ถอดรหัส Photonics นวัตกรรมขับเคลื่อนอนาคต

ศรัณย์ สัมฤทธิ์เดชขจร

อดีตผู้อำนวยการเนคเทค

Fellow of OPTICA, SPIE

Senior Member IEEE

OSA Remembers Friends and Colleagues

Florin Abelès
1922-2005

Florin Abelès, who played a pioneering role in developing the theory of optical properties of thin films, passed away at Cochin's hospital in Paris on April 22, 2005. He developed his elegant matrix formulation for wave propagation in a stratified medium, which became part of a chapter in Born and Wolf's *Principles of Optics*. Florin's papers about the optical properties of thin films were a source of inspiration to generations of young researchers.

Eugene M. Allen
1916-2005

Eugene M. Allen, 88, of Bethlehem, Pa., a retired chemistry professor who played an important role in researching and applying computer color matching, passed away at St. Luke's hospital in Fountain Hill on January 18, 2005. Eugene's articles describing the mathematical methods for applying Kubelka-Munk equations to computer color-matching programs laid the foundation for all subsequent approaches.

James Gilbert Baker
1914-2005

James Gilbert Baker, renowned astronomer and optical physicist, died June 29, 2005, at his home in Bedford, N.H., at the age of 90. In addition to making scientific contributions to the field of astronomy, Jim designed hundreds of optical systems that supported astronomy, aerial reconnaissance, instant photography and the U.S. space program.

Fred W. Billmeyer Jr.
1919-2004

Fred Wallace Billmeyer Jr. died December 12, 2004, in Clifton Park, N.Y. He was a world-renowned educator and researcher in color and polymer science who published widely and received many awards and accolades for his outstanding contributions. He authored more than 280 papers on polymer chemistry and color science and a variety of books on the subject.

Charles M. Bowden
1933-2004

Charles Malcolm Bowden, a prominent government scientist at the U.S. Army Aviation and Missile Command and an expert in nonlinear and laser optics, died in August 2004. His death was a loss on many levels to the international community of science. The diversity of his research brought him into contact with scientists all over the globe, and he was instrumental in the career development of many young researchers from other countries.

Wiriyah Chupaween (Fu Kuo Hsu)
1939-2005

Wiriyah Chupaween, founder of Thailand's first Electro-Optics Laboratory (EOL) and a photonics pioneer, died from leukemia in September 2005 in Bangkok. He introduced hologram manufacturing technology to Thailand by setting up and operating the country's first production line for embossed holograms and founding its first hologram manufacturing company.

Clifford V. Heer
1920-2004

Clifford V. Heer, a well-known researcher in low-temperature, statistical and laser physics, died on July 8, 2004, in Columbus, Ohio, from complications of Parkinson's disease. In the early days of laser physics, he conducted experiments on a method of absolute rotation measurements based on the beat frequency that results from the splitting of a degenerate mode in a rotating resonant cavity. He showed that this phenomenon could be used to measure rotation with high sensitivity. The interferometers that he pioneered are now known as laser gyroscopes.

Gary E. Sommargren
1944-2005

Gary E. Sommargren, a physicist who developed leading-edge innovations in optical metrology, died at his home on March 8, 2005, from amyotrophic lateral sclerosis (Lou Gehrig's disease). He invented the heterodyne optical profiler to measure the roughness of an optical surface to sub-Angstrom levels; it became the benchmark to verify optics for laser gyroscopes and earned him an R&D 100 award.

Richard Malcolm Sillitto
1923-2005

Dick Sillitto, who did pioneering work on micro-displays and wrote an influential text on non-relativistic quantum mechanics, died in April in Dunbar, Scotland, at the age of 82. He wrote the influential textbook *An Introduction to Non-relativistic Quantum Mechanics*, which was first published in 1960. He also authored numerous research papers and articles, and gave lectures and radio broadcasts on popular aspects of science.

Gargi Vishnoi
1969-2005

Gargi Vishnoi, a young Indian physicist of exceptional promise who worked in the area of biomedical optics and biophotonics, died unexpectedly in April 2005. At the time of her death, she was on the faculty in the biophotonics research group at the Indian Institute of Science, Bangalore, India. Previously, she had held faculty positions in the departments of bioengineering and biosciences at the Indian Institute of Technology (IIT), Bombay, and in the physics department of IIT, Guwahati. She had also been a research associate at the University of Pennsylvania.

To ensure that our memorial information is as comprehensive as possible, we need your help. Please write us at opn@osa.org should you learn of the death of a friend or colleague active in optics so that we can recognize them in the pages of OPN.

Wiriyah Chupaween (Fu Kuo Hsu)
1939-2005

Wiriyah Chupaween, founder of Thailand's first Electro-Optics Laboratory (EOL) and a photonics pioneer, died from leukemia in September 2005 in Bangkok. He introduced hologram manufacturing technology to Thailand by setting up and operating the country's first production line for embossed holograms and founding its first hologram manufacturing company.

Founder of Electro-Optics Lab @NECTEC in 1993-94

Prof. Dr. Pichet Limsuwan
Founder of Laser Lab @NECTEC

Optics and Photonics Industry Cluster in Thailand

S. Sumriddetchkajorn, *Optica Open. Preprint*. https://doi.org/10.1364/opticaopen.32817563.v2

- **Photonics, Optoelectronics, and Telecommunications**

fabrinet LUMENTUM COHERENT

FITEL STARS MICROELECTRONICS TERAHOP

eoptolink INNOLIGHT

- **Industrial Laser Machinery**

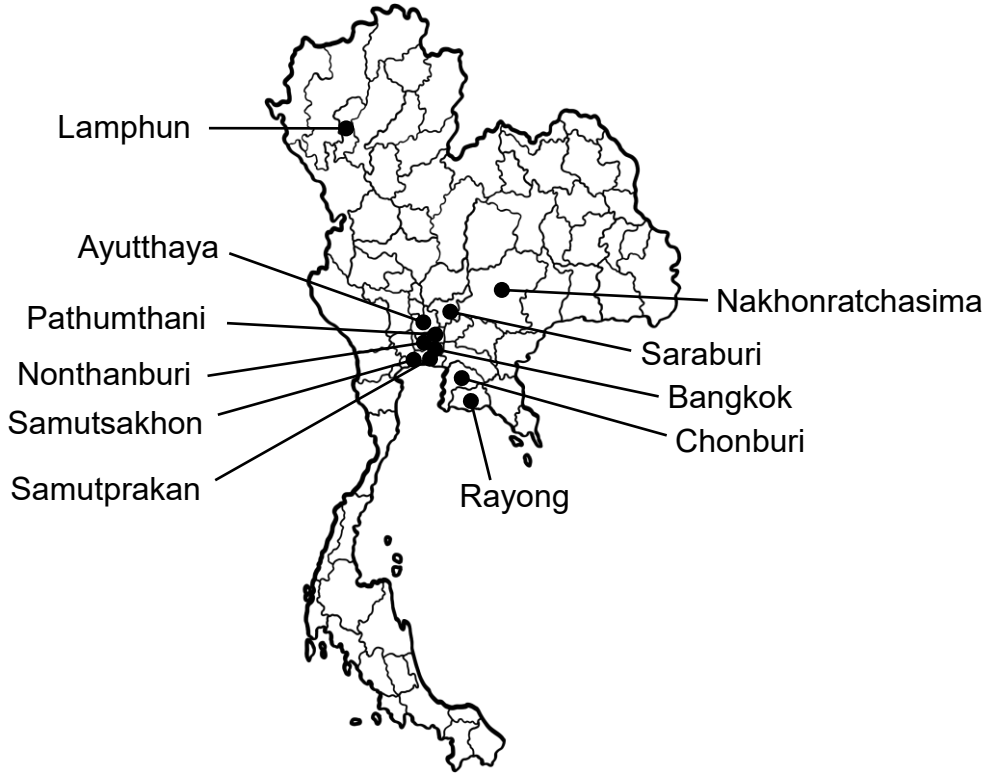
Photonics Science

- **Advanced Imaging Sensor Manufacturers**

SONY Sony Device Technology (Thailand)

Nikon

Canon Canon Hi-Tech (Thailand) Ltd.



- **Ophthalmic Lenses, Precision Optics, and Eyewear Technology**

TOG THAI OPTICAL GROUP ESSILORLUXOTTICA HOYA

RODENSTOCK MLOPTIC WEILAN THAILAND SUGITCH SINCE 1906

13th Milestones of Thailand's National Economic and Social Development Plan

Collaborators and Supporters

Hard-Disk Drive Industry

Finance

Optics & Photonics

Aquaculture - Agriculture - Sericulture

Forensics Science

Dual Use

Public Health

Crime Investigation

Education

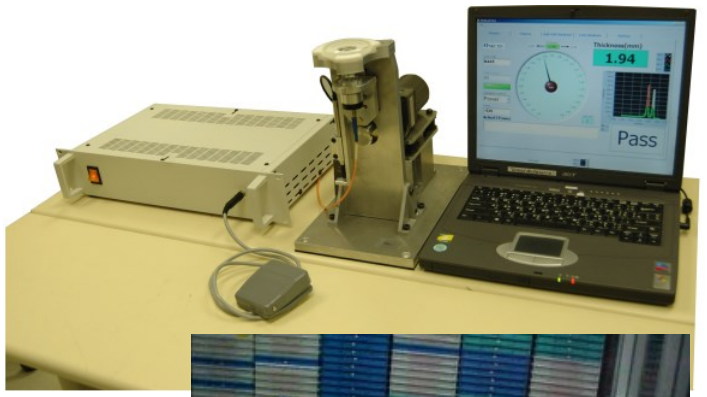
Nat Broadcasting & Telecomm Commission

Bank of Thailand

Embossed holograms




Ophthalmic lens thickness measurement



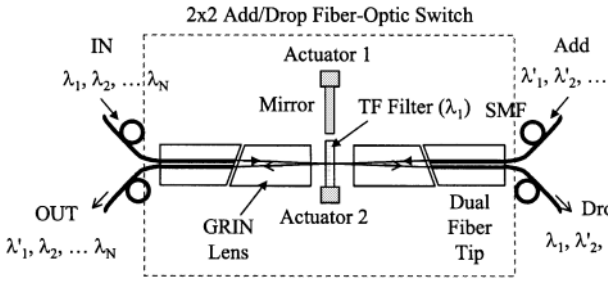
Laser range finder for tanks

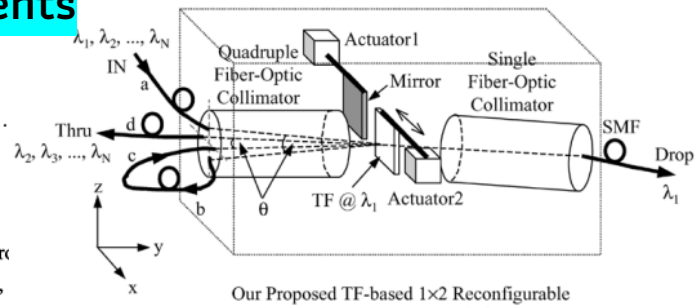
Optical colorimeter for Cl analysis in Water

Credit card verifier

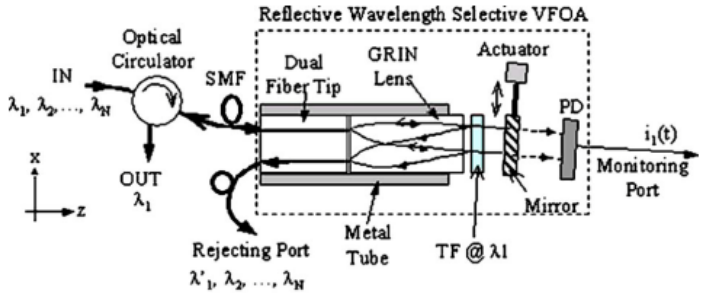
NECTEC-ACE 2026 ANNUAL CONFERENCE & EXHIBITION

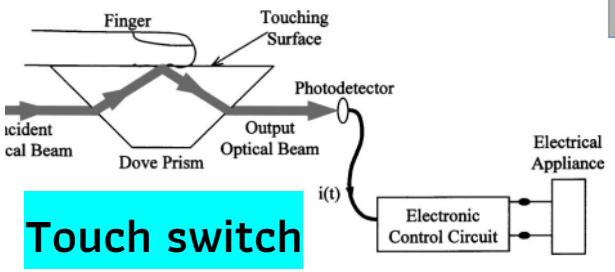
Fiber-optic components



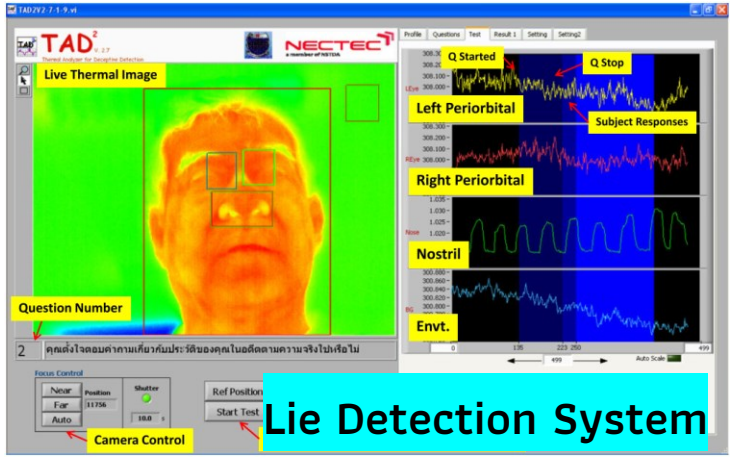


Our Proposed TF-based 1×2 Reconfigurable Fiber-Optic Add-Drop Switch (RFADS)



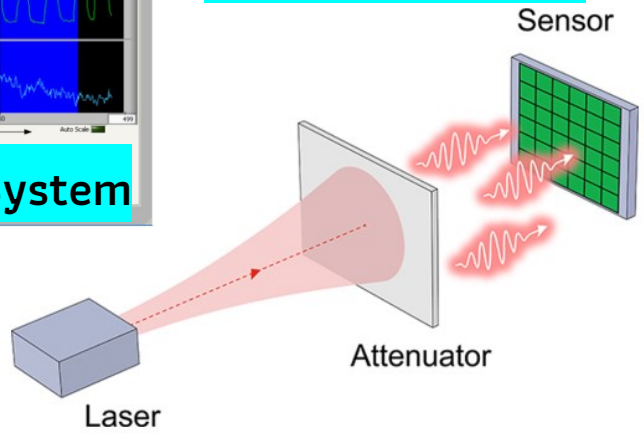


Touch switch

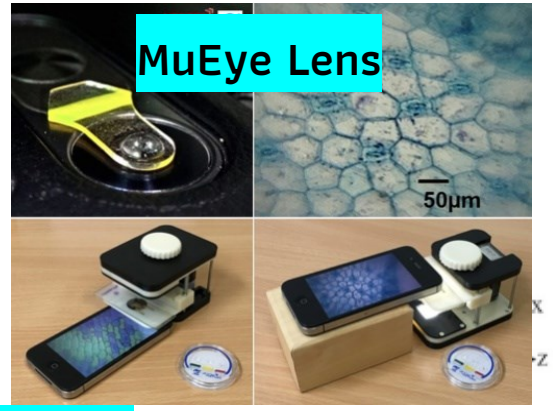


Lie Detection System

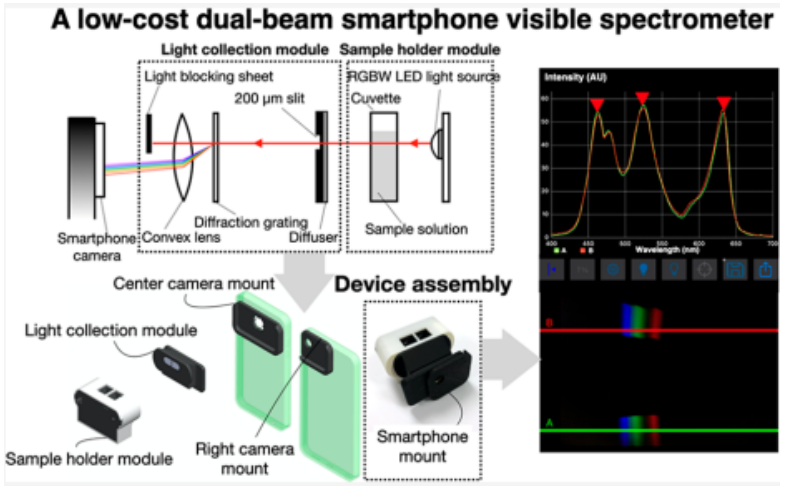
Quantum random number generator



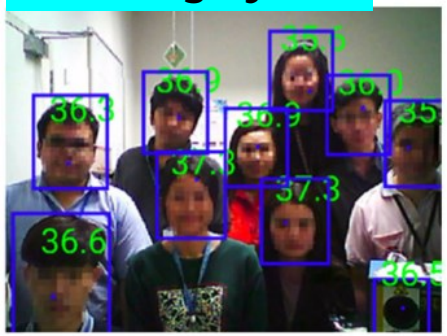
MuEye Lens

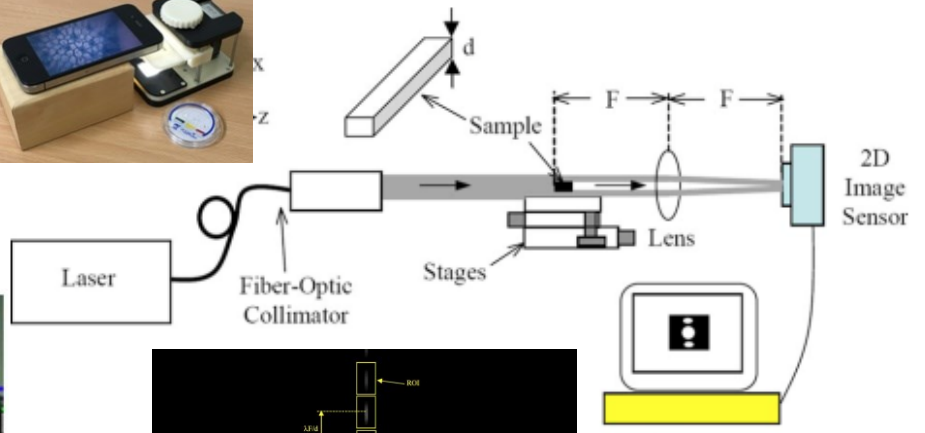


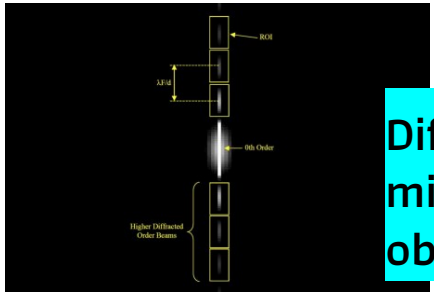
Smartphone-based optical spectrometer



Temperature screening system

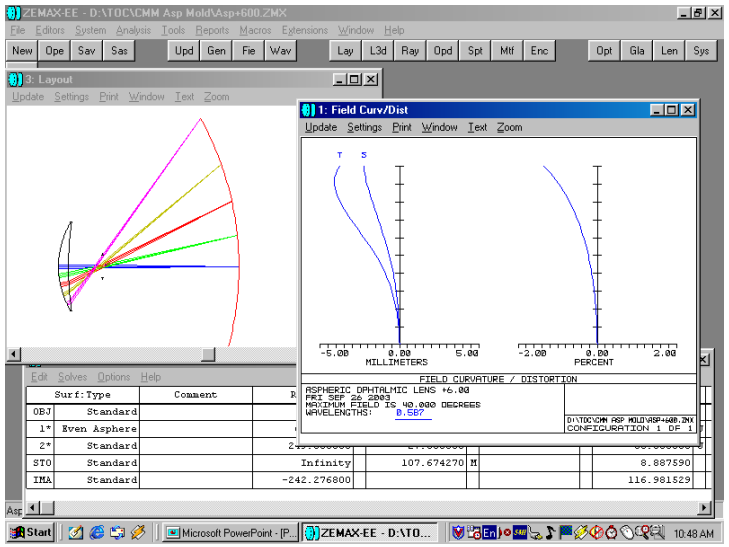


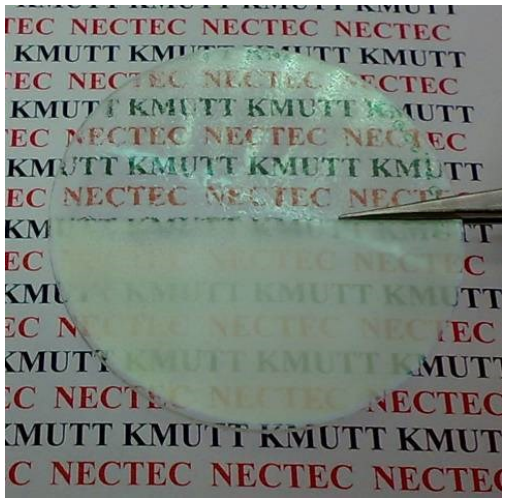




Diffraction-based micron-size object analyzer

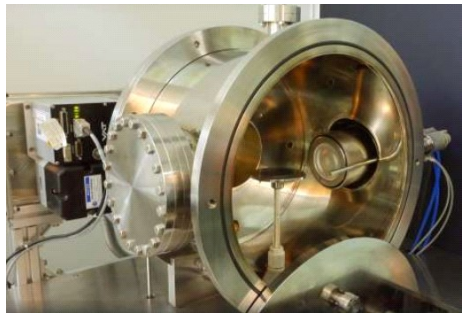
Optical lens and thin-film design

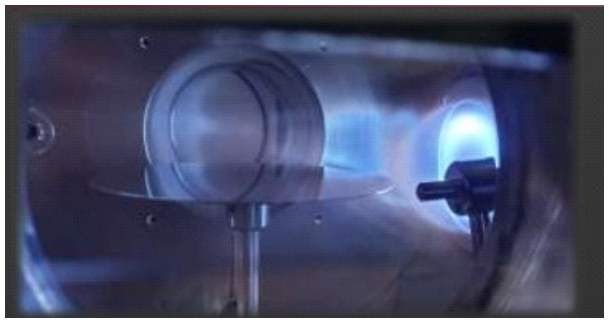




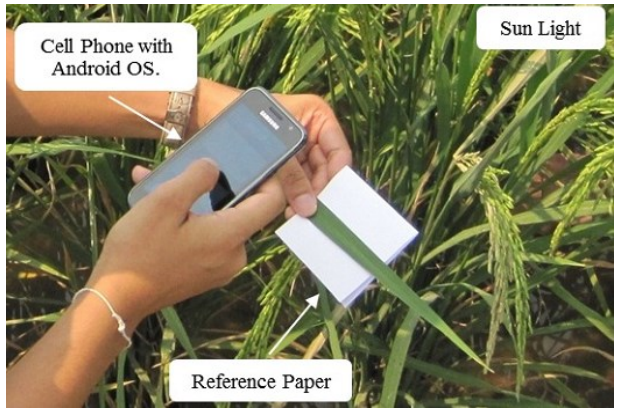
Surface Enhanced Raman Spectroscopy (SERS) Chip

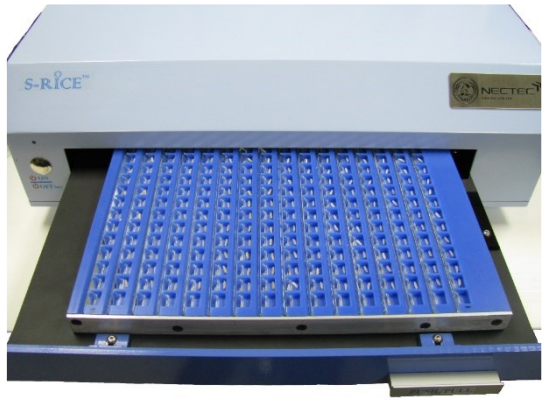
VULCAN: NECTEC designed thin-film sputtering system

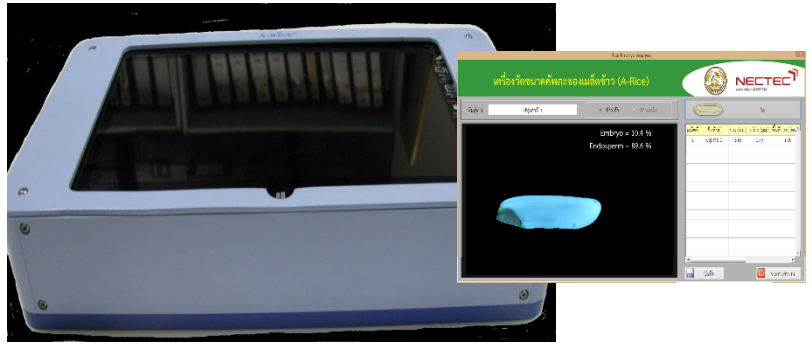




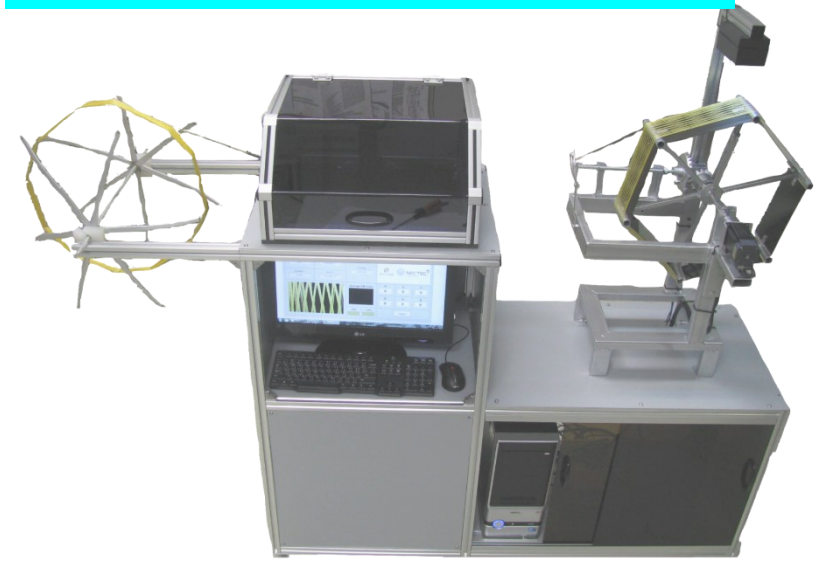
Photonics solutions for rice

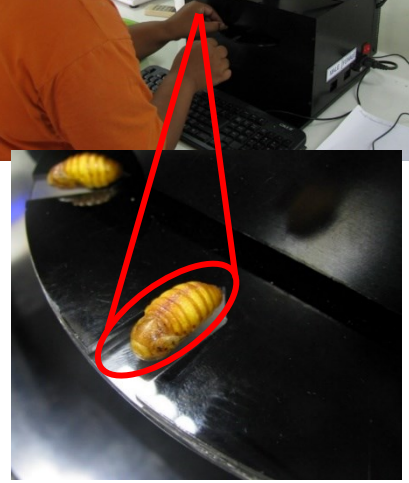




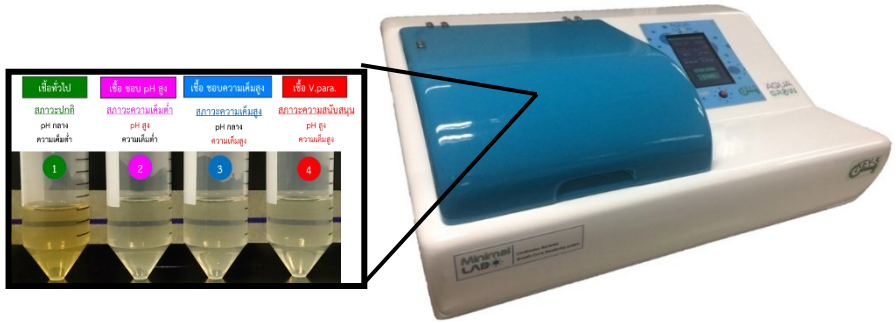


Photonics solutions for sericulture





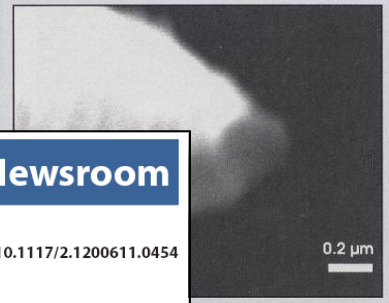
Photonics solutions for fisheries



Photonics Research Briefs

Er:Fiber Laser Suitable for Optical Clocks

Scientists at **Technische Universität München** in Garching and at **Ludwig Maximilians Universität München** in Munich,



Optical Switch Designed for the Disabled

Researchers at the **National Electronics and Computer Technology Center** in Pathumthani, Thailand, led by Sarun Sumriddetchkajorn, have developed an optical touch-activated switch to replace mechanical switches for use by disabled people. They described the device in the March issue of *Optical Engineering*.

The switch operates based on total internal reflection in a Dove prism. When a finger is applied lightly to the surface of the device, the light beam traveling through the prism is redirected to a photodetector, converted into an electrical current and fed to a circuit. The switch can be made more or less sensitive to accommodate the needs of the individual, and the team plans to implement the concept to control electrical appliances such as computers, cell phones and doorbells.

abricates Probes

t **Shizuoka University** in orts in the March 10 issue rs a technique for the fab- scattering-type near-field at employs capillary force chnique is suitable for use materials with diameters e inner dimension of the

process, the researchers tubes into points with di- 0 nm. Immersed in water gold particles, the tubes to their tips as the water s by capillary force. Using er puller, they report, en- tips with diameters in the d the use of correspond-

See-Through Thin-Film Transistor Unveiled

Transparent electronics may seem the stuff of science fiction, but engineers from **Oregon State University** and **Hewlett-Packard Co.** in Corvallis, Ore., have developed zinc-oxide-based thin-film transistors that they hope will find applications in liquid crystal displays and elsewhere. They reported the devices, which display optical transmission in the visible portion of the electromagnetic spectrum of approximately 75 percent, in the Feb. 3 issue of *Applied Physics Letters*.

The team fabricates the N-type semiconductor devices by depositing a layer of indium tin oxide and aluminum titanium oxide on a glass substrate. The zinc-oxide channel and indium-tin-oxide source and drain electrodes are subsequently added to the stack by ion-beam sputtering.

External-Cavity Laser Diode Offers 300 mW

Fedor N. Timofeev and Raman Kashyap of **PhotoNova Inc.** in Pointe Claire, Quebec, Canada, have reported 300-mW stable single-frequency operation near 976 nm from a laser diode with an external fiber cavity. They described the device, which displayed few mode hops over drive currents from 0 to 500 mA, in the March 24 issue of *Optics Express*.

The setup employed a 980-nm pigtailed pump laser, with a length of ytterbium-doped fiber and a fiber Bragg grating as the external cavity. Maximum wavelength excursion in the mode-hopping regions was 0.05 nm. Handling the laser and fiber in operation had little effect on performance.

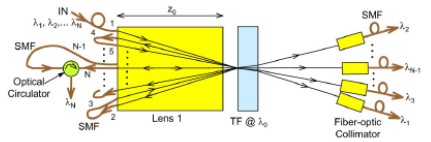
The International Society for Optical Engineering
SPIE Newsroom
10.1117/2.1200611.0454

Thin-film filter improves performance with angle-multiplexed architecture

Sarun Sumriddetchkajorn

Angle multiplexing in a reflective architecture enables a single thin-film filter to drop any number of wavelength channels.

Thin-film filters (TFs) are widely used in fiber-optic devices. They are included in most of the 1 × 2 add-drop filters cur-



Photonics Technology World

Optical Switch Uses Thin Film and Mirror

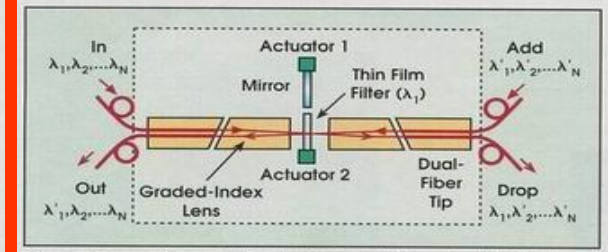


Figure 1. A reconfigurable 2 × 2 optical switch based on thin-film filters and mirrors eliminates the need for separate demultiplexing and multiplexing of wavelength division multiplexed channels.

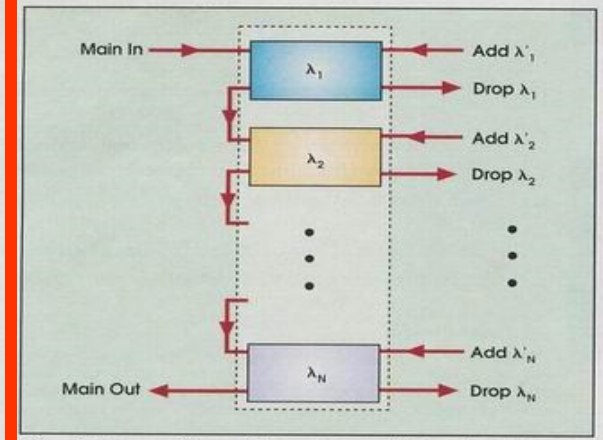


Figure 2. An array of the switches creates a multichannel optical add/drop multiplexer that does not require the circulators and other components that are in many conventional systems.

Sarun Sumriddetchkajorn and Khunat Chaitavon of Thailand's National Science and Technology Development Agency and Ministry of Science and Technology, both in Pathumthani, have developed a novel concept for a 2 × 2 optical switch. The device eliminates the need for separate demultiplexing and multiplexing of wavelength division multiplexed channels, and it can achieve switching speeds in the millisecond range.

A pair of actuators insert either a thin-film filter or a high-quality mirror into the beam path. When the mirror is in the path, all input channels emerge in the "out" fiber. When the thin-film filter — which transmits λ_1 and reflects the other wavelengths — is inserted, the input signal at λ_1 emerges in the "drop" fiber, and the "add" signal at λ'_1 emerges in the "out" fiber (Figure 1).

Multiple 2 × 2 switches can be ganged to create a multichannel optical add/drop multiplexer (Figure 2). A benefit of the setup is that it does not require the circulators or other components that are in many conventional optical add/drop multiplexers. Inserting optical amplifiers into the system can compensate for the loss that builds up from passage through the array of switches.

The switching speed of each device depends on the actuator used to move the mirror and the thin-film filter (and on the mass of those items). With an appropriate design, submillisecond speeds should be possible.

In a demonstration model of the device, the researchers used hand-operated mechanical translation stages, so the switching speed was not minimized. They measured an insertion loss of less than 1.3 dB and optical crosstalk well below −15 dB. The polarization-insensitive switch showed an experimental polarization-dependent loss of 0.07 dB. □

Breck Hitz

IEEE Photonics Technology Letters, to be published.

Co-Doping Drives 2-µm Fiber Laser

A group of scientists at the University of Sydney in Australia has demonstrated the use of ytterbium as a sensitizer in a holmium-doped fiber laser. Although Yb^{3+}-Ho^{3+} sensitizing-lasing systems have been explored in crystalline YAG hosts, the research team is the first to have done so in a silica (fiber) host, and the laser has produced more 2-µm power than any previous Ho^{3+}-doped fiber laser.

Lasers operating in the eye-safe 2-µm wavelength region are important for a number of spectroscopic, remote sensing and military applications. Triply ionized

Food and Agriculture Organization of United Nations

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Winrock International

USDA- SAFETI (Safe Aqua Farming for Economic and Trade Improvement) Project

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SAFETI
SAFE AQUA FARMING FOR ECONOMIC AND TRADE IMPROVEMENT
BANGLADESH

IEEE Spectrum | This Temperature-Screening System for COVID-19 Can Check ... Type to search

NEWS | THE INSTITUTE

This Temperature-Screening System for COVID-19 Can Check Up to 9 People at Once › The system uses a thermal imaging camera, facial recognition, and Lidar

BY THE INSTITUTE | 04 AUG 2020 | 3 MIN READ

The mTherm-FaceSense. KORNRAWEE KAEWMOON

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THE INSTITUTE A team of researchers at Thailand's National Electronics and Computer Technology Center, part of the country's National Science and Technology Development Agency, in Pathumthani, has built a temperature-

https://spectrum.ieee.org/this -temperaturescreening-system-for-covid19-can-check-up-to-9-people-at-once Aug. 2020

https://www.optica-opn.org/home/articles/volume_36/june_2025/features/the_growth_of_agriphotonics/

The Growth of Agriphotonics

A farmer carrying rice plants through a paddy field in Thailand.
saravutvanset / Getty Images

Sarun Sumriddetchkajorn

Leveraging photonics technology for agricultural applications provides promising solutions for challenges to global food production.

JUNE 2025 OPTICS & PHOTONICS NEWS

OSA Optical Society of America

OPTICA Thailand Chapter

OSA Thailand Chapter

ก่อตั้งเมื่อ

22 ต.ค. 2545

สาขาแรกในภูมิภาคเอเชียตะวันออกเฉียงใต้

HOME PAGE

OSA Home Page

Susannah Lehman

New OSA Student Chapters And Local Section

OSA is pleased to announce the formation of two new student chapters, including one at Clemson University, South Carolina, and one at the Shanghai Institute of Optics & Fine Mechanics. The Shanghai Institute Student Chapter is the first to be formed in China.

The first OSA local section in Southeast Asia was also formed in 2002 in Bangkok, Thailand. Spokespersons for the section say that it wants to encourage local industries to sponsor an award that would enable winning high school and undergraduate students to continue their optics education in Thailand. The officers of the new local section are Preecha Yupapin, president; Tiparatana Wongcharoen, vice president; and Sarun Sumriddetchkajorn, secretary.

The newest OSA student chapter in the United States was formed at Clemson University in Clemson, South Carolina. Stephen H. Foulger is the chapter's faculty advisor. The officers are Anoop Patil, president; Gaurav Sharma, vice president; Mohsen Rizvi, secretary; and Jianyong Jin, treasurer.

The faculty advisor of the Shanghai Institute of Optics & Fine Mechanics chapter is Changhe Zhou. The officers of the chapter are Peng Xi, president; Enwen Dai, vice president; Nengli Dai, treasurer; and Xin Zhao, secretary.

Some of the members of OSA's new student chapter in China in front of the Shanghai Institute of Optics and Fine Mechanics.

Members of OSA's new local section in Thailand, photographed at their first meeting.

OSA to Host "Optical Sensing For Homeland Security" Forum

On Feb. 19-20, in Washington, D.C., OSA is hosting a meeting that will bring together scientists and engineers developing optics- and photonics-based sensors for homeland security, as well as military and law enforcement officials who use the technology.

The speakers will explore ways in which optical sensing can be used to assist law enforcement and military personnel in their work. Topics will include current and future research projects; new technologies; key environmental, chemical and biological threats and the early warning systems that could be developed to respond to them; customs and border security issues; and threats to food and water supplies.

To register for the meeting, go to <http://www.osa.org/meetings/topicals/oshs/>. The deadline for pre-registration is February 3.

Mark Your Calendars!

Bragg Gratings Photosensitivity and Poling in Glass Waveguides 2003 (BGPP)

The call for papers is posted online at www.osa.org/bgpp Abstract and Summary Deadline: April 28

Fred Hansen Inducted as OSSC Fellow

The Optical Society of Southern California (OSSC) has elected Wilfred J. (Fred) Hansen, an optics industry protagonist for more than 50 years, as its newest Fellow.

Hansen attended the University of Southern California, where he majored in business administration. He served as president of Hayward Scientific Glass, and in 1964 participated in the group that launched Optical Instruments Corp. (OIC) in Buena Park, California. In 1985, after OIC was sold to Sigma Corp., Hansen continued to run the company. In 1991, he helped create a new company, Optical Instrumentation, (Buena Park, California), where he worked until his retirement in 1999.

Hansen has a long history with OSSC. He has been actively involved in the chapter for decades and has attended meetings since 1953.

He was awarded a lifetime membership, a Fellows badge and a plaque at an induction ceremony on October 9. Prior to his election, the OSSC Board passed a resolution in-

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IEEE-LEOS Thailand Chapter

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CHAPTER HIGHLIGHTS

IEEE-LEOS Dayton Chapter

The Miami Valley area of Dayton, Ohio, announces a new LEOS chapter. Generally known for its aerospace and automotive technology, optical technology also plays a major role in Dayton. It is home to the electro-optics division of the Air Force Research Laboratory (AFRL), the Air Force Institute of Technology (AFIT). It is also home to the University of Dayton, which is one of the few institutions in the U.S. that offer a doctorate in electro-optics. The chapter kick-off meeting took place on Dec 2, 2002. Milton Chang, the keynote speaker, drew a large crowd of almost 100. The meeting included industry exhibit booths and student posters. The meeting was jointly sponsored by the Ohio Optics Consortium (OOC). Dr. Andrew Sarangan from the University of Dayton has been serving as the organizing chair of this chapter.

IEEE-LEOS Thailand Chapter "The First IEEE-LEOS Chapter in Southeast Asia"

DR. SARUN SUMRIDDETCHKAJORN

December 13, 2002

Initiated by Dr. Sarun Sumriddetchkajorn in 2001, the IEEE Lasers and Electro-Optics Society (LEOS)'s Thailand Chapter (LEOS-TC), which is also the first IEEE-LEOS chapter in Southeast Asia, has been recognized on the 19th November 2002. LEOS-TC aims to stimulate interest in optics/photonics; promote and disseminate the knowledge of optics, the engineering of optical systems and closely allied sciences; to promote the mutual needs and interests of its members, scientists, engineers, teachers, students and skilled workers in these fields; and to encourage free discussions of problems and discoveries among investigators of optical problems, designers, manufacturers, and users of optical apparatus. LEOS-TC will also persuade local industries to sponsor a special award to recognize students with interest and talent in optics and photonics technologies from high school to undergraduate levels.

The LEOS-TC had the inaugural meeting on September 9, 2002, as shown in Fig.1 to discuss the activities that can benefit Thai society and to vote for its officials. Current voted one-year-term officers are the President of the LEOS-TC "Dr. Athikom Roeksabutr," the Vice President of the LEOS-TC "Dr. Pichet Limsuwan," and the secretary of the Chapter " Dr. Sarun Sumriddetchkajorn."

After finishing the voting process, all attended IEEE-LEOS members visited the National Electronics and Computer Technology Center (NECTEC)'s Electro-Optics Section as shown in Fig.2 to see several projects related to photonics, optical sensors, thin film technology, and microelectromechanical systems (MEMS).

In addition, very recently the LEOS-TC organized one technical meeting and one professional meeting. The technical meeting was on December 4, 2002 given by Dr. Pak Chu from City University of Hong Kong on a talk of " Recent Advances in Optical Fiber Technology for WDM systems." The professional meeting was held on December 12, 2002, on a talk entitled "OptiWave Software" by Dr. Velko Tzolov, OptiWave, Inc.

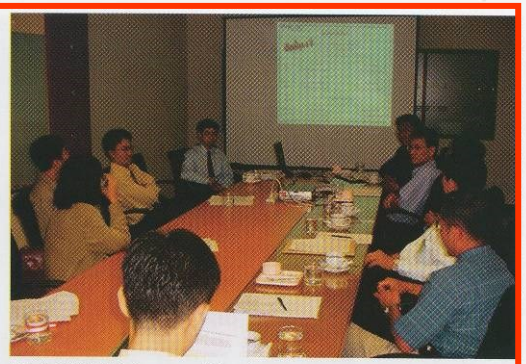

Fig.1 LEOS-TC Inaugural Meeting

Fig.2 IEEE-LEOS members visited NECTEC's Electro-Optics Section during the IEEE-LEOS Thailand Chapter's inaugural meeting.

SPIE Thailand Chapter

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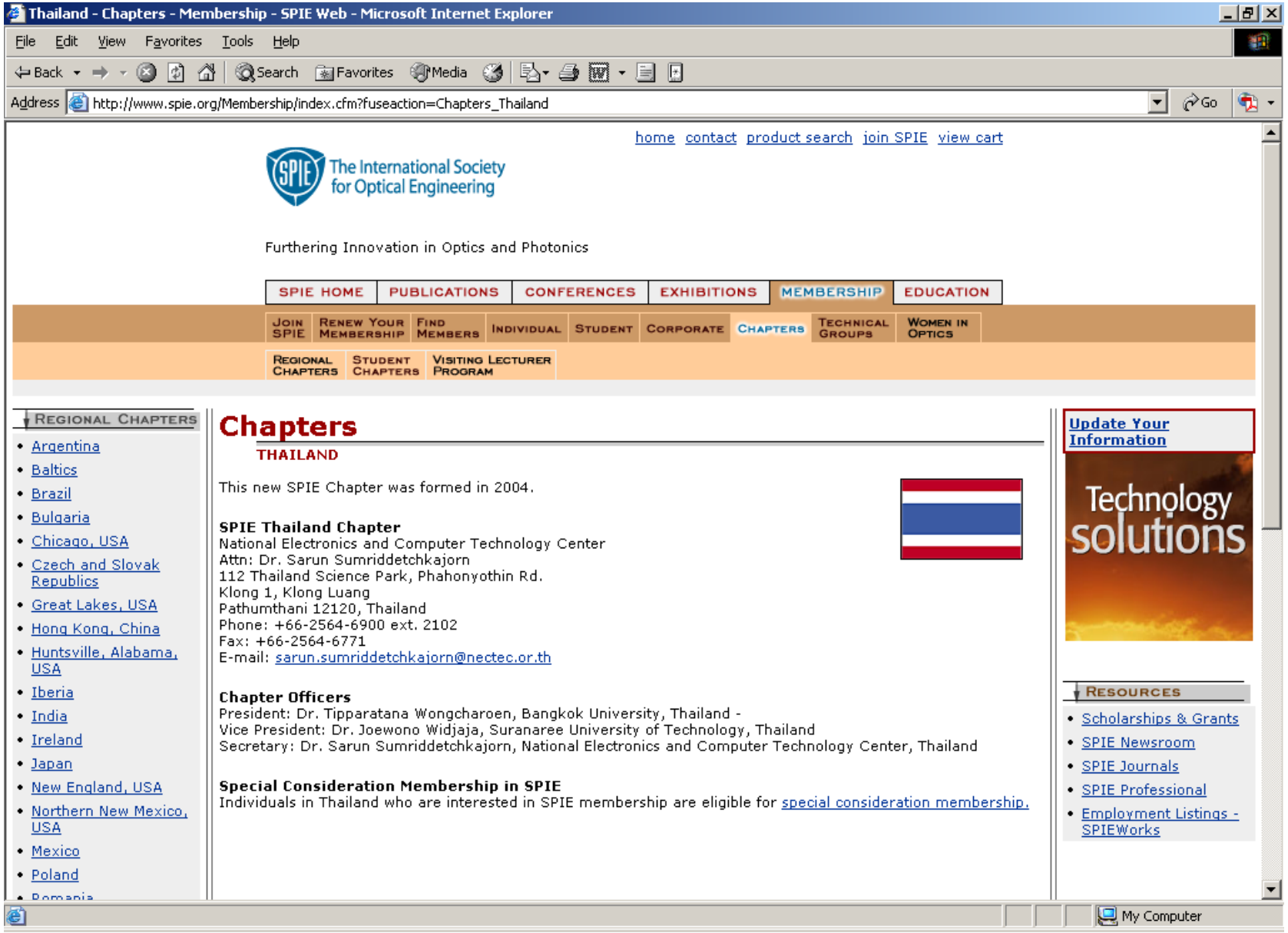
ปัจจุบันได้ยกเลิกไป เนื่องจาก SPIE เน้นเฉพาะ Student Chapter



JULY 2009

NEWSLETTER

COMMISSION INTERNATIONALE D'OPTIQUE • INTERNATIONAL COMMISSION FOR OPTICS

Optics and photonics in Thailand are gradually growing. On the industrial side there are more than 8000 companies and manufacturers with ~USD0.81 billion in investments. Research activities in 14 universities and three national research institutes are also very active, especially in the fields of ophthalmic lens design, spectroscopy, optical communications, laser material processing, optical information processing, quantum information processing, sensing, security, green IT, biophotonics and nanophotonics. In addition to scientific publications, the focus is on research topics that directly respond to the needs of industries, government organizations and local communities.

Growing optics and photonics in Thailand

Focus on a national effort in Thailand to boost research and investment in optics and photonics.

More than 2100 copies of *Photonics: the miracle of light* have been sold and distributed around Thailand.

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Examples of the research output in field and industrial prototypes cover progressive lens designs, self-cleaning mirrors, non-invasive lie-detection systems, non-invasive credit-card verifiers, mass human temperature screening systems, non-contact lens thickness measurement systems, and surface plasmon resonance-based biosensing systems.

Apart from the research arena, scientists at national research centres, professors from local universities and engineers from companies are working together with officers from the Thai Industrial Standards Institute to revise industrial standards for fibre-optic cables and related issues. In addition, to strengthen optics and photonics in the Thai community, in particular in education, they have been working closely to initiate activities that can help motivate new workforces, students and the general public. More than 2100 copies of the book *Photonics: the miracle of light* (in Thai) have been sold and distributed. The book aims to simply show that basic optics and applications are around us all the time. Under the "Shining Spectrum to Society" project led by Suwannee Phoojaruenchanachai, Thai researchers collected available optical and electronic components to develop an educational kit called "Long Lens with Optics" in Thai (or "having fun with science using light"). This has been donated to 14 schools in rural areas. The researchers also trained 120 teachers on how to use the educational

Thai students using the educational kit "Having fun with science using light", which has been donated to schools.

(Left) Parade of Chiang Mai University science students opening the Songkran ceremony on campus.

(Below) NECTEC researcher Sarun Sumriddetchkajorn assists an undergraduate student.

Optics in Thailand

Grover A. Swartzlander Jr.

Earlier this year, I was asked to present a talk on optical tweezers to the first OSA chapter in southeast Asia. The talk was presented at the National Electronics and Computer Technology Center (NECTEC) in Pathumthani, Thailand. An additional talk was presented at Chiang Mai University, in the northern part of the country.

Recognizing the need for independent technological capabilities, Thai officials began construction of a cluster of high-tech government sponsored laboratories in 1996. Located near Thammasart University and the Asian Institute of Technology in Pathumthani, the complex now includes NECTEC, Biology Technology Center (BIOTEC), Materials Technology Center (MTEC) and Nano-Technology Center (NANOTEC) facilities which work in the biological, material and nanosciences. These well-equipped labs are contracted by various government agencies to support national interests ranging from rice and silk production to environmental surveillance and remote sensing. Interdisciplinary collaborations between divisions are common.

The optics branch at NECTEC, which employs four full-time scientists, provides training throughout the year to roughly 30 students from universities and high schools. As yet, the country produces few doctoral students specializing in science and engineering. As a result, the Thai government provides scholarships to students seeking advanced degrees in these areas.

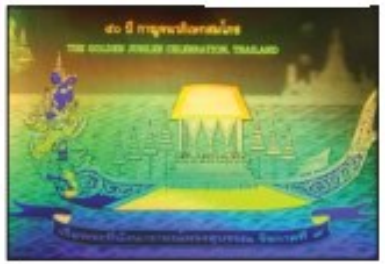
Undergraduate and graduate training in optics is available at some universities and private companies. Chiang Mai University, for example, has a combined optics and materials science program. My visit there coincided with Songkran, the Thai New Year, when respect is shown to elders. Students, for example, kneel before their professors, who sprinkle them with flower-scented water. The professors simultaneously offer blessings of good luck for the new year. Students and professors exchange jasmine leis, and professors bless the students again while tying string prayer bracelet around their wrists. This expression of mutual respect is an example of something I observed frequently during the trip: the highly cultivated civility exercised by the Thai people. Such civility, combined with a strong work ethic and a low cost of living, may help explain why Thailand is growing in popularity as a venue for international conferences.

For me, as an educator, scientist and enthusiast of Buddhist culture, this visit was full of unforgettable experiences. A strong interest in optics and photonics has evolved since Thailand emerged as a so-called mini-dragon economy in the 1980s. Today economic growth is replacing the bust of the late 1990s. Buddhism is an integral part of the social fabric, providing a spirit of resiliency through good times and bad. A visitor to Thailand soon understands why the country was formerly named Siam, meaning "land of smiles." Whether visiting laboratories or temples, palaces or markets, I always found the welcoming glow of smiling faces. I am very grateful to my host, Sarun Sumriddetchkajorn at NECTEC, for providing information for this article, for inviting me to Thailand and for his work in establishing the Southeast Asia Chapter.

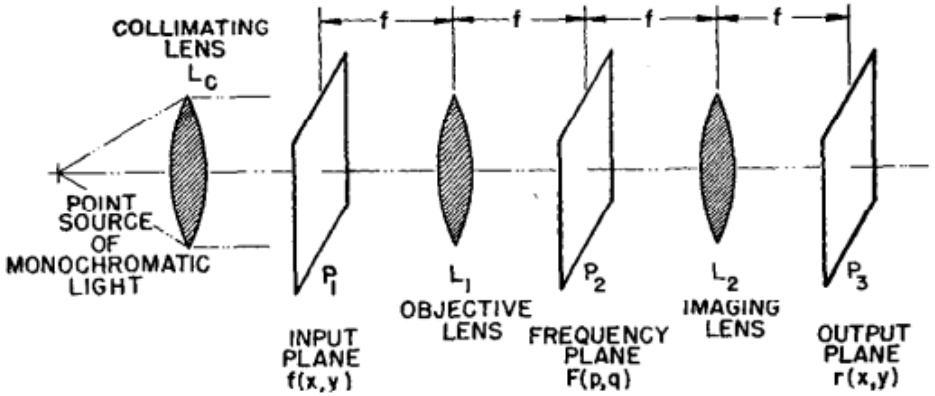
Grover A. Swartzlander Jr. (grover@optics.arizona.edu) is with the Optical Sciences Center, University of Arizona, Tucson.

(Left) Students at Chiang Mai University showing respect and receiving blessings during Songkran festival day.

(Below) Three-dimensional embossed hologram created at NECTEC for memorial of the Golden Jubilee Celebration of His Majesty King Bhumibol Adulyadej.



2-D Optical Processors

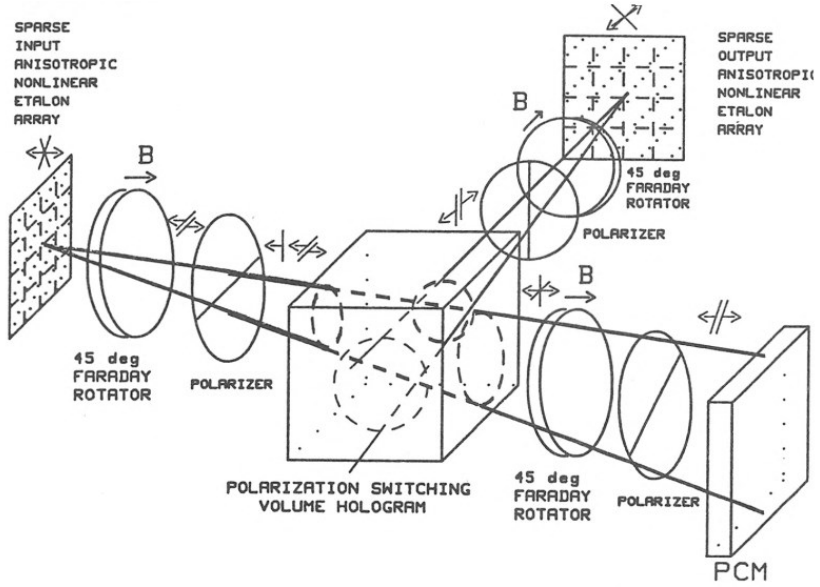


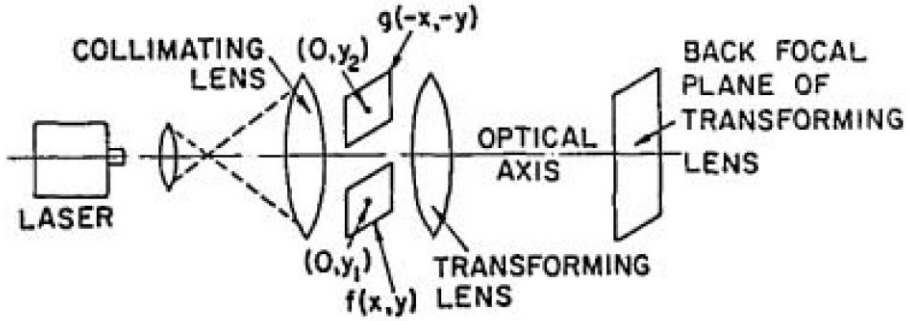
4f Coherent Optical Processor

A. V. Lugt, *IEEE Trans on Infor Theory* 10, 139-145 (1964)

Optical Neural Network Processor

K. Wagner and D. Psaltis, *Appl. Opt.* 26, 5061-5076 (1987)





Optical Joint Transform Correlator

C. S. Weaver and J. W. Goodman, *Appl. Opt.* 5, 1248-1249 (1966)

8-Ch (1-D) SiPh Chip for Optical Joint Transform Correlator

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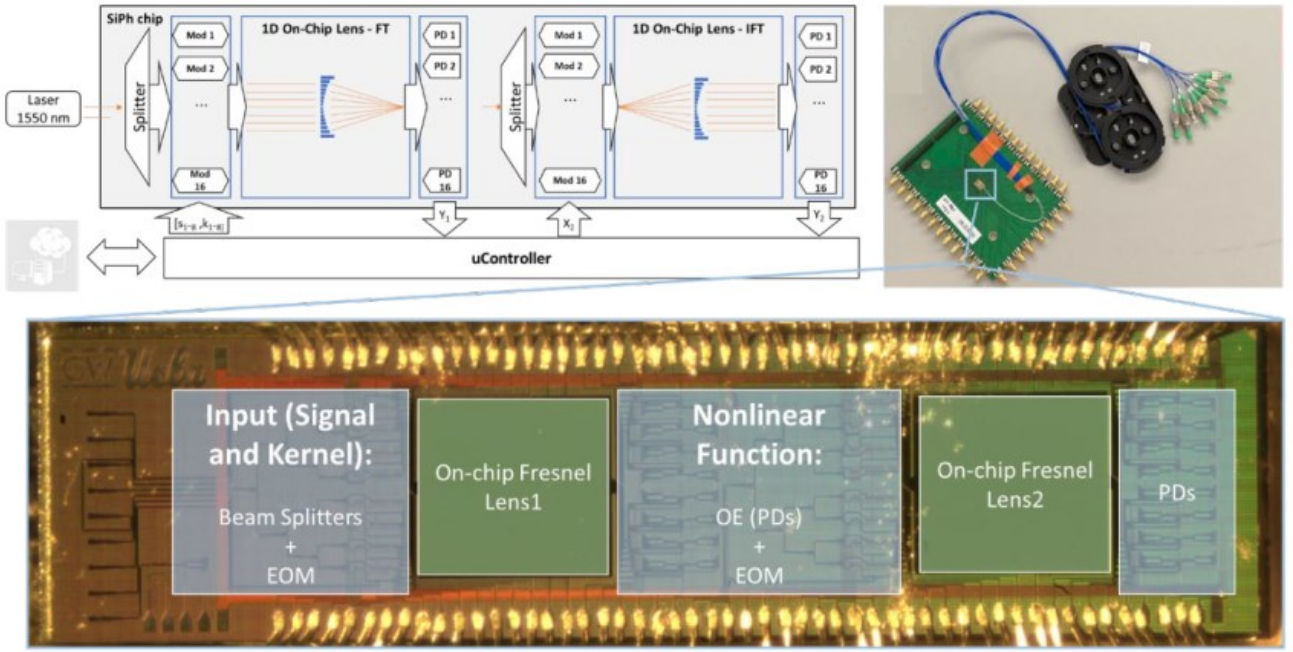
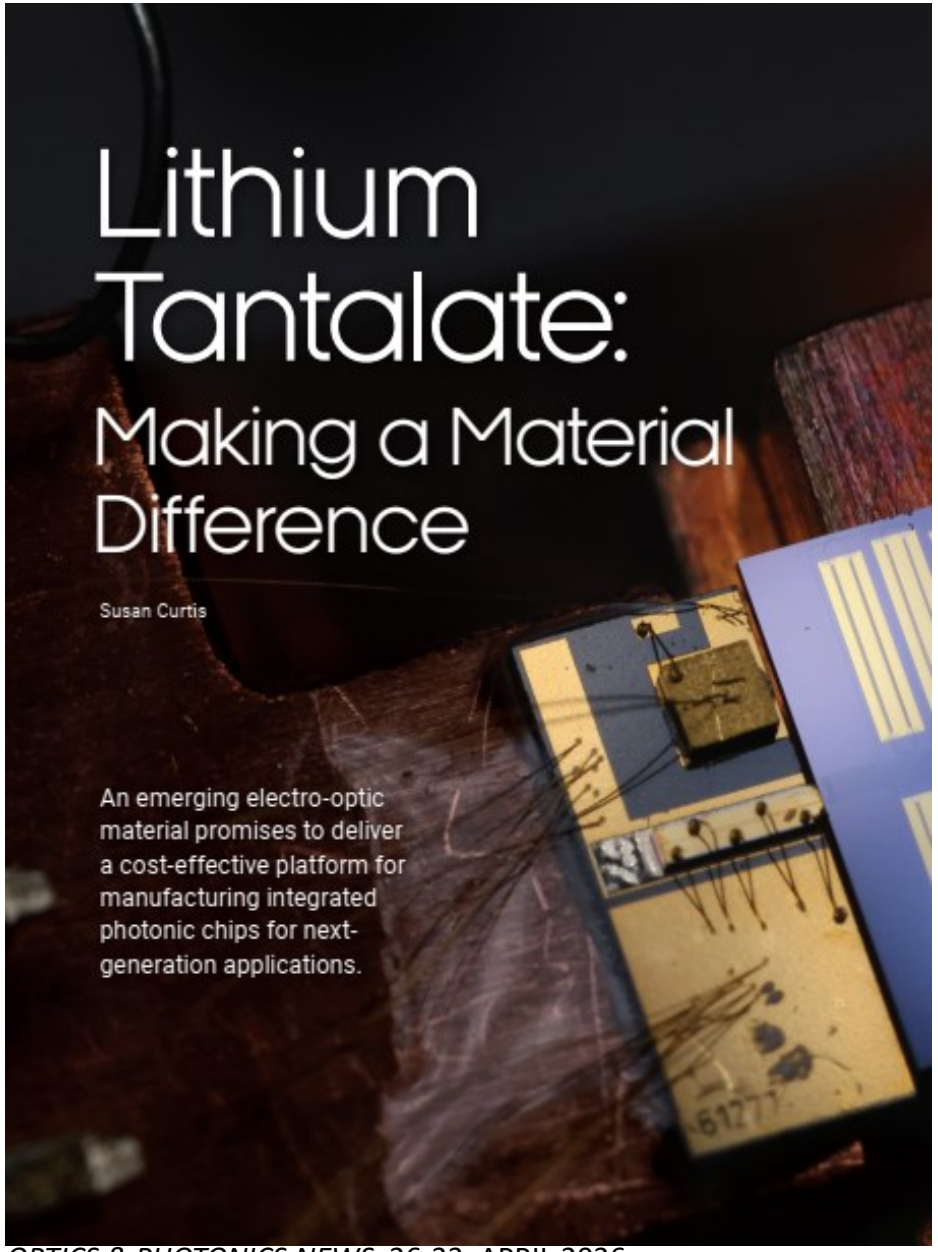
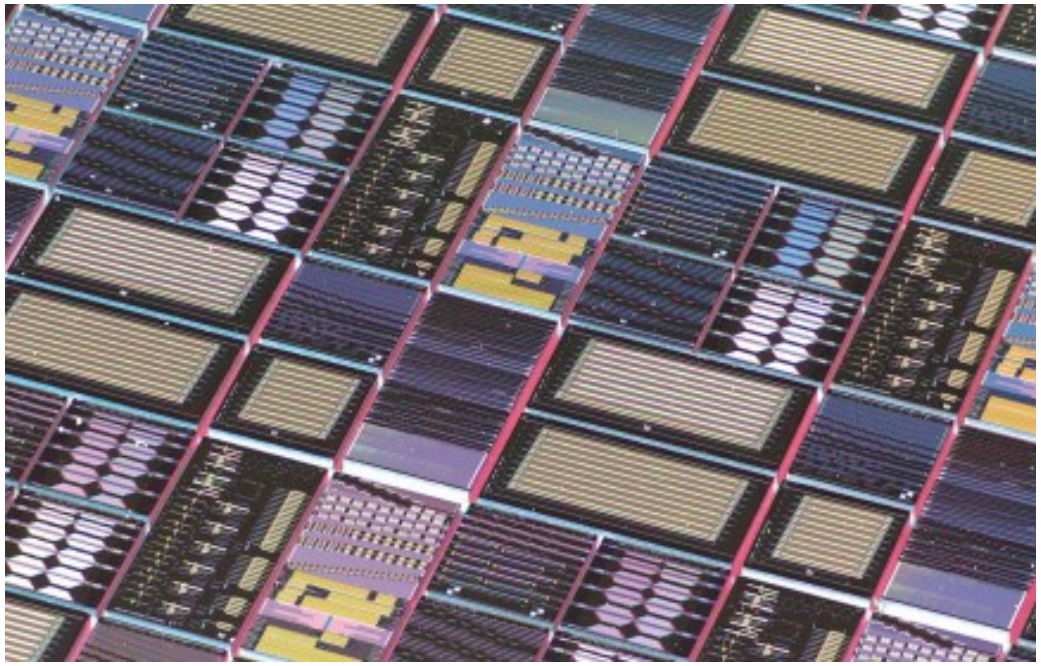




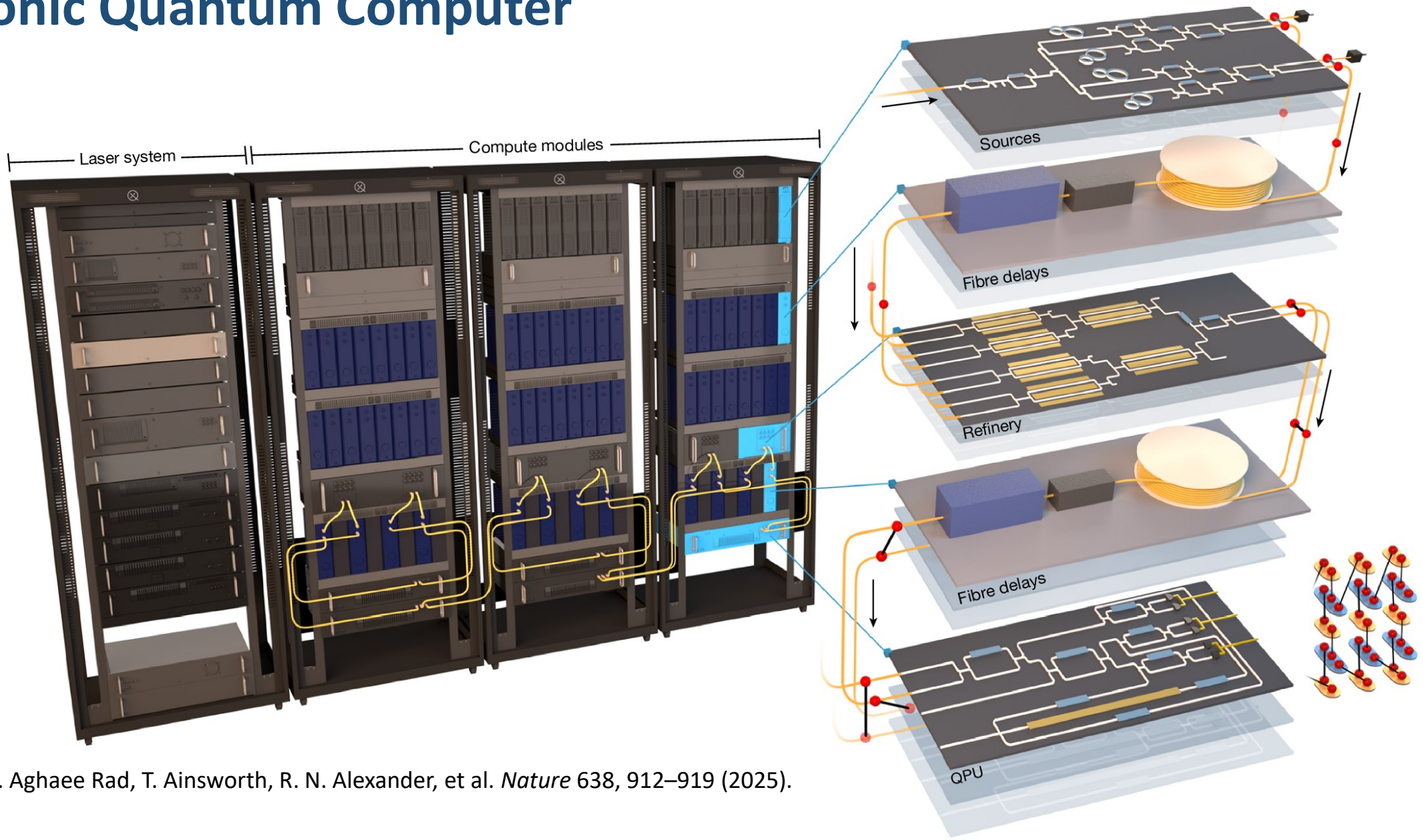
OPTICS & PHOTONICS NEWS, 26-33, APRIL 2026

Potential Material



Photonic integrated circuits fabricated by Luxtelligence on a lithium tantalate wafer

Photonic Quantum Computer



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