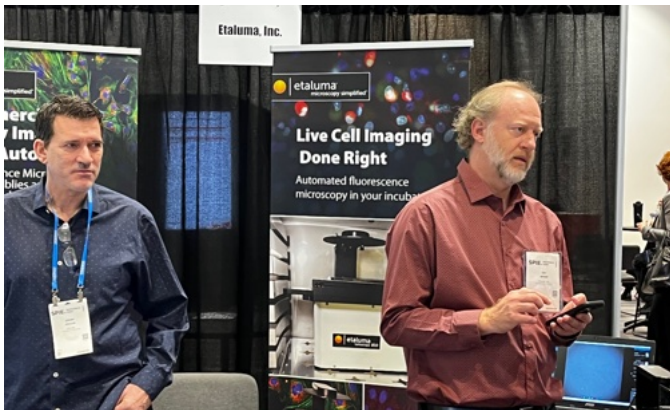


7. Silios wavefront sensors (right) for biomedical applications, as well as multi spectral cameras for cell tissue biology, astronomy. On display was ultra-compact VIS/NIR high resolution wavefront imagers.

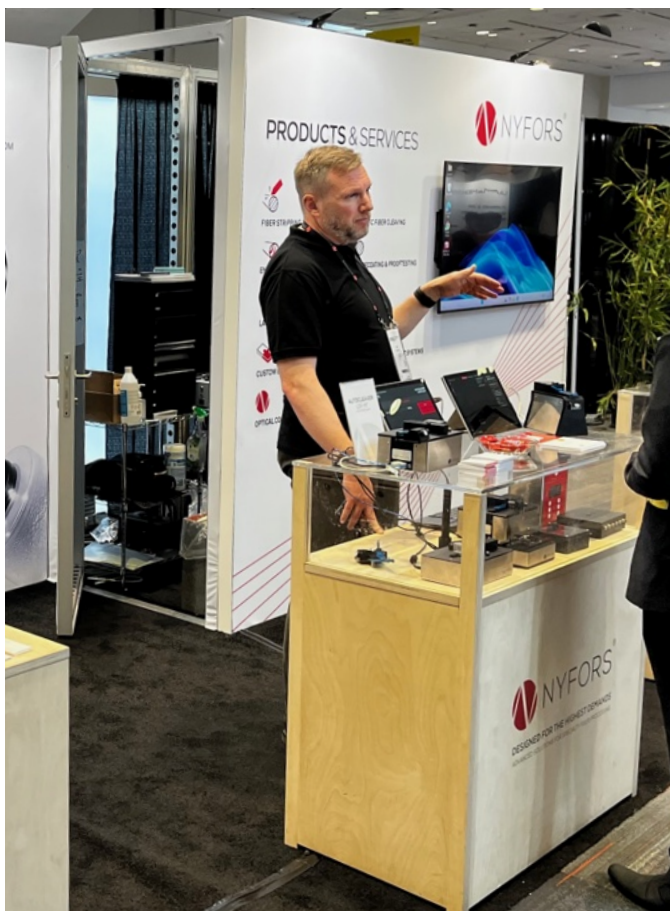
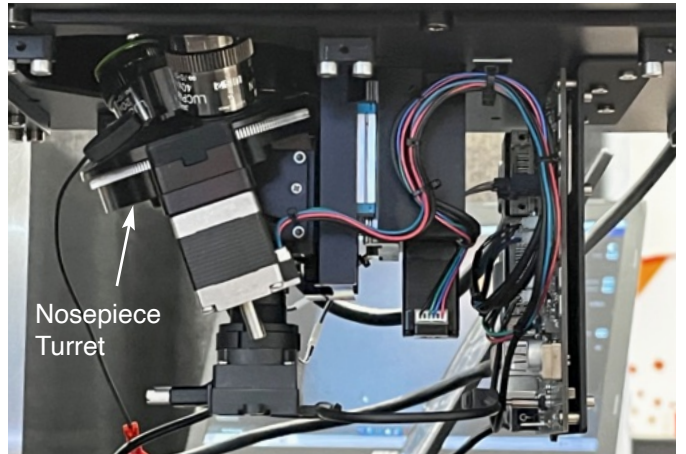
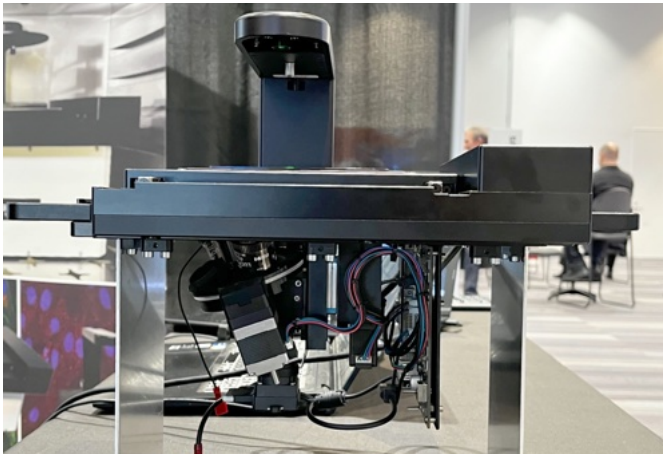


8. Boston Photonics displayed their Hex class deformable mirrors at their booth. The mirrors have segmented surface with 3 actuators behind each mirror. Sub-nm average step size, segment size 750 μm , utilizing electrostatic actuators.





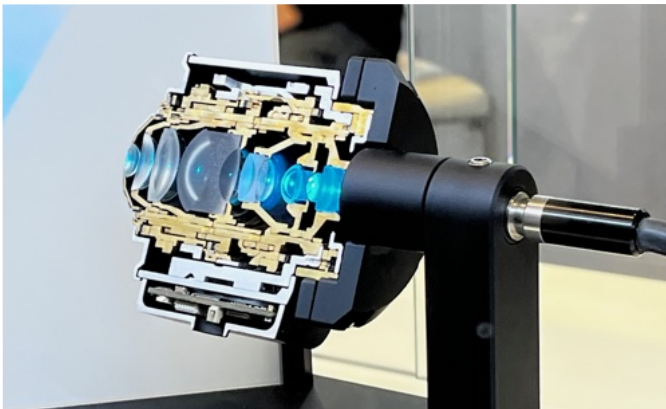
9. Etaluma has been offering modular microscopy modules (right). An internal side view of their inverted fluorescent microscope, and a close up view of the motorized turret/electronics board (below).



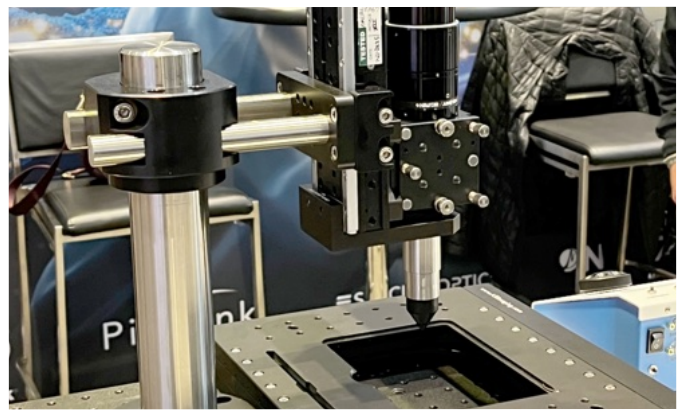
11. Nyfors displayed this fiber processing (Cleaving, linear splicing, end capping, inspection, etc.) system. The enclosure is ideal for cage system/Optoform instrument. Nyfors displayed this fiber processing (Cleaving, linear splicing, end



Fiber end inspection interferometer (Cleavemeter) for checking end surfaces of polished/cleaved fibers. The fiber end is simply clamped by a spring levered chuck, magnified by internal optics, and video camera.



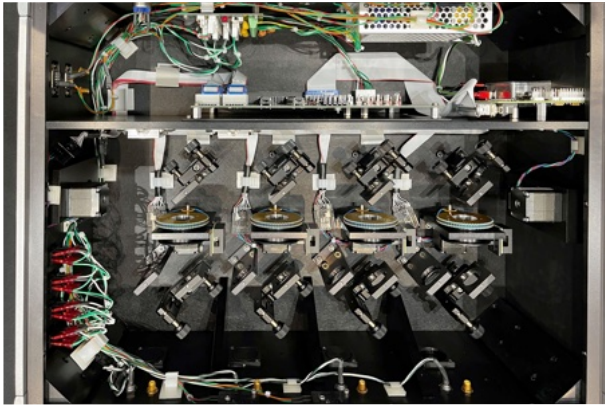
12. This biomedical imaging lens Zeiss was so beautifully sectioned, it made the cover of current issue of Optomechanix. On the right is a multispectral LED light source, and the close up picture of the left is a motorized microscope objective



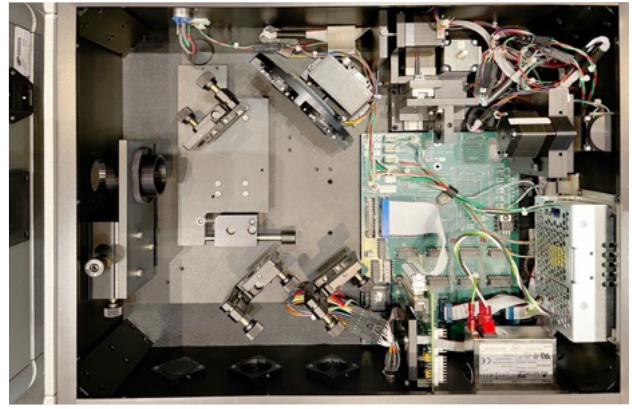
13. Zygo / Special Optics offers custom optics, high NA microscope objectives for optical lattices and tweezers. This very rigid microscope stand, (right) and large travel motorized sample stage grabbed my eyes at their booth.



14. Photoniccleaning offers this chemical when paint sprayed on an optical surface, it dries to provide a protection coating, and it acts as a cleaning agent when peeled off.



+



15. ISS offers time-resolved laser scanning confocal microscopes for live cell biology. This modular design allows several configurations for research, and biomedical instrumentation. Attaches externally to inverted microscopes (below, left).

ISS
focus and discover

ISS develops innovative product solutions for powerful outcomes in fluorescence technologies

Spectroscopy

- Excitation / Emission Spectra
- Polarization / Anisotropy
- Time Resolved Emission Spectra
- Plate Reader / High Throughput
- Kinetics / High Pressure Cell

Microscopy

- FLIM / Phasor Analysis
- Pulsed SPLIT-STEED
- FFS / Scan FFS / N&B
- FRET / PIE-smFRET
- Single Molecule Imaging

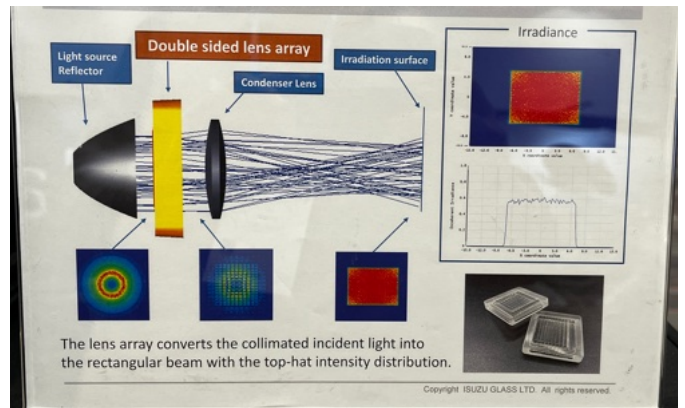
ChronosDFD
Digital Frequency Domain Spectrofluorimeter

Q2
Modular Confocal Microscope for FLIM and FFS

Alba v5



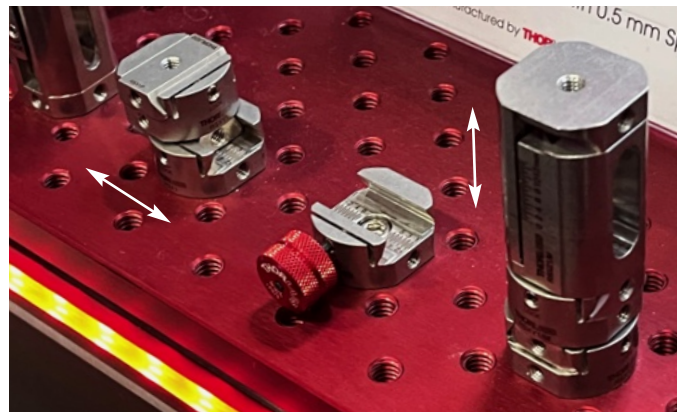
16. Power Technology offers He-Ne power supplies



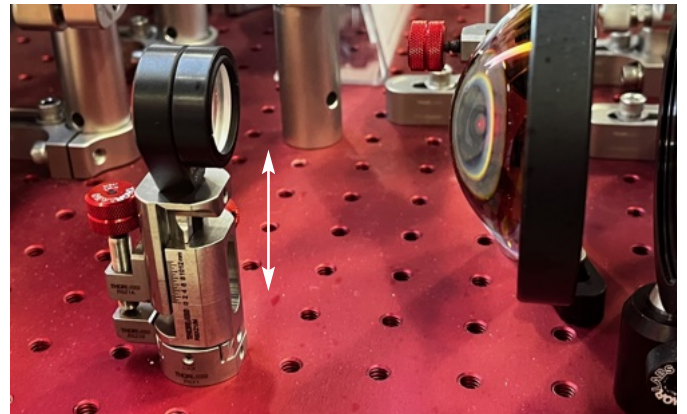
17. Isuzu glass company (Osaka Japan), makes these highly efficient diffusers that provide high transmission with uniform flat-field lighting at the object plane, i.e., projection LCD's or other critical illumination applications.



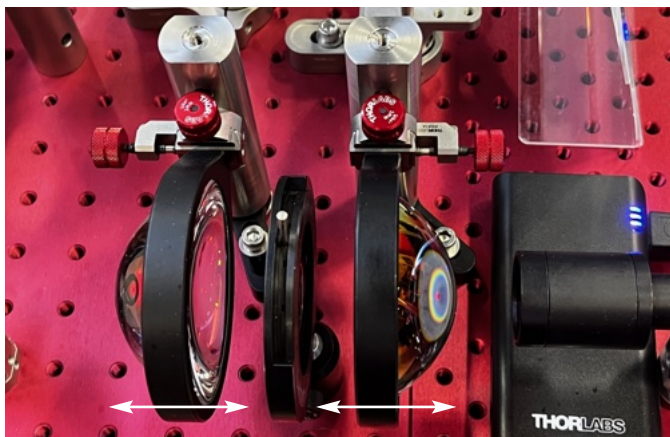
35. Rubberized optics by Asahi Rubber Company of Japan. It is utilized in Olympus CX-21 microscopes (see optomex24 issue, page 25 for more).



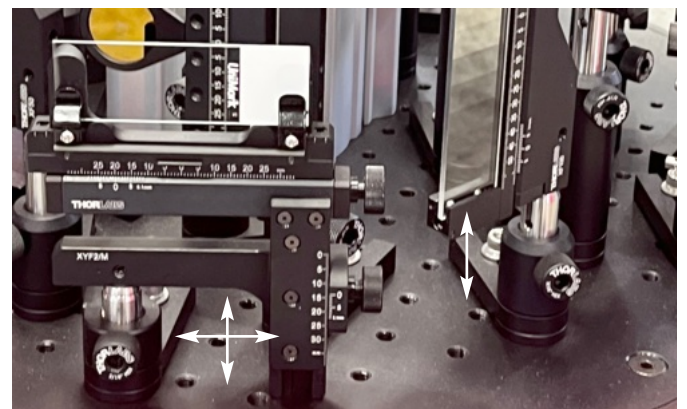
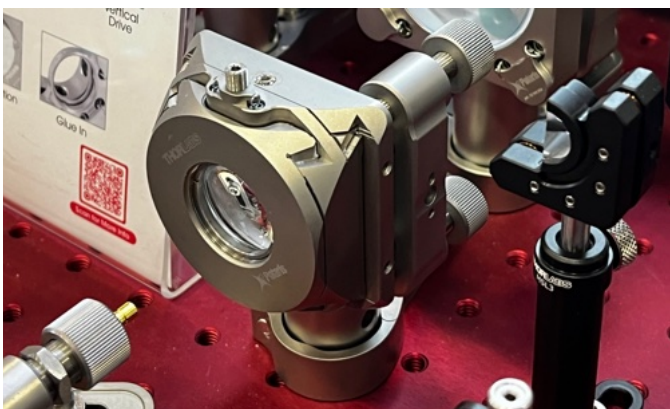
18. Thorlabs introduces these miniature Stainless Steel dovetail mounts that would attach to the base of ordinary post mounts to allow X-Y and even Z positioning (above right). A removable hex driver key would lock them into place.



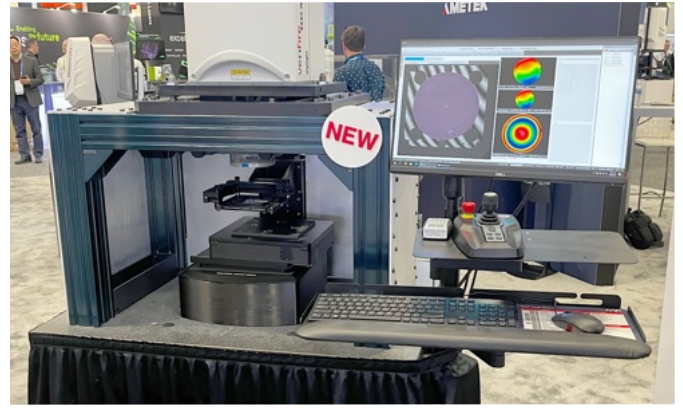
A lock screw rides inside a groove (left) that permits a limited travel without allowing it to come off. The spring-loaded tip of the screw would create a smooth sliding affect. It can also accept a positioning screw for fine vertical adjustment.



Fine positioning version may be utilized for focusing elements as well (left). Detail view of stage is shown above, right.



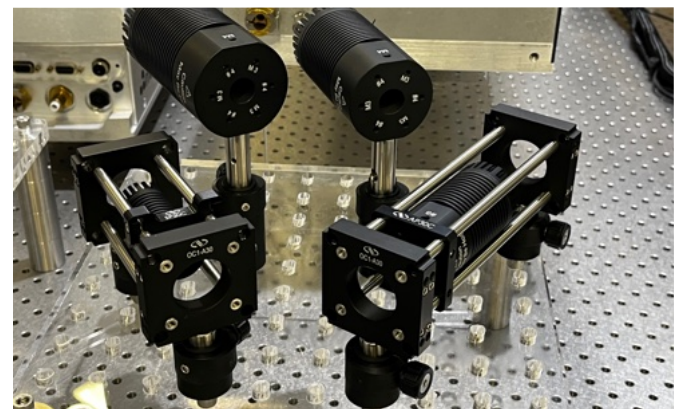
The same dovetail idea is applied to these centering mounts that are added to tilt stages. Another nice addition is these graduated microscope slide mounts that are offered for both horizontal, and vertical positioning (right).



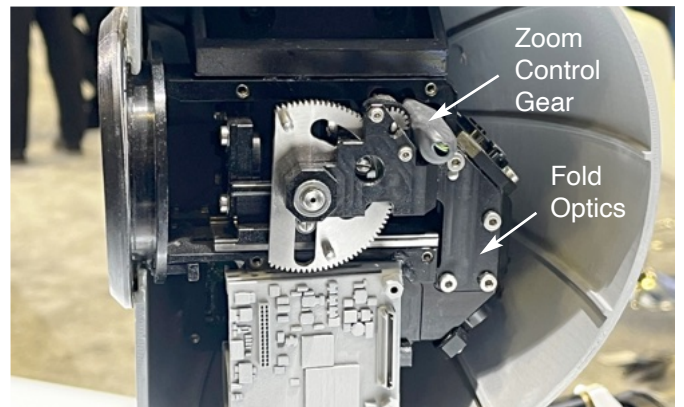
19. MKS's booth displayed several products such as this down-looking surface profilometer workstation (right). Their Oriel monochromator (below, left) utilizes several light sources: An integrating sphere (on the right), an arc lamp with



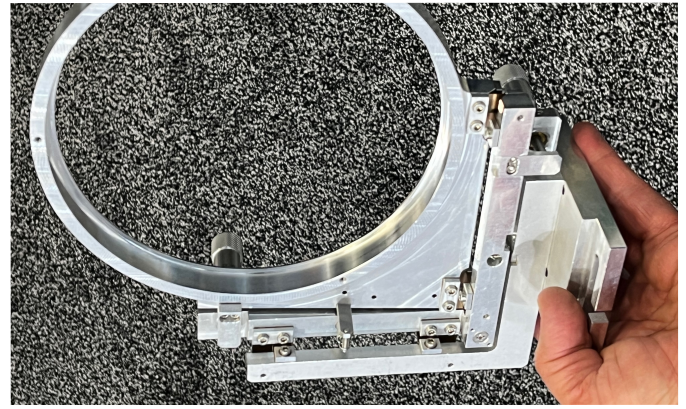
filter wheel (on the left). The power supplies are placed below the mounting plate with support legs, and carrying handles. The power meter is new according to their now subsidiary, Newport. There is a spaghetti of cables that are hidden behind



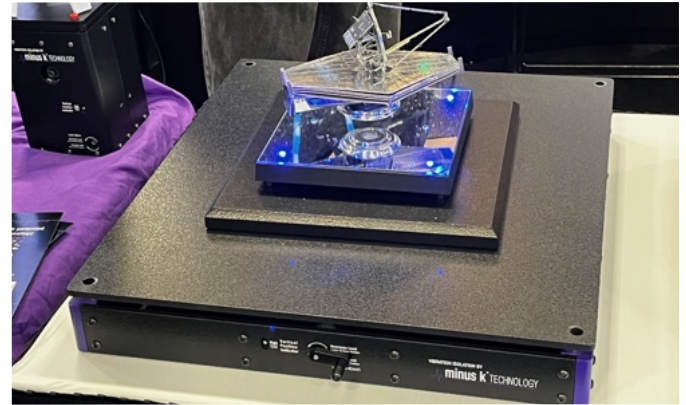
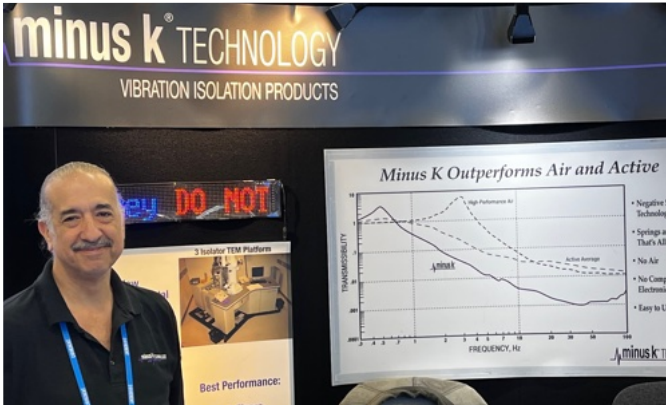
a workstation when this system is delivered. There was a small display of their cage system (right). Various zoom lenses for IR sensors, housed in spherical shells for reconnaissance applications. Edmund optics displayed full size military



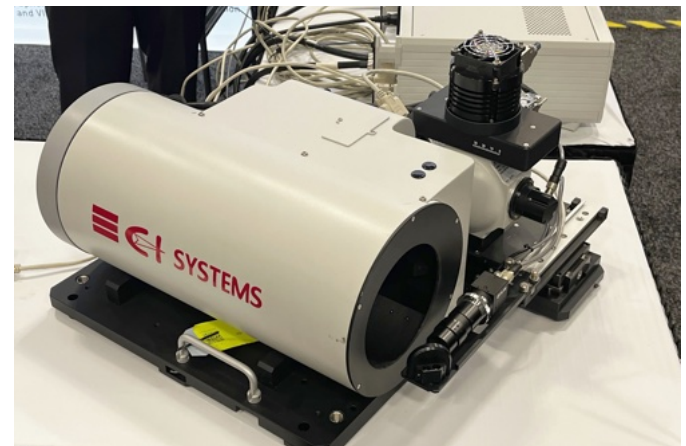
drones with domed optics. I would rather devote my talent to biomedical, microscopy, and astronomical applications. But just to show you how they fit the zoom lens, and image sensor inside the domes, they fold the light path (above, right).



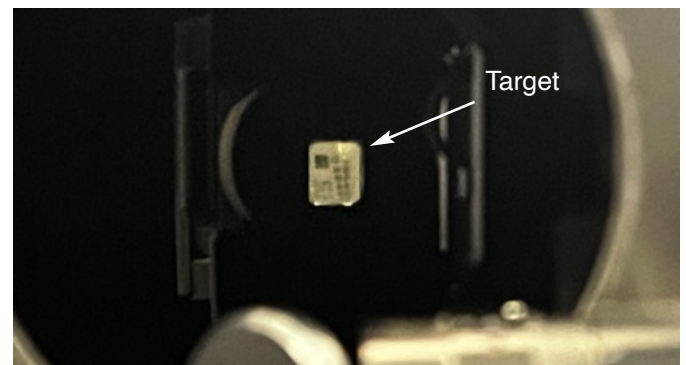
20. Standa has been expanding their line in optomechanics. This Lithuanian company has now offices around the world, with their biggest market being the US, then China, Germany, and other European countries. Right, new 6" Tilt mount.



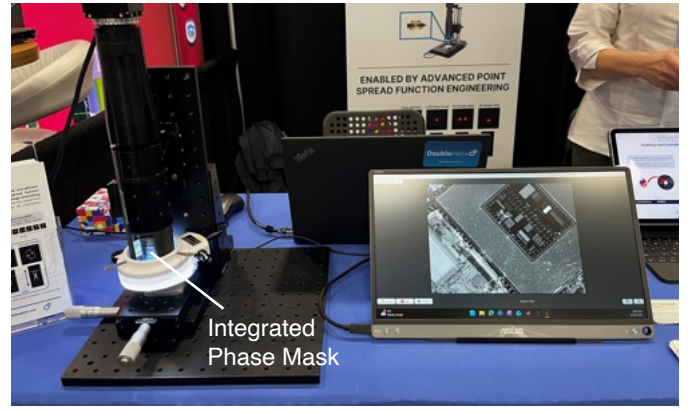
21. Minus K technology offers compact non-active anti vibration tables that could handle heavy loads. They had a shaker that shook their entire table with wine glass on one of these platforms that showed no sign of vibration.



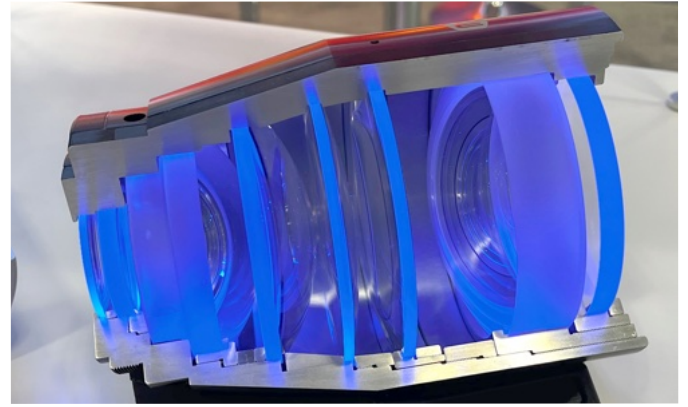
22. CI systems displayed this autocollimator/infinity target utilizing folded optics to create this compact design. It incorporates an off-axis parabola. Off-axis parabolas are very expensive to make because they are first fabricated as a whole



mirror, then a small mirror is cut out off from their side to maintain a high surface accuracy. The illumination source consists of an integrating sphere & filter wheel. The image sensor is positioned in front of the unit utilizing a pick off mirror.



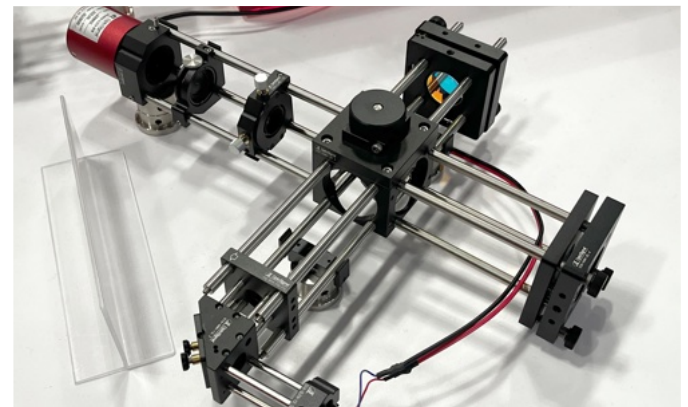
23. Double Helix offers phase mask solutions. Their software instantaneously captures images with the entire volume in focus. Their phase mask may be mounted what they call a “spindle”, that can be integrated inside objectives, etc.



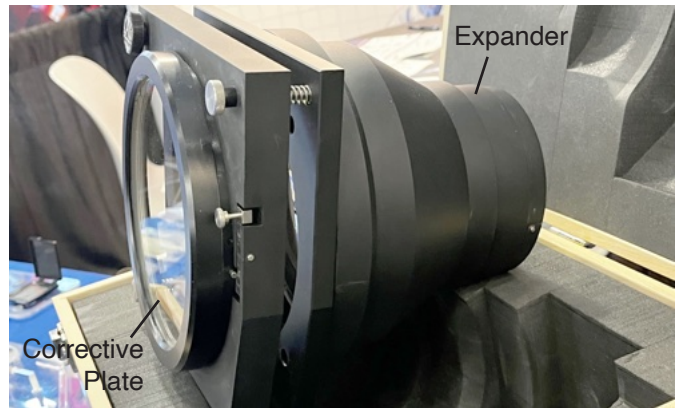
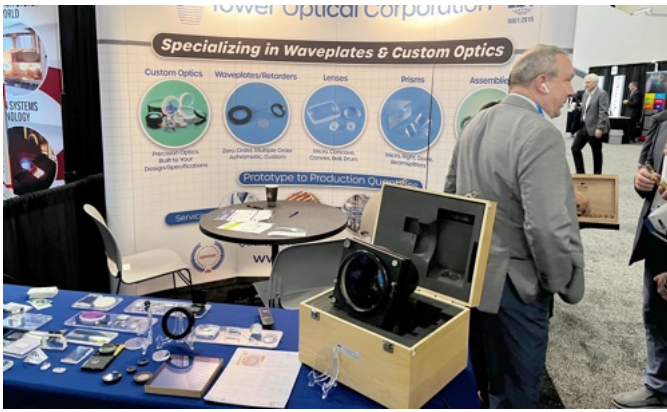
24. This eye catching lens display at MeOpta booth, maker of high precision optical solutions (Zech Republic) could not be passed by without notice. These lens assemblies owe much of their making to the tool room lathe.



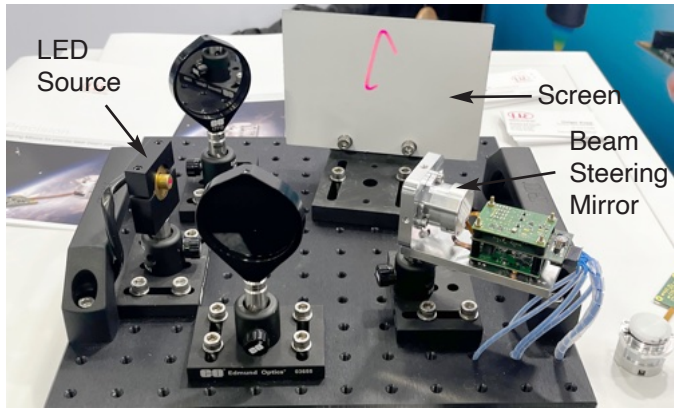
25. These beautiful CNC work by Honvision (right) is a disassembled night vision unit that fits together as if it's injection molded plastics. The anodized finish was so soft, it felt like rubber coated metal. The Chinese have come a long way.



26. OptoSigma introduced their 3-rod cage system 10 years ago just to look different. They now nothing more than a Thorlabs copy. Innovation in offering these mounts takes a strong mechanics design group which is currently dominated by Thorlabs.



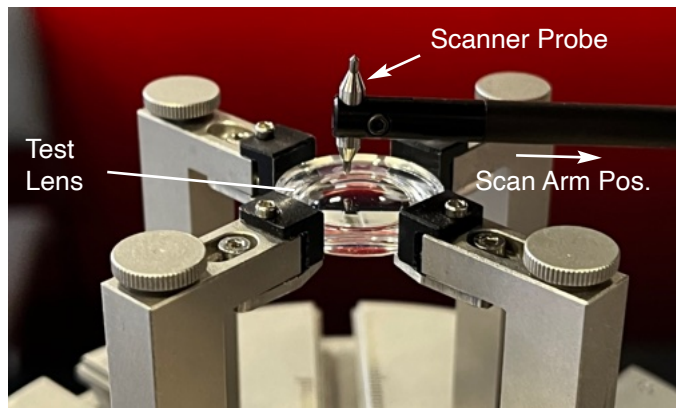
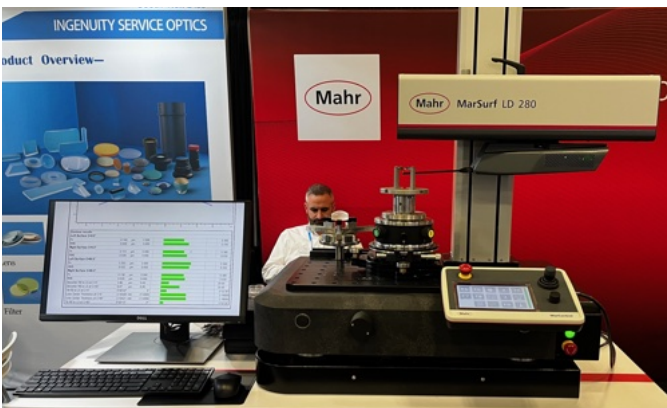
27. Tower Optical, the maker of these 2x beam expanders (right), incorporates a 2-element design (4" Plano Concave, and a 6" Plano Convex front lens), then mounts a corrective plate on the front to achieve 1/20 wave flatness for ~\$18K.



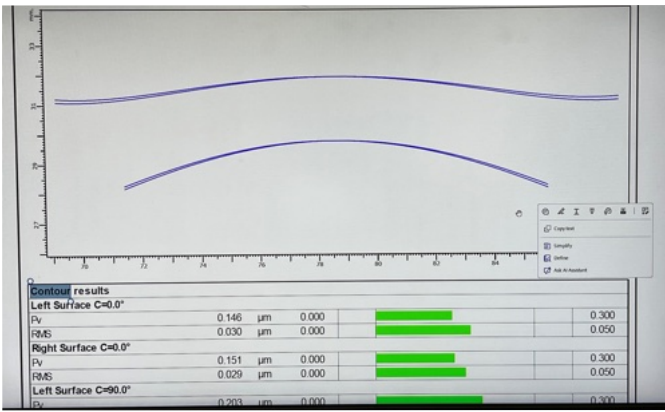
28. Optocraft Wavefront Technology, had a laser beam steering display utilizing their fast-scanning mirror (FSM). They manufacture industrial grade Shack-Hartman sensors.



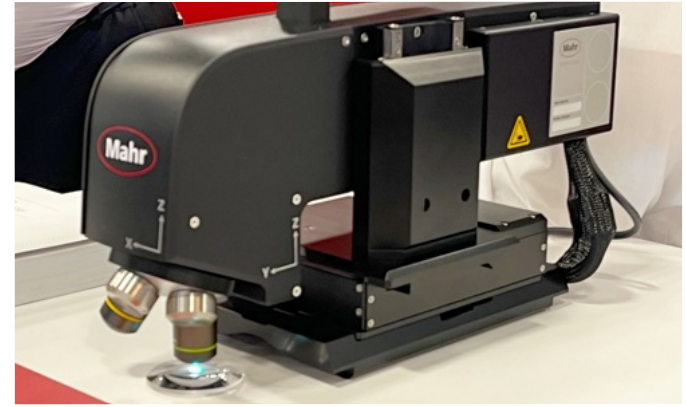
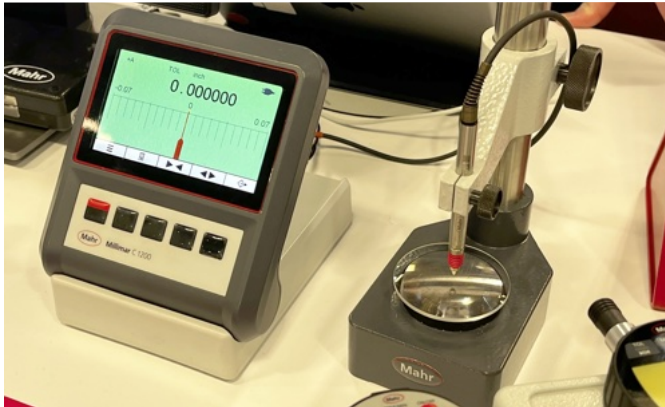
29. High Resolution (HR) company displayed microscopes of their making (right). Most chinese companies producing microscopes for major brands display their production models at shows to show their manufacturing capability.



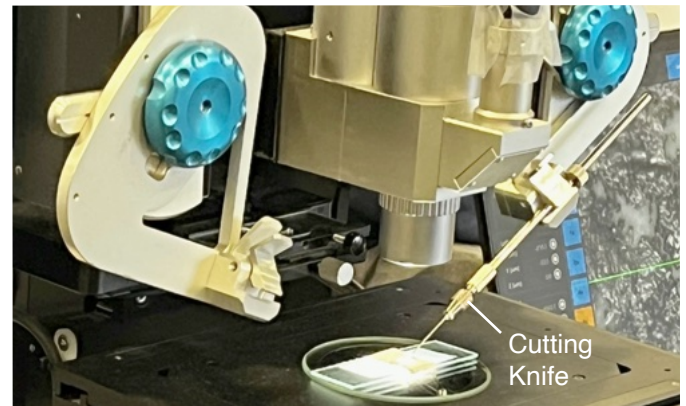
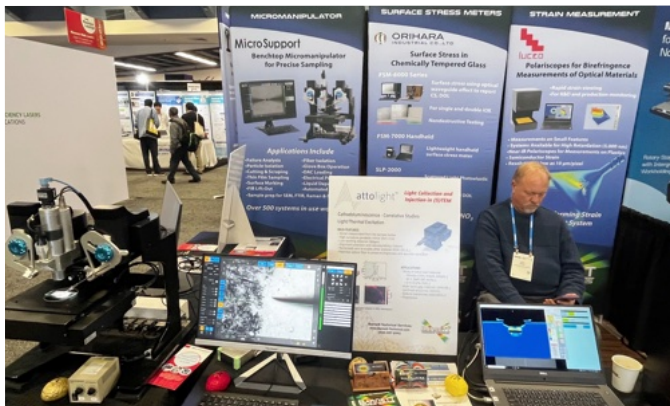
30-31. Mahr is a German based company offering precision measurement tools, and inspection tools. Their lens surface profiler (above) scans the lens surface held on a self-centering chuck (right), and displays its measurements on computer



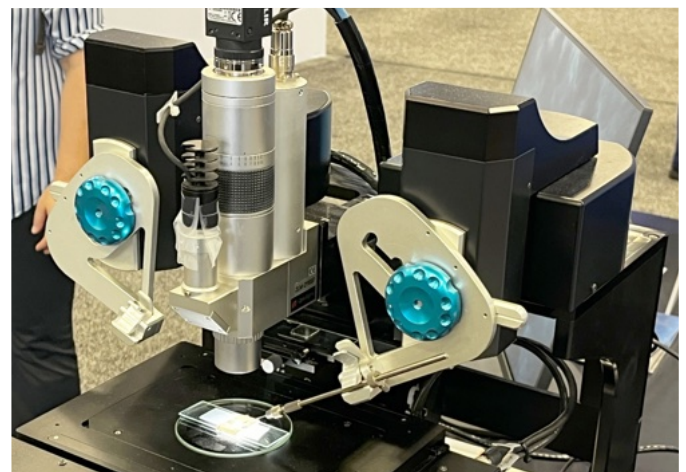
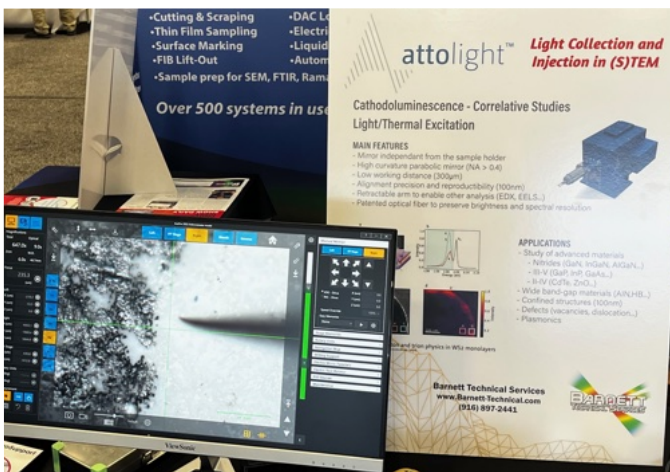
screen (above). They offer a line of cordless micrometers, and calipers (right) that eliminates the ordinary SPC cabling. For decades German industry has been training their precision mechanics workers in their step program. The design of



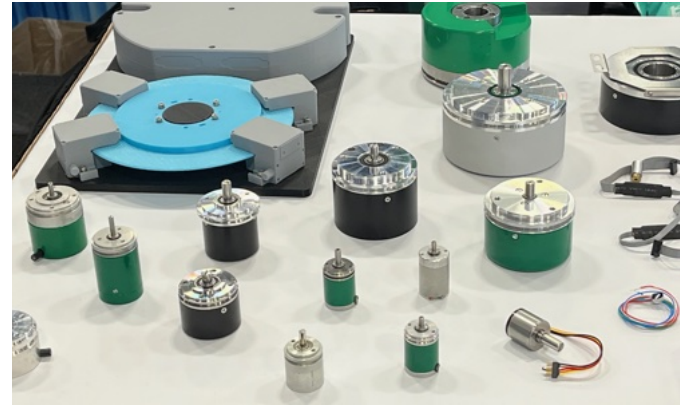
these instruments is a direct result of those schools. The Japanese don't come near in the look, and quality of these instruments. Right, a self-contained portable confocal microscope. Also see trioptics instruments (No.59) on page 25.



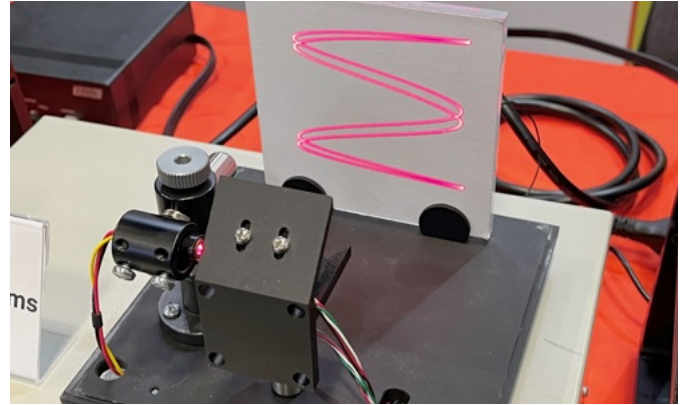
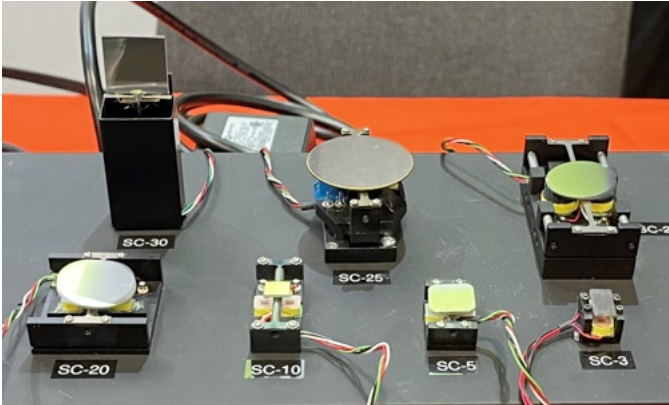
32. Barnett Technical offers a probe station capable motorized of positioning two probes for applications like micro cutting with a surgical knife, or even micro positioning optical fibers to interface with silicon photonics. Positioning accuracy=1μ.



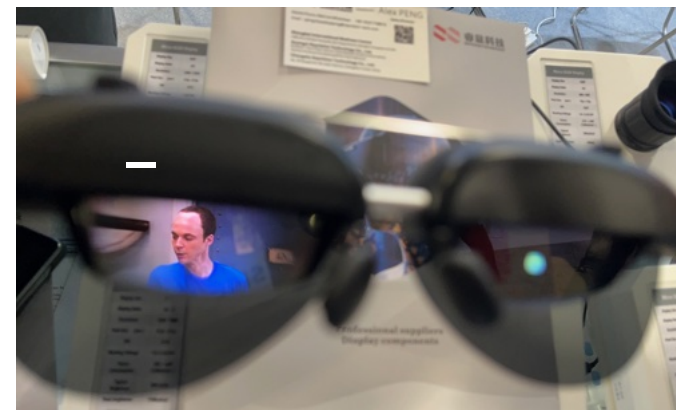
Above, video image of the micro cutter



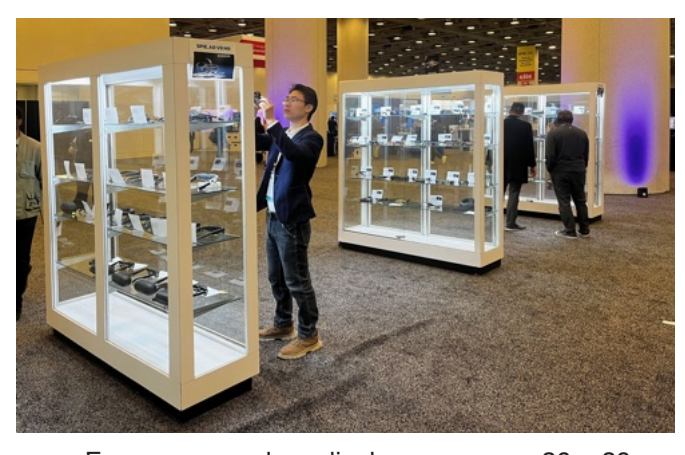
33. Gurly Precision Industries (GPI) offers these precision sealed encoders that may be incorporated in optomechanics instrumentation.



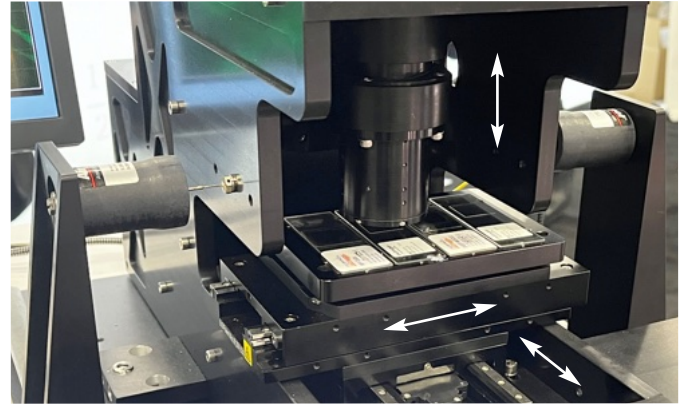
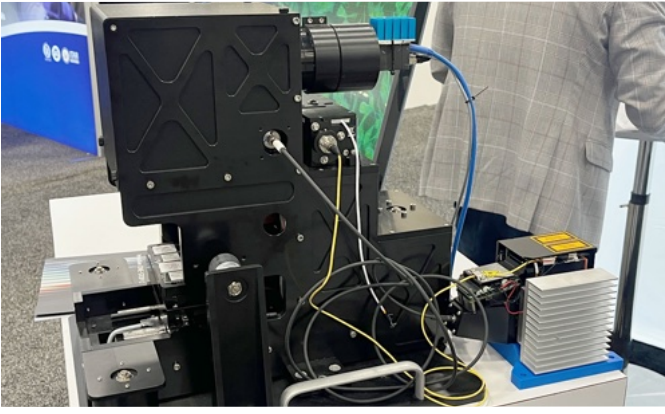
34. Electro optical products co (Eopc) produces resonating mirrors or shutters for optical applications. Right, the output beam of a laser diode is reflected off of one of these mirrors. The beam is scanned both X, and Y directions on screen.



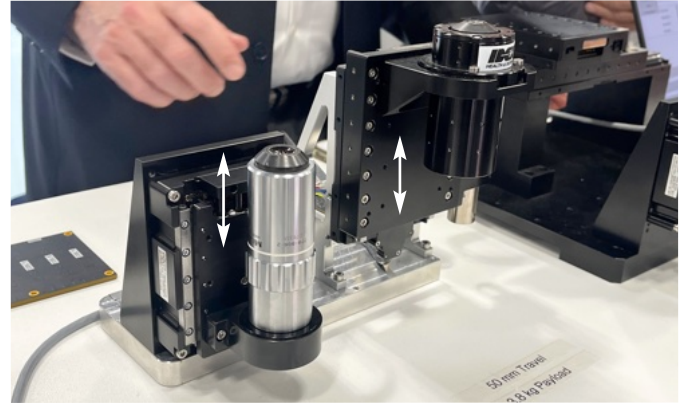
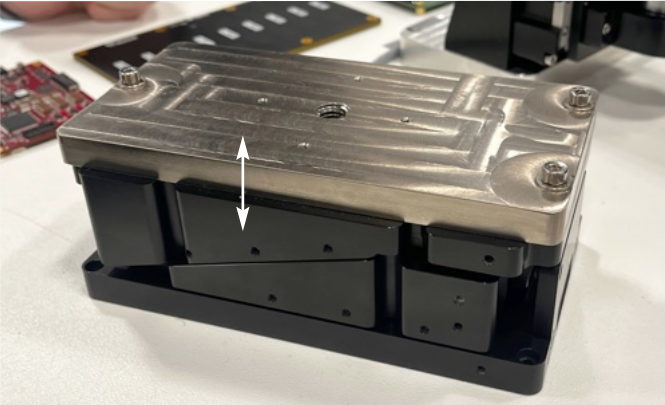
36. Rear projection eyeglasses by Rayvision Technology projects a high-resolution image above its field of view (right) at a 3m distance. See the vision section for a full range of these display glasses.



For more eye glass displays see page 26 ~ 29



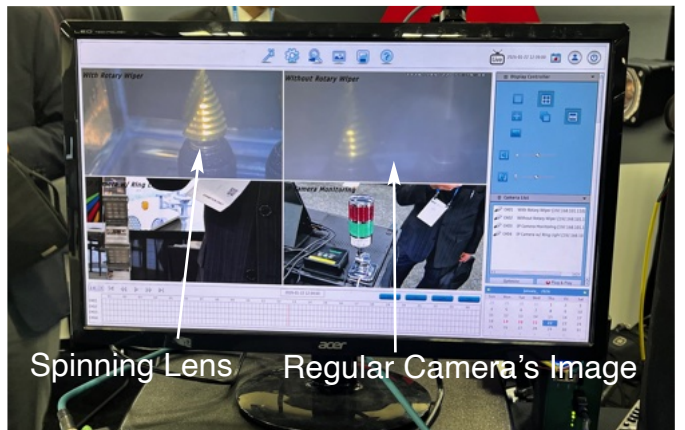
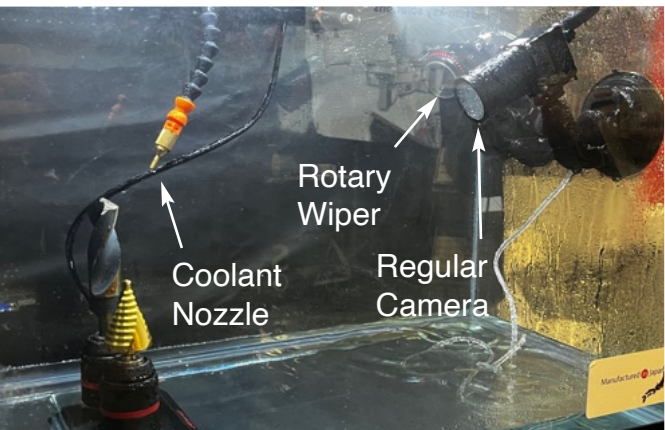
37. Dover Motion offers precision stages, a microscope objective focuser (below, right), X-Y stage (above for slide positioning), and a precision lift stage (below, left) all with direct drive linear motors.



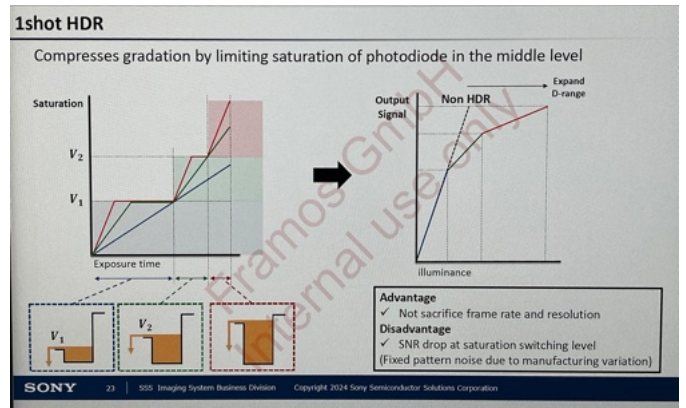
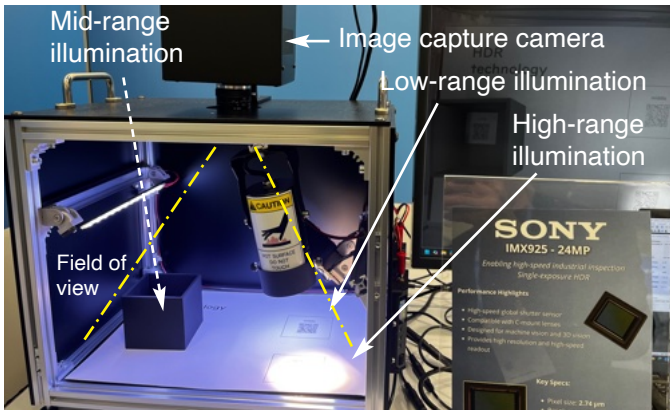
Zeiss opto-mechanical design combines solid diecast Aluminium housing with white powder coated finish and blue Zeiss logo. How Zeiss achieves alignment between these modular parts is pure mastery in optical engineering.



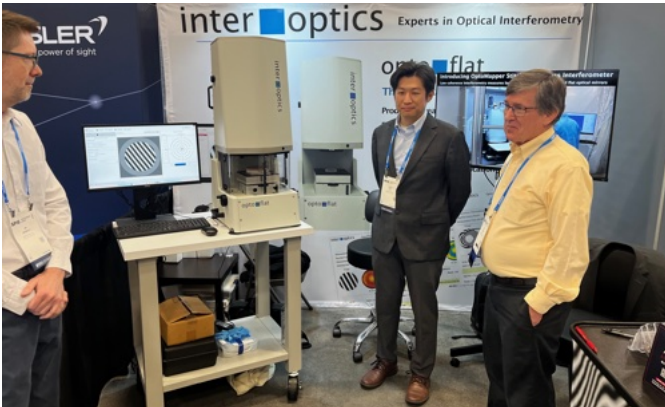
38. Cowa, the Japanese lens manufacturer displayed their harsh environment imaging lenses. The water proof lenses can be installed inside CNC machines (above) to show live view of the machining operation. A spinning front lens element



called "rotary wiper" (above) clears the view during machining operation.



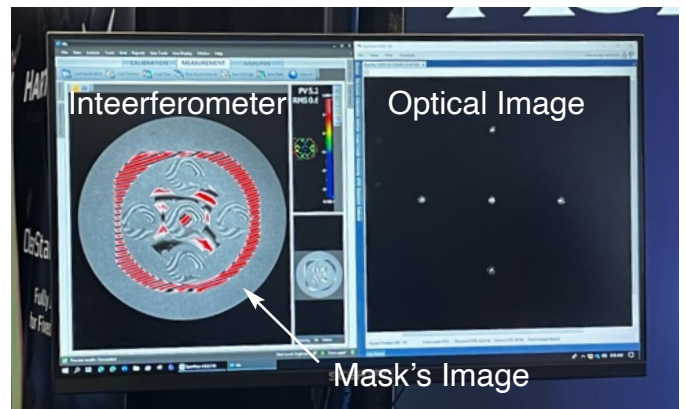
39. Sony IMX925 captures three images at a single shot by a sensor to record three light gathering levels at pixel level; It reads off each pixel (light buckets) at super high speed as they are being filled with electrons (above, right).



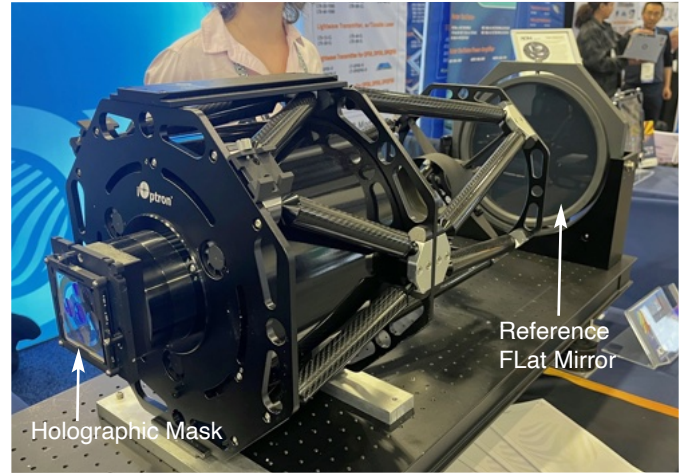
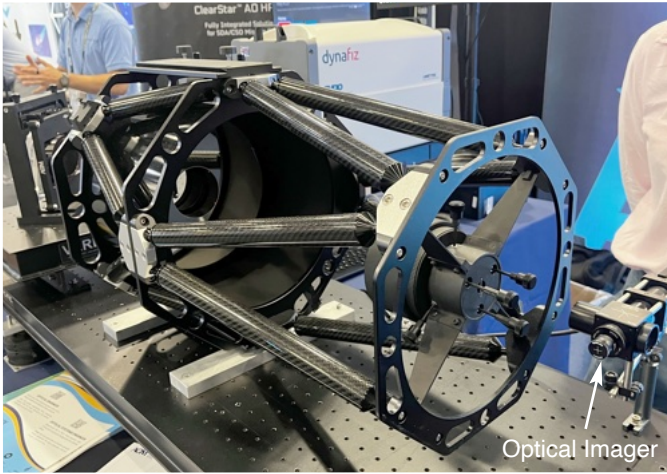
40. This downlooking interferometer by InterOptics measures surface flatness of plane optics. The fully enclosed housing effectively eliminates the effects of air turbulence.



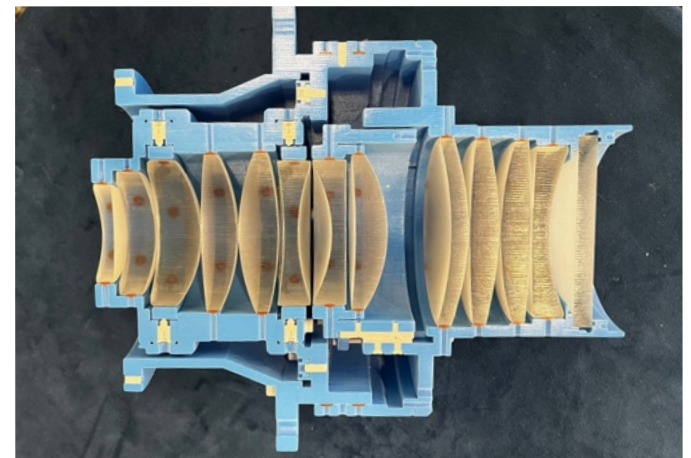
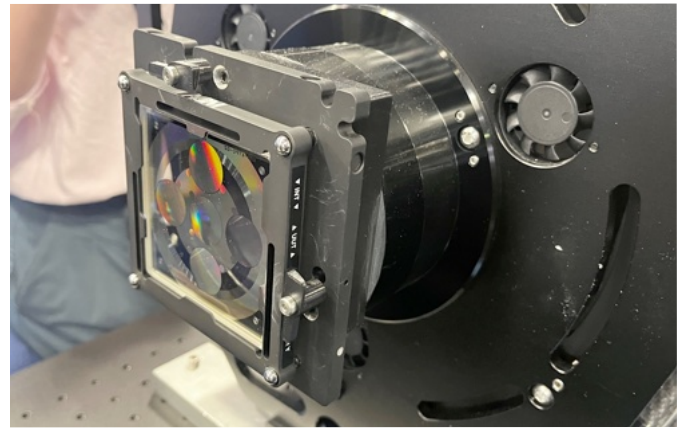
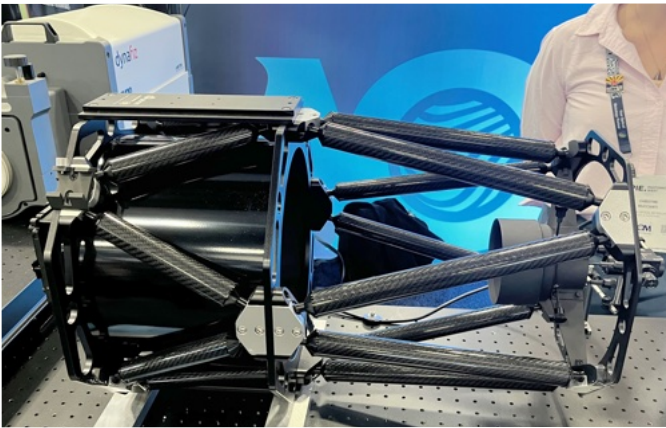
41. Wide angle lens display made by Optical Support Inc. There is a nice story behind this imaging lens. It was specially designed for the capture camera to be displayed 360 degree projection theater in Las Vegas.



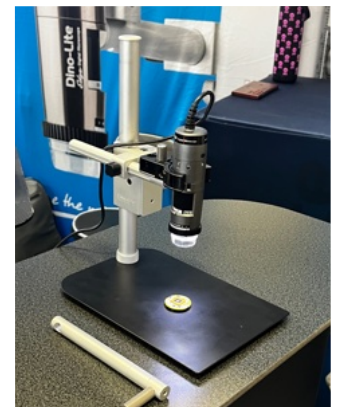
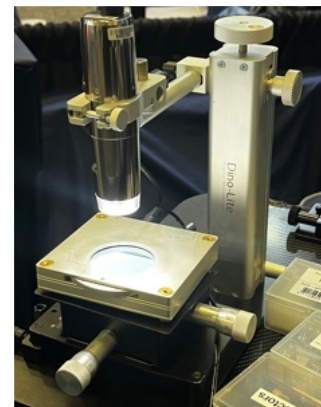
42. Arizona Optical Metrology offers a holographic mask for critical alignment of telescope's primary, and secondary mirror through interferometry. The system utilizes a Zygo interferometer, alignment mask, and accompanying software.



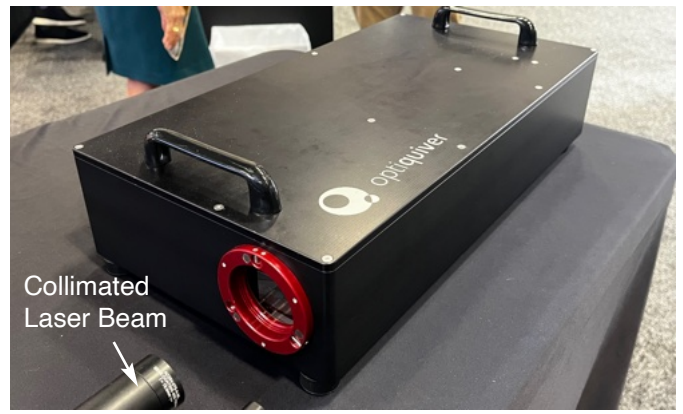
The secondary optics is first coarse aligned through the optical imager, then it is tweaked for interferometric alignment.



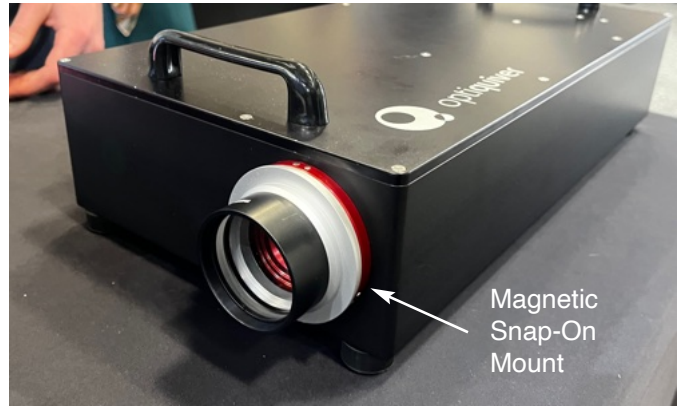
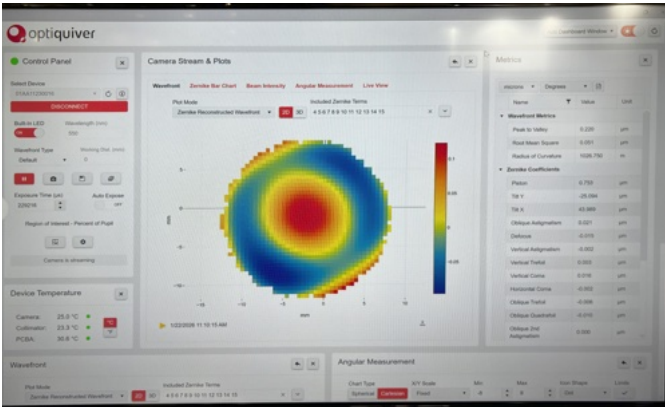
43. This beautiful cross section imaging lens was displayed at Ruda Optical company's R&D group.



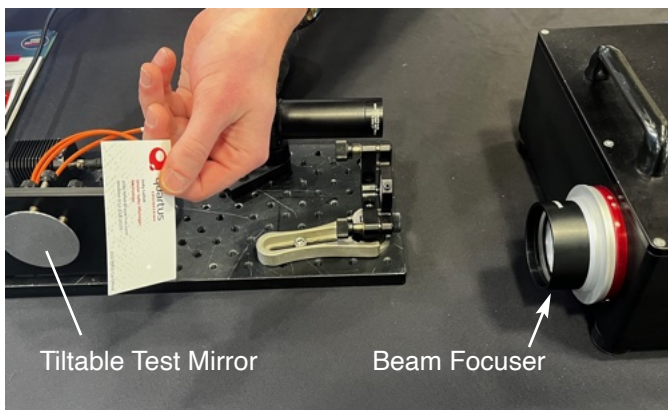
44. Dino-lite offers these modular stands, and accessories to build your own custom digital microscope setups. The compact stands allow precise X-Y-Z alignment of the digital camera, for image focus, and object centering at high mag.



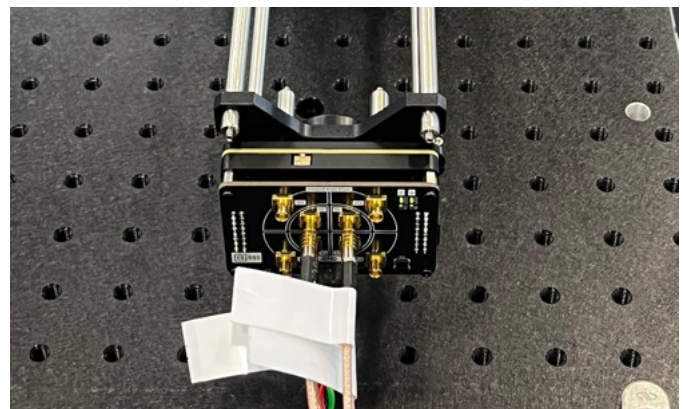
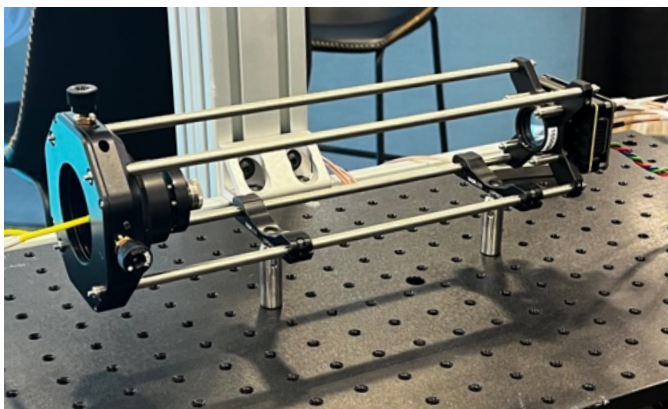
45. With worldwide reputation of Zygo interferometer, other manufacturers are coming out with their own lower cost interferometers. Optiquiver offers a compact/versatile unit capable of measuring the wavefront flatness of an incoming



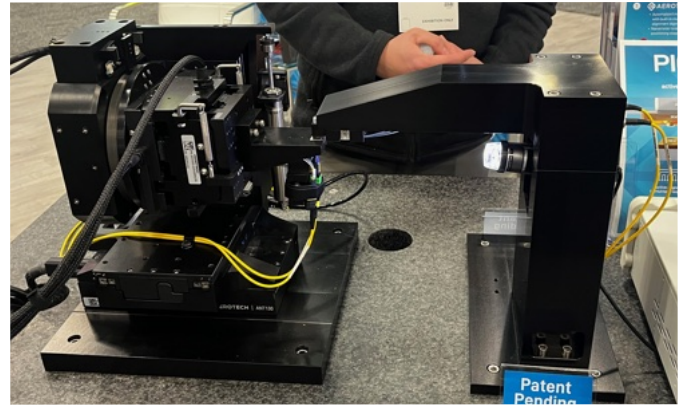
beam (above), as well as measuring mirror surface profiles utilizing its internal laser source (below). Instead of more expensive bayonet front plates, this instrument utilizes snap-on magnetic scheme (above, right) to switch between add-on



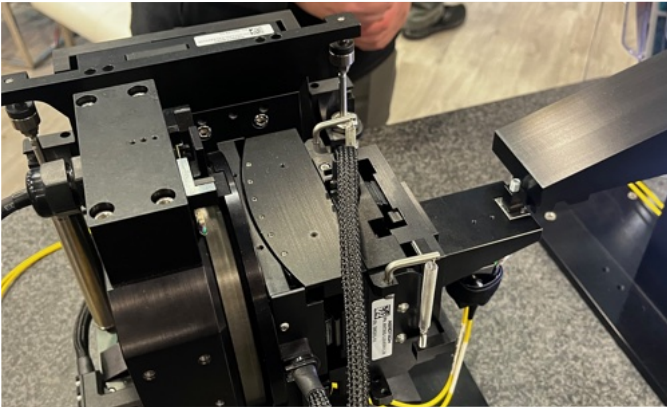
accessories. There also utilize beam divergers to focus the outgoing beam to a cone, then it spreads to cover cylindrical mirrors. There are several models with as small as 20 mm beam diameter and up.



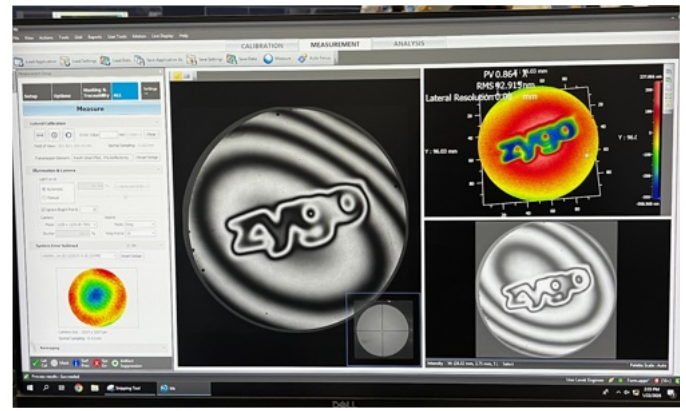
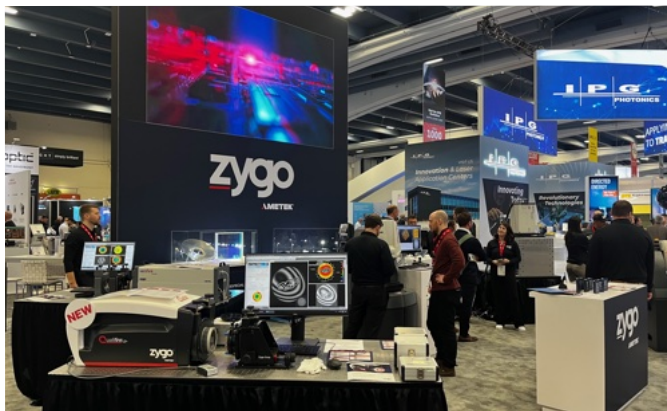
An example of the 40 mm standard cage system stepped up to a larger cage plate for illuminating a sensor board by a solid state laser source.



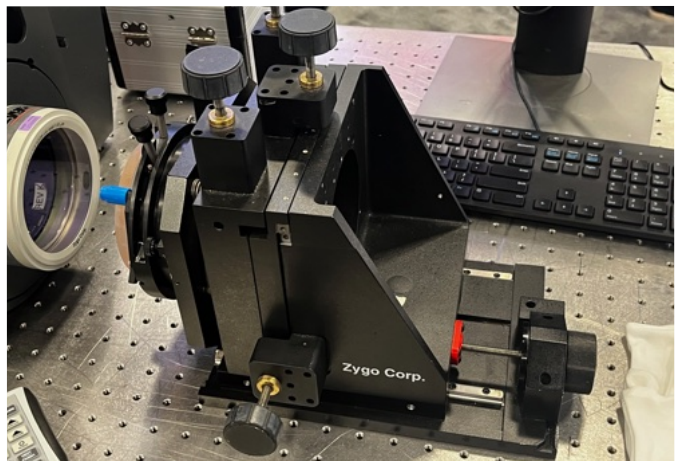
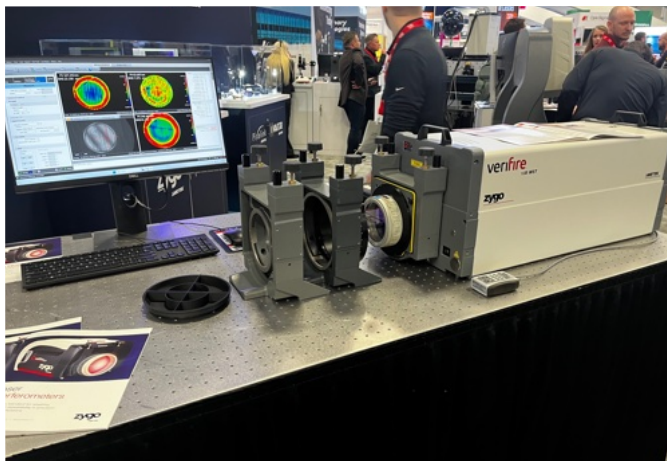
47. This silicon photonics setup at Aerotech booth is for aligning fibers with a photonics chip. The special patch cord consists of eight fibers that are aligned with an identical number of interface spots on the chip. The probe arm is held by



multi-axis X-Y-Z, and tilt stages (left) to automatically align the probe. The signal receiving fibers are fed into amplifiers (right) for maximizing the signal transfer to the chip.

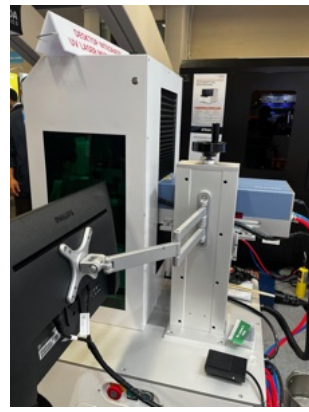


48. Zygo's new qualifier interferometer can be distinguished by its new ergonomic housing compared to its rectangular housing of its predecessor (below, left). Zygo's large bayonet type lens mount in front accepts various accessories.

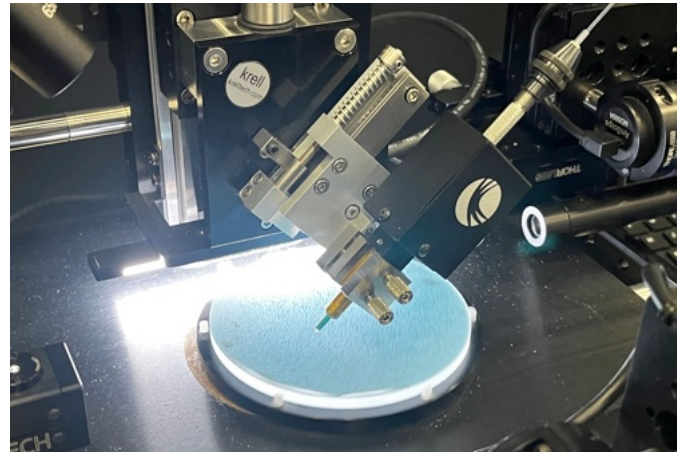
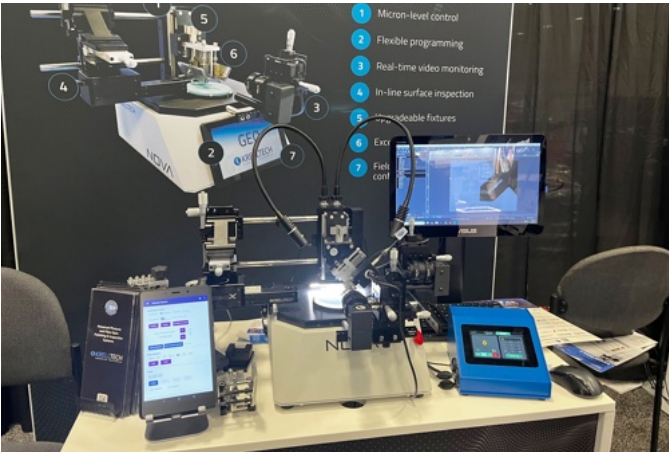


Verifire Model with 4" aperture.

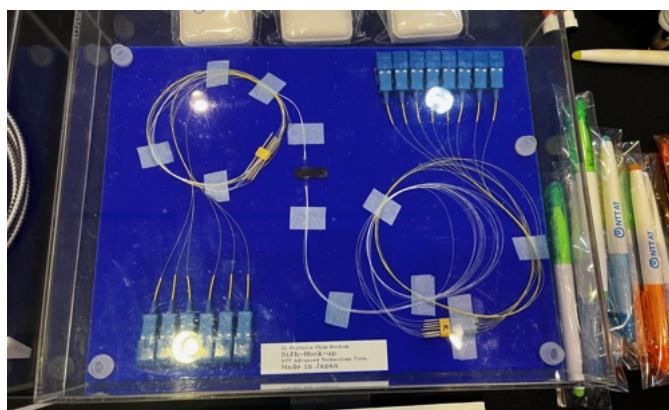
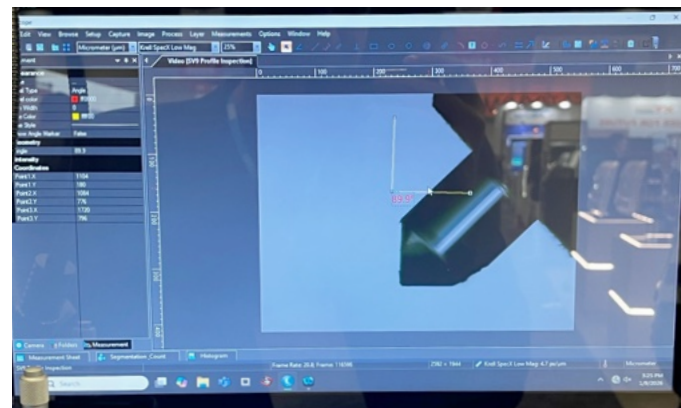
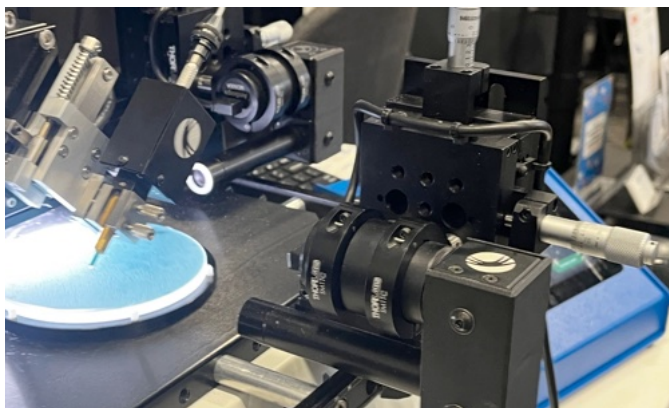
Optics holder is held by a large X-Y-tilt holder.



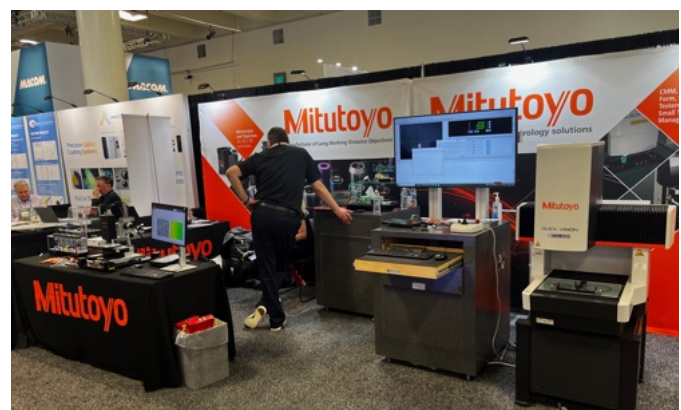
50. XT Laser's desktop enclosed UV laser marking machine with floor standing laser source. Side view of the machine shows height adjustment knob to accommodate various sample heights.



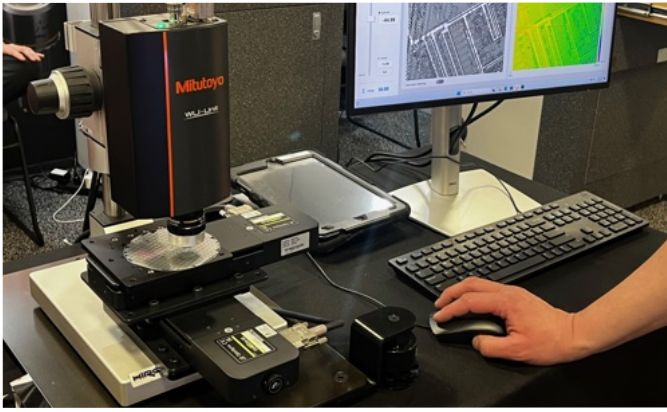
51. This bare fiber polishing machine by Nova at Krelltech booth, secures the fiber via a spinning chuck for its tip polishing against a polishing disc. The result is a cone-tipped fiber whose conic angle could be adjusted.



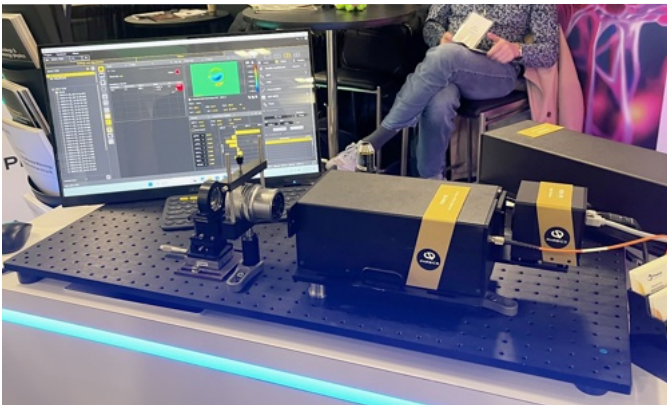
52. Silicon Photonics connector patch cords at NTT booth, Nishi-Shinjuku, Japan.



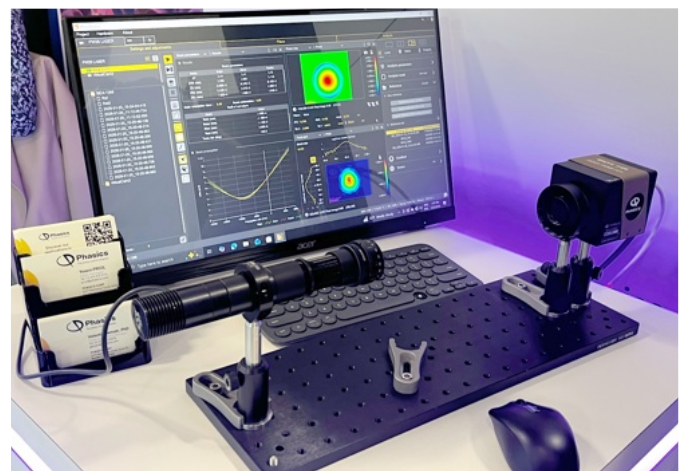
53. Mitutoyo's booth



Mitutoyo displayed their interferometric surface profilometer (left), and a range of new measurement tools, i.e., a cordless micrometer that connects to a computer via Bluetooth, and new high-resolution micrometer (bottom, left).



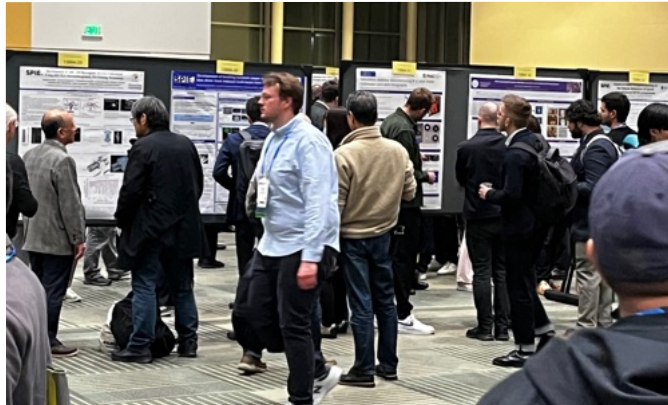
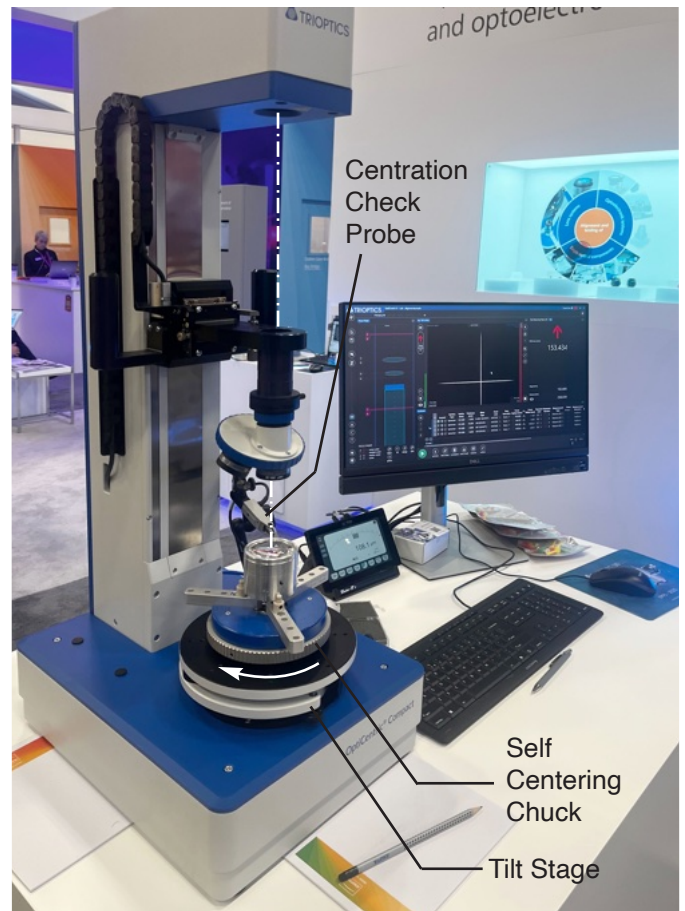
54. This is a \$50K self-contained interferometer by Physics, for surface profilometry in a compact package, and a 25 mm aperture. It has a double pass configuration for both reflective, and transparent optics. Standard 1 or 2 wavelengths.



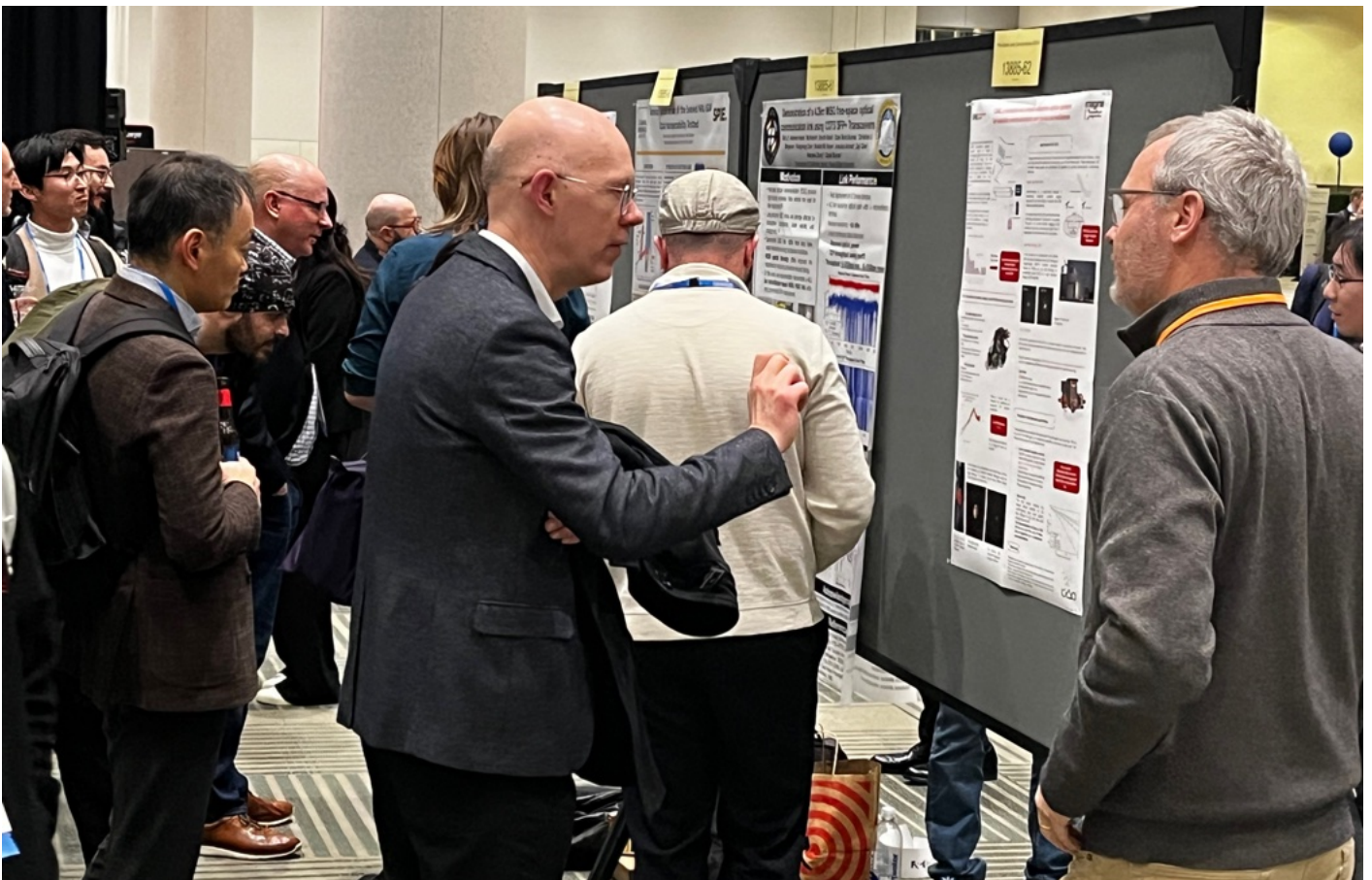
Available interferometer apertures are 25, 48, and 100 mm.



59. Trioptics lens measurement stand, and accompanying software checks lens/barrel centration, etc.



Poster Session



Poster session held on the first day of PW show, upstairs in the west hall. A good mix of university students were present from around the world. Most papers were about lasers, and space communication.



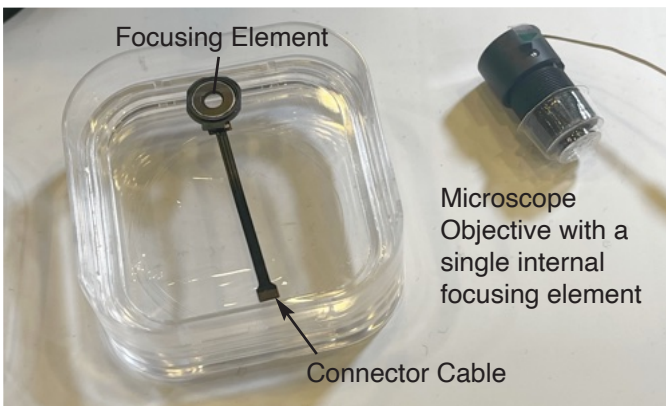
SPIE AR/VR/MR Show

The historical museum displayed considerable collection of eyewear displays at the entrance of AR/MR/MR show at the west hall. Companies displayed their micro viewing

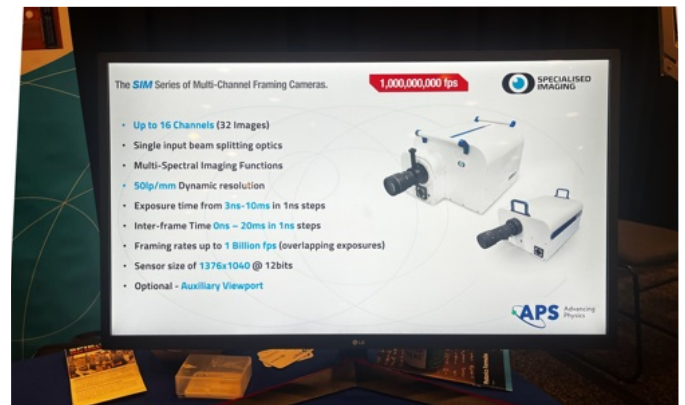


display screens at their booths to be incorporated into the eye glasses, viewing goggles, or helmets. The image resolution has considerably improved in recent years. You could zoom in to see the year each particular model was introduced.





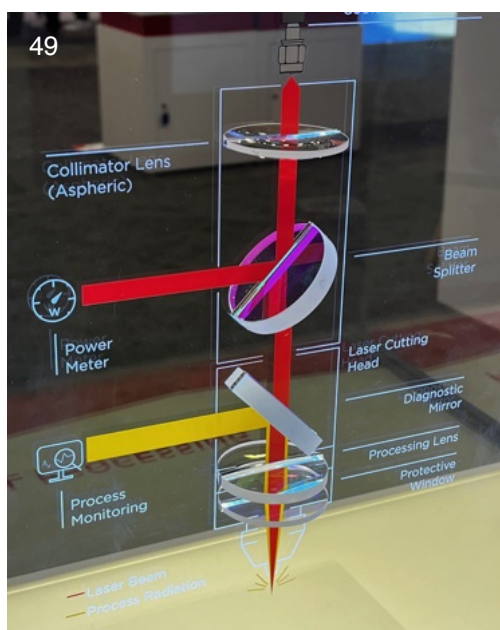
59. Liquid lens by Optotune (left) allows super fast change of focus, can be designed as part of a lens group (above).



60. Kirana high speed camera in Specialized Imaging booth, is capable of capturing 1 million frames per second. Multi-spectral imaging indicates a built-in AOTF (acousto-optic tunable filter).

Web Listing of exhibitors covered in this issue

Company Name	Website	Company Name	Website
1. Physik Instrumente	physikinstrumente.com	31. Mahr	mahr.com
2. Zaber	Zaber.com	32. Barnet	barnet-technical.com
3. Holoeye Photonics AG	holoeye.com	33. Gurly Precision Industries	gurley.com
4. Thorlabs	thorlabs.com	34. Electro Optical Products	eopc.com
5. Axiom	Axiomoptics.com	35. Asahi Rubber (page 9)	asahi-rubber.co.jp
6. Corning	corning.com	36. Rayvision Technology	rayvision-tech.com
7. Silios	silios.com	37. Dover Motion	dovermotion.com
8. Boston Photonics	Boselec.com	38. Kowa	kowa.com
9. Etaluma	etaluma.com	39. Sony	sony-semicon.com
10. Schafter+Kirchoff	Sukhamburg.com	40. InterOptics	inter-optics.com
11. Nyforse	nyforse.com	41. Optical Support Inc	opticalsupportinc.com
12. Zeiss Jena	Zeiss.com	42. AOM	aom.us
13. Zygo	Zygo.com	43. Ruda Optical	ruda.com
14. Photoniccleaning.	photoniccleaning.com	44. Dino-Lite	dinolite.com
15. ISS	iss.com	45. Optiquiver	quartus.com
16. Power Technology.	powertechnology.com	46. OZ Optics	ozoptics.com
17. Isuzu Glass	isuzuglass.com	47. Aerotech	aerotech.com
18. Thorlabs	thorlabs.com	48. Zygo	zygo.com
19. MKS/Newport	newport.com	49. Laser Components	lasercomponents.com
20. Standa	standa.com	50. XT Laser	xtlaser.com
21. Minus K Technology	minusk.com	51. Krelltech	krelltech.com
22. CI systems	ci-systems.com	52. NTT Japan	ntt-at.com
23. Double Helix	doublehelixoptics.com	53. Mitutoyo	mitutoyo.com
24. MeOpta	meopta.com	54. Physics Corporation	physics.com
25. Honvision Shenzhen	hvs-cnc.com	55. Fiber Optics Center	focenter.com
26. OptoSigma	optosigma.com	56. Vermont	vermontphotonics.com
27. Tower Optical	toweroptical.com	57. Moller Wedel	moller-wedel-optical.com
28. Optocraft GmbH	optocraft.de	58. Trioptics	trioptics.com
29. High Resolution	hroptron.com	59. Optotune	optotune.com
30. Mahr	mahr.com	60. Specialized Imaging	specialised-imaging.com



Laser Cutting display at Laser Components



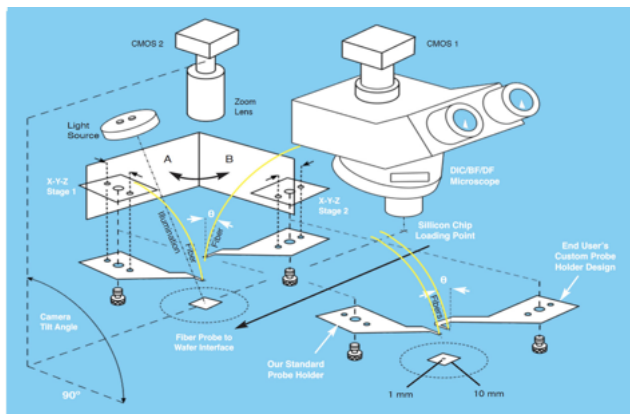
Short Courses Listing at PW



Photonics West 2026 Exhibitor Guide

Silicon Photonics Workstation from Optomechanix

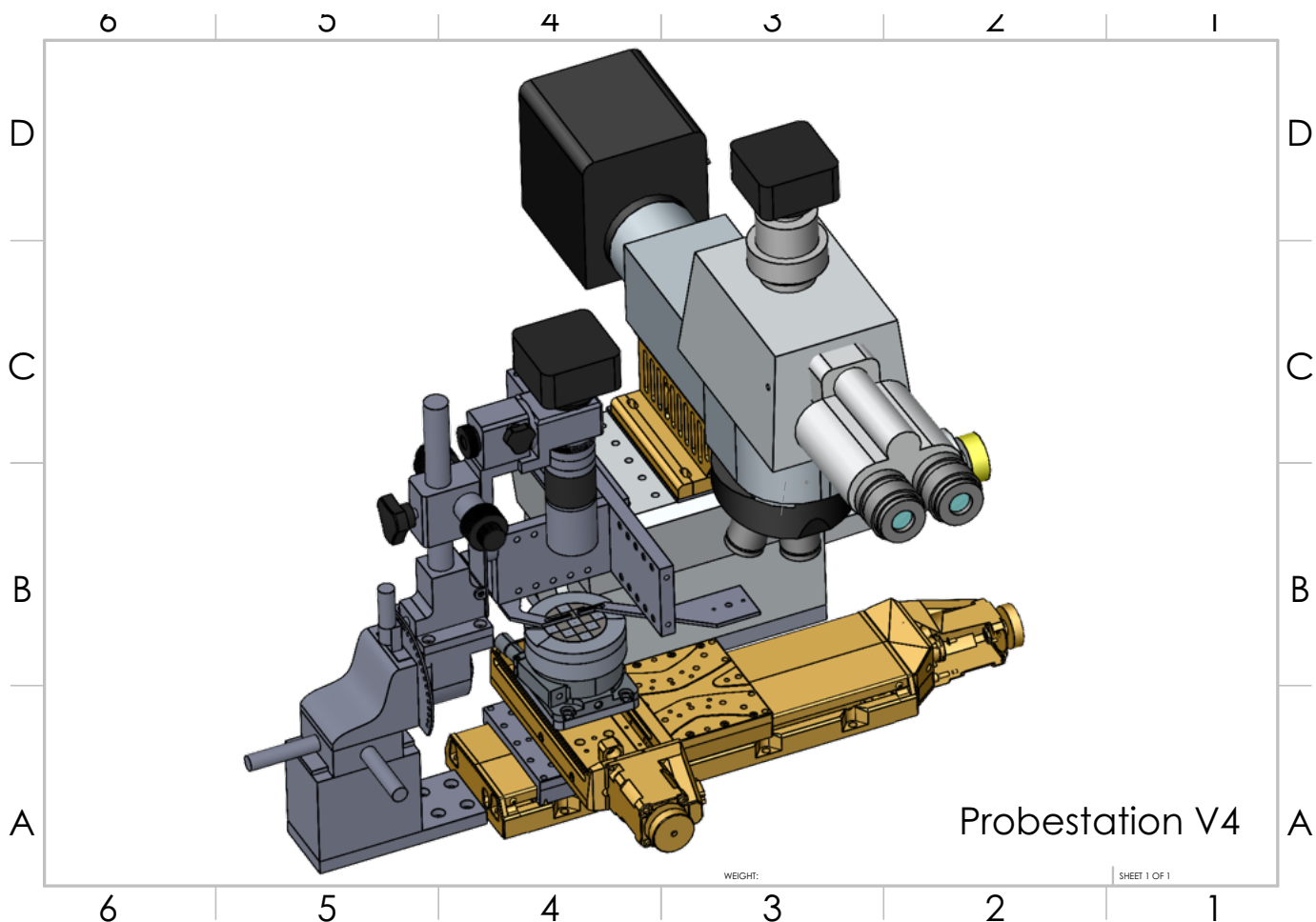
As an innovator in opto-mechanical design, we always look for ways to improve existing tools. One challenge in Silicon Photonics is the fiber to chip interface because when utilizing existing close focus zoom lenses, the fiber probes simply won't allow high resolution viewing of a chip. So, the solution we came up with is to combine the DIC inspection microscope, and the fiber probe station both together in a single workstation. There is a coordination between the probe station, and the microscope by software when the Silicon chip travels between the microscope and the fiber approach platform. In the microscope mode, you could see the silicon chip at extreme details via DIC or BF/DF illumination. In the probe mode, there are two independent motorized XYZ positioners for fibers. A SDK search algorithm is written for the motors to go to a stand-off mode, or approach/search mode. For more details on this contact us at info@optoform.com



Above, from this conceptual scheme, we designed the SW model (below), then the actual operating model (right). If you are a research institute involved with Silicon Photonics, this is concept has open software in Python you could tailor it to your needs.



Adjustable LED illumination source allows superb image quality in the probe-station mode. Optional Stereo Microscope attachment for stereo viewing of probe orientation.

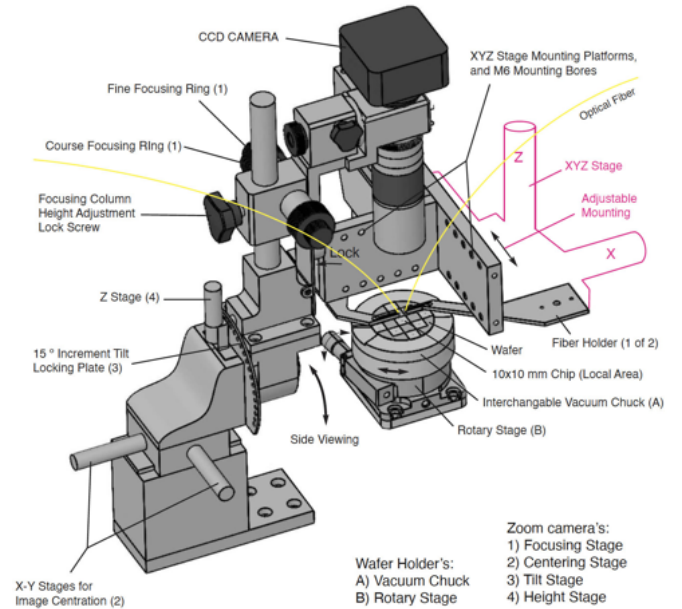


WEIGHT:

SHEET 1 OF 1

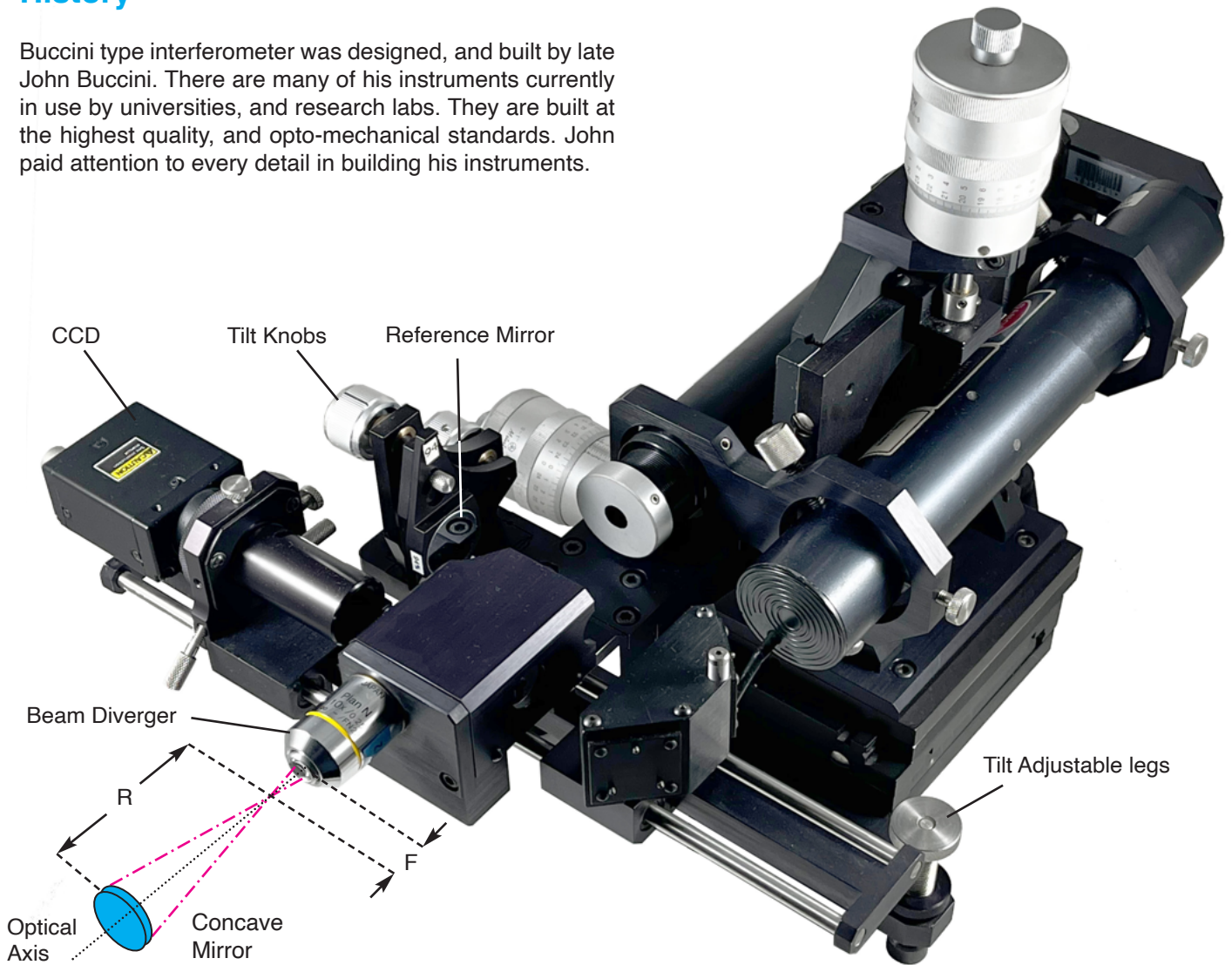


There are nine precision motorized stages with high performance 0.1 micron resolution for increased reliability, and durability. It is designed for class 100 grade clean-rooms.



History

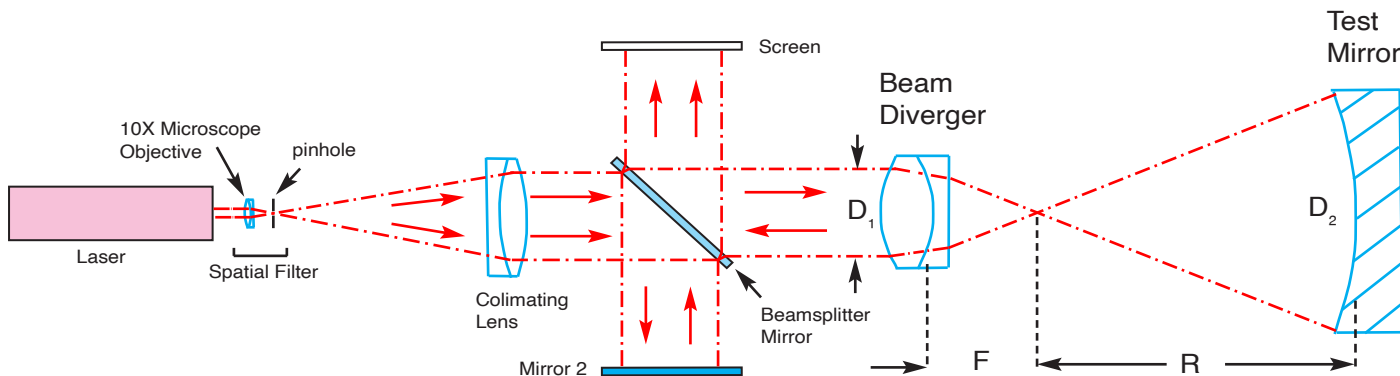
Buccini type interferometer was designed, and built by late John Buccini. There are many of his instruments currently in use by universities, and research labs. They are built at the highest quality, and opto-mechanical standards. John paid attention to every detail in building his instruments.



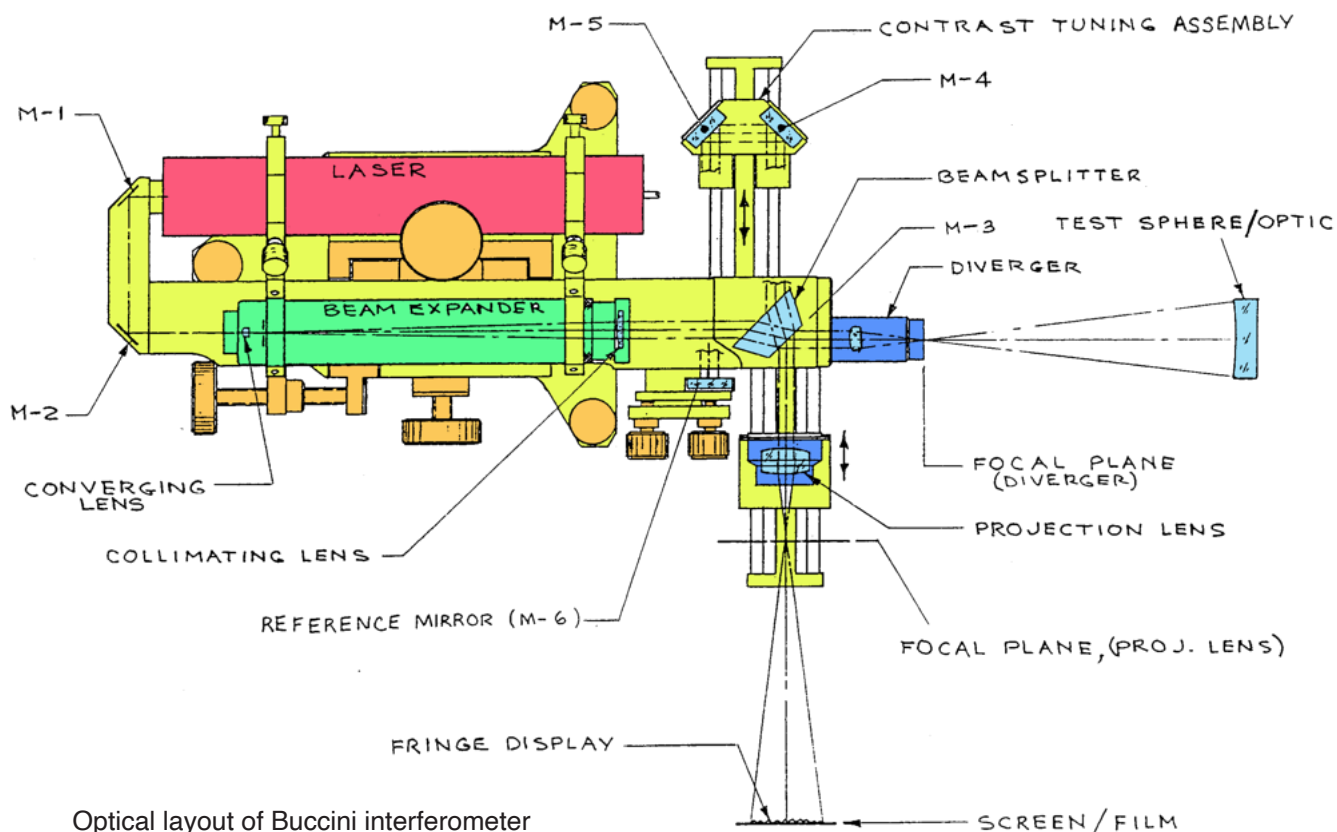
Buccini interferometer uses folding optics to reduce its original length from 600 mm down to more than half the size.

The Buccini Type Interferometer from Optomechanix

The Michaelson interferometer is to test the surface accuracy of a flat/spherical mirror. Below, the flat wavefront of the interferometer goes through a beam diverger to focus the beam at its focal point F. The beam then diverges out to cover the surface of a spherical mirror. To cover the entire surface of the test mirror, the f number of the beam diverger F/D_1 must match the f number of the test mirror $2R/D$. In this arrangement, we are comparing the curved surface of the spherical mirror with a perfectly flat ($1/20 \lambda$ or better) reference mirror. The wavefront becomes curved, passing through the beam diverger (D_2) to match the curvature of the spherical mirror D_3 , but it reflects back, and gets flat again when it goes back through the diverger (D_2). This wavefront hits the reference mirror, and is reflected back to interfere with the reference beam at the screen.



Producing the Buccini interferometer in a huge undertaking due to its large number of parts, many with handmade quality. In contrast with fully enclosed interferometers, Buccini is an open frame system allowing the end-user to easily troubleshoot problems, and also be able to change things. Our version is definitely Optoform compatible. More details on this contact us at info@optoform.com



Optical layout of Buccini interferometer

God's hope in movies By Ali Afshari

I would like to begin this article by first going in the opposite direction (opposite of good). One can't see light unless he has seen darkness, and one could not appreciate decency unless he has seen wickedness. In holy scriptures, God always goes to the extremes to describe faith: To describe true faith, he gives the example of pharaoh's wife who secretly became a believer, and to show rejection of faith, he gives the example of Noah's son, Kan'an (who didn't get onboard).

The first movie I'd like to discuss is *The Apprentice*: The story is set in 1970s and 1980s New York and centers on a young Donald Trump, eager to build his real estate empire, who is mentored by the ruthless political fixer Roy Cohn. Cohn teaches Trump how to amass power through deception, intimidation, and media manipulation, a dynamic many critics describe as a "Faustian deal". The three lessons Trump learns is: 1. Attack, attack, attack; 2. Admit nothing, deny everything; and 3. Claim victory no matter what happens, never admitting defeat.

What I love so much about this country is while president Trump is allowed to send our B2 planes to throw bombs on Iran, it also allows an Iranian film maker, Ali Hosseini, to make such a highly publicized movie to destroy him! From what I know, being a documentary film maker myself, America is the only country in the world that lets you do that. It sure takes a lot of guts, and it's truly an eye-opening movie for the rest of us to see what goes on inside Trump's mind. It could also be a portrait of Netanyahu, if you included genocide in his profile. Now that we have covered wickedness, let's discuss some decency.

First lets go over each movie's plot: "*The Mission*": It's a historical drama set in 1750s South America, focusing on Jesuit priest Father Gabriel (Jeremy Irons) and reformed slave trader Rodrigo Mendoza (Robert De Niro) as they defend a Guarani mission against Portuguese colonial forces. Following the Treaty of Madrid, which ceded the territory to pro-slavery Portugal, the missionaries and natives face a brutal, violent struggle for survival. Eventually massacred by a joint colonial force of Portuguese and Spanish soldiers.

"*Serpico*" (1973), was directed by Sidney Lumet and starring Al Pacino. It's a biographical crime drama based on the true story of Frank Serpico, an honest New York City cop who fights systemic corruption within the NYPD during the 1960s and early 1970s. As a lone whistleblower, he faces intense harassment, isolation, and threats from fellow officers who are deeply involved in bribery, ultimately leading to him being shot in the face during a setup drug bust. Music score for *Serpico* was by Mikis Theodorakis, who was just released from jail.

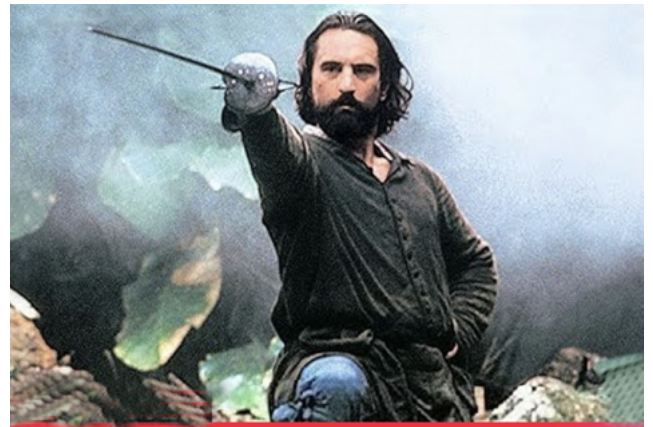
"*Viva Zapata!*" (1952) chronicles the rise of Mexican peasant leader Emiliano Zapata (Marlon Brando) from a simple farmer to a key revolutionary figure fighting the corrupt dictatorship of Porfirio Díaz. Driven by the need to restore land to the people of Morelos, Zapata joins forces with Madero and Pancho Villa. He eventually gets assassinated in an ambush orchestrated by Colonel Jesús Guajardo.

"*Gandhi*": This acclaimed biographical drama presents major events in the life of Mohandas Gandhi (Ben Kingsley), the beloved Indian leader who stood against British rule over his country. Dedicated to the concept of nonviolent resistance, Gandhi is initially dismissed by English officials, including the influential Lord Irwin (John Gielgud), but eventually he and his cause become internationally renowned, and his gatherings of passive protest move India towards independence. Director Richard Attenborough spent 25 years making this film.

"*Judas and the Black Messiah*" (2021) tells the true story of William O'Neal, a petty criminal coerced by the FBI into infiltrating the Illinois Black Panther Party to spy on its charismatic Chairman, Fred Hampton. The plot follows O'Neal's internal conflict and betrayal as he helps the government orchestrate the 1969 assassination of the revolutionary leader, and a number of his close colleagues. When "*Eyes on the Prize 2*", a documentary about the life, and death of Fred



The Apprentice displays the uprising of Donald Trump



Robert De Niro in "The Mission" 1986



Marlon Brando plays Zapata, speaking to president Diaz



The "What's your name?" scene, when Zapata reaches power: It's a wake up call for any honest politician.

Hampton premiered on Jan 15th, 1990, Martin Luther King Day, William O'Neil committed suicide.

"The Battle of Algiers" (1966) is a gritty, newsreel-style reenactment of the Algerian struggle for independence from French colonial rule between 1954 and 1957. It focuses on the brutal, urban guerrilla warfare in the Casbah, pitting National Liberation Front (FLN) fighters, led by Ali La Pointe, against French paratroopers commanded by Colonel Mathieu. This is one of Ponte Corvo's two movies he ever made. His 2nd film was "Burn" (1969) starring Marlon Brando.

"Il Postino" (The Postman) 1994, is about a shy, working-class Italian postman named Mario who develops a deep friendship with the exiled Chilean poet Pablo Neruda, learning about love, life, and poetry, which he uses to woo the beautiful Beatrice, a local barmaid. Set on a small Italian island in the 1950s, the film beautifully portrays how poetry transforms Mario's simple life, giving him the words and confidence to express his feelings and find love, while also touching on themes of politics and art.

Spike Lee's "Malcolm X" (1992) traces the legendary leader's life from his turbulent youth as "Detroit Red," a hustler and petty criminal, through his conversion to Islam in prison, rise as a powerful Nation of Islam minister, disillusionment with Elijah Muhammad, pilgrimage to Mecca, and eventual assassination in 1965, highlighting his evolution from racial separatism to universal brotherhood, all based on Alex Haley's autobiography.

"Pretty Woman" 1990: While on a business trip in Los Angeles, Edward, who makes a living buying and breaking up companies, picks up a prostitute, Vivian, on a lark; after Edward hires Vivian to stay with him for the weekend, the two get closer, only to discover there are significant hurdles to overcome as they try to bridge the gap between their very different worlds. The center role I want to focus on is played by Hector Elizondo as Barney Thompson. As the manager of the Beverly Wilshire Hotel, his character provides guidance to Julia Roberts' character and is known for being a key mentor figure in the film. His role is exactly the opposite of the role played by Marlon Brando in "A street car named desire". One builds, and the other destroys.

Conclusion: Movies are great mentors during our times that no one reads books anymore. Short Instagram clips have made us impatient to watch a 2-hour film. Lets read a part of Victor Frankl's advice to teachers, and educators: One thing I want from you is: try to make students human and your efforts will not lead to training of "scientific animals" and skilled mental patients. Reading, writing, and mathematics become important when you help children become human beings, and this is the key to children becoming human beings in the future. Becoming a doctor, becoming an engineer, becoming a specialist is not a difficult task, and it can be achieved with a few years of study. Maybe today we have many doctors and engineers in our society. But our greatest wealth is our humanity and morality.

Humanize, Don't Just Educate: Frankl argued that reading, writing, and arithmetic are only valuable if they serve to make children more human. The Danger of "Learned Monsters": He expressed concern that a strictly technical or purely academic education could produce highly skilled individuals who lack moral humanity, a phenomenon he observed in Nazi Germany where educated professionals participated in atrocities.

Encourage Responsibility and Meaning: Educators should guide students toward discovering meaning in their lives, helping them understand that they are responsible for their actions and choices. Avoid a "Mechanistic" View: Frankl cautioned against teaching that humans are merely products of conditioning or "machines," urging educators to view students as beings capable of finding purpose.

To be continued ...



Sidney Lumet directing "Cerpico" with Al Pacino 1973



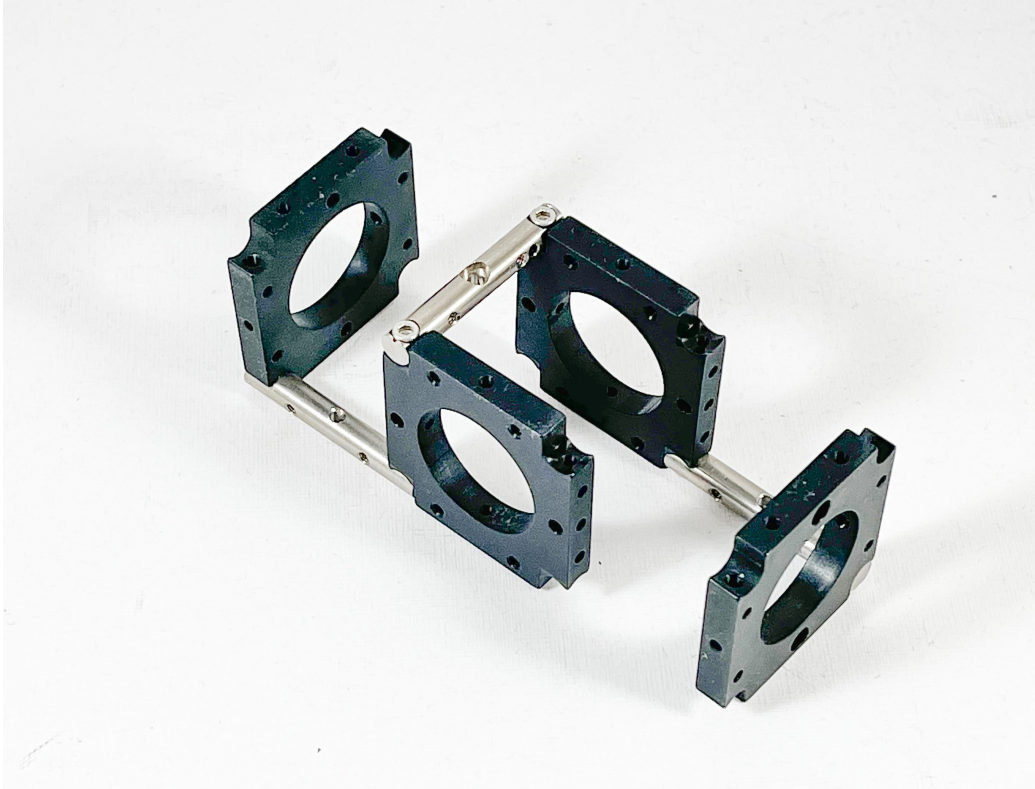
Ponte Corvo, and Saadi Yasef, "The Battle of Algeres"



il Postino displays Pablo Neruda (left) is the mentor of a young Mario (postman) to become a poet, 1994



Daniel Kaluuya plays Fred Hampton in "Judas And The Black Messiah", in remembrance of Black Panthers



Our Instruction Manuals

Optoform's user's manuals have been compiled to follow the tradition of optical erector sets. Every page is lavishly illustrated to show how each instrument is designed, and assembled together. As your knowledge of Optoform increases, so does the level of sophistication in your assemblies. Download from:

www.optoform.com

info@optoform.com