



i-Ride
是什麼?



到飛行劇院 遊世界

衝上雲霄，俯瞰異國美景



《飛越歐洲》| 挪威佈道石

※片單之上映檔期以現場公告為主



加拿大



臺灣



澳洲



美國



巴黎



埃及

2021 OPTIC

12/02-12/05 期間限定方案

憑大會識別證可享
i-Ride飛行影片 **300**元優惠價
原價480元

i-Ride飛行劇院

航點地址 (智崙集團內)
高雄市前鎮區復興四路9號

營業時間(平日午休一小時)
週三至週日 09:30-17:00

飛行預約專線
(07)537-2858

高雄展覽館
輕軌C7軟體園區站





RL

銳隆光電 RUI LONG

先進材料開發

染敏/鈣鈦礦/化學材料/導電軟板

導電玻璃/導電蝕刻圖案



光電玻璃及半導體矽晶圓
太陽能/半導體/觸控/面板
Led/生物辨識玻璃

銳隆集團

服務項目

037-431674



面板+觸控產業: 8代以下光電面板玻璃加工與客製化。切割/研磨/印刷/強化/鍍膜/模組導電線路蝕刻。

半導體產業: 各式矽晶圓2-12吋/石英晶圓2-12吋/藍寶石2-6吋/玻璃晶圓2-12吋/碳化矽2-6吋/晶圓單雙拋雙氧. 單雙拋雙氮化. 矽氧片. 氮矽片. SOI矽晶/鍍銅鍍金鉑矽片鍍膜/砷化鎵等III-V族和鍍片。濺鍍代工Al, Cr, Ti, Ni, SiNx, Cu, Ag. /光罩玻璃/石英客製化/曝光顯影蝕刻代工。

LED+散熱產業: 陶瓷基板客製化圖案雷射加工/氧化鋁/氮化鋁/碳化矽/石墨片/氧化鋯/石墨均溫片。

科學研究產業: 光電材料基板全面性客製化提供/導電玻璃/導電軟板/導電線路加工/客製化需求。石墨烯導電油墨/水性氧化石墨烯分散液/水性石墨烯分散液/磺化. 醯基化. 胺基化. 羧基化石墨烯。

【產業實驗室】+【學術實驗室】+【國家實驗室】所需材料. 儀器. 日常耗材. 化學品一站式銷售網站。



ruilong

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銳隆廠：苗栗縣後龍鎮大山里76-1號

電話：037-431674 郵箱：kenabcabc@gmail.com

網站：https://www.rlo-vip.com



銳隆科研

科研廠：苗栗縣後龍鎮校椅里糠榔二街279號

電話：037-583702 郵箱：sci888study@gmail.com

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光機電整合設計的最佳夥伴 -思渤科技

Ansys ZEMAX

用於消除畸變的
反射鏡設計

Ansys Lumerical

加強反射效果的
偏振片之微結構設計

HUD設計

用於在空間布局、
雜散光分析以及
目視效果評估上

用於評估因高功率
的光源所引發的
光學元件熱形變

Ansys SPEOS

Ansys Mechanical

HUD設計所面臨的多物理場難題，通通交給 Ansys！



講題： Ansys Multiphysics Simulation of HUD



時間： **12/2 13:30-14:30**



地點： 會議室303C

解密如何透過 Ansys 強大的
多物理整合平台解決抬頭顯示器
設計的研發挑戰

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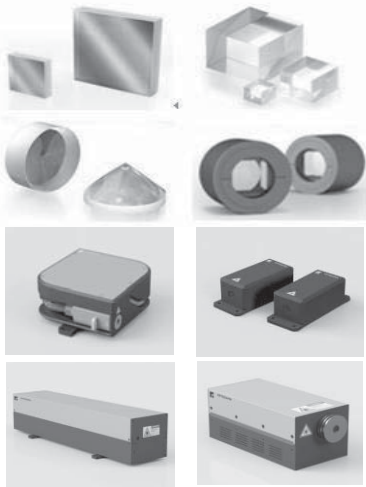


Veego 維佳科技股份有限公司

世界知名光電產品代理商並提供客戶雷射加工光路系統整合及應用服務

OPTOGAMA

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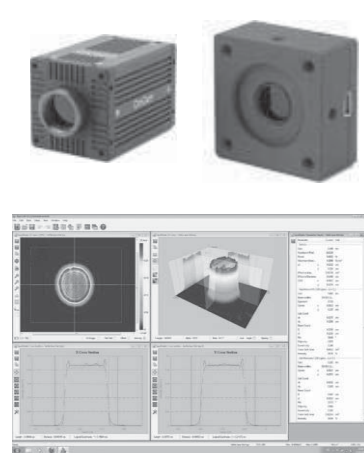
ASAHI SPECTRA

Light Source / Filters



CINOGY TECHNOLOGIES

CinCam / CO2 Beam profiler



VORTAN LASER TECHNOLOGY, INC.

Laser Diode Modules



CAMBRIDGE TECHNOLOGY

A Novanta Company

Galvanometer / Scan



standa

Mount / Stages / Measurement



laservision

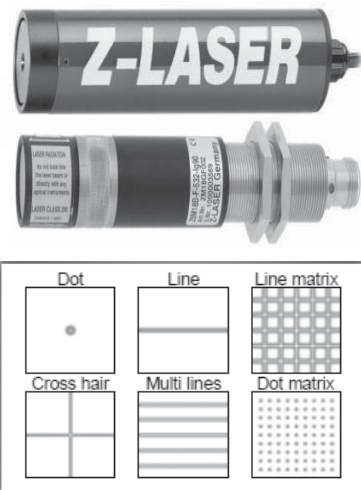
Eyewear / Filters / Barriers



Z-LASER

Intelligent Solutions in Light

Positioning Lasers



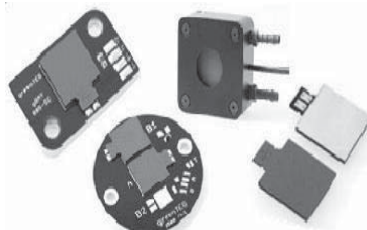
GEO MATEC

Beam Expander / F-Theta Lens



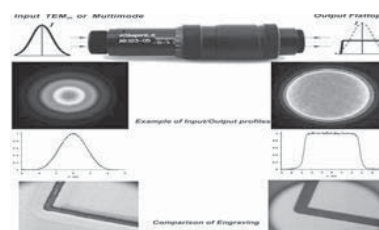
greenTEG

Power Detector



AdiOptica

Pi - Shaper / Focal Pi - Shaper



Gooch & Housego

ENABLING PHOTONIC TECHNOLOGIES

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單光儀與光譜儀



薄膜與拉曼量測



多軸運動平台



雷射光功率計
光束分析儀



光學防震桌





INTEGRATION TRANSCENDS LIMITATION

ABOUT US

因應國際半導體技術發展趨勢與新興應用的崛起，國內半導體研究亟需更具整合性的研究優質環境以整體提昇人才培育品質。國家晶片系統設計中心與國家奈米元件實驗室在過去30年為國內產學研所建立的先進半導體研究環境基礎上，於2019年元月起整併，提供從元件、電路到系統整合的一條龍半導體驗證服務，建立半導體製造、封裝測試、IC設計、矽智財、系統整合等開放性資訊與服務平台，讓國內產學研團隊共用這些資源，縮短技術開發與驗證時間，避免資源重複投入，成為國內產學研在半導體研究的加速引擎，培育整合性高階實務人才。

HISTORY

- 2019年國家實驗研究院台灣半導體研究中心(TSRI)
- 2003年改隸於「財團法人國家實驗研究院」(NARLabs)
- 2002年更名為「國家奈米元件實驗室」(NDL)
- 1997年成立「國家晶片系統設計中心」(CIC)
- 1993年更名為「國家毫微米元件實驗室」
- 1992年籌設「晶片設計製作中心」計畫
- 1988年籌設「國家次微米元件實驗室」計畫



先進元件 製程服務平台

下世代元件技術
新穎記憶體技術
積層型三維積體電路技術
2.5D/3D封裝技術
氮化鎵功率元件技術
微機電感測元件技術
生醫藥敏感測技術



前瞻晶片與 系統設計平台

AI SoC 晶片設計平台
智慧感測晶片系統
低功耗物聯網設計平台
矽光子光電積體化系統
CMOS 微機電感測平台
無線能量擷取技術
影像感測晶片技術
微波毫米波主動電路
封裝型天線、天線陣列設計
異質封裝技術



精密測量 服務平台

材料分析服務
電子元件量測服務
晶片與系統量測服務
矽光子元件量測服務
微機電系統量測服務



高階半導體 人才培育

晶片設計實作課程
半導體製程實作課程
半導體製程設備課程
高頻量測技術課程
材料分析技術課程
晶片量測課程
E-Learning線上課程

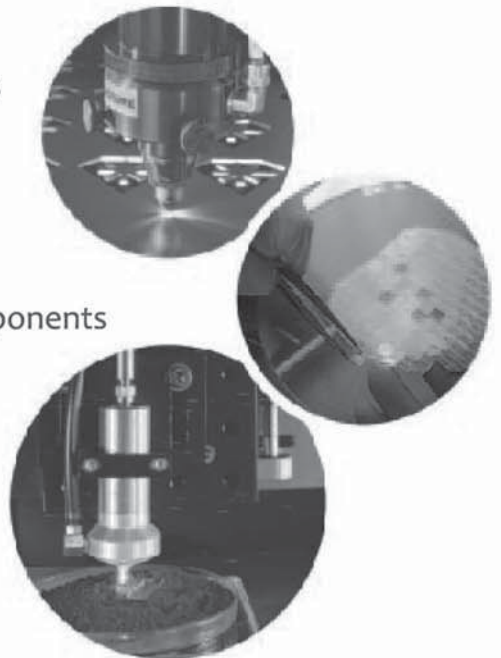
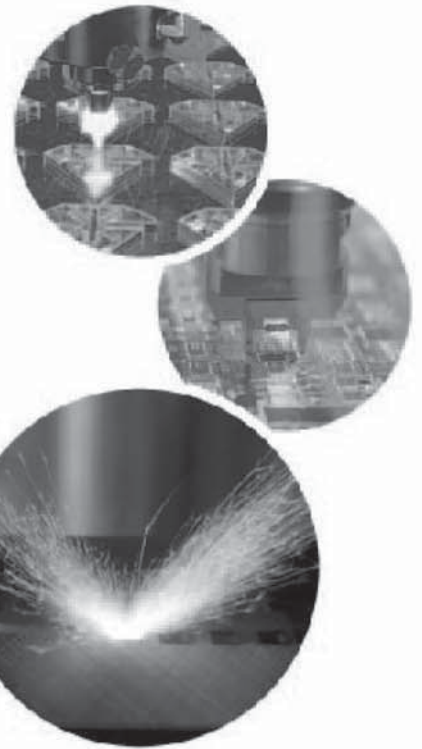


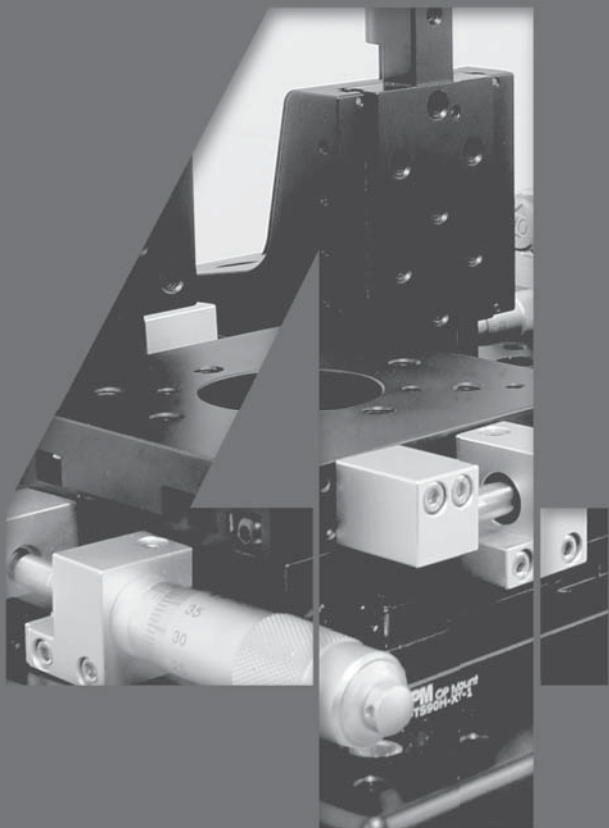
Coherent is one of the world's leading suppliers of laser and photonics-based solutions to a broad range of commercial and scientific research customers. We design, manufacture and market lasers, laser-based systems, precision optics and related accessories for a diverse group of customers. Since our beginnings in 1966, we have expanded our business through a combination of internal growth and the strategic acquisition of companies with related technologies.

Coherent designs, manufactures and markets laser sources, laser tools and systems, laser measurement Instrumentation, and laser components for a wide range of markets and applications.

Our products :

- Excimer Lasers / Diode-Pumped Solid-state Lasers
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- Ion Lasers / Tunable Lasers
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靈敏度達1nV

動態儲備達120dB

觸控液晶面板，設定參數更方便，觀測訊號更直觀



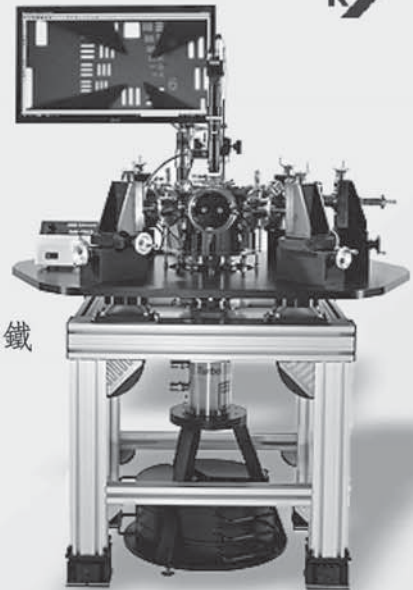
脈衝／延遲產生器DG645

控制同步與時序的最佳幫手

4通道脈衝訊號、8通道延遲訊號

最大延遲時間2,000秒

解析度5ps



低溫探針台

高度客製化產品

可選配超高真空、超導磁鐵



低溫系統uDrift

專為奈米光學研究設計的閉循環低溫系統

低溫降至5K

振動降至2nm

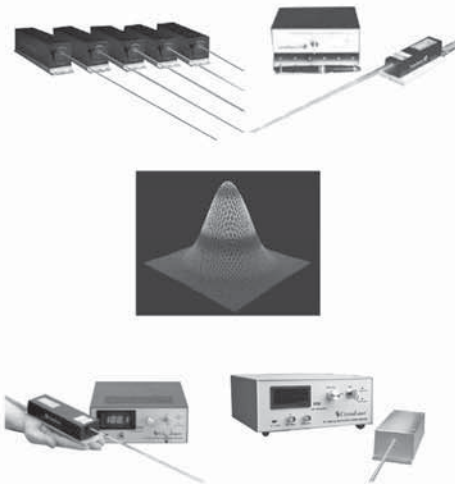
溫度穩定性3mK

可提供高NA真空物鏡





► 精密光學治具、精密旋轉/傾斜/
升降移動平台、電控步進馬達



科研級高穩頻雷射光源



► 高功率雷射用鏡片、透鏡



► 微型光纖光譜儀、近紅外光光譜儀、螢光/手持式拉曼(Raman)光譜儀、
科研級拉曼(Raman)光譜儀、拉曼(Raman)模組



► 雷射切割、雷射焊接、雷射清洗



► 雷射功率計/能量計波長範圍10pW~10000W, 193nm~10.6μm
LED光束波型分析儀、雷射M²參數分析儀



► Thorlabs 全台最低價格
交期穩定、滿額享額外折扣

光學元件、鏡(濾)片、光譜量測、Laser、Light source、高速成像(sCMOS)解決方案

佐信科技有限公司---Raman 、STM、Mini-Spectrometer

- TERS, STM-Raman · Raman結合STM可以提升將解析度到Nano等級
- MRIA：雙雷射系統可由軟自動切更雷射波長。台灣專利I709732，美國申請中
- MRID、RAMaker：Polarization、TCSPC、FLIM
- RAMaker：最高支雷射切換，Polarization、TCSPC、FLIM，UV Raman



- Avantes迷你光譜、可以指訂多樣化的Grating和Slit生產，以達到最佳的客製化程度，同時有cooled、Dual或Multi Channel的模組可供客戶做挑選，最中範圍可200~2,500nm
UV~Vis~NIR 200~1100nm~1700nm 或2500nm
- 應用領域：OLED 暫態光譜生命週期領域應，螢光、磷光、瞬態吸收、OES/LIBS、膜厚量測



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Contact

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Website：https://www.protrustech.com





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[台北總公司]

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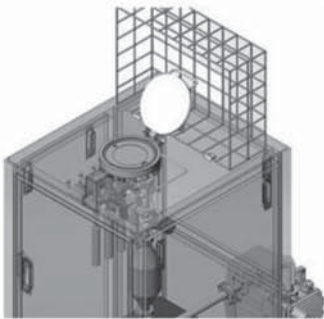
E-mail: kaoduen@gmail.com

[台南分公司]

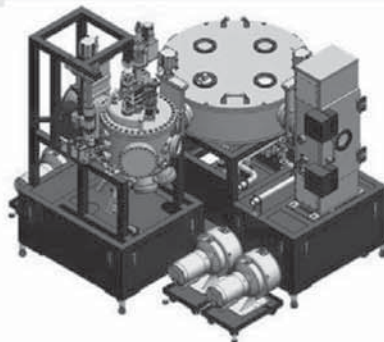
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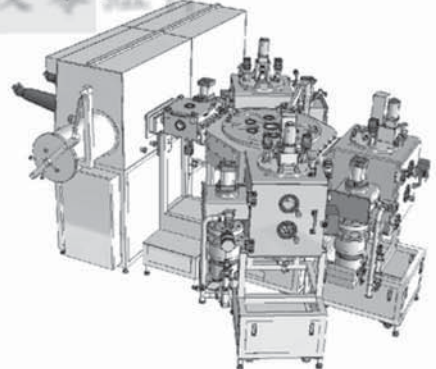
專業實驗型真空鍍膜設備及零組件



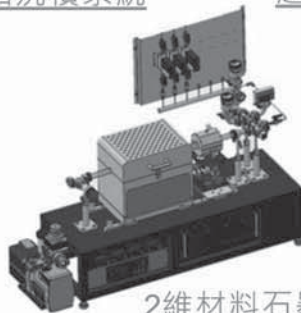
原子層氣相沉積系統



超高真空枚葉式濺鍍系統



鈣鈦礦/鋰電池枚葉式鍍膜系統



2維材料石墨烯系統



電池量測及壓合系統



電子槍蒸鍍源

直流、射頻、脈衝直流電漿電源產生器

HIPIMS/UHV 磁控濺射源

高溫基板加熱器 (Max. 950~1200°C)

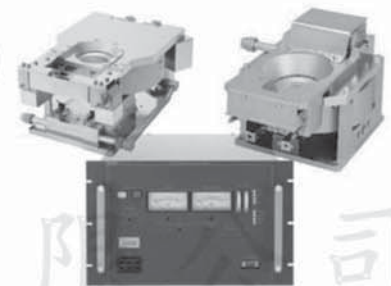
石英振盪式膜厚監視控制器

各式真空壓力計 & 真空幫浦 & 閥門及管件

氣體質量流量控制器與電源供應器

真空導入端子及視窗

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全方位光學設計．模擬．量測解決方案

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CODE V

光學/成像系統分析

- 廣泛的建模、分析與評價功能
- 強大的最佳化設計
- 快速的公差分析
- 直覺的規格表與即時規格評價



LightTools

照明系統設計模擬

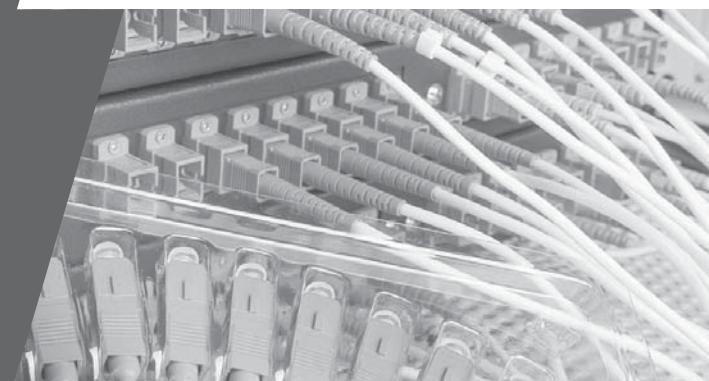
- 易學、彈性的建模能力
- 便利的參數式幾何特性修改功能
- 精準可靠的模擬結果
- 獨一無二的照明最佳化及公差分析



RSOFT

波動光學 x 電磁光學模擬套件

- 設計應用包括微/奈米結構、平板光學、光子元件、光通訊系統、半導體雷射
- 多達7種被動元件模擬演算法
- 提供單模/多模/積體光通訊系統設計工具



Mini-Diff/ REFLET

光學表面散射特性量測

- 可快速/精準量測材料的散射特性
- 數據可保存為文字檔或其他格式，便捷地導入光學軟體中使用



了解更多詳情，歡迎與我們連繫：03.558.1898 呂小姐/ 03.558.1724 陳先生/ 03.558.1859 陳先生

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<https://www.synopsys.com/zh-tw/optical-solutions.html>

Giant Tek Corporation

Laser Grooving



Process: Laser Groove Buried Contacts (LGBC)
 Laser Unit :Diode pumped Nd:YVO4 532nm
 Wafer size : 4"~8"
 Aspect ratio:>1
 Roller conveyor
 CCD:1/2" NTSC BW Magnification $\approx$ 200
 Alignment Tact Time: $\leq$ 5 sec@2 pint
 Process:
 Substrate size : 200mm
 Laser Unit :Diode pumped Nd:YVO4 1064 nm
 +532nm
 Lens Module:Telecentric lens

Rapid Thermal Annealing / 快速退火爐



實驗室型

2"~4" 晶圓/石墨/SiC載盤
 大氣或真空製程
 溫度範圍: 300~1050°C
 升溫速率: 30°C/秒 (載盤) 或 100°C/秒 (裸片)
 溫度精度: $\pm 1^\circ\text{C}$
 溫度重現性: $\pm 2^\circ\text{C}$
 溫度均勻性: $\pm 1\%$



量產型

6"~12" 晶圓/石墨/SiC載盤
 溫度範圍: 300~1150°C
 升溫速率: 30°C/秒 (載盤) 或 100°C/秒 (裸片)
 溫度精度: $\pm 1^\circ\text{C}$
 溫度重現性: $\pm 2^\circ\text{C}$
 溫度均勻性: 1σ (standard deviation) $\leq 0.4\% ^\circ\text{C}$



Giant-Tek Corporation

No.573, Sec.3, Huanshi Rd., Chunan Township, Miaoli County 35048, Taiwan.
 鉅安科技股份有限公司, 35048台灣苗栗縣竹南鎮環市路三段573號.
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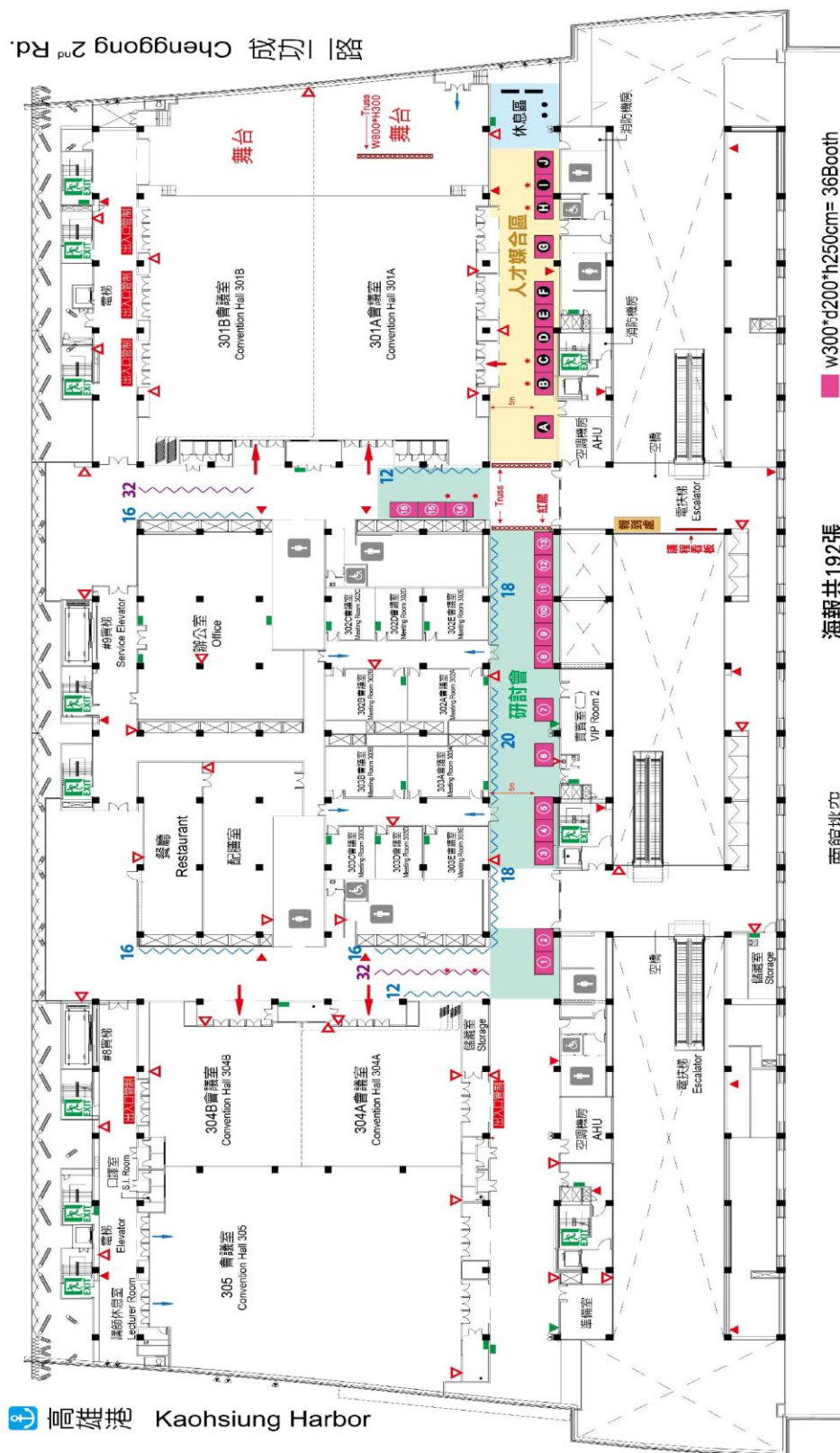
Conference Agenda + Detailed Program

Thursday, December 2 (Day 1)			
Hall 301A Room 302 A B C D E Room 303 A B C D E Hall 304A			
08:30-17:00	Registration Corridor		
09:15-10:00	Annual Meeting of Taiwan Photonics Society Hall 301 A		
10:00-10:30	OPTIC Opening Hall 301A		
	Prof. Ching-Yu Yang, President, National Kaohsiung University of Science and Technology (NKUST) Prof. San-Liang Lee, Chairman of Opt. Photon. Program, MOST Prof. Ching-Cherng Sun, President, Taiwan Photonics Society (TPS)		
10:30-10:40	Coffee Break Corridor		
10:40-11:25 11:25-12:10	OPTIC Plenary Lectures / Prof. Prof. Ching-Cherng Sun Hall 301A		
	(1)Topic : Prof. Yan-Kuin Su Chair Professor, Department of Electrical Engineering, Kun Shan University, Taiwan Emeritus Professor, Department of Electrical Engineering, National Cheng Kung University, Taiwan		
	(2)Topic Prof. Constance J. Chang-Hasnain President of OPTICA 2021, an elected member of National Academy of Engineering, a member of the US Advisory Committee to the International Commission on Optics, National Academy of Sciences.		
12:10-13:10	OPTIC 2021 科技部光電學門成果發表會暨關鍵技術人才媒合會 開幕 Hall 301A		Lunch Time
	OPTICA Member & Student Chapter Meeting & Promotion Room 302 A		
13:15-15:00	OPTIC Oral I Room 302 A B C D E Room 303 A B D E		
	S01. Nanophotonic Materials and Devices I Room 302a	S06.Biophotonics and Biomedical Imaging I Room 303b	
	S02. Optical Waveguides and Communications I Room 302b	S07. Display Technology I Room 302c	
	S03. Quantum Electronics and Laser Technology I Room 303a		
	S04.Holography and Information Processing I Room 302d	S09. Photovoltaic Technology I Room 303d	
	S05. Optical Design I Room 302e	S10. Thin-Film Technology & Coating Design I Room 303e	
13:30~14:30	Topic: Ansys Multiphysics Simulation of HUD Yueh Heng. Lee, CYBERNET SYSTEMS TAIWAN Co., Ltd. Room 303C		
15:00-15:15	Coffee Break Corridor		
15:15-17:00	OPTIC Oral II Room 302 A B C D E Room 303 A B C D E		
	S01. Nanophotonic Materials and Devices II Room 302a	S06.Biophotonics and Biomedical Imaging II Room 303b	
	S02. Optical Waveguides and Communications II Room 302b	S07. Display Technology II Room 302c	
	S03. Quantum Electronics and Laser Technology II Room 303a	S08. Solid State Lighting II Room 303c	
	S04.Holography and Information Processing II Room 302d	S09. Photovoltaic Technology II Room 303d	
	S05. Optical Design II Room 302e	S10. Thin-Film Technology & Coating Design II Room 303e	
17:00-17:45	Taiwan Photonics Society (TPS) Board of Directors Meeting Room 302 A		

Friday, December 3 (Day 2)		
08:30-17:00	Registration Corridor	
09:00-09:45	OPTIC Plenary Lectures / Prof. Tien-Tsorng Shih Hall 301A (1)Topic : Prof. Hon Ki Tsang , The Chinese University of Hong Kong, Hong Kong (2)Topic : Prof. Stephen A. Boppart , University of Illinois at Urbana-Champaign, USA (Video)	
09:45-10:30		
10:30-10:45	Coffee Break Corridor	
10:45-12:00	OPTIC Oral III Room 302 A B C D E Room 303 A B C D E	
	S01. Nanophotonic Materials and Devices III Room 302a	S06. Biophotonics and Biomedical Imaging III Room 303b
	S02. Optical Waveguides and Communications III Room 302b	S07. Display Technology III Room 302c
	S03. Quantum Electronics and Laser Technology III Room 303a	S08. Solid State Lighting III Room 303c
	S04. Holography and Information Processing III Room 302d	S09. Photovoltaic Technology III Room 303d
	S05. Optical Design III Room 302e	S10. Thin-Film Technology & Coating Design III Room 303e
12:00-13:00	SPIE Member & Student Chapter Meeting & Promotion Room 302 A	
	Lunch Time Room 302 B C D E Room 303 A B C D E	
13:00-14:30	OPTIC Oral IV Room 302 A B C D E Room 303 A B C D E	
	S01. Nanophotonic Materials and Devices IV Room 302a	S06. Biophotonics and Biomedical Imaging IV Room 303b
	S02. Optical Waveguides and Communications IV Room 302b	
	S03. Quantum Electronics and Laser Technology IV Room 303a	S08. Solid State Lighting IV Room 303c
	S04. Holography and Information Processing IV Room 302d	S09. Photovoltaic Technology IV Room 303d
	S05. Optical Design IV Room 302e	S10. Thin-Film Technology & Coating Design IV Room 303e
13:00-16:30	S07. Display Technology IV Hall 304A	
15:15-15:30	Coffee Break Corridor	
14:00-16:00	OPTIC Poster Session I S1 - S10 Corridor	
15:30-16:15	OPTIC Plenary Lectures / Prof. Lung-Chien Chen Hall 301A (1)Topic : Prof. Moti Segev , Israel Institute of Technology, Israel (2) Topic : Prof. David L. Andrews , SPIE-President, UK	
16:15-17:00		
17:00-17:30	MOST Photonics Program 2020 Yearly Report & Chairman Overview and Discussion (in Mandarin) Hall 301A	
17:50-20:00	Conference Banquet Hall 305	

Saturday, December 4 (Day 3)		
08:30-12:00	Registration Corridor	
09:00-10:30	OPTIC Oral V Room 302 A B C D E Room 303 A B C D E	
	S01. Nanophotonic Materials and Devices V Room 302a	S06. Biophotonics and Biomedical Imaging V Room 303b
	S02. Optical Waveguides and Communications V Room 302b	S07. Display Technology V Room 302c
	S03. Quantum Electronics and Laser Technology V Room 303a	S08. Solid State Lighting V Room 303c
	S04. Holography and Information Processing V Room 302d	S09. Photovoltaic Technology V Room 303d
	S05. Optical Design V Room 302e	S10. Thin-Film Technology & Coating Design V Room 303e
09:30-11:30	OPTIC Poster Session II S1 - S10 Corridor	
10:30-10:45	Coffee Break Corridor	
10:45-12:15	OPTIC Oral VI Room 302 A B C D E Room 303 A B C D E	
	S01. Nanophotonic Materials and Devices VI Room 302a	S06. Biophotonics and Biomedical Imaging VI Room 303b
	S02. Optical Waveguides and Communications VI Room 302b	S07. Display Technology VI Room 302c
	S03. Quantum Electronics and Laser Technology VI Room 303a	S08. Solid State Lighting VI Room 303c
	S04. Holography and Information Processing VI Room 302d	S09. Photovoltaic Technology VI Room 303d
	S05. Optical Design VI Room 302e	S10. Thin-Film Technology & Coating Design VI Room 303e
12:30-13:20	IEEE Member Meeting & Promotion Room 302 A	
	Lunch Time Room 302 B C D E Room 303 A B C D E	
13:30-15:00	Student Award Ceremony and Conference Closing Hall 301A	

三樓展場平面圖
Exhibition Center Floor Plan (3F)





On behalf of the Taiwan Photonics Society (TPS), I would like to welcome all of you to participate in OPTIC 2021. OPTIC has been traditionally the largest international optics/photonics-related conference in Taiwan. The papers announced in OPTIC reflect the trend of optics/photonics research in the world, and in Taiwan as well. Optics and photonics technology has played more and more roles in modern life when breakthrough devices or systems change the lifestyle of people in the world.

OPTIC 2021 will be held in Kaohsiung, a harbor city in south Taiwan. Kaohsiung is a beautiful industrial city. The industry in Kaohsiung was one of the most important factors to support Taiwan's economics in the past half-century. However, Covid-19 is keeping an impact on international conferences since 2020. OPTIC 2021 has to follow the similar meeting style with OPTIC 2020. Although most of those international speakers are not able to come to Kaohsiung, they still can deliver their talks through the internet to around 800 domestic attendees. This is a big achievement in 2021. The organizer, National Kaohsiung University of Science and Technology (NKUST), has made a big effort to hold OPTIC 2021 and provide a very good chance for domestic people to exchange their ideas face-to-face. I believed that all the attendees in the three-day conference will experience a very fruitful trip to Kaohsiung.

Besides, we would like to thank international societies, including SPIE, OPTICA, IEEE, and OSJ, for their sponsorship and friendship. We also would like to thank MOST and NKUST for their great efforts to make OPTIC 2021 extraordinary.

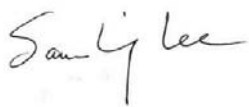
Finally, we would like to thank all committee members, the staff, the presiders, and all participants. Your participation will make OPTIC 2021 a great success.

President, Taiwan Photonics Society
General Chair, OPTIC 2021

As the Photonics Program Chairman of the Ministry of Science and Technology (MOST), it is my greatest pleasure to welcome you to OPTIC2021, which is the joint Meeting of the 26th Annual Meeting of MOST Photonics Program and the 2021 Annual Meeting of Taiwan Photonics Society, held at Kaohsiung Exhibition Center, Kaohsiung, Taiwan between December 2-4, 2021. Thanks to the government's great success in keeping the Covid-19 pandemic under control, we are having a rare physical meeting, even though many of our distinguished foreign guests and colleagues are only able to join the event virtually.

Photonics Program, an extramural program under the MOST, was founded in 1996, the first Annual Meeting of MOST Photonics Program and Photonics/Taiwan's 96 were hosted jointly. The following year, the 2nd Photonics Program Annual Meeting, combined with the Annual Meeting of Taiwan Photonics Society, was renamed Optics and Photonics/Taiwan'97(OPT). The joint meeting is now an annual international conference, OPTIC, which is the biggest academic event in photonics in Taiwan. I am grateful for the full support of Taiwan Photonics Society and the great efforts of National Kaohsiung University of Science Technology, the host of OPTIC 2021, to make the 2021 joint meeting possible.

OPTIC aims to be the platform for all photonics researchers of academia and industry to share and communicate the technology development and future trend. It also provides the chance for the principal investigators of MOST Photonics Program to showcase their research achievements and discuss the national policy discussion for future focus and opportunities in photonics. I would like to appreciate your attendance and contribution to make OPTIC 2021 a very successful event. I wish all of you enjoy the technical and social programs of OPTIC 2021 and your stay in the beautiful harbor city.

A handwritten signature in black ink, reading "San-Liang Lee". The signature is written in a cursive, flowing style.

San-Liang Lee

Chairman, Photonics Program, Ministry of Science and Technology

OPTIC 2021 Conference Chair's remarks

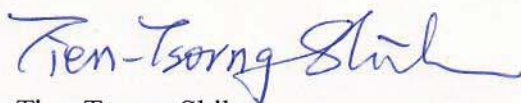
The world is changing. Although the influence of the COVID-19 is decreasing and will be ended finally, but it will be certainly remarked and change the mindset of people. The technology is changing. Better technologies realize the metaverse, and the photonics technology will play a more than ever important role in this field. The city of Kaohsiung is changing. Kaohsiung is transforming to a high-technology city and a better place to live. As you can see, our meeting place locates by a beautiful seashore and a wonderful harbor. National Kaohsiung University of Science and Technology welcome you sincerely, our dearest guest, for the 2021 Optics & Photonics Taiwan International Conference (OPTIC).

OPTIC is the most important conference in the field of optics and photonics at Taiwan. The annual event highlights current researches in ten parallel sessions that will be held throughout the conference. We are honored to have plenary talks by the presidents and fellows of professional societies including IEEE, OSA, and SPIE. The conference collaborates with Ministry of Science and Technology (MOST) to exhibit achievements of projects supported by MOST.

To embrace the age of metaverse and reduce the impact of the COVID-19, many speakers give lectures via live stream or pre-record videos. This kind of on-line meeting makes OPTIC more diversified and attracts more people to join and sharing the leading-edge technologies of optics and photonics. I'm glad to report the total number of oral papers and posters is over 600, and the attendees should be around 1000. Here I would like to thanks the Organization Committee and Program Committee led by Professor Shun-Hsyung Chang and Professor Chyi-Da Yang, respectively. Besides I would like to thank the assistance from Taiwan Photonics Society and Photonics Program of MOST lead by Professor Ching-Cherng Sun and Professor San-Liang Lee, respectively.

On behalf of OPTIC 2021 that I have the honor to represent, I send my deepest wish for the best success to this meeting.

Sincerely yours,



Tien-Tsorng Shih

Dean of the college of Electrical Engineering and Computer Science
National Kaohsiung University of Science and Technology

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Organization

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Prof. Ching-Cherng Sun	President, Taiwan Photonics Society
Prof. San-Liang Lee	Chairman, Photonics Program, Ministry of Science and Technology
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Prof. Shun-Hsyung Chang	National Kaohsiung University of Science and Technology
Program Chair	
Prof. Chyi-Da Yang	National Kaohsiung University of Science and Technology

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Prof. Kwok-Keung Chong	National Kaohsiung University of Science and Technology
Banquet Chair	
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Prof. Hsin-Chieh Yu	National Yang Ming Chiao Tung University
Prof. Chien-Wen Hsieh	National Yang Ming Chiao Tung University

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Prof. Gong-Ru Lin	National Taiwan University, Taiwan

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Prof. Chien-Hung Yeh	Feng Chia University, Taiwan
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Prof. Wood-Hi Cheng	National Chung Hsing University, Taiwan
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Prof. Shang-Da Yang	National Tsing Hua University, Taiwan
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Prof. Shou-Tai Lin	Feng Chia University, Taiwan
Prof. Jui-Yang Feng	National University of Kaohsiung, Taiwan
Prof. Hsin-Hui Kuo	National University of Kaohsiung, Taiwan
Prof. Meng-En Lee	National Kaohsiung Normal University, Taiwan
Prof. Fa-Sien Chang	Cheng Shiu University, Taiwan
Prof. Shih Hsu	Cheng Shiu University, Taiwan
Hir-Ming Shieh Ph.D.	UNION OPTRONICS CORP., Taiwan
S4. Holography and Information Processing	
Chair	
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Prof. Jung-Ping Liu	Feng Chia University, Taiwan
Co-chair	
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Prof. Shiuan-Huei Lin	National Yang Ming Chiao Tung University, Taiwan
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Prof. Wei-Feng Hsu	National Taipei University of Technology, Taiwan
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Prof. Ye-Wei Yu	National Central University, Taiwan
Prof. Ju-Yi Lee	National Central University, Taiwan
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Prof. Yi-Hsin Lin	National Yang Ming Chiao Tung University, Taiwan
Prof. Chung-Hao Tien	National Yang Ming Chiao Tung University, Taiwan
Prof. Yuan Luo	National Taiwan University, Taiwan
Prof. Chien-Yu Chen	National Taiwan University of Science and Technology, Taiwan

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Prof. Cheng-Chih Hsu	National United University, Taiwan
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Prof. Kun-Huang Chen	Feng Chia University, Taiwan
Prof. Jiun-You Lin	National Changhua University of Education, Taiwan
Prof. Fu-Li Hsiao	National Changhua University of Education, Taiwan
Prof. Hsiao-Yi Lee	National Yang Ming Chiao Tung University, Taiwan
Prof. Jenq-Nan Yih	National Yang Ming Chiao Tung University, Taiwan
Prof. Chien-Liang Chiu	National Yang Ming Chiao Tung University, Taiwan
Prof. Tsung-Wen Chang	Chang Gung University, Taiwan
Prof. Ming-Hung Chiu	National Formosa University, Taiwan
Prof. Li-Hon Shyu	National Formosa University, Taiwan
Prof. Hung-Chih Hsieh	National United University, Taiwan
Prof. Chien-Yuan Han	National United University, Taiwan
Prof. Tsung-Hsien Lin	National Sun Yat-sen University, Taiwan
S5. Optical Design	
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Prof. Chuen-Lin Tien	Feng Chia University, Taiwan
Prof. Guo-Dung Su	National Taiwan University, Taiwan
Co-chair	
Prof. Pin Han	National Chung Hsing University, Taiwan
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Prof. Jui-Wen Pan	National Yang Ming Chiao Tung University, Taiwan
Prof. Cheng-Huan Chen	National Yang Ming Chiao Tung University, Taiwan
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Prof. Hsiao-Yi Lee	National Kaohsiung University Science and Technology, Taiwan
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Prof. Wen-Shing Sun	National Central University, Taiwan
Prof. Chao-Wen Liang	National Central University, Taiwan
Prof. Zong-Xian Lee	National Taiwan University of Science and Technology, Taiwan
Prof. Shih-Hsin Ma	Feng Chia University, Taiwan
Prof. Chi-Hung Lee	Feng Chia University, Taiwan

S6. Biophotonics and Biomedical Imaging	
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Co-chair	
Prof. Ming-Che Chan	National Yang Ming Chiao Tung University, Taiwan
Prof. Sheng-Hao Tseng	National Cheng Kung University, Taiwan
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Prof. Fu-Jen Kao	National Yang Ming Chiao Tung University, Taiwan
Prof. Shean-Jen Chen	National Yang Ming Chiao Tung University, Taiwan
Prof. Hsiao-Wen Ran	National Yang Ming Chiao Tung University, Taiwan
Dr. Pei-Kuen Wei	Research Center for Applied Sciences, Taiwan
Dr. Bi-Chang Chen	Research Center for Applied Sciences, Taiwan
Prof. Chii-Wann Lin	National Taiwan University, Taiwan
Prof. Yuan Luo	National Taiwan University, Taiwan
Prof. Snow H. Tseng	National Taiwan University, Taiwan
Prof. Chen-Yuan Dong	National Taiwan University, Taiwan
Prof. Nan-Fu Chiu	National Taiwan Normal University, Taiwan
Prof. Si-Yu Chen	National Central University, Taiwan
Prof. Po-Jui Chiang	National Kaohsiung University Science and Technology, Taiwan
Prof. E-Jun Chen	National Central University, Taiwan
Prof. Fan-Ching Chien	National Central University, Taiwan
S7. Display Technology	
Chair	
Prof. Chih-Lung Lin	National Cheng Kung University, Taiwan
Prof. Lung-Chien Chen	National Taipei University of Technology, Taiwan
Co-chair	
Prof. Chong-Yi Lee	National Kaohsiung University of Science and Technology, Taiwan
Prof. Ko-Ting Cheng	National Central University, Taiwan
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Prof. Yi-Hsin Lin	National Yang Ming Chiao Tung University, Taiwan
Prof. Li-Yin Chen	National Yang Ming Chiao Tung University, Taiwan
Prof. Chih-Wen Lu	National Yang Ming Chiao Tung University, Taiwan
Prof. Sheng-Yuan Chu	National Cheng Kung University, Taiwan

Prof. Tsung-Hsien Lin	National Sun Yat-sen University, Taiwan
Prof. Tien-Lung Chiu	Yuan Ze University, Taiwan
Prof. Jiun-Haw Lee	National Taiwan University, Taiwan
Prof. Ching-Lin Fan	National Taiwan University of Science and Technology, Taiwan
Prof. Ya-Hsiang Tai	National Yang Ming Chiao Tung University, Taiwan
Prof. C.-P. Chao	National Yang Ming Chiao Tung University, Taiwan
Prof. Shui-Hsiang Su	I-SHOU University, Taiwan
Prof. Chung-Chih Wu	National Taiwan University, Taiwan
Prof. Zong-Liang Tseng	Ming Chi University of Technology, Taiwan
Prof. Chan-Shan Yang	National Taiwan Normal University, Taiwan
Prof. Hung-Shing Chen	National Taiwan University of Science and Technology, Taiwan
S8. Solid State Lighting	
Chair	
Prof. Ray-Hua Horng	National Yang Ming Chiao Tung University, Taiwan
Prof. Jian-Jang Huang	National Taiwan University, Taiwan
Prof. Bohr-Ran Huang	National Taiwan University of Science and Technology, Taiwan
Co-chair	
Prof. Wei-Chih Lai	National Cheng Kung University, Taiwan
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Prof. Ming-Lun Lee	Southern Taiwan University of Science and Technology, Taiwan
Prof. Su-Hua Yang	National Kaohsiung University Science and Technology, Taiwan
Prof. Lung-Chien Chen	National Taipei University of Technology, Taiwan
Prof. Ping-Hui Yeh	National Taiwan University of Science and Technology, Taiwan
Prof. Hsin-Chieh Yu	National Yang Ming Chiao Tung University, Taiwan
Prof. Shi-Chang Xu	National University of Tainan, Taiwan
Prof. Kun-Yu Lai	National Central University, Taiwan
Prof. Po-Tsung Lee	National Yang Ming Chiao Tung University, Taiwan
Prof. Jin-Wei Shi	National Central University, Taiwan
Prof. Jia-Feng Lin	National Chung Hsing University, Taiwan
Prof. Ya-Ju Lee	National Taiwan Normal University, Taiwan
S9. Photovoltaic Technology	
Chair	
Prof. Chao-Yu Chen	National Cheng Kung University, Taiwan
Prof. Zingway Pei	National Chung Hsing University, Taiwan
Co-chair	
Prof. Hsin-Ying Lee	National Cheng Kung University, Taiwan

Prof. Wen-How Lan	National University of Kaohsiung, Taiwan
Members	
Chih-Wei Chu	Deputy Director and Research Fellow, Research Center for Applied Sciences
Prof. Chung-Chih Wu	National Taiwan University, Taiwan
Dr. Yong-Liang Tong	Industrial Technology Research Institute, Taiwan
Prof. Leeyih Wang	National Taiwan University, Taiwan
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Prof. Fang-Chung Chen	National Yang Ming Chiao Tung University, Taiwan
Prof. Yulia Galagan	National Taiwan University, Taiwan
Prof. Sheng-Hui Chen	National Central University, Taiwan
Prof. Hao-Wu Lin	National Tsing Hua University, Taiwan
Prof. Shun-Wei Liu	Ming Chi University of Technology, Taiwan
Prof. Wen-Fung Liu	Feng Chia University, Taiwan
Prof. Cheng-Ling Lee	National United University, Taiwan
Prof. Chun-Nien Liu	National Chung Hsing University, Taiwan
S10. Thin-Film Technology & Coating Design	
Chair	
Prof. Sheng-Hui Chen	National Central University, Taiwan
Prof. Po-Tsun Liu	National Yang Ming Chiao Tung University, Taiwan
Co-chair	
Prof. Ting-Jen Hsueh	National Kaohsiung University of Science and Technology, Taiwan
Members	
Prof. Yi-Jun Ren	National Taipei University of Technology, Taiwan
Prof. Hsuen-Li Chen	National Taiwan University, Taiwan
Prof. Yu-Chueh Hung	National Tsing Hua University, Taiwan
Prof. Po-Tsung Lee	National Yang Ming Chiao Tung University, Taiwan
Prof. Hsin-Ying Lee	National Cheng Kung University, Taiwan
Prof. Chuen-Lin Tien	Feng Chia University, Taiwan
Prof. Bohr-Ran Huang	National Taiwan University of Science and Technology, Taiwan
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Prof. Sheng-Joue Young	National United University, Taiwan
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Steering Committee Chair	
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Chih-I Wu	National Taiwan University, Taiwan
Hsin-Ying Lee	National Cheng Kung University, Taiwan
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Oscar Hsu	HPB Optoelectronics, Taiwan
Hao-Chung Kuo	National Yang Ming Chiao Tung University, Taiwan
Shien-Kuei Liaw	National Taiwan University of Science and Technology, Taiwan

Acknowledgments



Presentation Guideline

Oral Presentation Guideline

Session type	Plenary	Invited	Oral
Total length	30 mins (on line and video) 45 mins (in person) (including Q&A)	30 mins (including Q&A)	15 mins (including Q&A)

Before the presentation

1. Please arrive at the session meeting rooms 15 minutes earlier and reconfirm your presentation slides with conference staffs.
2. Conference staffs will stay at session meeting rooms to provide relevant assistance accordingly.
3. All presentations should be presented in English.

Facilities in session rooms

1. In each session room, there will be a computer and a projector.
2. In each session, the computer will be equipped with USB ports to read USB flash drive. The presenter must load the presentation file onto the session room computer before the beginning of the session.
3. **In general, it is not suggested to connect your own computer to the projector in the session room.**

Instruction for Poster Presentation

1. Poster presentations will be held on Kaohsiung Exhibition Center 3F.
2. Presenters should arrive 15 minutes earlier to set up their posters.
3. The poster size is 90 cm (W) x120 cm (H).
4. Presenters who wish to keep their posters should remove them after the presentation.
5. Any remaining poster will be removed by conference staffs when the session ends.
6. Presenters must be around their bulletin boards to make their presentations and answer questions during the poster sessions.

Session	Time	Set Up
I	Friday, December 3 / 14:00-16:00	15 minutes earlier
II	Saturday, December 4 / 09:30-11:30	15 minutes earlier

Conference Information

Venue :

高雄展覽館 Kaohsiung Exhibition Center 3F

Address : No. 39, Chenggong 2nd Road, Qianzhen District, Kaohsiung City

Tel : +886 7 213 1188 Fax : +886 7 213 1100

Webpage : <https://optic2021.conf.tw/>



Official Language of OPTIC 2021 : English

Registration :

The Registration area will be located on the 3st floor of Kaohsiung Exhibition Center during the following hours :

0830-17:00, December 2-3, 2021 and

0830-12:00, December 4, 2021

For on-site registration, payment must be made in cash (NTD only). Please wear a mask.

Conference Banquet :

Time: December 3 (Friday), 18:00-20:00

Location: Kaohsiung Exhibition Center 3F Convention Hall 305

OPTIC 2021 Plenary Lectures

Thursday, 2 December 2021

10:40-12:10



Prof. Yan-Kuin Su

OSA Fellow, SPIE Fellow , IEEE - Life Fellow

Professor, Kun Shan University, Taiwan

Title: *Current status and Future Development of Micro LEDs*

Abstract :

In this talk, the background of micro LEDs and mini LEDs display, will be introduced. As the size of LEDs decreasing, applications transition from illumination to display. Many applications now and future of micro LEDs and mini LED display will be presented, such as ultra high contrast, ultra high brightness, oversize, flexible and ultra high resolution of display.

Various display technology of LCD, organic LED, III-nitride micro LED, digital light processing and laser beam steering will be compared.

There is a great challenge of micro LEDs display, for example, epitaxy and chip process, AM pixel driving circuit, color purity and gamut, mass transfer and inspection and repair techniques. These challenges will be discussed and solved.

Finally, some successful demonstration of micro LEDs in domestic and foreign companies of micro LEDs potential and future market development will also be proposed.



Prof. Constance J. Chang-Hasnain

OPTICA President, NAI Fellow, Okawa Prize, Guggenheim Fellow, NSSEF Fellow, IEEE Fellow, OSA Fellow, NSF Presidential Faculty Fellow (PFF), Sloan Research Fellow

Title: *High Contrast Metastructures for Integrated Photonics*

Abstract :

Connie Chang-Hasnain is John R. Whinnery Chair Professor Emerita of Electrical Engineering and Computer Sciences, University of California, Berkeley. She was Associate Dean for Strategic Alliances, College of Engineering, 2014-2019 and Chair of Nanoscale Science and Engineering Graduate Group, 2006-2017. She received her Ph.D. from the same university in 1987. Prior to joining the Berkeley faculty, Dr. Chang-Hasnain was a member of the technical staff at Bellcore (1987–1992), and Assistant and Associate Professor of Electrical Engineering at Stanford University (1992–1996).

Professor Chang-Hasnain's research interests range from semiconductor optoelectronic devices to materials and physics. She has been honored with the Okawa Prize (2018) for pioneering and outstanding research of VCSEL photonics through the development of their novel functions for optical communications and optical sensing. In addition, she has been awarded with the Quantum Device Award (2014), IEEE David Sarnoff Award (2011), the OSA Nick Holonyak Jr. Award (2007), the IEEE LEOS William Streifer Award for Scientific Achievement (2003), the Microoptics Award from Japan Society of Applied Physics (2009), a Humboldt Research Award (2009), and a Guggenheim Fellowship (2009).

She is an elected member of National Academy of Engineering, a member of the US Advisory Committee to the International Commission on Optics, National Academy of Sciences. She was the Editor-in-Chief Journal of Lightwave Technology 2007-2012 and is Associate Editor of the OSA Optica, since 2013.

She is the President of OSA 2021.

Friday, 3 December 2021

09:00-10:30



Prof. Hon Ki Tsang

IEEE Fellow, OSA Fellow

Professor, The Chinese University of Hong Kong, Hong Kong

Title: *Silicon Photonics: Applications and Some Recent Advances*

Abstract :

We give a general introduction to silicon photonics, highlighting some of its key features and advantages that will enable future advances in communications, optoelectronic sensors, and quantum computing. We present our recent research results on silicon photonics for communications, sensing and optoelectronic signal processing. We give examples of silicon photonics for high-capacity communications and describe advances on the design of advanced waveguide grating couplers for mode-division-multiplexing in multimode optical fibers. We will also briefly describe other recent results including reconfigurable coherent microring resonator networks, hybrid integration of 2D materials on silicon and integrated silicon quantum photonic devices.



Prof. Stephen A. Boppart

AAAS Fellow, IEEE Fellow, OSA Fellow, SPIE Fellow, AIMBE Fellow, BMES Fellow

Professor, University of Illinois at Urbana-Champaign, USA

Title: *Ultra-Parallel Label-Free Optophysiology of Neural Activity*

Abstract :

A versatile all-optical technique is introduced for neurophysiology that utilizes a novel label-free optical microscopy system called Superfast Polarization-sensitive Off-axis Full-field Optical Coherence Microscopy (SPoOF OCM). SPoOF OCM captures the changes to both the optical path length and birefringence induced by the millisecond-scale electrical activity of neurons. With an ability to capture responses spanning three orders-of-magnitude in both space and time, SPoOF OCM overcomes existing limitations of traditional electrophysiology and fluorescence microscopy.

Friday, 3 December 2021

Friday, 3 December 2021

15:30-17:00



Prof. Moti Segev

OSA Fellow, APS Fellow

Professor, Israel Institute of Technology, Israel

Title: *Topological Photonics*

Abstract :

Topological Photonics is currently one of the most active research areas in optics, and also one of the spearheads of research in topological physics at large. We are now more than a decade after it started. Topological Photonics has already proved itself as an excellent platform for experimenting with concepts imported from condensed matter physics. More importantly, Topological Photonics has also triggered new fundamental ideas of its own and has offered exciting applications that could become real technologies in the near future. Perhaps the most important example is the Topological Insulator Laser. This talk will provide an overview of the field, present some of the milestones, and discuss future challenges.



Prof. David L. Andrews
SPIE Fellow, OSA Fellow
SPIE-President, UK

Title: *Virtual Photonics*

Abstract :

Professor Andrews leads the nanophotonics and quantum electrodynamics research group at UEA. The interests of his research group broadly concern developing the theory of molecular interactions - with each other, and with light - in terms of quantum electrodynamics (QED). Quantum electrodynamics is essentially the study of how matter interacts with light, treating both matter and light quantum mechanically. The QED group at UEA has been at the forefront in applications ranging from spectroscopy and nonlinear optics to the intermolecular transport of energy. Present research topics fall into four main areas: Molecular energy transfer and light harvesting; Nonlinear optics and photonics; Structured light and optical vortices; Laser-induced optical binding and inter-particle forces. The group enjoys strong international links, particularly with groups in Australia, Canada, Lithuania, New Zealand and the United States.

Prof. Andrews has over 380 research papers and also twenty books to his name, including as author an Introduction to Photon Science and Technology, and as Editor-in-Chief a four-volume Wiley series on Photonics, and a five-volume Elsevier series entitled Comprehensive Nanoscience and Nanotechnology. He serves on the Editorial Boards of several international journals.

He is the President of SPIE 2021.

Oral Session

Oral I (12/02 13:15~15:00)

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices I	Optical Waveguides and Communications I	Quantum Electronics and Laser Technology I	Holography and Information Processing I	Optical Design I
• Presider: Prof. Hyeonseok Lee (NSYSU) Prof. Chih-Ming Wang (NCU)	• Presider: Prof. Shuo-Yen Tseng Prof. Sheng-Kwang Hwang	• Presider: Prof. Ming-Chang Shih Prof. Meng-En Lee	• Presider: Prof. Wei-Chia Su Prof. Shiuan-Huei Lin	• Presider: Prof. Chi-Hung Lee
2021-THU-S0101-O001 • 13:15 Bound states in the continuum with linear and elliptical polarized lasing Wei-Ruei Chen ^{1*} , Kuo-Ping Chen ² , ¹ <i>National Chiao Tung University Tainan</i> , ² <i>National Chiao Tung University Tainan</i> .	2021-THU-S0201-O001 • 13:15 High-speed Semipolar Micro-LED and Quantum Dot Phosphor Applied to Visible Light Communications Hsin Chiang ^{1*} , Zhi-Wen Wu ¹ , Fang-Jyun Liou ¹ , T. S. Kao ¹ , Hao-Chung Kuo ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> .	2021-THU-S0301-O001 • 13:15 Development of Integrated Optoelectrical Amplifier and High Resolution Smart Thermal Sensor with Light-Emitting Transistors Lu-Ching Hsueh ^{1*} , Sheng-Wen Cheng ¹ , Hsin-Yu Lin ¹ , Mukul Kumar ¹ , Chao-Hsin Wu ^{1,2} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei</i> .	2021-THU-S0401-O001 • 13:15 The design of 2D eye-box expanded volume holographic waveguide with wide field of view for AR application Wan Lin Li ^{1*} , Zi Fan Chen ¹ , Shiuan Huei Lin ¹ , Vera Marinova ^{1,3} , Ken Y. Hsu ² , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>National Yang Ming Chiao Tung University Hsinchu</i> , ³ <i>Bulgarian Academy of Science Sofia</i> .	2021-THU-S0501-O001 • 13:15 Far-field Optical Manipulation with Low Power Illumination via Archimedean Spiral Plasmonic Lens with Single Circular Groove (CG-ASPL) Fitri Oktafiani ^{1*} , Jun Quan Chen ¹ , Po Tsung Lee ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> .
2021-THU-S0101-O002 • 13:30 Waveguide-Integrated Black Phosphorus Photodetectors in Mid-Infrared range Po-Liang Chen ^{1*} , Tian-Yun Chang ¹ , Jia-Xin Li ¹ , Wei-Qing Li ¹ , Chang-Hua Liu ¹ , ¹ <i>National Tsing Hua University Hsinchu</i> .	2021-THU-S0201-O002 • 13:30 Design of Multiple Half-Spherical Lenses with Compound Parabolic Concentrator (CPC) for High Field-of-View (FOV) Visible Light Communication (VLC) Receiver Tzungkai Wu ^{1*} , Yun-Han Chang ¹ , Chien-Hung Yeh ² , Chi-Wai Chow ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>Feng Chia University Taichung</i> .	2021-THU-S0301-O002 • 13:30 THz Dielectric-grating Free-electron Laser Yu-Chieh Lo ^{1*} , Wen-Chi Chen ¹ , Xuan-Long Ho ¹ , Alex Kopeykin ¹ , Chia-Hsiang Chen ² , Yen-Chieh Huang ¹ , ¹ <i>National Tsing Hua University Hsinchu</i> , ² <i>National Synchrotron Radiation Research Center Hsinchu</i> .	2021-THU-S0401-O002 • 13:30 Photo-aligned liquid crystal cell with PAZO azo-polymer for writing geometrical phase hologram Minh Chau Nguyen Hong ^{1*} , Shiuan Huei Lin ¹ , Vera Marinova ^{1,3} , Ken Yu Hsu ² , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>National Yang Ming Chiao Tung University Hsinchu</i> , ³ <i>Institute of Optical Materials and Technologies Sofia</i> .	2021-THU-S0501-O002 • 13:30 Design of improving light extraction efficiency of 10μm x 10μm Micro LEDs by adding microstructures Zhi-Ting Ye ¹ , Shen-Fu Tseng ^{1*} , Wei Lai ¹ , ¹ <i>National Chung Cheng University Chia-Yi</i> .
2021-THU-S0101-O003 • 13:45 Modeling and Characterization of Asymmetric Quarter-Wave-Shifted DFB Based Electro-absorption Modulated Lasers for 400-Gb/s and Above Optical Interconnects Siti Sulikhah ^{1*} , San Liang Lee ¹ , Hen Wai Tsao ² , ¹ <i>National Taiwan University of Science and Technology Taipei</i> , ² <i>National Taiwan University Taipei</i> .	2021-THU-S0201-O003 • 13:45 High-Speed Volumetric Imaging with a Tunable MEMS-HCG VCSEL Light Source Ting-Yen Tsai ^{1*} , Ting-Hao Chen ¹ , Hung-Kai Chen ² , Chuan-Bor Chueh ¹ , Po-Chuan Chen ¹ , Meng-Tsan Tsai ³ , Michael C. Y Huang ² , Hsiang-Chieh Lee ^{1,4} , ¹ <i>National Taiwan University Taipei</i> , ² <i>Bandwidth10 Ltd. Berkeley</i> , ³ <i>Chang Gung University Taoyuan</i> , ⁴ <i>National Taiwan University Taipei</i> .	2021-THU-S0301-O003 • 13:45 Random-modulated pulsed lidar based on transient response of gain-switched semiconductor lasers and homodyne interference Hanling Tsay ^{1*} , Fanyi Lin ¹ , ¹ <i>National Tsing Hua University Hsinchu</i> .	2021-THU-S0401-O003 • 13:45 Optical Scanning Holography without Interference Chen-Ming Tsai ^{1*} , Jung-Ping Liu ^{1,2} , ¹ <i>Feng Chia University Taichung</i> , ² <i>Feng Chia University Taichung</i> .	2021-THU-S0501-O003 • 13:45 Direct Optical Dispersion Estimation and Compensation Based on Frequency-resolved Optical Gating Jui-Chi Chang ^{1*} , Chia-Yuan Chang ¹ , Shu-Yu Chang ¹ , ¹ <i>National Cheng Kung University Tainan</i> .

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices I	Optical Waveguides and Communications I	Quantum Electronics and Laser Technology I	Holography and Information Processing I	Optical Design I
• Presider: Prof. Hyeonseok Lee (NSYSU) Prof. Chih-Ming Wang (NCU)	• Presider: Prof. Shuo-Yen Tseng Prof. Sheng-Kwang Hwang	• Presider: Prof. Ming-Chang Shih Prof. Meng-En Lee	• Presider: Prof. Wei-Chia Su Prof. Shiuan-Huei Lin	• Presider: Prof. Chi-Hung Lee
2021-THU-S0101-O004 • 14:00 Enhanced Photoluminescence of Methyammonium Lead Bromide Perovskite via Silver Film Over Nanospheres Li-Ming Chiang ^{1*} , Hai-Pang Chiang ² , Tsung-Sheng Kao ¹ , ¹ <i>National Yang Ming Chiao Tung University</i> ² <i>National Taiwan Ocean University Keelung.</i>	2021-THU-S0201-O004 • 14:00 A Bi-directional Fiber-FSO-5G MMW/5G NR sub-THz Convergence Chen-Xuan Liu ^{1*} , Yan-Yu Lin ¹ , Yu-Ting Chen ¹ , Poh-Suan Chang ¹ , Ting Ko ¹ , Hai-Han Lu ¹ , ¹ <i>National Taipei University of Technology Taipei.</i>	2021-THU-S0301-O004 • 14:00 Off-normal Lasing in High Contrast Grating Membrane via Bound States in the Continuum Meng Ting Han ^{1*} , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-THU-S0401-O004 • 14:00 Volume Holographic Optical Illuminator for Multifocal Confocal Microscopy Surag Suresh ^{1,2*} , Sunil Vyas ² , J Andrew Yeh ¹ , Yuan Luo ^{2,3} , ¹ <i>National Tsing Hua University Hsinchu</i> , ² <i>National Taiwan University Taipei</i> , ³ <i>National Taiwan University Taipei</i> , ⁴ <i>National Taiwan University Taipei.</i>	2021-THU-S0501-O004 • 14:00 Path Following of Field Tracked Robots Based on Model Predictive Control with Identified State-Space Dynamic Model Chun-Ting Sung ^{1*} , Wen-Chuan Tseng ¹ , Meng-Hui Hsu ² , Shean-Jen Chen ^{1,3} , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>Kun Shan University Tainan</i> , ³ <i>National Applied Research Laboratories Hsinchu.</i>
2021-THU-S0101-O005 • 14:15 One-bit Transmission Analyzation of asymmetric-arm Silicon Photonic Mach-Zehnder Modulator Tzu-Chun Chien ^{1*} , Zih-Yuan Ciou ¹ , Shih-Chun Kao ¹ , Kuo-Fang Chung ¹ , Ding-Wei Huang ¹ , Gong-Ru Lin ¹ , ¹ <i>National Taiwan University Taipei.</i>	2021-THU-S0201-O005 • 14:15 A 400-Gb/s WDM-PAM4 OWC System through the Free-Space Transmission with a Water-Air-Water Link Ting Ko ^{1*} , Yan-Yu Lin ¹ , Yu-Ting Chen ¹ , Chen-Xuan Liu ¹ , Poh-Suan Chang ¹ , Hai-Han Lu ¹ , ¹ <i>National Taipei University of Technology Taipei.</i>	2021-THU-S0301-O005 • 14:15 Ti:PPLN Heralded Single Photon Sources Integrated With Adiabatic Passage Couplers Tien-Dat Pham ^{1*} , Yang-Teng Li ¹ , Yen-Ru Chen ³ , Hung-Pin Chung ^{1,2} , Chih-Sung Chuu ³ , Yen-Hung Chen ^{1,2} , ¹ <i>National Central University Jhongli</i> , ² <i>National Central University Jhongli</i> , ³ <i>National Tsing Hua University Hsinchu.</i>	2021-THU-S0401-O005 • 14:15 Applying dynamic structured light for object recognition and depth sensing Hsiao-Yun Hsu ¹ , Ying-Kai Hong ^{1*} , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-THU-S0501-O005 • 14:15 Effective Laser Pest Controller with Modulated UV-A Light Trap for Mushroom Fungus Gnats Sumesh Nair ^{1*} , Ching-Chieh Su ¹ , Chia-Wei Hsu ¹ , Ming-Jeh Chien ² , Shean-Jen Chen ¹ , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>Lohas Biotech Development Corporation Taipei.</i>
2021-THU-S0101-O006 • 14:30 Near-field Photodetection in Polarization-Enabled Steering Surface Plasmon Polaritons Waveguides Embedded with Graphene Chia-Hung Wu ^{1*} , Kuo-Ping Chen ² , ¹ <i>National Chiao Tung University and National Yang Ming Chiao Tung University Tainan</i> , ² <i>National Chiao Tung University and National Yang Ming Chiao Tung University Tainan.</i>	2021-THU-S0201-I001 • 14:30 Invited Integrated optomechanical sensing Andrea Fiore ^{1*} , ¹ - -	2021-THU-S0301-O006 • 14:30 23-fs, 3-kHz, 0.44-mJ pulses at 515-nm generated by nonlinear pulse compression in a gas-filled chamber Chia-Lun Tsai ^{1*} , Liang-Xian Xie ¹ , An-Yuan Liang ¹ , Shih-Cheng Liu ¹ , Ming-Shiang Tsai ¹ , Ming-Chang Chen ¹ , ¹ <i>National Tsing Hua University Hsinchu.</i>	2021-THU-S0401-O006 • 14:30 Digital Optical Phase Conjugation Display Using Lens-Array as its Screen Yu-Hong Huang ^{1*} , Zi-Hong Lin ¹ , Yeh-Wei Yu ¹ , Ching-Cherng Sun ¹ , Tsung-Hsun Yang ¹ , ¹ <i>National Central University Taoyuan.</i>	2021-THU-S0501-O006 • 14:30 Precise Mid-field Modeling for UVC LEDs by using Fluorescent Film Ngoc Thi Thu Le ^{1*} , Shih-Kang Lin ¹ , Ching-Cherng Sun ^{1,2} , Chi-Shou Wu ¹ , Tsung-Hsun Yang ¹ , Yeh-Wei Yu ¹ , ¹ <i>National Central University TaoYuan</i> , ² <i>National Yang Ming Chiao Tung Hsin-Chu.</i>

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices I	Optical Waveguides and Communications I	Quantum Electronics and Laser Technology I	Holography and Information Processing I	Optical Design I
• Presider: Prof. Hyeonseok Lee (NSYSU) Prof. Chih-Ming Wang (NCU)	• Presider: Prof. Shuo-Yen Tseng Prof. Sheng-Kwang Hwang	• Presider: Prof. Ming-Chang Shih Prof. Meng-En Lee	• Presider: Prof. Wei-Chia Su Prof. Shiuan-Huei Lin	• Presider: Prof. Chi-Hung Lee
2021-THU-S0101-O007 • 14:45 Heterogeneously Integrating Photonic Crystal Lasers on SiNx Waveguide by Transfer Printing Yu-Cheng Lin ^{1*} , Jing-Ting Wang ¹ , Tsan-Wen Lu ¹ , Po-Tsung Lee ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>				

Oral II (12/02 15:15~17:00)

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices II	Optical Waveguides and Communications II	Quantum Electronics and Laser Technology II	Holography and Information Processing II	Optical Design II
• Presider: Prof. Hsu-Cheng Hsu (NCKU) Prof. Yan-Sheng Lin (I-Shou)	• Presider: Prof. Yi-Jen Chiu	• Presider: Prof. Yen-Hung Chen Prof. Chao-Kuei Lee	• Presider: Prof. Jung-Ping Liu Prof. Jiun-You Lin	• Presider: Prof. Guo-Dung Su
2021-THU-S0102-O001 • 15:15 Gate Voltage Modulated Plasmonic Nanolasers on the Graphene-insulator-metal Platform Jun-Wei Liao ^{1*} , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-THU-S0202-O001 • 15:15 Free-spectral-range insensitive silicon Mach-Zehnder interferometer for dense wavelength division multiplexing Cheng-Hsuan Wu ¹ , Zhan-Wen Song ¹ , Tzu-Hsiang Yen ¹ , Yung-Jr Hung Hung ^{1*} , ¹ <i>National Sun Yat-sen University Kaohsiung.</i>	2021-THU-S0302-I001 • 15:15 Invited Parametric frequency conversion in nanostructured lithium niobate Frank Setzpfandt ^{1*} , ¹ <i>Institute of Applied Physics, Abbe Center of Photonics Jena.</i>	2021-THU-S0402-O001 • 15:15 Hyperspectral System used for multi-point measurements Huai-Ming Kuan ^{1*} , Yeh-Wei Yu ¹ , Wen-Hsuan Wu ¹ , Tsung-Hsun Yang ¹ , Ching-Cherng Sun ¹ , ¹ <i>National Central University Taoyuan.</i>	2021-THU-S0502-O001 • 15:15 Accurate Deformable Mirror Identification for Adaptive Optics and Aberration Manipulation Cheng-Jung Yang ^{1*} , Chia-Yuan Chang ¹ , ¹ <i>National Cheng Kung University Tainan.</i>
2021-THU-S0102-O002 • 15:30 The Observation of Two-Color Emission in Layered Dual-Phase Gallium Telluride Luthviah Choiratul Muhimmah ^{1*} , Ching-Hwa Ho ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei.</i>	2021-THU-S0202-O002 • 15:30 Compact Silicon Photonics Polarization Splitter and Rotator (PSR) Based on Asymmetrical Directional Coupler and Adiabatic Step Waveguide Taper Tun-Yao Hung ^{1*} , Pin-Cheng Kuo ¹ , Ching-Wei Peng ¹ , Guan-Hong Chen ¹ , Chien-Hung Yeh ² , Chi-Wai Chow ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>Feng Chia University Taichung.</i>		2021-THU-S0402-O002 • 15:30 Synthesis of poly(ethylene glycol phenyl ether acrylate) photopolymers for holographic storage Yun-hsiu Lee ^{1*} , Fang-Yong Lee ¹ , Tzu-Chien Hsu ¹ , Wei-Hung Su ¹ , ¹ <i>National Sun Yat-sen University Kaohsiung.</i>	2021-THU-S0502-O002 • 15:30 Comparison of Power Distribution in Spherical and Aspherical Tilted Prescription Lenses Ching-Yao Huang ^{1*} , ¹ <i>Da-Yeh University Changhua.</i>

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices II	Optical Waveguides and Communications II	Quantum Electronics and Laser Technology II	Holography and Information Processing II	Optical Design II
• Presider: Prof. Hsu-Cheng Hsu (NCKU) Prof. Yan-Sheng Lin (I-Shou)	• Presider: Prof. Yi-Jen Chiu	• Presider: Prof. Yen-Hung Chen Prof. Chao-Kuei Lee	• Presider: Prof. Jung-Ping Liu Prof. Jiun-You Lin	• Presider: Prof. Guo-Dung Su
2021-THU-S0102-O003 • 15:45 Metasurface-Integrated Photonic-Crystal Surface-Emitting Lasers with Variable Emission Angles Zhong-Wen Yang ^{1*} , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-THU-S0202-I001 • 15:45 Invited Integration of novel materials on Si and SiN photonic lcs Dries Van Thourhout ^{1*} , ¹ - -.	2021-THU-S0302-O001 • 15:45 3-D Profilometry by Self-Mixing Interferometry silvano donati ^{1*} , ¹ <i>University of Pavia Pavia.</i>	2021-THU-S0402-O003 • 15:45 Resolution improvement in light-sheet fluorescence microscopy using Richardson-Lucy deconvolution Hung Chuan Hsu ^{1,2*} , Sunil Vyas ² , Kuang Yuh Huang ¹ , Hsien Shun Liao ¹ , Yuan Luo ^{2,3} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei</i> , ³ <i>National Taiwan University Taipei.</i>	2021-THU-S0502-O003 • 15:45 A Study of wide FOV Optical See-through Head-Mounted Display with Dihedral Corner Reflector Array Jun-You Li ¹ , Cheng-Mu Tsai ^{1*} , ¹ <i>National Chung Hsing University Taichung.</i>
2021-THU-S0102-O004 • 16:00 Electrically tunable phase gratings using uniform lying helix structures of cholesteric liquid crystals Chi-Tang Huang ^{1*} , Yu-Tse Wang ¹ , Xiang-You Ji ¹ , Ko-Ting Cheng ¹ , ¹ <i>National Central University Taoyuan.</i>		2021-THU-S0302-O002 • 16:00 Near-infrared Free-electron laser on a Nano-chip Hossein Shirvani ^{1*} , Luo Hao Peng ¹ , Wen Chi Chen ¹ , Yen Chieh Huang ¹ , ¹ <i>National Tsing Hua University HsinChu.</i>	2021-THU-S0402-O004 • 16:00 Deep Learning Neural Network for Computer Hologram Generation Zih Fan Chen ^{1*} , Shiuan Huei Lin ¹ , Vera Marinova ^{1,3} , Ken Y Hsu ² , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>National Yang Ming Chiao Tung University Hsinchu</i> , ³ <i>Bulgarian Academy of Science Sofia.</i>	2021-THU-S0502-O004 • 16:00 Chromatic Aberration Variations of Conceptual Thick Lenses Chaohsien Chen ^{1*} , ¹ <i>National Kaohsiung University of Science and Technology Kaohsiung.</i>
2021-THU-S0102-O005 • 16:15 High-contrast Grating (HCG) Process Applied to Micro-LED and Polarization Simulation ratio Optimization Chao-Hsu Lin ^{1*} , Yen-Shou Lin ¹ , Chun-You Fan ¹ , Hao-Chung Kuo ¹ , Tsung-Sheng Kao ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-THU-S0202-O003 • 16:15 Dual Mach-Zehnder Interferometers with New Positioning Algorithm Cheng-Yu Hsieh ¹ , Yung-Cheng Hsu ¹ , Ting-Wang Cheng ^{1*} , Likarn Wang ¹ , ¹ <i>National Tsing Hua University Hsinchu.</i>	2021-THU-S0302-O003 • 16:15 DNA-driven nanocavities integrated with a few fluorophores to approach strong coupling Wan-Ping Chan ^{1*} , Jyun-Hong Chen ¹ , Wei-Lun Chou ¹ , Wen-Yuan Chen ¹ , Hao-Yu Liu ¹ , Hsiao-Ching Hu ² , Chien-Chung Jeng ³ , Jie-Ren Li ² , Chi Chen ⁴ , Shiuan-Yeh Chen ¹ , ¹ <i>National Cheng Kung University Tainan</i> , ² <i>National Cheng Kung University Tainan</i> , ³ <i>National Chung Hsing University Taichung</i> , ⁴ <i>Academia Sinica Taipei.</i>	2021-THU-S0402-O005 • 16:15 3D Micropatterned Multiphoton Stimulation via Deep Learning-Based Computer-Generated Holography with Temporal Focusing Confinement Liang-Wei Chen ^{1*} , Hua-Wei Ku ¹ , Feng-Chun Hsu ¹ , Chun-Yu Lin ¹ , Yvonne Yuling Hu ² , Shean-Jen Chen ^{1,3} , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>National Cheng Kung University Tainan</i> , ³ <i>National Applied Research Laboratories Hsinchu.</i>	2021-THU-S0502-O005 • 16:15 Combination analysis of four common membrane stack formulas applied to dual narrow-band-pass filters Chia-Hui Chen ^{1*} , Zhi-Ting Ye ¹ , ¹ <i>National Chung Cheng University Chia-Yi.</i>

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices II	Optical Waveguides and Communications II	Quantum Electronics and Laser Technology II	Holography and Information Processing II	Optical Design II
• Presider: Prof. Hsu-Cheng Hsu (NCKU) Prof. Yan-Sheng Lin (I-Shou)	• Presider: Prof. Yi-Jen Chiu	• Presider: Prof. Yen-Hung Chen Prof. Chao-Kuei Lee	• Presider: Prof. Jung-Ping Liu Prof. Jiun-You Lin	• Presider: Prof. Guo-Dung Su
2021-THU-S0102-O006 • 16:30 Dual-wavelength guided mode resonance filter Wei-Xiang Hong ^{1*} , Yung-Jr Hung ¹ , ¹ <i>National Sun Yat-sen University Kaohsiung.</i>	2021-THU-S0202-O004 • 16:30 High-power broadband high-extinction ratio polarization III-V super-luminescent diode coupled to a Si waveguide in Si photonics template Chen Yu Weng ^{1*} , Yi Jen Chiu ¹ , ¹ <i>National Sun Yat-Sen University Kaohsiung.</i>	2021-THU-S0302-O004 • 16:30 The Influence of Mode Changes of High-Power DFB Laser on Bandwidth Under Various Temperature Condition Te-Hua Liu ^{1*} , Chieh Lo ¹ , Hao-Tien Cheng ² , Yun-Cheng Yang ¹ , Chao-Hsin Wu ^{1,2} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei.</i>	2021-THU-S0402-O006 • 16:30 Phase Retrieval of Interference Fringe based on Generative Adversarial Network Cheng-Tse Lin ¹ , Yi-Yung Chen ^{2,1*} , ¹ <i>National Taiwan University of Science and Technology Taipei</i> , ² <i>National Taiwan University of Science and Technology Taipei.</i>	2021-THU-S0502-O006 • 16:30 Detection of PM2.5 and PM10 Concentration Using Hyperspectral Imaging Arvind Mukundan ^{1*} , Chi - Wen Chen ² , Yu -Sheng Tseng ¹ , Hsiang -Chen Wang ¹ , ¹ <i>National Chung Cheng University Chiayi</i> , ² <i>Ditmanson Medical Foundation Chia-yi Christian Hospital Chia-yi City.</i>
2021-THU-S0102-O007 • 16:45 Localized Phase Modulation in Vanadium Dioxide with Joule Heating Driven Memristive Switching Jhuang-Hao Cyue ^{2*} , Kuo-Ping Chen ¹ , ¹ <i>National Chiao-Tung University and National Yang Ming Chiao Tung University Tainan City 71150</i> , ² <i>National Chiao-Tung University and National Yang Ming Chiao Tung University Tainan City 71150.</i>	2021-THU-S0202-O005 • 16:45 106Gb/s Modulation Speed Cascaded Integration of EAM-SOA using Quantum Well Intermixing technology Wang Zhen-Hua ^{1*} , Yen-Hsiang Chang ¹ , Yang-Jeng Chen ¹ , Rih-You Chen ¹ , Po-Wei Huang ¹ , Chiu Yi-Jen ¹ , ¹ <i>National Sun Yat-sen University Kaohsiung City.</i>	2021-THU-S0302-O005 • 16:45 High Power High Speed 940 nm Flip-Chip VCSEL Array with Narrow Divergence Angle Micro-Lens for LiDAR Zhi-Kuang Lu ^{1*} , Hao-Chung Kuo ¹ , Hsin Chiang ¹ , Dong Yang ¹ , Min-Hsiung Shih ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>		

Oral III (12/03 10:45~12:00)

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices III	Optical Waveguides and Communications III	Quantum Electronics and Laser Technology III	Holography and Information Processing III	Optical Design III
• Presider: Prof. Yu-Hsun Chou (NCKU) Prof. Tong-Wun Wang (FCU)	• Presider: Prof. Shu-Wei Chang	• Presider: Prof. Yuan-Yao Lin Prof. Shou-Tai Lin	• Presider: Prof. Ju-Yi Lee Prof. Cheng-Chih Hsu	• Presider: Prof. Pin Han Prof. Cheng-Mu Tsai
2021-FRI-S0103-O001 • 10:45 Active Control of Photonic Crystals Jyun-Jhang He ^{1*} , Shawn-Yu Lin ^{2,3} , Jhih-Sheng Wu ¹ , ¹ <i>College of Electrical and Computer Engineering, National Yang Ming Chiao Tung University Hsinchu 30010</i> , ² <i>Applied Physics and Astronomy, Rensselaer Polytechnic Institute Troy</i> , ³ <i>National Yang Ming Chiao Tung University Hsinchu 30010</i> .	2021-FRI-S0203-O001 • 10:45 High-Speed Long-Cavity Directly Modulated DFB Laser integrated with Semiconductor Optical Amplifier Kuan-Yu Chen ^{1*} , Bo-Hong Chen ^{1,3} , Rih-You Chen ¹ , Wei Lin ³ , Yi-Jen Chiu ^{1,2} , ¹ <i>National Sun Yat-Sen University Kaohsiung</i> , ² <i>National Sun Yat-Sen University Kaohsiung</i> , ³ <i>LandMark Optoelectronics Corporation Tainan</i> .	2021-FRI-S0303-O001 • 10:45 Multi-wavelength Yellow-Orange Lasers on Monolithic chi(2) Nonlinear Photonic Crystals Ming Shung Tsai ^{1*} , K.-H. Chang ^{1,2} , C.-C. Fan ¹ , F.-H. Yang ¹ , T.-F. Pan ¹ , B.-W. Wu ¹ , S. Mohand Ousaid ² , A. Boudrioua ² , L.-H. Peng ¹ , ¹ <i>National Taiwan University Taipei</i> , ² <i>Université Paris 13 Villetaneuse</i> .	2021-FRI-S0403-I001 • 10:45 Invited Planar-lightwave-circuit-based digital holographic microscope and its applications Eriko Watanabe ^{1*} , ¹ - .	2021-FRI-S0503-O001 • 10:45 Research on Design Rule of Micro-LED Backlight by Deep Reinforcement Learning Yu Tang Cheng ^{1*} , ¹ <i>Institute of Electro-Optical Engineering HsinChu</i> .
2021-FRI-S0103-O002 • 11:00 Manipulation of Optical Properties by Integrating Two-Dimensional Tungsten Diselenide (WSe2) with One-Dimensional Photonic Crystals Yen-Shou Lin ^{1,2*} , Hao-Hsuan Ciou ^{1,2} , Ya-Hui Chang ^{1,2} , Konthoujam James Singh ^{1,2} , Hsiang-Ting Lin ^{1,2} , Hao-Chung Kuo ^{1,2} , Min-Hsiung Shih ^{1,2} , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>Academia Sinica Taipei</i> .	2021-FRI-S0203-O002 • 11:00 Beyond GHz Optical Frequency Up-converted Modulation of LEDs with Integrated Acousto-optic Transducer Wen-Hao Chiang ^{1*} , Li-Chan Lai ¹ , Jian-Jang Huang ^{1,2} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei</i> .	2021-FRI-S0303-O002 • 11:00 Tunable THz parametric amplifier seeded by strongly focused Stokes wave Cang-He Guo ^{1*} , Yen-Chieh Huang ¹ , ¹ <i>National Tsing Hua University Hsinchu</i> .	2021-FRI-S0403-I001 • 11:15 Topographical Measurements for Specular Objects Jui-Hsien Yen ^{1*} , Bo-Chin Huang ¹ , Wei-Hung Su ¹ , ¹ <i>National Sun Yat-Sen University Kaohsiung</i> .	2021-FRI-S0503-O002 • 11:00 Path Following and Obstacle Avoidance of Field Tracked Vehicles via Model Predictive Control with Deep Deterministic Policy Gradient Yu-Cheng Sung ^{1*} , Shean-Jen Chen ^{1,2} , Wen-Chuan Tseng ¹ , Chun-Ting Sung ¹ , Jen-Yu Lee ¹ , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>National Applied Research Laboratories Hsinchu</i> .
2021-FRI-S0103-O003 • 11:15 Flexible Liquid Crystal Composite Laser with Light Controllability of Emission Direction Yan-Song Zhang ^{1*} , Zhi-Wei Lin ¹ , Chia-Rong Lee ¹ , ¹ <i>National Cheng Kung University Tainan</i> .	2021-FRI-S0203-O003 • 11:15 Experimental demonstration of 2x64 optical phase array with uniform emission and high PSLL Wei-Chung Peng ^{1*} , Shin-Hsien Chung ¹ , Wei-Xun Chen ¹ , Tsung-Han Lee ¹ , San-Liang Lee ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei</i> .	2021-FRI-S0303-O003 • 11:15 Mid-IR continuous-wave intracavity optical parametric oscillator with optically pumped semiconductor laser Chun-Yu Cho ^{1*} , ¹ <i>National United University Miaoli</i> .	2021-FRI-S0403-O001 • 11:15 One kind of endoscope which can use to construct the three dimension model of a baglike organ Yong-Sheng Lin ^{2*} , Shi-Hwa Huang ¹ , Ching-Cherng Sun ² , ¹ <i>Optical Sciences Center, National Central University New Taipei City</i> , ² <i>National Central University Taoyuan City</i> .	2021-FRI-S0503-O003 • 11:15 One kind of endoscope which can use to construct the three dimension model of a baglike organ Yong-Sheng Lin ^{2*} , Shi-Hwa Huang ¹ , Ching-Cherng Sun ² , ¹ <i>Optical Sciences Center, National Central University New Taipei City</i> , ² <i>National Central University Taoyuan City</i> .

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices III	Optical Waveguides and Communications III	Quantum Electronics and Laser Technology III	Holography and Information Processing III	Optical Design III
• President: Prof. Yu-Hsun Chou (NCKU) Prof. Tong-Wun Wang (FCU)	• President: Prof. Shu-Wei Chang	• President: Prof. Yuan-Yao Lin Prof. Shou-Tai Lin	• President: Prof. Ju-Yi Lee Prof. Cheng-Chih Hsu	• President: Prof. Pin Han Prof. Cheng-Mu Tsai
2021-FRI-S0103-O004 • 11:30 Monte Carlo simulation of incoherent random lasing in the dye solution with dielectric scatterers Jian Xuan Liu ¹ , Tsung Sheng Kao ^{1*} , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-FRI-S0203-O004 • 11:30 Highly Efficient Harmonic Microwave Down-Conversion Using Semiconductor Lasers at Stable-Locking Dynamics Guan-Ting Lu ^{1*} , Chin-Hao Tseng ¹ , Sheng-Kwang Hwang ^{1,2} , ¹ <i>National Cheng Kung University Tainan</i> , ² <i>National Cheng Kung University Tainan.</i>	2021-FRI-S0303-O004 • 11:30 Extraordinary Response of VCSEL on RIN Spectrum Kun-You Huang ^{1*} , Jui-Hung Weng ¹ , Gong-Ru Lin ¹ , ¹ <i>National Taiwan University Taipei.</i>	2021-FRI-S0403-O002 • 11:30 Temperature detection with the method of fringe projection for heating surfaces Chung-Ming Kuo ^{1*} , Yu-Heng Lo ¹ , Wei-Hung Su ¹ , ¹ <i>National Sun Yat-sen University Kaohsiung.</i>	2021-FRI-S0503-O004 • 11:30 Design of an optical neural network to develop a logic NAND gate with supervised learning method Chu-En Lin ^{1*} , Ching-Pao Sun ¹ , Chii-Chang Chen ¹ , ¹ <i>National Central University Taoyuan.</i>
2021-FRI-S0103-O005 • 11:45 Versatile Wafer-Scale Nanofabrication of Functional Metasurfaces Ming Lun Tseng ^{1,2*} , Aleksandrs Leitis ² , Aurelian John-Herpin ² , Yuri S. Kivshar ³ , Hatice Altug ² , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>École Polytechnique Fédérale de Lausanne (EPFL)</i> , ³ <i>Australian National University Canberra.</i>	2021-FRI-S0203-O005 • 11:45 130-m Non-Flickering White-Light Under-Sampled Phase Shift On-Off-Keying (UPSOOK) Visible Light Communication (VLC) Using Camera Receiver Tsun-Ting Tsai ^{1*} , Yun-Han Chang ¹ , Chien-Hung Yeh ² , Chi-Wai Chow ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>Feng Chia University Taichung.</i>			2021-FRI-S0503-O005 • 11:45 Measurement of thermal stress, thermal expansion coefficient and biaxial modulus of optical notch filter Ming-Hsiang Chuang ^{1*} , Chuen-Lin Tien ^{1,2} , Hong-Yi Lin ² , ¹ <i>Feng Chia University Taichung</i> , ² <i>Feng Chia University Taichung.</i>

Oral IV (12/03 13:00~14:30)

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices IV	Optical Waveguides and Communications IV	Quantum Electronics and Laser Technology IV	Holography and Information Processing IV	Optical Design IV
• Presider: Prof. Po-Tsung Lee (NCTU) Prof. Kuo-Ping Chen (HCTU)	• Presider: Prof. Yi-Jen Chiu	• Presider: Prof. Sheng-Kwang Hwang Prof. Jui-Yang Feng	• Presider: Prof. Fu-Li Hsiao Prof. Wei-Feng Hsu	• Presider: Prof. Chuen-Lin Tien Prof. Pin Han
2021-FRI-S0104-I001 • 13:00 Invited Bound State in the Continuum with Dielectric Metasurfaces and Tamm Plasmonics Polaritons Kuo-Ping Chen ^{1*} , ¹ -.	2021-FRI-S0204-I001 • 13:00 Invited Photonic integrated circuit for daily health-check system Kiichi Hamamoto ^{1*} , ¹ -.	2021-FRI-S0304-I001 • 13:00 Invited Progress of active control of surface plasmon polariton nanolasers on graphene-insulator-metal platform Tien-Chang Lu ^{1*} , ¹ -.	2021-FRI-S0404-I001 • 13:00 Invited Mid-Infrared Photonics Using Silicon and AlN Platform Technology Cheng Kuo Lee ^{1*} , ¹ -.	2021-FRI-S0504-O001 • 13:00 Highly Sensitive Open-cavity Fiber Fabry-Pérot Gas Pressure Sensor Based on Vernier Effect Yu-Teng Chia ^{1*} , Chin-Ping Yu ¹ , ¹ <i>National Sun Yat-sen University Kaohsiung.</i>
				2021-FRI-S0504-O002 • 13:15 Broadband THz telecentric f-theta lens for real-time THz hyperspectral microscopy Tsung-Han Wu ^{1*} , ¹ <i>National Tsing Hua University Hsinchu.</i>
2021-FRI-S0104-O001 • 13:30 Plasmonic transmission-line-based half-adder and half-subtractor Pei-Yuan Wu ^{1*} , Yun-Chorng Chang ² , Chen-Bin Huang ^{1,2} , ¹ <i>National Tsing Hua University Hsinchu</i> , ² <i>Academia Sinica, Nangang Taipei.</i>	2021-FRI-S0204-O001 • 13:30 Novel Lateral Silicon GACC Structure in Hybrid Active III-V on Standard SOI Photonic Devices Ika Novitasari ¹ , Siti Sulikhah ^{1*} , San-Liang Lee ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei.</i>	2021-FRI-S0304-O001 • 13:30 Signal Processing Free 25-50 Gbps Oxide-Confined Vertical-Cavity Surface-Emitting Laser Yun-Cheng Yang ^{1*} , Hao-Tien Cheng ² , Chao-Hsin Wu ^{1,2} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei.</i>	2021-FRI-S0404-O001 • 13:30 Liquid crystal devices based on transparent conductive Aluminum doped Zinc Oxide films Stefan Petrov ^{1*} , Vera Marinova ² , Shuan Huei Lin ² , Ken Y. Hsu ³ , ¹ <i>National Central University Taoyuan</i> , ² <i>National Yang Ming Chiao Tung University Hsinchu</i> , ³ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-FRI-S0504-O003 • 13:30 Optimization of Optical Autocorrelator with Low-Cost LED Based on Two-band Model XIN LI LEE ^{1*} , Jui-Chi Chang ¹ , Shu-Yu Chang ¹ , Chia-Yuan Chang ¹ , ¹ <i>National Cheng Kung University Tainan.</i>
2021-FRI-S0104-O002 • 13:45 Infrared Absorption Modulation with Germanium nanohole Metasurfaces MING-JYUN YE ^{1*} , KUO-PING CHEN ² , ¹ <i>National Chiao Tung University and National Yang Ming Chiao Tung University Taina</i> , ² <i>National Chiao Tung University and National Yang Ming Chiao Tung University Taina.</i>	2021-FRI-S0204-O002 • 13:45 Liquid crystal loaded Mach-Zehnder Interferometer optical switch based on silicon nitride waveguides Ching-Chieh Hung ^{1*} , Chun-Ta Wang ¹ , ¹ <i>National Sun Yat-sen University Kaohsiung.</i>	2021-FRI-S0304-O002 • 13:45 A 10/20 GHz All-PM Figure-9 Hybrid Mode-locked Er-Fiber Laser with Nonreciprocal Phase Shifter Qun-Lin Zheng ^{1*} , Yi-Jang Hsu ¹ , Yinchieh Lai ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-FRI-S0404-O002 • 13:45 Anti-reflection films made by means of graded index mesoporous silica materials Chun-Yen Huang ^{1*} , Shiao-Wei Kuo ¹ , Wei-Hung Su ¹ , ¹ <i>National Sun Yat-Sen University Kaohsiung.</i>	2021-FRI-S0504-O004 • 13:45 The Periscope-type of Mobile Phone Lens with 10 Optical Zoom Design Yi-Lun Su ^{1,2*} , Wen-Shing Sun ² , ¹ <i>Vacuum & Optical Components Division Hsinchu</i> , ² <i>Department of Optics and Photonics Zhongli.</i>

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices IV	Optical Waveguides and Communications IV	Quantum Electronics and Laser Technology IV	Holography and Information Processing IV	Optical Design IV
• Presider: Prof. Po-Tsung Lee (NCTU) Prof. Kuo-Ping Chen (HCTU)	• Presider: Prof. Yi-Jen Chiu	• Presider: Prof. Sheng-Kwang Hwang Prof. Jui-Yang Feng	• Presider: Prof. Fu-Li Hsiao Prof. Wei-Feng Hsu	• Presider: Prof. Chuen-Lin Tien Prof. Pin Han
2021-FRI-S0104-O003 • 14:00 Phase Conjugation Metasurface For Under Display Sensing Hsieh Yueh Ting ^{1*} , ¹ <i>National Central University Taoyuan.</i>	2021-FRI-S0204-O003 • 14:00 Broadband Silicon Polarization Splitter-Rotator using Multi-Wavelength Adiabaticity Engineering Hung-Ching Chung ^{1*} , Guan-Xun Lu ¹ , Shuo-Yen Tseng ¹ , ¹ <i>National Cheng Kung University Tainan.</i>	2021-FRI-S0304-O003 • 14:00 Electro-optical Numerical Modeling for the Design of High Power Ridged Semiconductor Laser Diodes Yun-Hsiu Cheng ^{1*} , YUH-RENN WU ¹ , ¹ <i>National Taiwan University Taipei.</i>	2021-FRI-S0504-O005 • 14:00 An Image-Based Collimator for Measuring Focal Length of Optical Lenses Hong-Yi Lin ^{1*} , Chuen-Lin Tien ^{1,2} , Chih-Kai Chang ¹ , ¹ <i>Feng Chia University Taichung</i> , ² <i>Feng Chia University Taichung.</i>	
2021-FRI-S0104-O004 • 14:15 Design of a high figure-of-merit plasmonic sensor based on an aluminum/silver/gold multilayer sensing structure Samuel Husin Surya Mandala ^{1*} , Mochamad Januar ¹ , Michael Grady ¹ , Kou-Chen Liu ^{1,2} , ¹ <i>Chang Gung University Taoyuan City</i> , ² <i>Chang Gung Memorial Hospital Linkou.</i>	2021-FRI-S0204-O004 • 14:15 Design of Silicon Photonics Zigzag Structured Metasurface Mode Converter Using Genetic Algorithm (GA) for Optimization Tien-Wei Yu ^{1*} , Tun-Yao Hung ¹ , Pin-Chen Kuo ¹ , Ching-Wei Peng ¹ , Guan-Hong Chen ¹ , Chien-Hung Yeh ² , Chi-Wai Chow ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>Feng Chia University Taichung.</i>			

Oral V (12/04 09:00~10:30)

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices V	Optical Waveguides and Communications V	Quantum Electronics and Laser Technology V	Holography and Information Processing V	Optical Design V
• Presider: Prof. Shih-Hsiang Hsu (NTUST)	• Presider: Prof. Wan-Shao Tsai	• Presider: Prof. Ja-Hon Lin Prof. Te-Yuan Chung	• Presider: Prof. Nai-Jen Chen Prof. Chien-Liang Chiu	• Presider: Prof. Hsiao-Yi Lee Prof. Cheng-Mu Tsai
2021-SAT-S0105-O001 • 09:00 Optical and Electrical Properties of Selenium-Doped Zirconium Dichalcogenides ZrS₂-xSex (x = 0, 1, 2) Grown by	2021-SAT-S0205-O001 • 09:00 Spatial light modulator control complex optical vortex Wen-Ming Guo ^{1*} , ¹ <i>National Sun Yat-sen University</i>	2021-SAT-S0305-O001 • 09:00 Novel 7 x 1 high-power fiber laser combiner Jian-Hung Lin ^{1*} , ¹ <i>National Chung-Shan Institute of Science and Technology Taoyuan.</i>	2021-SAT-S0405-I001 • 09:00 Invited High-speed imaging of dynamic and transparent object by parallel phase-shifting digital holograph Yasuhiro Awatsuji ^{1*} , ¹ - -.	2021-SAT-S0505-I001 • 09:00 Invited Recent advances in flat and curved lightguides Ozan Cakmakci ^{1*} , ¹ - -.

THALITA MAYSHA
HERNINDA^{1*}, CHING-HWA
HO¹, ¹*National Taiwan*
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Technology TAIPEI.

2021-SAT-S0105-O002 • 09:15 Fe₃GeTe₂-based Magnetic Van der Waals heterostructures for Valleytronics applications Jia-Xin Li ^{1*} , Wei-Qing Li ¹ , Po-Liang Chen ¹ , Tian-Yun Chang ¹ , Chang-Hua Liu ¹ , ¹ <i>National Tsing Hua</i> <i>University Hsinchu.</i>	2021-SAT-S0205-O002 • 09:15 Phase Error Correction and Optimization of Optical Phased Arrays Based on Genetic Algorithm Harjuno Hutomo ¹ , Santoshi Rupa Gayatri Neralla ^{1*} , Tsung Han Lee ¹ , San Liang Lee ¹ , ¹ <i>National Taiwan</i> <i>University of Science and</i> <i>Technology Taipei.</i>	2021-SAT-S0305-O002 • 09:15 VCSEL array with Binary Pattern Distribution for Sensing Applications Hao-Tien Cheng ^{1*} , Jian-Syun Pan ¹ , Wei-Hao Lin ¹ , Yun-Cheng Yang ² , Chao-Hsin Wu ^{1,2} , ¹ <i>National Taiwan</i> <i>University Taipei</i> ; ² <i>National Taiwan</i> <i>University Taipei.</i>		
2021-SAT-S0105-O003 • 09:30 Optimal polarization conversion using a toroidal-Fano-resonant metasurface Po-Sheng Huang ^{1*} , Amir Hassanfirrozi ¹ , Pin Chieh Wu ¹ , ¹ <i>National Cheng</i> <i>Kung University Tainan.</i>	2021-SAT-S0205-O003 • 09:30 Beam Steering Operation of Optical Antenna Arrays with Phase Optimization Yi-Hsuan Lin ¹ , Wei-Chung Peng ^{1*} , Tsung-Han Lee ¹ , San-Liang Lee ¹ , ¹ <i>National</i> <i>Taiwan University of Science</i> <i>and Technology Taipei.</i>	2021-SAT-S0305-O003 • 09:30 Laser Processing and Simulation for High Frequency Substrate Materials based on Multiphoton Absorption Jyun-Zong Yu ^{1*} , Jui-Chi Chang ¹ , Chia- Yuan Chang ¹ , Chien-Jung Huang ² , Hsin-Yu Chang ² , ¹ <i>National Cheng</i> <i>Kung University Tainan</i> , ² <i>Industrial</i> <i>Technology Research Institute Tainan.</i>	2021-SAT-S0405-O001 • 09:30 Absolute optical rotary encoder with autofocusing Hsi-Fu Shih ¹ , Hung Huang ^{1*} , ¹ <i>National Chung</i> <i>Hsing University Taichung.</i>	2021-SAT-S0505-O001 • 09:30 Achromatic polarisation rotator tuned by electric field Ru Chen ^{1*} , ¹ <i>National Sun Yat-</i> <i>sen University Kaohsiung.</i>
2021-SAT-S0105-O004 • 09:45 Chip-Level Meta- Corrector for Cooke Triplet Sheng-Jie Shen ^{1*} , Chih- Ming Wang ¹ , ¹ <i>National</i> <i>Central University Taoyuan.</i>	2021-SAT-S0205-O004 • 09:45 Study of the High-Speed Imaging Communication System Pin-Duan Huan ^{1*} , Chen-Yu Chen ¹ , Yeh-Wei Yu ¹ , Tsung- Hsun Yang ¹ , Ching-Cherng Sun ¹ , ¹ <i>National Central</i> <i>University Taoyuan.</i>	2021-SAT-S0305-O004 • 09:45 All-Fiber-Based High-Peak-Power 1250 nm Femtosecond Light Source for Clinical Imaging Bo-Ru Zhao ^{1*} , Chi-Kuang Sun ¹ , ¹ <i>National Taiwan University</i> <i>Taipei.</i>	2021-SAT-S0405-O002 • 09:45 Miniaturized Digital Holographic Microscope with Holographic Optical Element Wen-Li Wang ^{1*} , Jyun-Jie Wang ¹ , Yeh-Wei Yu ¹ , Ching-Cherng Sun ¹ , Tsung-Hsun Yang ¹ , ¹ <i>National Central</i> <i>University Taoyuan.</i>	2021-SAT-S0505-O002 • 09:45 Slit diffraction spectrum manipulation in non-paraxial regions via the spatial- spectral correspondence relationship Che-Yi Lin ¹ , Yen-Zhen Qiu ¹ , Hsun-Ching Hsu ¹ , Pin Han ^{1*} , ¹ <i>National Chung Hsing</i> <i>University Taichung.</i>

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices V	Optical Waveguides and Communications V	Quantum Electronics and Laser Technology V	Holography and Information Processing V	Optical Design V
• Presider: Prof. Shih-Hsiang Hsu (NTUST)	• Presider: Prof. Wan-Shao Tsai	• Presider: Prof. Ja-Hon Lin Prof. Te-Yuan Chung	• Presider: Prof. Nai-Jen Chen Prof. Chien-Liang Chiu	• Presider: Prof. Hsiao-Yi Lee Prof. Cheng-Mu Tsai
2021-SAT-S0105-O005 • 10:00 Ultra-broadband Tunable and Chirality Invertible Bragg- Berry Optical Vortex Generators Based on Molecular-Motor-Doped Cholesteric Liquid Crystals Zhi-Qun Wang ^{1*} , Chia-Rong Lee ¹ , ¹ <i>National Cheng Kung</i>	2021-SAT-S0205-O005 • 10:00 A WDM-VLLC and White- Lighting Ring Network with OADM Scheme Poh-Suan Chang ^{1*} , Yu-Ting Chen ¹ , Chen-Xuan Liu ¹ , Yan- Yu Lin ¹ , Ting Ko ¹ , Hai-Han Lu ¹ , ¹ <i>National Taipei</i> <i>University of Technology</i>	2021-SAT-S0305-O005 • 10:00 Simulation Study of Quantum-Well Heterojunction Bipolar Transistor Structure to Thermally-Enhanced Current Gain for Thermal Sensor Application Mukul Kumar ^{1*} , Ying-Tzu		2021-SAT-S0505-O003 • 10:00 Measurement of Guitar Timbre Using Laser Displacement Sensor with Nanometer Precision Wei-Chih Lin ^{1*} , Tsung-Yu Hsieh ¹ , Kuan-Cheng Su ¹ , Chii- Chang Chen ² , ¹ <i>National</i> <i>Central University</i>

2021-SAT-S0105-O006
• 10:15
Unraveling the ultranarrow ultraviolet plasmonic on the array of Al nanodisk through the modification of the nanodisk base angle and the embedded substrate
Mochamad Januar^{1*}, Bei Liu¹, Kou-Chen Liu^{1,2}, ¹Chang Gung University Taoyuan, ²Chang Gung Memorial Hospital Linkou, ³Ming Chi University of Technology New Taipei City.

2021-SAT-S0205-O006
• 10:15
Modeling and Simulation of Quantum Key Distribution
Ping-Chun Hu^{1*}, Yung-Cheng Kao², Chih-Sung Chuu², Yuh-Renn Wu¹, ¹National Taiwan University Taipei, ²National Tsing Hua University Hsinchu.

2021-SAT-S0505-O004
• 10:15
Stability analysis of the MEMS scanner with optical coherence tomography imaging technology
Yi-Chun Wu^{1*}, Ming-An Chen¹, Ting-Hao Chen¹, Ting-Yen Tsai¹, Chuan-Bor Chueh¹, Hsiang-Chieh Lee^{1,2}, ¹National Taiwan University Taipei, ²National Taiwan University Taipei, ³National Taiwan University Taipei.

Oral VI (12/04 10:45~12:15)

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices VI	Optical Waveguides and Communications VI	Quantum Electronics and Laser Technology VI	Holography and Information Processing VI	Optical Design VI
• Presider: Prof. Jui-Yang, Feng (NCKU)	• Presider: Prof. Yung-Jr Hung	• Presider: Prof. Ming-Chang Chen Prof. Shang-Da Yang	• Presider: Prof. Wei-Hung Su Prof. Ye-Wei Yu	• Presider: Prof. Pin Han
2021-SAT-S0106-O001 • 10:45 Device Performance Optimization of 2D Material Transistors Fabricated on Wafer-scale MoS2 Coun-Ru Yan ^{1,2*} , Po-Cheng Tsai ^{2,3} , Shouu-Jinn Chang ¹ , Shih-Yen Lin ^{2,3} , ¹ <i>National Cheng-Kung University Tainan</i> , ² <i>Academia</i>	2021-SAT-S0206-O001 • 10:45 Numerical analysis of nano-tapered waveguides for cavity coupling optimization Pei-Hsun Wang ^{1*} , Yi-Xian Zhong ¹ , Shu-An Huang ¹ , ¹ <i>National Central University Taoyuan</i>	2021-SAT-S0306-O001 • 10:45 Ultrashort pulse laser compression using deformable mirror Chang Shu Yu ^{1*} , Chang Chia Yuan ¹ , Chang Jui Chi ¹ , ¹ <i>National Cheng Kung University tainan</i> .	2021-SAT-S0506-O001 • 10:45 Use segmented simulation to reduce large amounts of data SHAO-CHE SUN ^{2*} , Guo-Dung Su ² , Ko-Ting Cheng ¹ , Ching-An Chih ¹ , ¹ <i>National Central University Taoyuan</i> , ² <i>National Taiwan</i>	

<i>Sinica Taipei, ³National Taiwan University Taipei.</i>	<i>County.</i>			<i>University Taipei.</i>
2021-SAT-S0106-O002 • 11:00 Small Pixel Pigment/meta hybrid IR cut filter Chih-Ming Wang ¹ , Rong-Sheng Lin ¹ , ¹ National Central University Taoyuan.	2021-SAT-S0206-O002 • 11:00 Broadband Silicon Nitride Polarization Splitter Rotator Chun Wei Chi ^{1*} , Chun Ta Wang ¹ , ¹ National Sun Yat-sen University Kaohsiung.	2021-SAT-S0306-O002 • 11:00 High Order Vortex Beam Emission of Photonic-Crystal Surface-Emitting Laser with Honeycomb Lattice Yu-Wen Chen ^{1*} , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-SAT-S0406-O001 • 11:00 Two gratings misalignment measurement by heterodyne interferometer Min-Rui Wu ^{1*} , Chen-Yu Ye ¹ , Cheng-Chih Hsu ¹ , ¹ National United University Miaoli.	2021-SAT-S0506-O002 • 11:00 24-hour lighting to Aid Sleep Patterns for Persons Living with Dementia Bao Le ^{1*} , Jonathon David White ¹ , ¹ Yuan Ze University Zhong Li.
2021-SAT-S0106-O003 • 11:15 OOK Transmission Using Silicon-Photonic Transmitter With Right-Arm MZM for Phase Shift Da-Jhong Lin ^{1*} , Zih-Yuan Ciou ¹ , Kuo-Fang Chung ¹ , Shih-Chun Kao ¹ , Ding-Wei Huang ¹ , Gong-Ru Lin ¹ , ¹ National Taiwan University Taipei.	2021-SAT-S0206-O003 • 11:15 A silicon photonics approach for miniaturized fiber optics gyroscope Sin-Yun Lu ¹ , Wei-Xuan Chen ¹ , Yen-Chieh Wang ¹ , Tzu-Hsiang Yen ¹ , Yung-Jr Hung ^{1*} , ¹ National Sun Yat-sen University Kaohsiung.	2021-SAT-S0306-O003 • 11:15 A 10 GHz Fabry-Pérot etalon stabilized mode-locked fiber laser with external nonlinear optical pulse compression Hsiang-Yu Wang ^{1*} , Jyun-Ting Lin ¹ , YI-JANG HSU ¹ , Yinchieh Lai ¹ , ¹ National Yang-Ming Chiao-Tung University Hsinchu.	2021-SAT-S0406-O002 • 11:15 Recording true-color holograms using photopolymer materials Hsuan Yu Chu Ko ^{1*} , Shiuan Huei Lin ² , Ken Yu Hsu ³ , Vera Marinova ^{4,2} , ¹ National Yang Ming Jiao Tung University Hsinchu, ² National Yang Ming Jiao Tung University Hsinchu, ³ National Yang Ming Jiao Tung University Hsinchu, ⁴ Bulgarian Academy of Sciences Sofia.	2021-SAT-S0506-O003 • 11:15 A modification of end-pumped Nd:YVO4 crystal by a light-emitting diode with a wavelength of 810nm MING-HONG CHANG ^{1*} , ¹ National Yang Ming Chiao Tung University Tainan.

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
Room 302a	Room 302b	Room 303a	Room 302d	Room 302e
Nanophotonic Materials and Devices VI	Optical Waveguides and Communications VI	Quantum Electronics and Laser Technology VI	Holography and Information Processing VI	Optical Design VI
• Presider: Prof. Jui-Yang, Feng (NCKU)	• Presider: Prof. Yung-Jr Hung	• Presider: Prof. Ming-Chang Chen Prof. Shang-Da Yang	• Presider: Prof. Wei-Hung Su Prof. Ye-Wei Yu	• Presider: Prof. Pin Han
2021-SAT-S0106-O004 • 11:30 Nanohybrid Designs for Broadband and Fast Photodetectors Sandip Ghosh ¹ , SUROJIT CHATTOPADHYAY ^{1*} , ¹ National Yang Ming Chiao Tung University Taipei.	2021-SAT-S0206-O004 • 11:30 Opto-Electrical NOR Gate Using Light Emitting Transistors Without Resistors Ying-Tzu Chen ^{1*} , Ya-Ting Liang ¹ , Chao-Hsin Wu ¹ , ¹ National Taiwan University Taipei.	2021-SAT-S0306-O004 • 11:30 He⁺ Based High-Harmonic Generation Operated from Water Window to keV Spectral Range Hsu-hsin Chu ^{1,2*} , Yao-Li Liu ¹ , Jyhpyng Wang ^{3,1} , ¹ National Central University Taoyuan, ² National Central University Taoyuan, ³ Academia Sinica Taipei.	2021-SAT-S0406-O003 • 11:30 Study of Liquid Crystal Device Using Photo-polymerization 3D Printing. Yueh-Jung Chu ^{1*} , Hsi-Fu Shih ¹ , ¹ National Chung Hsing University Taichung.	2021-SAT-S0506-O004 • 11:30 Achieving over 80% External Quantum Efficiency In Organic Electroluminescence Using High-Index Substrates and Horizontal Emitters Po-Jui Chen ^{1*} , Bo-Kai Wang ¹ , Wei-Kai Lee ¹ , Yu-Hsing Huang ¹ , Sheng-Wen Wen ¹ , Xuang Zeng ² , Fan Ni ² , Shaolong Gong ² , Chuluo Yang ² , Chung-Chih

2021-SAT-S0106-O005 • 11:45 Terahertz metalenses fabricated with photolithography Guan-Bo Lin ^{1*} , You-Chia Chang ¹ , Tsung-Chieh Tseng ¹ , Yu-Hang Wang ² , Jian-Yu Wu ² , Peichen Yu ¹ , Shang-Hua Yang ² , ¹ National Yang Ming Chiao Tung University Hsinchu, ² National Tsing Hua University Hsinchu.	2021-SAT-S0206-O005 • 11:45 Phase Error Correction in Digital Resampling of LiDAR Application Wei Hong ^{1*} , Ming-Hsuan Chen ¹ , Jhih-Jia Kang ¹ , Shih-Hsiang Hsu ¹ , ¹ National Taiwan University of Science and Technology Taipei.	2021-SAT-S0306-O005 • 11:45 Electrically Synchronized 700-ps 1.3-μm Pulsed Laser for Generating Subpicosecond LWIR Pulses Ya-Po Yang ^{1,2*} , Jheng-Yu Lee ^{1,2} , Jyhpyng Wang ^{1,2} , ¹ Academia Sinica Taipei, ² National Central University Zhongli.	2021-SAT-S0406-O004 • 11:45 Rainbow Holographic Display by Computer-Generated Holographic Stereogram Chia-Jung Cheng ^{1*} , Jung-Ping Liu ^{1,2} , ¹ Feng Chia University Taichung, ² Feng Chia University Taichung.	2021-SAT-S0506-O005 • 11:45 Mueller matrix polarimetry technique for antibody IgG rapid detection Quoc-Hung Phan ^{1*} , ¹ National United University Miaoli.
2021-SAT-S0106-O006 • 12:00 Parity symmetry of reflection and optical pulling force in parity-time symmetric photonic systems Jeng Yi Lee ^{1*} , Pai-Yen Chen ² , ¹ National Dong Hwa University, Hualien, ² University of Illinois at Chicago Chicago.				

Oral I (12/02 13:15~15:00)

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c		Room 303d	Room 303e
Biophotonics and Biomedical Imaging I	Display Technology I		Photovoltaic Technology I	Thin-Film Technology & Coating Design I
• Presider: Prof. Chi-Kuang Sun Prof. Wen-Chuan Kuo	• Presider: Prof. Chong-Yi Lee Prof. Chan-Shan Yang		• Presider: Prof. Hsin-Ying Lee, NCKU Prof. Cheng-Ling Lee, NUU	• Presider: Prof. Yi-Jun Ren Prof. Sheng-Hui Chen
2021-THU-S0601-I001 • 13:15 Invited High resolution bio-imaging and cell stimulation by electron-beam excitation assisted (EXA) optical microscopy Yoshimasa Kawata ^{1*} , ¹ - -.	2021-THU-S0701-O001 • 13:15 Flexible Oxide-Based CMOS Inverters with High Gain Hong-Ru Chen ^{1*} , Shu-Ming Hsu ¹ , Dung-Yue Su ² , Feng-Yu Tsai ² , I-Chun Cheng ¹ , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei.		2021-THU-S0901-I001 • 13:15 Invited MoS2/Ge van der Waals heterojunction device towards broadband photodetection Junseok Heo ^{1*} , ¹ - -.	2021-THU-S1001-O001 • 13:15 Chemical Lift-off of InGaN Micro-scale Light-Emitting Membrane Yen-Ta CHEN ^{1*} , ¹ National Chung Hsing University Taichung.
	2021-THU-S0701-O002 • 13:30 A switchable projection			2021-THU-S1001-O002 • 13:30 Developing SnO2 based

system based on
broadband Cholesteric
Liquid Crystal reflector
Chun-Chuan
Wang^{1*}, ¹National Sun Yat-
sen University Kaohsiung.

flexible H2S gas sensor on
food plastic wrap
Moumita Deb^{3*}, Po-Yi
Chang^{1,2}, Pin Hsuan Li⁴,
Olivier Soppera², Hsiao Wen
Zan¹, ¹National Yang Ming
Chiao Tung University
Hsinchu, ²University of
Upper Alsace
Mulhouse, ³National Yang
Ming Chiao Tung University
Hsinchu, ⁴National Yang
Ming Chiao Tung University
Hsinchu, ⁵National Yang
Ming Chiao Tung University
Hsinchu.

2021-THU-S0601-O001 • 13:45 Multi-scale Imaging of the Ex Vivo Oral Precancerous Lesions with Wide Field-of-View Optical Coherence Microscopy Chuan-Bor Chueh ^{1*} , Huai-Jen Liu ¹ , Ting-Yen Tsai ¹ , Ting-Hao Chen ¹ , Heng-Yu Li ¹ , Hsiang-Chieh Lee ^{1,2} , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei.	2021-THU-S0701-O003 • 13:45 Hybrid photo- and electrical-controllable smart window Chen-Yi Lin ^{1*} , ¹ National Sun Yat-sen University Kaohsiung.	2021-THU-S0901-O001 • 13:45 Tuning the Charge Transfer Route by NiOx decorated p-n GaN Junction Photoelectrodes for PEC Water Splitting CHI WING LEE ^{1*} , Kogularasu Sakthivel ¹ , Feng-Wu Lin ¹ , Ming-Lun Lee ² , Jinn-Kong Sheu ¹ , ¹ National Cheng Kung University Tainan, ² Southern Taiwan University of Science and Technology Tainan.	2021-THU-S1001-O003 • 13:45 Large-Area and Uniform MoS2 Thin Films Synthesized by Chemical Vapor Deposition Bo-Zhi Huang ^{1*} , Lin-Hsiang Lee ¹ , Gui-Sheng Zeng ¹ , Sheng-Hui Chen ¹ , ¹ National Central University Taoyuan.
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Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c	Room 303d	Room 303e	
Biophotonics and Biomedical Imaging I	Display Technology I	Photovoltaic Technology I	Thin-Film Technology & Coating Design I	
• Presider: Prof. Chi-Kuang Sun Prof. Wen-Chuan Kuo	• Presider: Prof. Chong-Yi Lee Prof. Chan-Shan Yang	• Presider: Prof. Hsin-Ying Lee, NCKU Prof. Cheng-Ling Lee, NUU	• Presider: Prof. Yi-Jun Ren Prof. Sheng-Hui Chen	
2021-THU-S0601-O002 • 14:00 Suppression of the polarization artifact in catheter-based OCT system with a polarization diversity detection apparatus Meng-Shan Wu ^{1*} , Yu-Yu Li ¹ , Po-Chuan Chen ¹ , Ting-Yen Tsai ¹ , Chuan-Bor Chueh ¹ , Ting-Hao Chen ¹ , Meng-Tsan Tsai ^{2,3} , Chun-Chieh Wang ^{4,5} , Hsiang-Chieh Lee ^{1,6} , ¹ National Taiwan University Taipei, ² Chang Gung University Taoyuan, ³ Chang Gung Memorial Hospital Linkou, Taoyuan, ⁴ Chang Gung University Taoyuan, ⁵ Chang Gung Memorial Hospital at Linkou Taoyuan, ⁶ National Taiwan	2021-THU-S0701-O004 • 14:00 Efficient blue phosphorescent organic light-emitting diode by employing hybrid-donor-acceptor host Ching-Huang Chiu ^{1*} , Bo-Yen Lin ¹ , Chia-Hsun Chen ^{1,2} , Man-kit Leung ² , Jiun-Haw Lee ¹ , Tien-Lung Chiu ¹ , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei.	2021-THU-S0901-O002 • 14:00 Optical, Material and Electrical Properties of GeSn Thin Film Prepared by Sputtering Yu-Chen Tsai ¹ , Ching-Yu Hsu ^{2*} , Zingway Pei ^{1,2} , ¹ National Chung Hsing University Taichung, ² National Chung Hsing University Taichung.	2021-THU-S1001-O004 • 14:00 Investigation of Current Enhancement in Ammonia Gas Sensor by P-type Doping Chung An Hsieh ^{1*} , Li Yin Chen ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	

2021-THU-S0601-O003 • 14:15 Identification of Changes in the Microvasculature of the Mouse Brain among Different Physiological States using Optical Coherence Tomography Angiography Ting-Hao Chen ^{1*} , Yi-Chun Wu ¹ , Jye-Chang Li ² , Ming-An Chen ¹ , Ting-Yen Tsai ¹ , Chuan-Bor Chueh ¹ , Meng-Tsan Tsai ³ , Yoshiaki Yasuno ⁴ , Ming-Kai Pan ² , Hsiang-Chieh Lee ¹ , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei, ³ Chang Gung University Taoyuan, ⁴ University of Tsukuba Tsukuba.	2021-THU-S0701-O005 • 14:15 Realized large-scale and multi-domain photo-alignment technique based on digital light processing system Yi-Jyun Ke ^{1*} , ¹ National Sun Yat-Sen University Kaohsiung.	2021-THU-S0901-O003 • 14:15 Electric Field Fiber Sensor Based on a Fiber Bragg Grating and Liquid Crystal Hsiang-Chen Wang ^{1*} , Cheng-Yu Lin ¹ , Wen-Fung Liu ¹ , Hung-Ying Chang ¹ , Wei-Chen Li ¹ , ¹ Feng-Chia University Taichung.	2021-THU-S1001-O005 • 14:15 Development of Optical Monitoring System for Drum-Based Plasma-Assisted Reactive Magnetron Sputtering Hong-Lin Zhuo ^{1*} , Chien-Jen Tang ¹ , Chen-Ching Lee ² , Wei-Hsiang Chan ² , ¹ Feng Chia University Taichung, ² National Chung-Shan Institute of Science & Technology Taichung.
2021-THU-S0601-O004 • 14:30 Ultrahigh resolution OCT imaging with a supercontinuum laser light source Tai-Ang Wang ^{1,2*} , Hsiang-Chieh Lee ^{2,3} , Meng-Tsan Tsai ^{1,4} , ¹ Chang Gung University Taoyuan, ² National Taiwan University Taipei, ³ National Taiwan University Taipei, ⁴ Chang Gung Memorial Hospital Taoyuan.	2021-THU-S0701-O006 • 14:30 Automatic Optical Inspection of Pixel Illuminance for Displays at Oblique Perspectives Yu-Chen Chou ^{1*} , Chieh-En Lee ¹ , Po-Yuan Hsieh ¹ , Chung-Hao Tien ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-THU-S0901-O004 • 14:30 Magnetic Field Sensor based on Tilted Fiber Grating combined with Magnetic Fluid Zih-Hua Wang ^{1*} , Wen-Fung Liu ¹ , Cheng-Yu Lin ¹ , Yu-Chun Chang ¹ , ¹ Feng-Chia University Taichung.	2021-THU-S1001-O006 • 14:30 Investigation of Parallel Structured Ga2O3-based Metal-Semiconductor-Metal Deep Ultraviolet Photodetectors Guo-Long Zhu ^{1*} , Shao-Chi Weng ² , Hsin-Ying Lee ³ , Ching-Ting Lee ^{1,3} , ¹ National Cheng Kung University Tainan, ² National Cheng Kung University Tainan, ³ National Cheng Kung University Tainan, ⁴ Yuan Ze University Taoyuan.

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c		Room 303d	Room 303e
Biophotonics and Biomedical Imaging I	Display Technology I		Photovoltaic Technology I	Thin-Film Technology & Coating Design I
• President: Prof. Chi-Kuang Sun Prof. Wen-Chuan Kuo	• President: Prof. Chong-Yi Lee Prof. Chan-Shan Yang		• President: Prof. Hsin-Ying Lee, NCKU Prof. Cheng-Ling Lee, NUU	• President: Prof. Yi-Jun Ren Prof. Sheng-Hui Chen
2021-THU-S0601-O005 • 14:45 Using Deep Learning for Automated Detection of Neural Canal Opening in OCT Images Jia-Ling Tu ^{1*} , Chieh-En Lee ¹ , Chung-Hao Tien ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-THU-S0701-O007 • 14:45 Auto brightness and color correction for medical display monitor with color sensor Yi-Ming Li ^{1*} , Wen Meng ² , Chih-Yu Tsai ³ , Tsung-Xian Lee ³ , ¹ National Taiwan University of Science and Technology Taipei, ² National Taiwan University of Science and Technology Taipei, ³ National Taiwan University of Science and Technology Taipei.		2021-THU-S0901-O005 • 14:45 Fiber Bragg Grating Magnetic Field Sensor Based on Magnetic Fluid Wei-Lin Shu ^{1*} , Cheng-Yu Lin ¹ , Wen-Fung Liu ¹ , Hung-Ying Chang ¹ , Jeson Chen ² , ¹ Feng-Chia University Taichung, ² Feng-Chia University Taichung.	2021-THU-S1001-O007 • 14:45 Implementation of High Speed Terahertz Spatial Light Modulator Using Organic Semiconductor Chia-Ming Mai ^{1*} , Mohamed Hammad Elsayed ² , Ho-Hsiu Chou ² , Shang-Hua Yang ¹ , ¹ National Tsing Hua University Hsinchu, ² National Tsing Hua University Hsinchu.

Oral II (12/02 15:15~17:00)

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c	Room 303d	Room 303e	
Biophotonics and Biomedical Imaging II	Display Technology II	Photovoltaic Technology II	Thin-Film Technology & Coating Design II	
• Presider: Prof. Fu-Jen Kao Prof. Ming-Che Chan	• Presider: Prof. Tsung-Hsien Lin Prof. Ko-Ting Cheng	• Presider: Prof. Wen-Fung Liu, FCU Prof. Cheng-Mu Tsai, NCHU	• Presider: Prof. Chien-Jen Tang Prof. Yu-Chueh Hung	
2021-THU-S0602-I001 • 15:15 Invited 2D and 3D Photopatterning of Molecularly Imprinted Polymers (MIP) for Biosensing Applications Olivier Soppera ^{1*} , [†] - -.	2021-THU-S0702-O001 • 15:15 Angle independent linear polarization rotator using twist nematic liquid crystals CHIA-YU YEN ^{1*} , CHUN-TA WANG ¹ , [†] <i>National Sun Yat-Sen University Kaohsiung.</i>	2021-THU-S0902-O001 • 15:15 A Mach-Zehnder Interferometer Based on an Ultracompact Leaky-Guided Liquid Core Wei-Rong Zhuo ^{1*} , Tai-Kai Liu ¹ , Cheng-Ling Lee ¹ , [†] <i>Department of Electro-Optical Engineering, National United University Miaoli 36003.</i>	2021-THU-S1002-O001 • 15:15 Hindering effect of particulate matter on radiative cooling efficiency Yen-Jen Chen ^{1*} , Shau-Liang Chen ¹ , Sih-Wei Chang ¹ , Chun-Man Kan ¹ , Hsuen-Li Chen ¹ , [†] <i>National Taiwan University Taipei.</i>	
	2021-THU-S0702-O002 • 15:30 Biphotonically switchable reflection bandwidth expansion using chiral azobenzene-doped cholesteric liquid crystals Ko-Ting Cheng ¹ , Cheng-Kai Liu ¹ , Ming-Hong Yuan ¹ , Shao-Hao Liao ^{1*} , [†] <i>National Central University Taoyuan City.</i>	2021-THU-S0902-O002 • 15:30 Fiber Michelson Interferometer Temperature Sensor based on a Liquid-core Fiber Chi-Shiang Chen ^{1*} , Sheng-Yun Cho ¹ , Cheng-Ling Lee ¹ , [†] <i>Department of Electro-Optical Engineering, National United University Miaoli.</i>	2021-THU-S1002-O002 • 15:30 Investigation of Contact Resistance and Transport Mechanism in P-type SnO Thin-Film Transistor Yu-Ting Tsai ^{1*} , Yu-Chen Chang ¹ , I-Chun Cheng ¹ , [†] <i>National Taiwan University Taipei.</i>	

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c	Room 303d	Room 303e	
Biophotonics and Biomedical Imaging II	Display Technology II	Photovoltaic Technology II	Thin-Film Technology & Coating Design II	
• Presider: Prof. Fu-Jen Kao Prof. Ming-Che Chan	• Presider: Prof. Tsung-Hsien Lin Prof. Ko-Ting Cheng	• Presider: Prof. Wen-Fung Liu, FCU Prof. Cheng-Mu Tsai, NCHU	• Presider: Prof. Chien-Jen Tang Prof. Yu-Chueh Hung	
2021-THU-S0602-O001 • 15:45 Dual-color Coded Quantitative Differential Phase Contrast Microscopy with Deep Learning for Time-lapse Imaging Ying-Ju Chen ^{1,2} , Sunil Vyas ² , Yuan Luo ^{1,2} , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei.	2021-THU-S0702-O003 • 15:45 Minimizing Color Metamerism of Camera-based Display Measurement Chia-Yu Lee ^{1*} , Pei-Li Sun ¹ , Hung-Chung Li ² , ¹ <i>Nat. Taiwan Univ. of Sci. & Tech. (NTUST) Taipei</i> , ² <i>Chang Gung University of Science and Technology Taoyuan</i> .	2021-THU-S0902-O003 • 15:45 Dynamic vibration sensor based on fiber Bragg grating Chih-Chuan Chiu ^{1*} , Cheng-Yu Lin ¹ , Wen-Fung Liu ¹ , Yi-Lin Yu ¹ , ¹ <i>Feng-Chia University Taichung</i> .	2021-THU-S1002-O003 • 15:45 Simulations and experimental investigations of thermochromic performances of VO2 nanocone array Ying Chou Lu ^{1*} , Chun Hway Hsueh ¹ , ¹ <i>National Taiwan University Taipei</i> .	
2021-THU-S0602-O002 • 16:00 Three-dimensional reconstruction of	2021-THU-S0702-O004 • 16:00 Control of Smart Windows	2021-THU-S0902-O004 • 16:00 An Electric Field Sensor Based	2021-THU-S1002-O004 • 16:00 Layered Graphene Growth	

cone-beam X-ray luminescence computed tomography via FBP method TIEN-AI JI¹, TIEN-YU WU¹, Jyh-Cheng Chen², Tse-Ying Liu³, CHIA-LUN TSAI^{1*}, SNOW H. TSENG¹, ¹<i>National Taiwan University Taipei</i>, ²<i>National Yang-Ming Chiao-Tung University (Yang-Ming campus) Taipei</i>, ³<i>National Yang-Ming Chiao-Tung University (Yang-Ming campus) Taipei</i>.	Based on Double Layer Dichroic Dye-doped Nematic Liquid Crystals via Face Recognition System Sin-Wei Lin^{1*}, Cheng-Kai Liu¹, Ko-Ting Cheng¹, ¹<i>National Central University Taoyuan</i>.	on A Tilted Fiber Bragg Grating Combined with The Liquid Crystal Yu-Tong Lee^{1*}, Wen-Fung Liu¹, Hung-Ying Chang¹, Ming-Yu Fu², ¹<i>Feng-Chia University Taichung</i>, ²<i>Chinese Air Force Academy Kaohsiung</i>.	on Sapphire Substrates Che-Jia Chang^{1,2*}, Po-Cheng Tsai², Wei-Ya Su³, Po-Tsung Lee¹, Chun-Yuan Huang³, Shih-Yen Lin^{2,3}, ¹<i>National Yang Ming Chiao Tung University Hsinchu</i>, ²<i>Research Center for Applied Sciences Taipei</i>, ³<i>National Taitung University Taitung</i>.
2021-THU-S0602-O003 • 16:15 Remarkable Performance of Batch-Normalization Layers in Diffuse Optical Imaging Nazish Murad^{1*}, Min-Chun Pan¹, ¹<i>National Center University Taoyuan</i>.	2021-THU-S0702-O005 • 16:15 New thermally activated delayed fluorescence emitter for high efficiency OLED Ching-Huang Chiu^{1*}, Bo-Yen Lin¹, Chia-Hsun Chen^{1,2}, Man-kit Leung², Jiun-Haw Lee¹, Tien-Lung Chiu¹, ¹<i>National Taiwan University Taipei</i>, ²<i>National Taiwan University Taipei</i>.	2021-THU-S0902-O005 • 16:15 Optical Fiber Grating Humidity Sensor Based on Calcium Chloride Chia-Tse Hsu^{1*}, Cheng-Yu Lin¹, Wen-Fung Liu¹, Hung-Ying Chang¹, Yi-Lin Yu¹, ¹<i>Feng Chia University Taichung</i>.	2021-THU-S1002-O005 • 16:15 Design of shadow-mask for linear variable filters with graded-index-like film by plasma-assisted reactive magnetron sputtering Yi Chen^{1*}, Chien-Jen Tang¹, ¹<i>Feng Chia University Taichung</i>.
2021-THU-S0602-O004 • 16:30 Strategy of enhancing the imaging depth in biological tissues using polarization engineered second harmonic generation microscopy Ming-Xin Lee¹, Wei-Hsun Wang¹, Fu-Jen Kao², Guan-Yu Zhuo^{1*}, ¹<i>China Medical University Taichung</i>, ²<i>National Yang Ming Chiao Tung University Taipei</i>.			2021-THU-S1002-O006 • 16:30 Multi-reflection Bands Generation from Single-Pitched Cholesteric Liquid Crystal Films Bo Han Lin^{1*}, Chun Ta Wang¹, ¹<i>National Sun Yat-sen University Kaohsiung</i>.

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c		Room 303d	Room 303e
Biophotonics and Biomedical Imaging II	Display Technology II		Photovoltaic Technology II	Thin-Film Technology & Coating Design II
• Presider: Prof. Fu-Jen Kao Prof. Ming-Che Chan	• Presider: Prof. Tsung-Hsien Lin Prof. Ko-Ting Cheng		• Presider: Prof. Wen-Fung Liu, FCU Prof. Cheng-Mu Tsai, NCHU	• Presider: Prof. Chien-Jen Tang Prof. Yu-Chueh Hung
2021-THU-S0602-O005 • 16:45 Analysis of Collagen Types I & II at Bone Fracture Healing Tissue Using Polarization-SHG Anupama Venugopalan Nair^{1*}, Chi-Hsiang Lien², Chung-Hwan Chen³, Shu-Chun Chuang³, Yi-Shan Lin³, Shean-Jen Chen¹, ¹<i>National Yang Ming Chiao Tung University Tainan</i>, ²<i>National United University Miaoli</i>, ³<i>Kaohsiung Medical University Kaohsiung</i>.				2021-THU-S1002-O007 • 16:45 AlGaIn-based Photodetector with Multiple Porous-AlGaIn/GaN Interfaces Chou Chia-Ming^{1*}, ¹<i>National Chung Hsing University Taichung</i>.

Oral III (12/03 10:45~12:00)

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c	Room 303c	Room 303d	Room 303e
Biophotonics and Biomedical Imaging III	Display Technology III	Solid State Lighting III	Photovoltaic Technology III	Thin-Film Technology & Coating Design III
• Presider: Prof. Yuan Luo Dr. Bi-Chang Chen	• Presider: Prof. Lung-Chien Chen Prof. Jiun-Haw Lee	• Presider Prof. Su-Hua Yang Prof. Wei-Chih Lai	• Presider: Prof. Chao-Yu Chen Dr. Yong-Liang Tong	• Presider: Prof. Hsi-Chao Chen Dr. Bo-Huei Liao
2021-FRI-S0603-O001 • 10:45 Distortion correction based on division model for sCMOS cameras in CB-XLCT Chia-Lun Tsai ¹ , Tien-Ai Ji ¹ , Jyh-Cheng Chen ² , Tse-Ying Liu ³ , Tien-Yu Wu ^{1*} , Snow H. Tseng ¹ , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Yang-Ming Chiao-Tung University Taipei</i> , ³ <i>National Yang-Ming Chiao-Tung University Taipei</i> .	2021-FRI-S0703-I001 • 10:45 Invited Growth of drawable CNT and its application to a data glove Hidenori Mimura ^{1*} , ¹ -.	2021-FRI-S0803-I001 • 10:45 Invited III-nitride photonic devices, structures, and circuits Jung Han ^{1*} , ¹ -.	2021-FRI-S0903-I001 • 10:45 Invited Interfacial and compositional engineering for high-voltage perovskite solar cells Tsutomu Miyasaka ^{1*} , ¹ -.	2021-FRI-S1003-O001 • 10:45 Sputtering Ga-doped ZnO thin film to apply on touch sensor Ping-Tai Jiang ^{1*} , Yen-Sheng Lin ¹ , ¹ <i>I-Shou University Kaohsiung</i> .
2021-FRI-S0603-O002 • 11:00 UV-visible-NIR self-phase-modulation-enabled femtosecond fiber source for biomedical single/two-photon fluorescence microscopy Zi-Ping Chen ^{1*} , Lu-Ting Chou ¹ , Yu-Cheng Liu ¹ , Shih-Hsuan Chia ¹ , ¹ <i>National Yang Ming Chiao Tung University Taipei</i> .				

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 302c	Room 303c	Room 303d	Room 303e
Biophotonics and Biomedical Imaging III	Display Technology III	Solid State Lighting III	Photovoltaic Technology III	Thin-Film Technology & Coating Design III
• Presider: Prof. Yuan Luo Dr. Bi-Chang Chen	• Presider: Prof. Lung-Chien Chen Prof. Jiun-Haw Lee	• Presider Prof. Su-Hua Yang Prof. Wei-Chih Lai	• Presider: Prof. Chao-Yu Chen Dr. Yong-Liang Tong	• Presider: Prof. Hsi-Chao Chen Dr. Bo-Huei Liao
2021-FRI-S0603-O003 • 11:15 Three-dimensional fluorescence imaging of Caenorhabditis elegans by Bessel beam light sheet microscopy Yu-Chun Chen ^{1*} , Sunil Vyas ² , Kuang-Yuh Huang ¹ , Yuan Luo ^{2,3} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei</i> , ³ <i>National Taiwan University Taipei</i> , ⁴ <i>National Taiwan University Taipei</i> .	2021-FRI-S0703-O001 • 11:15 Efficiently near-infrared organic light-emitting diodes with exciplex co-host system Dian Luo ^{1*} , Yi-Sheng Chen ² , Wei-Chih Wei ² , Bo-Lin Chen ³ , Tzu-Hung Yeh ³ , Shun-Wei Liu ^{3,4} , Ken-Tsung Wong ² , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>National Taiwan University Taipei</i> , ³ <i>Ming Chi University of Technology New Taipei City</i> , ⁴ <i>Ming Chi University of Technology New Taipei City</i> .	2021-FRI-S0803-O001 • 11:15 Reflectivity Spectra of Printer Inks Dong-Yuan Yeh ¹ , Da-Wei Tsai ¹ , Tsai-Yih Chen ¹ , Tsung-Hsun Yang ^{1*} , Ching-Cherng Sun ¹ , Yeh-Wei Yu ¹ , ¹ <i>National Central University Chungli Distrct, Taoyuan City</i> .	2021-FRI-S0903-O001 • 11:15 The Formation of p and n-type Multilayer Chromium doped ReSe2 Homojunction Adzilah Shahna Rosyadi ^{1*} , Ching-Hwa Ho ¹ , ¹ <i>National Taiwan University of Science and Technology Taipei City</i> .	2021-FRI-S1003-O003 • 11:15 Epitaxial Growth of Gallium Nitride Films on Sapphire Substrate by the Pulsed Magnetron Sputtering Deposition Zhi-Guang Chen ^{1*} , Chong-Wen Zheng ¹ , Sheng-Hui Chen ¹ , ¹ <i>National Central University Taoyoun</i> .
2021-FRI-S0603-O004 • 11:30 Design and Development of	2021-FRI-S0703-O002 • 11:30 Full color QD based Micro-LED	2021-FRI-S0803-O002 • 11:30 Night-Time Driving	2021-FRI-S0903-O002 • 11:30 Investigation of Perovskite	2021-FRI-S1003-O004 • 11:30 Investigation of Interdigital

FPGA controlled Quantitative Differential Phase Contrast Microscope Yen-Chih Yu ^{1,2*} , Sunil Vyas ² , J. Andrew Yeh ¹ , Yuan Luo ^{2,3} , ¹ National Tsing Hua University Hsinchu, ² National Taiwan University Taipei, ³ National Taiwan University Taipei, ⁴ National Taiwan University Taipei.	with Nanoporous structure Zhi-Wen Wu ^{1*} , Chao-Hsu Lin ¹ , Yu-Tang Cheng ¹ , Yu-Hao Liou ¹ , Hao-Chung Kuo ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	Visibility Study of LED Highway Traffic Signs: A Road Test Yen-Lin Shih ^{1*} , Ching-Cherng Sun ² , Yi-Chen Chen ² , Tsung-Xian Lee ¹ , ¹ National Taiwan University of Science and Technology Taipei, ² National Central University Taoyuan.	Solar Cells with PC61BM Electron Transport Layer and ZnO Interface Layer. Ting-Chun Chang ^{1*} , Chen-Yi Liao ¹ , Guan-Syun Chen ¹ , Chia-Hsun Chen ² , Ching-Ting Lee ^{1,3} , Hsin-Ying Lee ¹ , ¹ National Cheng Kung University Tainan, ² Chung Hwa University of Medical Technology Tainan, ³ Yuan Ze University Taoyuan.	Electrode on Indium Tin-Oxide (ITO) Thin Films by Thermal Evaporation Coater Chuang Hsuan Chueh ^{1*} , Chieh Hsun Chen ¹ , Shih Chang Shei ¹ , Nan Ming Lin ¹ , ¹ National university of tainan Tainan.
2021-FRI-S0603-O005 • 11:45 Comparison of algebraic ART, SART and SIRT image reconstruction methods in CB-XLCT Tien-Ai Ji ^{1*} , Chia-Lun Tsai ¹ , Tien-Yu Wu ¹ , Snow H. Tseng ¹ , Jyh-Cheng Chen ² , Tse-Ying Liu ³ , ¹ National Taiwan University Taipei, ² National Yang-Ming Chiao-Tung University Taipei, ³ National Yang-Ming Chiao-Tung University Taipei.	2021-FRI-S0703-O003 • 11:45 A New Mini-LED Backlight Driving Circuit with Low Power Consumption for LCDs Yi-Jui Chen ^{1*} , Yu-Sheng Lin ² , Chia-Ling Tsai ¹ , Chih-Lung Lin ¹ , ¹ National Cheng Kung University Tainan, ² Taipower Kaohsiung.	2021-FRI-S0803-O003 • 11:45 Developing An Evaluation Function For A Neural Network To Optimize Healthy Lighting Md Azaharuddin Ansari ^{1,2*} , Bao Le ¹ , Thiyam Deepa Beeta ² , Jonathon David White ¹ , ¹ Yuan Ze University Zhong-Li, ² Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology Chennai.	2021-FRI-S0903-O003 • 11:45 Performance Enhancement of InGaP/GaAs/Ge Solar Cell Using Plasmonic Anti-Reflective Light-Modulation Bo-Xun Ke ^{1*} , Wen-Jeng Ho ¹ , Jheng-Jie Liu ¹ , Jia-Chen Zhuang ¹ , ¹ National Taipei University of Technology Taipei.	2021-FRI-S1003-O005 • 11:45 The Effects Of Gas Flow Growth Inorganic Cesium Lead Bromide Perovskites Film By Chemical Vapor Deposition Pei Rong Lin ^{1*} , ¹ National Yang Ming Chiao Tung University Tainan.

Oral IV (12/03 13:00~14:30)

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 303c	Room 303d	Room 303e	
Biophotonics and Biomedical Imaging IV	Solid State Lighting IV	Photovoltaic Technology IV	Thin-Film Technology & Coating Design IV	
• Presider: Prof. Sheng-Hao Tseng Prof. Fan-Ching Chien	• Presider Prof. Bohr-Ran Huang Prof. Jia-Feng Lin	• Presider: Prof. Zingway Pei, NCHU Prof. Chun-Nien Liu, NCHU	• Presider: Prof. Sheng-Joue Young Prof. Po-Tsun Liu	
2021-FRI-S0604-O001 • 13:00 Video-rate green three-photon fluorescence microscopy based on a single Cr:forsterite laser oscillator Lu-Ting Chou ^{1*} , Hao-Hsuan Hung ¹ , Wei-Zong Lin ¹ , Shao-Hsuan Wu ¹ , Anatoly. A. Ivanov ² , Shih-Hsuan Chia ¹ , ¹ National Yang Ming Chiao Tung University Taipei City, ² Russian Academy of Sciences Moscow.	2021-FRI-S0804-O001 • 13:00 Dynamic Behaviors of Dual-gate AlGaIn/GaN HEMTs on Si Dai-Jie Lin ^{1*} , Jhih-Yuan Yang ¹ , Chih-Kang Chang ¹ , Jian-Jang Huang ^{1,2} , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei.	2021-FRI-S0904-I001 • 13:00 Invited Nanostructured Solar Cells with combined function of Silicon and Perovskite Nanostructures Naoki FUKATA ^{1*} , ¹ - -.	2021-FRI-S1004-I001 • 13:00 Invited Versatile Thin Film Transistors for Display Electronics Applications Po-Tsun Liu ^{1*} , ¹ - -.	
2021-FRI-S0604-O002 • 13:15 Compact multicolor two-photon fluorescence microscopy enabled by tailorable broadening from self-phase modulation and dispersive wave generation	2021-FRI-S0804-O002 • 13:15 Development of 2D Simulation Model for Vpit and Random Alloy Fluctuation Simulation in Blue and Green LEDs Cheng-Han Ho ¹ , Shih-Min			

Shao-Hsuan Wu^{1*}, Hao-Hsuan Hung¹, Lu-Ting Chou¹, Shih-Hsuan Chia¹, ¹*National Yang Ming Chiao Tung University Taipei.*

Chen^{1*}, Yuh-Renn Wu¹, ¹*National Taiwan University Taipei.*

2021-FRI-S0604-O003 • 13:30 To Restore in-vivo Drosophila Brain Images of Fast Temporal Focusing Multiphoton Microscopy by 3D U-Net Yu Hao Tseng ^{1*} , Chia Wei Hsu ¹ , Chun Yu Lin ¹ , Yuling Hu ² , Chun Yuan Wu ³ , Hsueh Cheng Chiang ³ , Shean Jen Chen ^{1,4} , ¹ <i>National Yang Ming Chiao Tung University Tainan</i> , ² <i>National Cheng Kung University Tainan</i> , ³ <i>National Cheng Kung University Tainan</i> , ⁴ <i>National Applied Research Laboratories Hsinchu.</i>	2021-FRI-S0804-O003 • 13:30 Enhanced light extraction of UVC Light-Emitting Diode with Pattern Porous-AlGaIn layer Xiu-Yu Chen ^{1*} , Chia-Feng Lin ¹ , ¹ <i>National Chung Hsing University Taichung.</i>	2021-FRI-S0904-O001 • 13:30 Hydrogenated amorphous silicon oxide a-SiOx:H/a-SiOy:H superlattice p-i-n solar cells Yeu-Long Jiang ¹ , Yan-Fen Wei ² , Yang-Zhan Lin ^{3*} , ¹ <i>National Chung Hsing University Taichung</i> , ² <i>National Chung Hsing University Taichung</i> , ³ <i>National Chung Hsing University Taichung.</i>	2021-FRI-S1004-O001 • 13:30 The Influence of Stacking Sequences to 2D Material Hetero-structures Dun-Jei Zhang ^{1,2*} , Po-Cheng Tsai ² , Wei-Chen Tu ¹ , Shih-Yen Lin ² , ¹ <i>National Cheng Kung University Tainan</i> , ² <i>Academia Sinica Taipei.</i>
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Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	Room 303c	Room 303d	Room 303e	
Biophotonics and Biomedical Imaging IV	Solid State Lighting IV	Photovoltaic Technology IV	Thin-Film Technology & Coating Design IV	
• Presider: Prof. Sheng-Hao Tseng Prof. Fan-Ching Chien	• Presider Prof. Bohr-Ran Huang Prof. Jia-Feng Lin	• Presider: Prof. Zingway Pei, NCHU Prof. Chun-Nien Liu, NCHU	• Presider: Prof. Sheng-Joue Young Prof. Po-Tsun Liu	
2021-FRI-S0604-O004 • 13:45 Sub-Minute Multicolor Giga-Pixel Nonlinear Optical Mesoscope with >30 M/s Effective Pixel Rate Bhaskar Jyoti Borah ^{1*} , Yi-Hua Liao ² , Chi-Kuang Sun ¹ , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Hospital Taipei.</i>	2021-FRI-S0804-O004 • 13:45 Investigation of Molybdenum Oxide Hole Injection Layers for Green Quantum Dot Light-Emitting Diodes Jing-Teng Shi ^{1*} , Hsin-Chieh Yu ^{1,3} , Kuei-Hung Chu ² , Qian-Hua Zhuo ² , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>National Yang Ming Chiao Tung University Hsinchu</i> , ³ <i>National Cheng Kung University Tainan.</i>	2021-FRI-S0904-O002 • 13:45 Passivation effects of a-SiOx:H thin films on the silicon heterojunction solar cells Yeu-Long Jiang ¹ , Chi-Ying Chuang ² , Shuo-Heng Chien ^{2*} , ¹ <i>National Chung Hsing University Taichung</i> , ² <i>National Chung Hsing University Taichung.</i>	2021-FRI-S1004-O002 • 13:45 Photo-induced ammonia gas sensing by organic semiconducting molecules, poly(3-hexylthiophene), on anodic aluminum oxide substrate Rahim Bakash Kolaru ^{1*} , Sajal Biring ¹ , ¹ <i>Ming Chi University of Technology New Taipei City.</i>	
2021-FRI-S0604-O005 • 14:00 H&E-enhanced nonlinear optical microscopy to rapidly assess glioma border in human brain Yao-Chen Tseng ^{1*} , Bhaskar Jyoti Borah ¹ , Kuo-Chuan Wang ² , Huan-Chih Wang ² , Koping Chang ³ , Chi-Kuang Sun ¹ , ¹ <i>National Taiwan</i>	2021-FRI-S0804-O005 • 14:00 Analysis of TM polarization ratio in UVC-LEDs with 3D k-p method by considering random alloy fluctuation Huan-Ting Shen ¹ , Yu-Chieh Chang ^{1*} , Yuh-Renn Wu ¹ , ¹ <i>National Taiwan</i>	2021-FRI-S0904-O003 • 14:00 Open-cavity Mach-Zehnder Interferometer Sensor Formed by Photonic Crystal Fiber and Polished Pencil-shape Single-mode Fiber Pei-Jhen Wong ¹ , Chin-Ping Yu ^{1*} , ¹ <i>National Sun Yat-sen</i>	2021-FRI-S1004-O003 • 14:00 The investigation of novel quantum-dot-color-conversion layer via lift-off Guan-Ying Lee ^{1*} , Shou-Wei Wang ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu City.</i>	

2021-FRI-S0604-O006 • 14:15 Optical Power-Enhancement Method for Overcoming Photodamage based on Deep Learning YI-JIUN SHEN ^{1*} , EN-YU LIAO ² , TSUNG-MING TAI ³ , YI-HUA LIAO ⁴ , CHI-KUANG SUN ² , CHENG-KUANG LEE ³ , SIMON SEE ³ , HUNG-WEN CHEN ^{1,5} , ¹ National Tsing Hua University Hsinchu, ² National Taiwan University Taipei, ³ NVIDIA Santa Clara, ⁴ National Taiwan University Taipei, ⁵ National Tsing Hua University Hsinchu, ⁶ Industrial Technology Research Institute (ITRI) Hsinchu.	2021-FRI-S0804-O006 • 14:15 Thermal Characteristics of Diamond Powder Mix with Colloidal Quantum Dot LEDs Package Fang Zhong Lin ^{1*} , Chung Ping Huang ² , GUAN TENG LIN ¹ , Jhen Jia Yang ¹ , Yu Ming Huang ¹ , Chien Chung Lin ³ , ¹ National Yang Ming Chiao Tung University Tainan, ² National Yang Ming Chiao Tung University Tainan, ³ National Taiwan University Taipei.	2021-FRI-S0904-O004 • 14:15 Numerical Simulation of Negative Curvature Hollow- Core Photonic Crystal Fiber Jung-Sheng Chiang ¹ , Yu-Cheng Chuang ¹ , Jeng-Chian Lai ¹ , Wei- Lun Hsu ^{1*} , Nai-Hsiang Sun ¹ , ^{1/-} Shou University Kaohsiung.	2021-FRI-S1004-O004 • 14:15 Pixel Circuit with Leakage Compensating Scheme and Simple Control Signals for Low-Frame-Rate Displays Cheng-Han Ke ^{1*} , Yu-Sheng Lin ² , Chih-Lung Lin ¹ , ¹ National Cheng Kung University Tainan City, ² Taipower Kaohsiung City.
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Oral V (12/04 09:00~10:30)

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	302c			Room 303e
Biophotonics and Biomedical Imaging V	Display Technology V			Thin-Film Technology & Coating Design V
• Presider: Prof. Chii-Wann Lin Prof. Nan-Fu Chiu	• Presider Prof. Li-Yin Chen Prof. Hung-Shing Chen			• Presider: Prof. Ting-Jen Hsueh Prof. Sheng-Po Chang
2021-SAT-S0605-I001 • 09:00 Invited Bond-Selective Imaging by Optically Sensing the Mid-Infrared Photothermal Effect Ji-Xin Cheng ^{1*} , ^{1/-} .	2021-SAT-S0705-I001 • 09:00 Invited Color Conversion in III- Nitride Micro-LEDs with Embedded Nanostructures Jian Hsu ^{1*} , ^{1/-} .			2021-SAT-S1005-O001 • 09:00 Superhydrophobic functional surfaces with spatially controlled adhesion Hsin-Yi Lin ^{1*} , ¹ National Sun Yat-sen University Kaohsiung.
				2021-SAT-S1005-O002 • 09:15 Obliquely deposited silver on a dielectric grating as a metamaterial layer for high reflection Yi-Jun Jen ¹ , Po-Chun Lin ¹ , Xing-Hao Lo ^{1*} , ¹ National Taipei University of Technology Taipei.
2021-SAT-S0605-O001 • 09:30 The cylindrical solid-state sensor used for the detection of zinc ion in clinical applications Yu-Sheng Lu ^{1*} , Li-Yin	2021-SAT-S0705-O001 • 09:30 A Complete Exciton Diffusion Model Including Both Singlet and Triplet behavior			2021-SAT-S1005-O003 • 09:30 The Fabrication of a Si based UV Photo-detector and its Photo-responsivity Ming Chang Shih ¹ , Wei-

Chen¹, ¹*National Yang Ming Chiao Tung University Hsinchu.*

Couple with Poisson and Drift-Diffusion Solver
Jun-Yu Huang^{1*}, Kung-Chi Hsu¹, Chia-Hsun Chen¹, Tien-Lung Chiu², Jiun-Haw Lee¹, Yuh-Renn Wu¹, ¹*National Taiwan University Taipei*, ²*Yuan Ze University Taoyuan.*

Hsiang Chen^{1*}, ¹*National University of Kaohsiung Kaohsiung.*

2021-SAT-S0605-O002
• 09:45
Analysis of the biochemical reaction status by real-time monitoring the molecular diffusion behaviors in a TFT sensor integrated with a microfluidic channel
Syu-Cing Ma^{1*}, Ya-Chu Lee¹, Jin-Chun Lim¹, Yao-Hsuan Lai¹, Jian-Jang Huang^{1,2}, ¹*National Taiwan University Taipei*, ²*National Taiwan University Taipei.*

2021-SAT-S0705-O002
• 09:45
Defect Inspection System of Direct-Light Backlight and Human Visual Judge System of Just Noticeable Difference
Si Min Chou^{1*}, ¹*RD Zhubei City.*

2021-SAT-S1005-O004
• 09:45
Use sputtering process to deposit ZnO thin film on flexible substrate for pulse wave sensing applications
JIA-JUN LIU^{1*}, ¹*I-SHOU UNIVERSITY Kaohsiung.*

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
Room 303b	302c			Room 303e
Biophotonics and Biomedical Imaging V	Display Technology V			Thin-Film Technology & Coating Design V
• Presider: Prof. Chii-Wann Lin Prof. Nan-Fu Chiu	• Presider Prof. Li-Yin Chen Prof. Hung-Shing Chen			• Presider: Prof. Ting-Jen Hsueh Prof. Sheng-Po Chang
2021-SAT-S0605-O003 • 10:00 In-situ Stability Feedback Control of an Electrochemical Sensor Integrated with a Thin-Film Transistor for L-dopa Detection Keng-Yi Tsai ^{1*} , Ya-Chu Lee ¹ , Jian-Jang Huang ^{1,2} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei.</i>	2021-SAT-S0705-O003 • 10:00 Using Hopkin's equation to simulate optical lithography Snow H. Tseng ¹ , Ta-Wei Hsiao ^{1*} , ¹ <i>National Taiwan University Taipei City.</i>			2021-SAT-S1005-O005 • 10:00 High Carrier Mobility of IGZO Thin Films by Using the Pulsed Magnetron Sputtering Deposition Ruei-Jie You ^{1*} , Yu-kai Lai ¹ , Sheng-Hui Chen ¹ , ¹ <i>National Central University Taoyoun.</i>
2021-SAT-S0605-O004 • 10:15 2D bio images of PC-3 cells on NbOx LAPS Tzu-Min Huang ¹ , Chun-Hui Chen ¹ , Chia-Ming Yang ^{3,1*} , ¹ <i>Chang Gung University Taoyuan</i> , ² <i>Chang Gung Memorial Hospital, Linkou Taoyuan</i> , ³ <i>Chang Gung University Taoyuan.</i>	2021-SAT-S0705-O004 • 10:15 Reduced Viewing Distance of LED Displays by Increasing Effective Emitting Area of LED through Light Diffuser Films Chi-Cheng Lung ^{1*} , Li-Yin Chen ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>			2021-FRI-S1003-O002 • 10:15 NO Gas Sensor Based on ZnO Doped Ga integrated with Pt Micro Heater and Channel Length Effect on Sensing Characteristics Po-Hsiang Chao ^{1*} , Ray-Hua Horng ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>

Oral VI (12/04 10:45~12:15)

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
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Room 303b

Biophotonics and Biomedical Imaging VI

• **Presider:**

Prof. Shean-Jen Chen

Prof. Po-Sheng (Hans) Hu

2021-SAT-S0606-O001

• 10:45

Code-aided automatic determination of the cardiac function of poikilothermic zebrafish

I-CHIEH HSU^{1*}, YI-HAO LIN², TAI-I LIN¹,

YU-CHENG CHUANG¹, IAN

LIAU^{1,3}, ¹*National Yang Ming Chiao Tung*

University Hsinchu, ²*Taiwan Instrument*

Research Institute Hsinchu, ³*National*

Yang Ming Chiao Tung University

Hsinchu.

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
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Room 303b

Biophotonics and Biomedical Imaging VI

• **Presider:**

Prof. Shean-Jen Chen

Prof. Po-Sheng (Hans) Hu

2021-SAT-S0606-O002

• 11:00

Migraine classification by machine learning for functional near-infrared spectroscopy with mental arithmetic task

Chia-Wei Sun¹, Wei-Ta Chen², Yu-

Jiun Chen^{1*}, Chieh-Hsun

Tsai¹, ¹*National Yang Ming Chiao*

Tung University Hsinchu

City, ²*Keelung Hospital, Ministry of*

Health and Welfare Keelung.

2021-SAT-S0606-O003

• 11:15

Optical sarcopenia diagnosis based on artificial intelligence

Chia Hsuan Lu^{1*}, Po Yuan chen¹, Rui

Cheng Zeng¹, Yu Pin Chen², Chia

Wei Sun¹, ¹*National Yang Ming*

Chiao Tung University

Hsinchu, ²*Taipei Municipal Wanfang*

Hospital (Managed by Taipei

Medical University) Taipei.

2021-SAT-S0606-O004

• 11:30

Modify optical signal and medium
to analyze the transparency of the
sclera via PTSD simulation

KAI-WEN YU^{1*}, T.-H Kuo¹, SNOW H.

Tseng¹, ¹ *National Taiwan University
Taipei.*

2021-SAT-S0606-O005

• 11:45

Simulation of photonic crystal
structure on biological surfaces via
FDTD method

Yu-Xiang Chen^{1*}, Snow H.

Tseng¹, ¹ *National Taiwan University
Taipei.*

2021-SAT-S0606-O006

• 12:00

Constructing a Depth-resolved
Mueller Matrix Imaging System
with Structured Illumination
Technique

HUNG-PIN LAI¹, SHENG-SHUO

CHANG¹, CHIEN-YUAN

HAN^{1*}, ¹ *National United University
Miaoli.*

Poster Session I (12/03 14:00~16:00)

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-FRI-P0101-P001 Temperature based voltage controlled Localized Surface Plasmon Resonance Kuntal Barman ^{1*} , Syu-Cing Ma ¹ , Yu-Hsiang Chang ¹ , Jian-Jung Huang ¹ , ¹ National Taiwan University Taipei.	2021-FRI-P0201-P001 Mitigation of Optical Carrier Power Fading for 3×3 MIMO 60-GHz Direct-Detection OFDM RoF MF System Yu-Jen Huang ^{1*} , Ping-Yao Huang ¹ , Zhen-Xiong Xie ¹ , Tung-Han Hsieh ¹ , Shao-Hung Yu ¹ , Chia-Chien Wei ² , Sien Chi ¹ , Chun-Ting Lin ¹ , ¹ National Yang Ming Chiao Tung University Tainan, ² National Sun Yat-sen University Kaohsiung.	2021-FRI-P0301-P001 Exploring multiple optical vortices generated by frequency-doubled Raman lasers with mode conversion Kai-Wei Liu ^{1*} , Shen-Chen Chen ¹ , Jung-Chen Tung ¹ , ¹ Department of Electro-Optical Engineering Taipei.	2021-FRI-P0401-P001 The Study of Holographic Curved Waveguide Combiner Wen-Kai Lin ^{1,2*} , Ching-Hao Chen ¹ , Shao-Kui Zhou ^{1,2} , Wei-Chia Su ¹ , ¹ National Changhua University of Education Changhua, ² National Yang Ming Chiao Tung University Tainan.	2021-FRI-P0501-P001 Development of a Coplanar Type Grating Interferometer for Measurements of Two-degree-of-freedom Displacements Hsu Yi Teng ^{1*} , Chen Shao Heng ¹ , Hsieh Hung Lin ¹ , ¹ National Taiwan University of Science and Technology Taipei.
2021-FRI-P0101-P002 Broadband Reflection in Polymer-Stabilized Cholesteric Liquid Crystals Wei Cheng Hsiao ^{1*} , Chun Ta Wang ¹ , ¹ National Sun Yat-sen University Kaohsiung.	2021-FRI-P0201-P002 Brillouin Optical Time Domain Analysis Integrated Fiber Bragg Gratings for 16 Km Hybrid Fiber Sensing Zhu-Yong Xia ¹ , Dong-Chang Li ¹ , Yan-Ching Lee ^{1*} , Shien-Kuei Liaw ¹ , Chi-Wein Liao ² , ¹ National Taiwan University of Science and Technology Tainan, ² Green Energy Institute of Industrial Technology Research Institute Tainan.	2021-FRI-P0301-P002 Exploring multiple optical vortices generated by frequency-doubled Raman lasers with mode conversion Kai-Wei Liu ^{1*} , Shen-Chen Chen ¹ , Jung-Chen Tung ¹ , ¹ Department of Electro-Optical Engineering Taipei.	2021-FRI-P0401-P002 Scattering-type lensfree encryption system for face recognition Ming-Hsuan Wu ^{1*} , Ya-Ti Chang Lee ¹ , Chung-Hao Tien ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0501-P002 Electrically tunable broadband color filters based on heliconical liquid crystal structures Chi Tang Huang ¹ , Su Hui Cheng ^{1*} , Chin Jung Chiu ¹ , Ko Ting Cheng ¹ , ¹ National Central University Taoyuan.
2021-FRI-P0101-P003 Tunable Scan Lens Based on Optical Phased Array Sheng-I Kuo ^{1*} , Ju-Wei Wang ¹ , Zohaiddin Ahmad ² , Jin-Wei Shih ² , You-Chia Chang ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu, ² National Central University Taoyuan.	2021-FRI-P0201-P003 Utilization of Dual-Polarized Signal in WDM-PON with Long-Reach Fiber Transmission Bo-Yin Wang ^{1*} , Wei-Hung Hsu ¹ , Chien-Hung Yeh ¹ , Chi-Wai Chow ¹ , ¹ Feng Chia University Taichung, ² National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0301-P003 Controlling orange multiple optical vortices by using Raman lasers with astigmatic transformation Shen-Chen Chen ^{1*} , Kai-Wei Liu ¹ , Jung-Chen Tung ¹ , ¹ Electro-Optical Engineering Taipei.	2021-FRI-P0401-P003 Analysis of Measurement Uncertainty for Measuring Focal Length of Spherical Lenses using Digital-grating Moiré Technique Jun-Ming Bai ^{1*} , Chien-Yuan Han ² , Ju-Yi Lee ³ , Chien-Hung Yeh ¹ , Jing-Heng Chen ¹ , ¹ Feng Chia University Taichung, ² National United University Miaoli, ³ National Central University Taoyuan.	2021-FRI-P0501-P003 Immediate detection of polarization states of unknown polarized lights using dichroic dyes-doped liquid crystals Shu Ching Chang ^{1*} , Min Ciliao ¹ , Cheng Kai Liu ¹ , Chitong Huang ¹ , Ko Ting Cheng ¹ , ¹ National Central University Taoyuan.
2021-FRI-P0101-P004 Calculation of Plasmonic Bands of Square Lattice Chen Yuh Ming ^{1*} , Wu Jhih-Sheng ¹ , ¹ College of Electrical and Computer Engineering, National Yang Ming Chiao Tung University Hsinchu 30010.	2021-FRI-P0201-P004 Steady Single-Mode Fiber Laser Exploiting Quadrant-Ring Architecture Li-Hung Liu ^{1*} , Han-Shin Ko ¹ , Chien-Hung Yeh ¹ , Chi-Wai Chow ² , Jing-Heng Chen ¹ , ¹ Feng Chia University Taichung, ² National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0301-P004 Nonlinear optical characteristics based on ligand-modified CsPbBr₃ quantum dots Wan-Hsuan Lin ^{1*} , Ja-Hon Lin ¹ , Zong-Liang Tseng ² , Yi-Chun Yang ¹ , Liang-Yu Jian ¹ , ¹ National Taipei University of Technology Taipei, ² Ming Chi University of Technology New Taipei City.	2021-FRI-P0401-P004 Integrating Digital Holography and Fringe Projection Profilometry for Measuring Integrated Circuits Ssu-Chia He ^{1*} , Han-Yen Tu ² , Ching-Hsuan Huang ¹ , Chau-Jern Cheng ¹ , ¹ National Taiwan Normal University Taipei, ² Chinese Culture University Taipei.	2021-FRI-P0501-P004 Design and Realization of Wide Field-of-view 3D MEMS LiDAR Hao-Sheng Zhang ^{1*} , ¹ National Taiwan University Taipei.

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-FRI-P0101-P005 Lead-Free Cesium Tin Halide Double-Perovskite Nanocrystals for Candlelight Light-Emitting Diodes Yu-Ching Chang ^{1*} , Yu-Chien Tien ¹ , Chun-Feng Lai ¹ , ¹ Feng Chia University Taichung.	2021-FRI-P0201-P005 Stabilized Single-Frequency and Switchable-Wavelength Erbium Laser Applying Multi-Ring Design Li-Ci Chen ^{1*} , Yi-Ting Lai ¹ , Chien-Hung Yeh ¹ , Jing-Heng Chen ¹ , Chi-Wai Chow ² , ¹ Feng Chia University Taichung, ² National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0301-P005 White-Lighting Optical Communication based on Blue LED with Ultrathin Perovskite Color Conversion Yi-Chien Wu ^{1*} , Gong-Ru Lin ¹ , ¹ National Taiwan University Taipei.	2021-FRI-P0401-P005 Study of the modulated frequency of heterodyne light source with various grating moving speed Ke-Cheng Huang ^{1*} , Yi-Ming Lu ¹ , Cheng-Chih Hsu ¹ , Hung-Chih Hsieh ¹ , ¹ National United University Miaoli City.	2021-FRI-P0501-P005 Design NIR Achromatic Metalens By Particle Swarm Optimization Yu-Teng Chen ^{1*} , Peichen Yu ¹ , Yu-Fan Lin ¹ , Wei-Ping Liao ¹ , ¹ National Yang Ming Chiao Tung University Taipei.
2021-FRI-P0101-P006 Circular Dichroism Enhancement of InGaAsP Microdisk Laser with a Photonic Crystal Feedback Waveguide Chao-Chieh Cheng ^{1,2*} , Tzu-Wei Li Huang ^{1,2} , Wei-Ting Wang ² , Pi-Ju Cheng ² , Shu-Wei Chang ^{1,2} , Min-Hsiung Shih ^{1,2} , ¹ National Yang Ming Chiao Tung University Hsinchu, ² Academia Sinica Taipei.	2021-FRI-P0201-P006 Integrated Quantum Optical Controlled-NOT (CNOT) Gate on a Si3N4 Photonics Platform Cheng Ting Liao ^{1*} , Yen An Shih ² , Ming Chang Le ¹ , Chih-Sung Chuu ² , ¹ National Tsing Hua University Hsinchu, ² National Tsing Hua University Hsinchu.	2021-FRI-P0301-P006 Multimode VCSEL encoding Bit loading discrete multitone data streams Wei-Chi Lo ¹ , Shih-Chun Kao ¹ , Gong-Ru Lin ¹ , ¹ National Taiwan University Taipei.	2021-FRI-P0401-P006 Small angle measurement using phase sensitive total-internal reflection heterodyne interferometry Jiun-You Lin ¹ , Chen-Yi Chang ¹ , ¹ National Changhua University of Education Changhua, ² National Changhua University of Education Changhua.	2021-FRI-P0501-P006 Development of a linear encoder based on common-path design Chen Pei Chieh ^{1*} , Hsieh Hung Lin ¹ , Chen Shao Heng ¹ , ¹ National Taiwan University of Science and Technology Taipei.
2021-FRI-P0101-P007 Verification of Transverse Band Gap in Three Dimensional Liquid Photonic Crystals Liang-Ying Wu ^{1*} , ¹ National Sun Yat-Sen University Kaohsiung.	2021-FRI-P0201-P007 Hollow Core Antiresonant Nodeless Fibers with Connecting Rods between Inner and Outer Tubes Zong-Han Yang ^{1*} , Chih-Hsien Lai ¹ , ¹ National Yunlin University of Science and Technology Yunlin.	2021-FRI-P0301-P007 Complex refractive index properties of ABS with rice husk ash by THz Time-domain spectroscopy Yi-An Wei ^{1*} , Hsin-Yi Peng ² , Yi-Sheng Cheng ¹ , Young-Chou Hsu ¹ , Kao-Chi Lin ⁴ , Yun-Chi Ruan ¹ , Chin-Pao Cheng ^{2,3} , Chao-Shan Yang ^{1,3} , ¹ National Taiwan Normal University Taipei, ² National Taiwan Normal University Taipei, ³ National Taiwan Normal University Taipei, ⁴ Industrial Technology Research Institute Hsinchu.	2021-FRI-P0401-P007 Deep learning-based Active Wavefront Correction for Beam Rotation Holographic Tomography Chung-Hsuan Huang ^{1*} , Li-Chien Lin ² , Chau-Jern Cheng ¹ , ¹ National Taiwan Normal University Taipei, ² Feng Chia University Taichung.	2021-FRI-P0501-P007 Improvement of Thickness Uniformity of Thin Oxide Films Deposited on Large Substrates Kuan-Sheng Cheng ¹ , Chueh-Lin Tien ² , Hong-Yi Lin ² , Chun-Yu Chiang ^{2*} , ¹ Feng Chia University Taichung, ² Feng Chia University Taichung.
2021-FRI-P0101-P008 High-Efficiency Red Electroluminescence Based on Earth-abundant Cu(I) Complex Chen-Han Lu ^{1*} , Yu-Hsin Huang ¹ , Wei-Kai Lee ¹ , Ao Ying ² , Chuluo Yang ² , Shaolong Gong ² , Chung-Chih Wu ¹ , ¹ National Taiwan University Taipei, ² Wuhan University Wuhan.	2021-FRI-P0201-P008 Study of High Gain Efficiency of Chromium Doped Fiber Amplifier Employing Different Core Dimensions Ping Hsuan Yang ^{1*} , Kai-Chieh Chang ³ , Chia-Ling Tsai ¹ , Chun-Nien Liu ^{1,2} , Sheng-Lung Huang ³ , Wood-Hi Cheng ^{1,2} , ¹ National Chung Hsing University Taichung, ² National Chung Hsing University Taichung, ³ National Taiwan University Taipei.	2021-FRI-P0301-P008 Optimization of visible diode-pumped solid-state Pr: YLF CW laser Po-An Lin ^{1*} , ¹ National Yang Ming Chiao Tung University Tainan.	2021-FRI-P0401-P008 Three-dimensional quantitative environment detection by incoherent holography based fringe projection profilometer Yu-Chih Lin ^{1*} , Chen-Che Wei ¹ , Su-Chia He ² , Chung-Hsuan Huang ² , Chau-Jern Cheng ² , ¹ Feng Chia University Taichung, ² National Taiwan Normal University Taipei.	2021-FRI-P0501-P008 Electrically Tunable Polarization Independent Liquid Crystal Lenses Based on Orthogonally Anisotropic Orientations On Adjacent Micro-Domains Hao-Hsin Huang ^{1*} , Ting-Wei Huang ¹ , Yi-Hsin Lin ¹ , ¹ National Taiwan Normal University Hsinchu.

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-FRI-P0101-P009 Attachable 1D Photonic Crystal Laser Thin-Film for Bending and Pressing Sensors Guang-Ming Lin ^{1*} , Zhen-Yu Wang ¹ , Tsan-Wen Lu ¹ , Po-Tsung Lee ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0201-P009 60 GHz Wideband Applied with the Optimal Length Conductor-Backed Coplanar Waveguide on Single Through Glass Via Substrate Ting Rong Chen ^{1*} , Chien-Liang Chiu ¹ , ¹ Kaohsiung University of Science and Technology Kaohsiung.	2021-FRI-P0301-P009 BROADBAND TUNABLE ELECTRO-OPTIC SWITCH IN INTEGRATED LITHIUM NIOBATE WAVEGUIDE CIRCUITS Aloysius Niko ^{1*} , Quan-Hsiang Tseng ¹ , Tien-Dat Pham ¹ , Hung-Pin Chung ^{1,2} , Yen-Hung Chen ^{1,2} , ¹ National Central University Jhongli, Taoyuan, ² National Central University Jhongli, Taoyuan.	2021-FRI-P0401-P009 Study of Insect Attracting System by using Titanium Dioxide and Ultraviolet Light Wen-Sheng Hsiao ^{1*} , Wei-Hsiung Tseng ² , Hsiao-Yi Lee ¹ , ¹ National Kaohsiung University of Science and Technology Kaohsiung, ² Air Force Institute of Technology Kaohsiung.	2021-FRI-P0501-P009 Varifocal augmented reality adopting electrically tunable uniaxial plane-parallel plates WEI-CHENG CHENG ^{1*} , YI-SIANG TSAI ¹ , YU-JEN WANG ¹ , YI-HSIN LIN ¹ , OZAN C AKMAKCI ² , VICTOR RESHETNYAK ³ , ¹ National Yang Ming Chiao Tung University HSINCHU, ² Google Inc California, ³ Taras Shevchenko National University of Kyiv Kyiv.
2021-FRI-P0101-P010 Subwavelength Focusing Using Spiral Plasmonic Lens with Grooves of Variant Widths Jun-Quan Chen ^{1*} , Fitri Oktafiani ¹ , Po-Tsung Lee ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0201-P010 High-speed Inductive-packing Si Microring Modulating Bandwidth Kao Hsiang-Chih ^{1,2*} , Lin Ming-Wei ² , Lee Ming-Chang ^{1,3} , ¹ National Tsing Hua University Hsinchu, ² Taiwan Semiconductor Research Institute Hsinchu, ³ National Tsing Hua University Hsinchu.	2021-FRI-P0301-P010 Transmission and Detection of Electrons on a Single Electronic Circuit Yi-Kai Jin ^{1*} , Jian-Jang Huang ^{1,2} , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei.	2021-FRI-P0401-P010 Study of Rapid Calculation of Wide-Angle Diffraction Patterns Using Improved Fraunhofer Formula Wei-Han Chen ¹ , BO-YU CHIH ^{1*} , Wei-Feng Hsu ¹ , ¹ National Taipei University of Technology Taipei.	2021-FRI-P0501-P010 Optimization of Optical Aberration Identification for Membrane Deformable Mirror in Adaptive Optics Cheng-Yu Wu ^{1*} , ¹ National Cheng Kung University Tainan.
2021-FRI-P0101-P011 Gold plasmonic nanostructures for deep-red emission enhancement: nanosphere vs nanodisk Bei Liu ^{1*} , Mochamad Januar ¹ , Kou-Chen Liu ^{1,2} , ¹ Chang Gung University Taoyuan, ² Chang Gung Memorial Hospital Linkou.	2021-FRI-P0201-P011 Polarization Beam Splitter Based on Three-Wavelength Grating Waveguide Coupler with Subwavelength Grating Waveguide Kai-Jun Yang ^{1*} , Chin-Ping Yu ¹ , ¹ National Sun Yat-sen University Kaohsiung.	2021-FRI-P0301-P011 Influences of Cavity Loss on the Formation of Lissajous Transverse Modes in a Diode-Pumped Nd:YVO ₄ Laser Wan-Chen Tsai ^{1*} , Pi-Hui Tuan ¹ , ¹ National Chung Cheng University Chiayi.	2021-FRI-P0401-P011 Using Diffractive Optical Element for Generation of Three-Dimensional (3D) Layered Images Applied to Diffractive 3D Printing Chu-Yang Tsai ^{1*} , Tzu-Hsuan Yang ¹ , Yun-Xin Zhang ¹ , Wei-Feng Hsu ¹ , ¹ National Taipei University of Technology Taipei.	2021-FRI-P0501-P011 Compact Adaptive Optics System with FPGA-based Parallel Controllers JUI-TSE YANG ^{1*} , ¹ National Cheng Kung University Tainan.
2021-FRI-P0101-P012 Synthesis of Ag/Au/AgCl nanostructures by ferroelectric templates for surface-enhanced Raman scattering Ying-Yu Wang ^{1*} , An-Ting Lee ¹ , Hsin-An Chi ¹ , Tzyy-Jiann Wang ¹ , ¹ National Taipei University of Technology Taipei.	2021-FRI-P0201-P012 Study of Micro-lensed Fiber in Silicon Photonics Package Jim-Han Tu ^{1*} , Chun-Nien Liu ^{1,2} , Tien-Tsorn Shih ³ , Wood-Hi Cheng ¹ , ¹ National Chung Hsing University Taichung, ² National Chung Hsing University Taichung, ³ National Kaohsiung University of Science and Technology Kaohsiung.	2021-FRI-P0301-P012 160 Gb/s true physical random bit generation using broadband, high-entropy semiconductor laser chaos Chin-Hao Tseng ^{1*} , Ryo Funabashi ² , Kazutaka Kanno ² , Atsushi Uchida ² , Chia-Chien Wei ³ , Sheng-Kwang Hwang ^{1,4} , ¹ National Cheng Kung University Tainan, ² Saitama University Saitama, ³ National Sun Yat-Sen University Kaohsiung, ⁴ National Cheng Kung University Tainan.	2021-FRI-P0401-P012 Liquid crystal gratings with crystal/quasicrystal patterns Hui-Chi Lin ¹ , Zhe-Wei Xu ¹ , Ming-Hsien Li ² , Ming-Song Zhang ¹ , Chi-Shiang Hsu ¹ , Hsing-Chih Liang ^{3,4} , ¹ National Formosa University Yunlin, ² National Chi Nan University Nantou, ³ National Taiwan Ocean University Keelung, ⁴ National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0501-P012 High Performance three-dimensional coupling structure for high power Laser diode module Jun-He Hong ¹ , Fu-Yu Xie ¹ , Hsun-Ching Hsu ¹ , Kuo-Wei Lin ² , Pin Han ^{1*} , ¹ National Chung Hsing University Taichung, ² Metal Industries Research & Development Centre Kaohsiung.

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-FRI-P0101-P013 DFB laser from dye covered silk fibroin grating replica Wei-Chen Tsai ^{1*} , Ja-Hon Lin ¹ , Po-Han Tung ¹ , Wei-Cheng Chen ¹ , Chi-Ching Kuo ¹ , ¹ National Taipei University of Technology Taipei.	2021-FRI-P0201-P013 Realization of large-area NIR metalens using i-line photolithography Sheng-Siang Su ^{1*} , Wei-Ping Liao ¹ , Yu-Fan Lin ¹ , Hsueh-Li Liu ¹ , Shu-De Gong ¹ , Peichen Yu ¹ , You-Chia Chang ¹ , Jia-Min Shieh ² , Chun-Chi Chen ² , Wen-Hsien Huang ² , ¹ National Yang Ming Chiao Tung University Hsinchu, ² Taiwan Semiconductor Research Institute Hsinchu.	2021-FRI-P0301-P013 Efficiency improvement of a thulium Q-switched ytterbium-doped all-fiber laser Yu-Cheng Song ^{1*} , Tzong-Yow Tsai ¹ , ¹ National Cheng-Kung University (NCKU) Tainan.	2021-FRI-P0401-P013 Study of Multi-Beam Splitter by Diffractive Optical Element and Beam Expander Jyun-Mao Zhan ^{1*} , ¹ National Kaohsiung University of Sciences and Technology Kaohsiung.	2021-FRI-P0501-P013 Optimization of LED Mosquito Trap Systems Chang Jui Chen ^{1*} , ¹ National Kaohsiung University of Technology, Kaohsiung 80778, Taiwan Taiwan Kaohsiung.
2021-FRI-P0101-P014 Two-photon polymerization technology for the fabrication of Micro/Nano structures Hsu Wei-Ting ^{1*} , Yu Min-Jhe ¹ , Cheng Yu-Chieh ¹ , ¹ National Taipei University of Technology Taipei.	2021-FRI-P0201-P014 Analysis of Silicon Mach-Zehnder Modulator With C-Band encoding NRZ-OOK Over 10-km SMF and DSF Shih-Chun Kao ^{1,2*} , Bo-Yuan Lee ^{1,2} , Patrick Chiang ³ , Gong-Ru Lin ^{1,2} , ¹ National Taiwan University Taipei, ² NTU-Tektronix Taipei, ³ Fudan University Shanghai.		2021-FRI-P0401-P014 Curve Fitting Selection Rule for The Fringe Projection Scanning profilometry Hsin-Jen HSU ^{1*} , Sheng-Kai Tsai ¹ , Yi-An Lin ¹ , Nai-Jen Cheng ¹ , ¹ National Kaohsiung University of Science and Technology Kaohsiung.	2021-FRI-P0501-P014 Surface Profile and Residual Stress Measurement of Multilayered Notch Filter Coated on Large-size Wafers Yan-Tong Lai ¹ , Chuen-Lin Tien ¹ , Hong-Yi Lin ^{2*} , ¹ Feng Chia University Taichung, ² Feng Chia University Taichung.
2021-FRI-P0101-P015 Construction of Flexible Plasmonic Ag-NPs/PMMA Substrates Using Chemically Patterned Ferroelectric Crystals for Detection of Parathion Nazar Riswana Barveen ^{1*} , Tzy-Yi-Jiann Wang ¹ , Zhe-Yuan Liu ¹ , ¹ National Taipei University of Technology Taipei.			2021-FRI-P0401-P015 Deep learning-based noise detection and reduction for 3D shape measurement of fringe projection profilometry Chung-Hsin Huang ^{1*} , Hsuan-Hung Lin ^{2*} , Hui-Ching Chang ³ , Han-Yen Tu ³ , ¹ Taipei University of Marine Technology Taipei, ² Chinese Culture University Taipei, ³ Chinese Culture University Taipei.	2021-FRI-P0501-P015 DMT Communication beyond 5 Gbit/s with A Green 2x2 Micro-LED Array Yi-Chien Wu ^{1*} , Yi-Che Lee ¹ , Gong-Ru Lin ¹ , ¹ National Taiwan University Taipei.
2021-FRI-P0101-P016 The Study of Ga2O3 Metal-Semiconductor-Metal Photodetector by RF Magnetron Sputter and Hydride Vapor Phase Epitaxy W. F. Wang ^{1*} , C. K. Wang ¹ , Y. Z. Chiou ¹ , J. S. Jheng ¹ , Z. Y. Huang ¹ , ¹ Southern Taiwan University of Science and Technology Tainan.			2021-FRI-P0401-P016 Label-free Cell Imaging and Diagnosis using Multimodal Holographic Microscopy Chung-Hsuan Huang ^{1*} , Chau-Jern Cheng ¹ , ¹ National Taiwan Normal University Taipei.	2021-FRI-P0501-P016 Electrically Tunable Vision Correction via Liquid Crystals for Near-eye Display Systems Chang-Nien Mao ^{1*} , Wei-Cheng Cheng ¹ , Wen-Sung Kuo ¹ , Yu-Jen Wang ¹ , Yi-Hsin Lin ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.
2021-FRI-P0101-P017 Low loss hybrid plasmonic waveguide at the near-Infrared wavelength Hsu Wei Chun ^{1*} , ¹ National Yang Ming Chiao Tung University Tiana.			2021-FRI-P0401-P017 YOLO-enabled face recognition and mask detection Guo-Feng Luo ^{1*} , ¹ National Kaohsiung University of Science and Technology Kaohsiung.	

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			2021-FRI-P0401-P018 Digital Holographic Microscopy for Long-term Living Cells Imaging and Observation Chung-Yu Yeh^{1*}, Ssu-Chia He¹, Chung-Hsuan Huang¹, Victoria Giang¹, Chau-Jern Cheng¹, ¹<i>National Taiwan Normal University Taipei.</i>	
			2021-FRI-P0401-P019 The Binocular Head-mounted Display Based on Planar Acrylic Waveguide Wei-Kai Lin^{1,2}, Fun-Ru Lin¹, Shao-Kui Zhou^{1,2*}, Wei-Chia Su¹, ¹<i>National Changhua University of Education Changhua</i>, ²<i>National Yang Ming Chiao Tung University Tainan.</i>	
			2021-FRI-P0401-P020 A heterodyne light source generated by moving grating with various grating pitch Yi-Ming Lu^{1*}, Ke-Cheng Huang¹, Hung-Chih Hsieh¹, Cheng-Chih Hsu¹, ¹<i>National United University Miaoli.</i>	
			2021-FRI-P0401-P021 Study of License Plate recognition by using you only look once (YOLO) neural network Chien-Chang Chung^{1*}, ¹<i>National Kaohsiung University of Sciences and Technology Kaohsiung.</i>	
			2021-FRI-P0401-P022 High-Resolution Hologram Printer Hong-Yuan Sie^{1*}, Jung-Ping Liu^{1,2}, ¹<i>Feng Chia University Taichung</i>, ²<i>Feng Chia University Taichung.</i>	

Poster Session II (12/04 09:30~11:30)

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2021-SAT-P0102-P001 Effect of Carbon Quantum Dots Coating on the Luminescence Properties of CaAl ₂ O ₄ :Eu ²⁺ Phosphor Yi-Yan Tsai ¹ , Chia-Ho Wang ^{1*} , Su-Hua Yang ¹ , ¹ Department of Electronic Engineering, National Kaohsiung University of Science and Technology Kaohsiung.	2021-SAT-P0202-P001 Pulses Generation in Semiconductor Lasers under Optical Feedback and Optical Injection Chang Shu-Ching ^{1*} , Hong Yon-Pong ¹ , Juan Yu-Shan ¹ , ¹ Yuan Ze University Taoyuan City.	2021-SAT-P0302-P001 Thermal Property of Optical Doughnut Generated by Strong-Induced Few-Mode LPG Wen-Hsuan Kuan ^{1*} , Kuei-Huei Lin ¹ , ¹ University of Taipei Taipei.	2021-SAT-P0402-P001 Design of Safety Enhanced CIE Regulated Tunnel Road Lighting with Free Formed Counter Beam Light with High Intensity Discharging Lambs HSINGYUAN LIAO ^{1*} , ¹ National Kaohsiung University of Sciences and Technology Kaohsiung.	2021-SAT-P0502-P001 Survey of past and current periscope system Hsing-Yu Wu ^{1,2*} , Li-Jen Hsiao ¹ , Jin-Cherng Hsu ^{4,5} , ¹ National Chung-Shan Institute of Science and Technology New Taipei City 237209, ² National Central University Taoyuan 320317, ³ National Taipei University of Technology Taipei 10608, ⁴ Fu Jen Catholic University New Taipei City, ⁵ Fu Jen Catholic University New Taipei City.
2021-SAT-P0102-P002 Employing Interface treatment to improve all-solution-process perovskite light emitting diode Yi-Ting Tsai ¹ , Jia-Teng Huang ^{1*} , Jiun-Yi Lien ² , Hai-Ching Su ^{1*} , Yun-Cheng Kuo ¹ , Mao-Kuen Liaw ^{2,3} , ¹ National Yang Ming Chiao Tung University Tainan, ² National Cheng Kung University Tainan, ³ National Yang Ming Chiao Tung University Tainan.	2021-SAT-P0202-P002 Study of Optical Trapping of Gold Nanoclusters with Brownian motion Chun-Wei Lin ¹ , Chun-Yi Yang ^{1*} , Yun-Cheng Kuo ¹ , Mao-Kuen Liaw ^{2,3} , ¹ National Yang Ming Chiao Tung University Tainan, ² National Cheng Kung University Tainan, ³ National Yang Ming Chiao Tung University Tainan.	2021-SAT-P0302-P002 Intracavity Optical Sensor with SOA-Based Fiber Laser Wen-Hsuan Kuan ^{1*} , Kuei-Huei Lin ¹ , ¹ University of Taipei Taipei.	2021-SAT-P0402-P002 Measurement of the Refractive Index of Lenses from the Maximum Phase Difference of the Total-internal Reflection with a Polarization Camera You-Jun Lin ^{1*} , Chia-Yu Chiang ¹ , Ju-Yi Lee ¹ , ¹ National Central University Taoyuan City.	2021-SAT-P0502-P002 Gradient Intensity Axial Beam Jyh-Rou Sze ^{1*} , An-Chi Wei ² , ¹ National Applied Research Laboratories Hsinchu, ² National Central University Taoyuan.
2021-SAT-P0102-P003 Optical and electrical properties of hydrogenated TiO ₂ nanotube photocatalysts for CO ₂ conversion application Chen-Chin Lee ^{1*} , Hyeonseok Lee ¹ , ¹ National Sun Yat-sen University Kaohsiung.	2021-SAT-P0202-P003 A Pre-Distortion Method to Eliminate Nonlinear Distortion in DML-based OFDM Transmission Szu-Chi Huang ¹ , Yu-Cheng Yu ^{1*} , Shuan-Mao Chi ¹ , Chia-Chien Wei ¹ , ¹ National Sun Yat-sen University Kaohsiung.	2021-SAT-P0302-P003 InP/ZnSeS quantum dots/Si photodetector for broadband white light detection Chao-Yu Tiao ¹ , Yi-Shan Shih ^{1*} , Jun-Hao Shen ¹ , Wei-Chen Tu ¹ , ¹ National Cheng Kung University Tainan.	2021-SAT-P0402-P003 Rotation Angle Measurement based on Birefringence Polarization Interferometry Ching-Tse Hsu ^{1*} , Wei-Yi Sung ¹ , Ju-Yi Lee ¹ , ¹ National Central University Taoyuan City.	2021-SAT-P0502-P003 Fiber-Optic Vibration Detection Based on Fiber Bragg Grating Sensor Cheng-Kai Yao ^{1*} , Peng-Chun Peng ¹ , ¹ National Taipei University of Technology Taipei.
2021-SAT-P0102-P004 Investigations of optical properties of twisted bilayer graphene via reflectance confocal laser microscopy Tzu-chun Liao ^{1*} , Tzu-I Tsai ¹ , Ming-Che Chan ¹ , Wei-Shiuan Tseng ¹ , ¹ College of Photonics tainan.	2021-SAT-P0202-P004 Silicon photonics coherent transceiver heat dissipation module Ching-Jung Chen ¹ , Ray-Hua Horng ^{1*} , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-SAT-P0302-P004 Simulation Framework of Laser Produced Tin Plasma Extreme Ultraviolet Light Emission CHUN-TSE WU ^{1*} , Yao-Li Liu ¹ , Po-Yen Lai ¹ , Shih-Hung Chen ¹ , ¹ National Central University Zhongli.	2021-SAT-P0402-P004 Controlling the imaging size of the spatial light modulator by using a two-lens system Guan-Yu Ji ^{1*} , Cheng-Chih Hsu ¹ , ¹ National United University Miaoli.	2021-SAT-P0502-P004 Fiber Bragg Grating Sensor System Using Artificial Neural Network Cheng-Kai Yao ^{1*} , Peng-Chun Peng ¹ , ¹ National Taipei University of Technology Taipei.

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2021-SAT-P0102-P005 Slow-light effect in one-dimensional topological photonic crystals Yu-Chuan Lin ^{1,2*} , Jo-Lun Chiou ¹ , Wen-Jeng Hsueh ¹ , ¹ National Taiwan University Taipei, ² National Applied Research Laboratories Hsinchu.	2021-SAT-P0202-P005 Graphene-based High-contrast Grating Using Surface Plasmon Polaritons Qi-Yan Zheng ^{1*} , Young-Chou Hsu ² , Chan-Shan Yang ^{2,3} , Tien-Chang Lu ⁴ , Kuo-Ping Chen ⁵ , Mao-Kuen Kuo ¹ , Tzy-Rong Lin ^{6,7} , ¹ National Taiwan University Taipei, ² National Taiwan Normal University Taipei, ³ National Taiwan Normal University Taipei, ⁴ National Yang Ming Chiao Tung University Hsinchu, ⁵ National Yang Ming Chiao Tung University Tainan, ⁶ National Taiwan Ocean University Keelung, ⁷ National Taiwan Ocean University Keelung.	2021-SAT-P0302-P005 Optical Dispersion Polarization Sensor Estimation with Frequency Resolved Optical Gating SHAO-WEI HUANG ^{1*} , ¹ National Cheng Kung University Tainan.	2021-SAT-P0402-P005 Design of Counter Beam Light Emitting Diode for Safety-Enhanced Tunnel Road Lighting Chia-Yen Chang ^{1*} , ¹ National Kaohsiung University of Science and Technology Kaohsiung.	2021-SAT-P0502-P005 Electrically rotating phase retarder by using an electro-optic device Chih-Jen Yu ^{1*} , Cheng-Xun Chou ¹ , Chih-Ching Ho ¹ , Zen-Lun Li ¹ , Chih-Wen Chi ¹ , ¹ Chang Gung University Taoyuan.
2021-SAT-P0102-P006 Plasmon Vortex generation based on multiple-opening spiral slit Ho-Sheng Lin ^{1*} , Yung-Chiang Lan ¹ , Po-Kai Chang ¹ , ¹ National Cheng Kung University Tainan.	2021-SAT-P0202-P006 Characteristics Analysis of bound states in the continuum mode in the perovskite thin film cavity on the metallic array Qi-Yan Zheng ^{1*} , Young-Chou Hsu ² , Chan-Shan Yang ^{2,3} , Tien-Chang Lu ⁴ , Kuo-Ping Chen ⁵ , Mao-Kuen Kuo ¹ , Tzy-Rong Lin ^{6,7} , ¹ National Taiwan University Taipei, ² National Taiwan Normal University Taipei, ³ National Taiwan Normal University Taipei, ⁴ National Yang Ming Chiao Tung University Hsinchu, ⁵ National Yang Ming Chiao Tung University Hsinchu, ⁶ National Taiwan Ocean University Keelung, ⁷ National Taiwan Ocean University Keelung.	2021-SAT-P0302-P006 Laser Frequency Stabilization by Using the Lock-in PID of RedPitaya STEMLab Chang-Chi Chung ^{1*} , Che-Chung Chou ¹ , Tyson Lin ¹ , ¹ Feng Chia University Taichung.	2021-SAT-P0402-P006 Study of F-Theta telecentric lens for ultraviolet Laser scanning system Huy Xuan Nguyen ^{1,2*} , Yi Hsiao Lee ¹ , Lanh Thanh Le ³ , ¹ National Kaohsiung University of Science and Technology Kaohsiung, ² Nha Trang University Nha Trang, ³ Dong Nai Technology University Bien Hoa.	2021-SAT-P0502-P006 Optical Design of Frog Mirror with Third-order Aspheric Lens Chien-yu Chung ^{1*} , ¹ National Yunlin University of Science and Technology Yunlin.
2021-SAT-P0102-P007 Photoluminescence Enhanced by Defect Modes in Symmetric Sandwich-Type Double DBRs Structure Cheng-Han Huang ^{1*} , Kuo-Ping Chen ¹ , ¹ National Yang Ming Chiao Tung University Tainan.	2021-SAT-P0202-P007 Effect of Silicon Oxide Thickness on Color Temperature of Reflected Light Yun-Yan Huang ^{1*} , Zhong-Kai Zheng ² , Kuo-Hsien Chou ² , Ming-Li Chou ¹ , Jwo-Huei Jou ² , ¹ Shu-Guang Girls' Senior High School Hsin-Chu, ² National Tsing Hua University Hsin-Chu.	2021-SAT-P0302-P007 High-power structured oval beams with controllable transverse orders by an Nd:YVO ₄ laser in a near-hemispherical resonator Yu-Zhe Cheng ^{1*} , Pi-Hui Tuan ¹ , ¹ National Chung Cheng University Chiayi.	2021-SAT-P0402-P007 Design of Zoom Beam Expander for Multi-beams Splitting Control Chun-Po Lin ^{1*} , Hsing-Yuan Liou ¹ , Hsiao-Yi Lee ¹ , ¹ National Kaohsiung University of Science and Technology Kaohsiung.	2021-SAT-P0502-P007 Spectrum Extraction by Light Modulation and Three-parameter Sine Curve Fitting Cheng-Hao Chang ^{1*} , Yun-Hsiang Chang ¹ , Yu-Lin Chang ¹ , Hung Chih Hsieh ¹ , ¹ National United University Miaoli.

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-SAT-P0102-P008 Low loss hybrid plasmonic waveguide on the near-Infrared wavelength Hsu Wei-Chun ^{1*} , ¹ National Yang Ming Chiao Tung University Tainan.	2021-SAT-P0202-P008 Nonlinear Dynamics of Semiconductor Lasers Under Optically Polarization-rotated Feedback Shin-Cyuan Chen ¹ , Bo-Wei Wang ^{1*} , Yu-Shan Juan ¹ , ¹ Yuan Ze University Taoyuan City.	2021-SAT-P0302-P008 Plan of Table-Top X-Ray Source driven by 100TW Laser System in NCU Chou Shao-wei ^{1,2*} , Shan-You Teng ¹ , Chun-Cheng Chu ^{1,2} , Wei-Cheng Liu ^{1,2} , Hsu-Hsin Chu ^{1,2} , ¹ National central university Taoyuan City, ² National central university Taoyuan City.	2021-SAT-P0402-P008 Multiclass Fabric Defect Inspection by Compact CNN-based Machine Vision Kin Chun Kwong ^{1*} , Ya Ti Chang ¹ , Lee ¹ , Chung Hao Tien ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu City.	2021-SAT-P0502-P008 Time-of-Flight Detection at 1550 nm for LiDAR System in Self-Driving Vehicle Wei-Lun Wang ¹ , Wei-Chih Shu ^{1*} , Wan-Shao Tsai ^{1,2} , ¹ National Chung Hsing University Taichung, ² National Chung Hsing University Taichung.
2021-SAT-P0102-P009 Stability and Device Evaluation of Red Cesium Lead Bromide Nanocrystals Chelating Phenylated Phosphine Ligands Kuan-Hsueh Peng ¹ , Chen-Hsuan Kuan ^{1*} , Sheng-Hsiung Yang ¹ , ¹ National Yang Ming Chiao Tung University Tainan.	2021-SAT-P0202-P009 Novel B5G/6G Sub-THz Beamforming Scheme with Sub-Nyquist Sampling Rate ADC in Ma-MIMO System Guan-Ting Lin ^{1*} , Pin-Hsuan Ting ¹ , Shao-Hung Yu ¹ , Zheng-Wei Huang ¹ , Chun-Ting Lin ¹ , ¹ National Yang Ming Chiao Tung University Tainan.	2021-SAT-P0302-P009 Tomography of High-order Harmonic Generation Yao-Li Liu ^{1*} , Shih-Chi Kao ¹ , Yi-Yong Ou Yang ¹ , Zhong-Ming Zhang ¹ , Jhyhyng Wang ^{1,2} , Hsu-hsin Chu ^{1,3} , ¹ National Central University Zhongli, ² Academia Sinica Taipei, ³ National Central University Zhongli.	2021-SAT-P0402-P009 Miniaturized Dual-Field Digital Holographic Microscopy Chi-Ching Chang ¹ , Huang-Tian Chan ^{1*} , Yang-Kun Chew ¹ , Mei-Fang Chou ¹ , ¹ School of Artificial Intelligence Changhua.	2021-SAT-P0502-P009 Exploiting autofocusing algorithm with liquid lens for AOI application Guo-Hao Lu ^{1*} , Huan-Rong Lin ¹ , Chao-Feng Liu ¹ , Jing-Feng Weng ¹ , Yu-Hsin Lin ¹ , Chun-Jen Weng ¹ , ¹ Taiwan Instrument Research Institute Hsinchu.
2021-SAT-P0102-P010 Effect of growth time on properties of ZnO nanorods and performance of perovskite solar cells Lin Wei-Jhe ¹ , Lai Fang-I ^{1*} , Yang Jui-Fu ¹ , Kuo Shou-Yi ^{2,3} , ¹ Yuan-Ze University Chung-Li, ² Chang Gung University TaoYuan, ³ Chang Gung Memorial Hospital Taoyuan.	2021-SAT-P0202-P010 Regular Pulses Generated by Semiconductor Laser Subject to Both Optoelectronic Feedback and Optical Injection Chang Shu-Ching ^{1*} , Lu Shao-Wei ¹ , Juan Yu-Shan ¹ , ¹ Yuan Ze University Taoyuan City.	2021-SAT-P0302-P010 1550 nm kHz Linewidth Fiber Laser Based on Rayleigh Backscattering Methodology Li-En Wang ¹ , Dong-Chang Li ¹ , Jing-N Lin ^{1*} , Zi Wang ¹ , Lin Ma Marlina ¹ , Shien-Kuei Liaw ¹ , Chien-Hung Yeh ² , Hsiou-Hsin Tsai ³ , Hiroki Kishikawa ⁴ , ¹ National Taiwan University of Science and Technology Taipei, ² Feng Chia University Taichung, ³ Taipei Medical University Taipei, ⁴ Tokushima University Tokushima.	2021-SAT-P0402-P010 Study of Economic Commission for Europe (ECE) regulated automotive rear light with enhanced brightness uniformity and lighting efficiency by using double surfaced prism array device Yi-ming Chang ^{1*} , ¹ National Kaohsiung University of Science and Technology Kaohsiung.	2021-SAT-P0502-P010 Birefringent Polymer for Ethanol Volatilization Measurement in Fiber Optic Spectrometer Ruey-Ching Twu ¹ , Shu-Quan Qiu ^{1*} , Shih-Chun Hsu ¹ , ¹ Southern Taiwan University of Science and Technology Tainan.
2021-SAT-P0102-P011 Enhanced Coupling Effect and Gap Plasmon Resonance in a MIM-cavity based Sensing Structure Yuan-Fong Chou Chau ¹ , Tan Yu Ming ¹ , Chung-Ting Chou Chao ^{2*} , Roshan Thotagamuge ¹ , Muhammad Raziq Rahimi Kooh ¹ , Hung Ji Huang ³ , Chee Ming Lim ¹ , Hai-Pan Chiang ² , ¹ Universiti Brunei Darussalam Gadong, ² National Taiwan Ocean University Keelung, ³ National Applied Research Laboratories Hsinchu.	2021-SAT-P0202-P011 A ship light communications system with intelligent trace and identification, high recognition rate, and low power consumption Ting Yi Li ^{1*} , Che Yuan Hsu ¹ , Chi Da Yang ¹ , ¹ National Kaohsiung University of Science and Technology Kaohsiung.	2021-SAT-P0302-P011 100-kW-class Coherent THz line emitter Ming-Hsiung Wu ^{1*} , Chang-Hue Kuo ¹ , Bao-Dong To ¹ , Yen-Chieh Huang ¹ , ¹ National Tsing Hua University Hsinchu.	2021-SAT-P0402-P011 Study on the dispersion of an optical plate beam splitter by using white-light spectral interference Jen-ho Wang ^{1*} , Jenq-Nan Yih ¹ , Nai-Jen Cheng ¹ , Jia-Sheng Chen ¹ , Kun-Wei Chao ¹ , Ngoc-Dung Nguyen ¹ , Chien-Liang Chiu ¹ , ¹ National Kaohsiung University of Science and Technology Kaohsiung.	2021-SAT-P0502-P011 BBO Optical Angle Sensor for Non-Contact Fluidic Concentration Measurements Ruey-Ching Twu ¹ , Shih-Chun Hsu ^{1*} , Shu-Quan Qiu ¹ , ¹ Southern Taiwan University of Science and Technology Tainan.

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2021-SAT-P0102-P012 Synthesis of ZnO Multipods Decorated with Ag Nanospheres for SERS Detection of Nitrophenol Elumalai Ashok Kumar ^{1*} , Yu-Hsu Chang ² , Tzyy-Jiann Wang ¹ , ¹ National Taipei University of Technology Taipei, ² National Taipei University of Technology Taipei.	2021-SAT-P0202-P012 Defect-Mediated Si Sub-Band Avalanche Photodetectors Integrated in Si ₃ N ₄ Photonics for Waveguide Power Monitoring. The Anh Nguyen ^{1*} , ¹ National Tsing Hua University Hsinchu.	2021-SAT-P0302-P012 Numerical simulations of conventional soliton and stretched pulse in Er ³⁺ -doped mode-locked fiber laser Cheng-Hsien Yu ¹ , Han-Chun Chi ^{1*} , Jhih-Wei Chang ¹ , Yin-Wen Lee ¹ , ¹ National Taipei University of Technology Taipei.	2021-SAT-P0402-P012 Scanning white light confocal spectroscopy and applications Chao-Feng Liu ^{1*} , Guo-Hao Lu ¹ , Yu-Hsin Lin ¹ , Chun-Jen Wen ¹ , ¹ Taiwan Instrument Research Institute Hsinchu.	2021-SAT-P0502-P012 Transmission differential interference contrast microscope using liquid-crystal Savart prism as the shear device. Ting-Yu Chien ¹ , Che-Wei Kuo ¹ , Xuan-Lun Zhang ¹ , Shyh-Tsong Lin ^{1*} , ¹ National Taipei University of Technology Taipei.
2021-SAT-P0102-P013 Fabrication and Characterization of Wide-bandgap ZnSe Thin Film Prepared by Chemical Bath Deposition Fang-Hsing Wang ^{1*} , Yi-Min Rao ¹ , Wun-Yan Chen ¹ , Ming-Chien Wu ¹ , Han-Wen Liu ¹ , ¹ National Chung Hsing University Taichung.	2021-SAT-P0202-P013 Radiation of Fiber Gratings Detected by Collimator Nai-Hsiang Sun ^{1*} , Bo-Yan Wu ¹ , Li-Lun Lin ¹ , Jung-Sheng Chiang ¹ , ¹ I-Shou University Kaohsiung.	2021-SAT-P0302-P013 Direct vortex lasing at the wavelength of 1.3 μ m in an azimuthal symmetry breaking resonator Jun-Wei Hsu ^{1*} , ¹ National Sun Yat-sen University Kaohsiung City.	2021-SAT-P0402-P013 Ski Goggles Defect Detection and Recognition with Deep Learning Shih-Feng Wang ^{1*} , Duong Binh Giap ² , Viet Duc Nguyen ² , Hoang V. Le ² , Han Thuong Nguyen ² , Mung Pham Xuan ² , Nai-Jen Cheng ¹ , Tuyen Ngoc Le ² , ¹ NKUST Kaohsiung, ² NKUST Kaohsiung.	2021-SAT-P0502-P013 The Use of Rotary Triboelectric Nanogenerator (r-TENG) as an Efficient Energy Source to Drive Polymer Dispersed Liquid Crystal Devices Vincent Hsiao ^{1,2*} , Hengyu Guo ² , Ko-Ting Cheng ³ , Jr-Hau He ⁴ , Zhong Lin Wang ² , ¹ National Chi Nan University Nantou, ² Georgia Institute of Technology Atlanta, ³ National Central University Taoyuan, ⁴ City University of Hong Kong Hong Kong.
2021-SAT-P0102-P014 Characterization Of Organic-Inorganic Perovskite Thin Films Jing-Wun Syu ¹ , Jyun-Peng Jhou ¹ , Ya-Fen Wu ^{1*} , ¹ Ming Chi University of Technology New Taipei.	2021-SAT-P0202-P014 Simulation of a Non-Polarizing Narrow-Band Pass Filter Using Waveguided Grating Hong-Wei Wu ^{1*} , Chien-Chen G Kuo ¹ , ¹ National Central University Taoyuan City.	2021-SAT-P0302-P014 Supercontinuum generation in nonlinear waveguide by cross phase modulation CHIEN-CHUN KUO ^{1*} , ¹ National Sun Yat-sen University Kaohsiung.	2021-SAT-P0402-P014 Optimization of LED Mosquito Trapping System for Efficiency Enhancement Chang Jui Chen ^{1*} , ¹ National Kaohsiung University of Technology, Kaohsiung 80778, Taiwan Taiwan Kaohsiung.	2021-SAT-P0502-P014 Tolerance budget allocations for optical telescope manufacturing and assembly Ching-Wei Chen ^{1*} , Yu-Shen Gu ¹ , Chia-Ray Chen ¹ , ¹ N SPO Hsinchu.
2021-SAT-P0102-P015 Performance Characterization of a High-Sensitivity SPAD Chip Operation at Room Temperature Wen-Yan Lu ^{1*} , Wen-Jeng Ho ¹ , Jheng-Jie Liu ¹ , Chia-Chun Yu ² , Yen-Chu Li ² , ¹ Department of Electro-Optical Engineering Taipei, ² Chunan Science Park Miaoli.	2021-SAT-P0202-P015 A Comparison between Tapered and Cubically-Bent Directional Couplers Ming-Jie Huang ^{1*} , Shuo-Yen Tseng ¹ , ¹ National Cheng Kung University Tainan.	2021-SAT-P0302-P015 Passive mode-locking of a diode-pumped Nd:YVO ₄ laser by intracavity sum frequency generation Shou-Tai Lin ¹ , Zheng-Yan Li ¹ , Jin-Wei Lin ^{1*} , ¹ Feng Chia University Taichung.	2021-SAT-P0402-P015 Effect of Fabrication Error of Diffractive Null Optical Systems for Mirror Fabrication Metrology Li-Jen Hsiao ^{1*} , Hsing-Yu Wu ¹ , Po-Hsuan Huang ³ , Yi-Kai Huang ³ , ¹ National Chung-Shan Institute of Science and Technology Sanxia, ² National Taipei University of Technology Taipei, ³ National Applied Research Laboratories Hsinchu.	2021-SAT-P0502-P015 Study of color vision inspection system Hsing-Yu Wu ^{1,2*} , Chih-Hsuan Shih ⁴ , Li-Siang Shen ⁴ , Chia-Ying Tsai ^{5,6} , Jin-Cherng Hsu ^{4,7} , ¹ National Chung-Shan Institute of Science and Technology New Taipei City, ² National Taipei University of Technology Taipei, ³ National Central University Taoyuan City, ⁴ Fu Jen Catholic University New Taipei City, ⁵ Fu Jen Catholic University New Taipei City, ⁶ Fu Jen Catholic University New Taipei City, ⁷ Fu Jen Catholic University New Taipei City.

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-SAT-P0102-P016 Influence of photoalignment on the memory state of nematic-silica-dye suspension Hui-Chi Lin ¹ , Yu-Sung Liu ¹ , Kuan-Chi Wu ¹ , Yue-Gang Wu ^{1*} , Chen-Yu Tai ¹ , Hsu-Chih Cheng ¹ , ¹ National Formosa University Yunlin, ² National Formosa University Yunlin.	2021-SAT-P0202-P016 Surface plasmon polaritons in metallic nanowire and Surface plasmon resonances of nanorod Szu-Yao Mao ¹ , Yun-Cheng Kuo ¹ , Bing-Xian Chen ^{1*} , Mao-Kuei Kuo ¹ , Jiunn-Woei Liaw ^{2,3} , ¹ National Taiwan University Taipei, ² Chang Gung University Taoyuan, ³ Ming Chi University of Technology New Taipei City.	2021-SAT-P0302-P016 16-Gbit/s 16-QAM-OFDM Transmission for Visible Light Communication Based on Low-Power 405-nm Laser Yi-Ze Lee ^{1*} , Yi-Chien Wu ¹ , Gong-Ru Lin ¹ , ¹ National Taiwan University Taipei.	2021-SAT-P0402-P016 Depth measurement with a micro lens array Chih-Hsiung Lin ^{1*} , Jung-Ping Liu ² , Jing-Heng Chen ² , Kun-Huang Chen ³ , ¹ Feng Chia University Taichung, ² Feng Chia University Taichung, ³ Feng Chia University Taichung.	2021-SAT-P0502-P016 Error Removal of Testing a Concave Hyperbolic Mirror Based on Rotational Shear Interferometric Test Cheng-Fang Ho ^{1*} , Zong-Ru Yu ¹ , Ching-Hsiang Kuo ¹ , Po-ming Lin ¹ , Sheng-Tsong Chang ¹ , ¹ National Applied Research Laboratories HsinChu.
2021-SAT-P0102-P017 Coherently Strained GaAsBi Alloys to GaAs Grown by MBE Shi-Jane Tsai ^{1*} , Guan-Lun Peng ¹ , Hao-Hsiung Lin ^{1,2} , ¹ National Taiwan University Taipei, ² National Taiwan University Taipei.	2021-SAT-P0202-P017 High-Speed Guard-Ring-Free Planar Avalanche Photodiode with 12.5 Gb/s using InAs – Multiplication Layer Kai-Chieh Chen ^{1*} , Wen-Jeng Ho ¹ , Jheng-Jie Liu ¹ , Chia-Chun Yu ² , Yen-Chu Li ² , ¹ Department of Electro-Optical Engineering Taipei, ² Chunan Science Park Miaoli.		2021-SAT-P0402-P017 Enhancement of Overlay Measurement Error Model by Introducing the Pattern-Center Shift Induced Error Yun-Qi Ye ¹ , Yi-Min Lin ¹ , Jui-Ming Cheng ¹ , Hung-Chih Hsieh ^{1*} , ¹ National United University Miaoli.	2021-SAT-P0502-P017 A Large-Area Multipoint Fiber Sensor System Using Machine Learning Jyun-Wei Li ^{1*} , Peng-Chun Peng ¹ , ¹ National Taipei University of Technology Taipei.
2021-SAT-P0102-P018 Ultraviolet/Visible Broadband Photodetector based on Perovskite/ZnO nanorod heterojunction Ming-Hsien Li ¹ , Jia-Jie Jiang ^{1*} , Shih-Ming Chen ¹ , Jun-Ru Chen ¹ , Lin-Sin Lu ¹ , Peter Chen ² , Hsiang-Chen ¹ , Chia-Feng Lin ³ , Jung Han ⁴ , ¹ National Chi Nan University Nantou, ² National Cheng Kung University Tainan, ³ National Chung Hsing University Taichung, ⁴ Yale University New Haven.	2021-SAT-P0202-P018 Reduction in the Bandwidth Demand of Low-Sampling-Rate DAC in ONUs of DDM-OFDM-PONs by Optical Shaping Lu-Yi Yang ¹ , Shiuann-Mao Chi ^{1*} , Yu-Cheng Yu ¹ , Chia-Chien Wei ¹ , ¹ National Sun Yat-sen University Kaohsiung.		2021-SAT-P0402-P018 Single-shot fringe projection profilometry based on deep learning for dynamic 3D shape measurement Chung-Hsin Huang ¹ , Hui-Ching Chang ^{2*} , Han-Yen Tu ² , ¹ Taipei University of Marine Technology Taipei, ² Chinese Culture University Taipei.	2021-SAT-P0502-P018 The Optimal Study of Data Science Regulating Optoelectronic Products Testing Vibration Tray Operation Chien-Chung Tsai ¹ , Jen-Chieh Chen ^{1*} , ¹ Minghsin University of Science and Technology Hsinchu.
2021-SAT-P0102-P019 The Generation of Dark-Current and Photo-Current of InP-Based APDs Dependence on Optical Window Areas Yi-Min Huang ^{1*} , Wen-Jeng Ho ¹ , Jheng-Jie Liu ¹ , Chia-Chun Yu ² , Yen-Chu Li ² , ¹ Department of Electro-Optical Engineering Taipei, ² Chunan Science Park Miaoli.	2021-SAT-P0202-P019 Orbital Angular Momentum Vortex Beam emitter based on Photonic Crystal Ring Resonator Yu-Wei Chiu ^{1*} , Kuo-Ping Chen ¹ , ¹ National Yang Ming Chiao Tung University Tainan.		2021-SAT-P0402-P019 Design and Manufacture Study of Diffractive Optical Elements in Wide-angle Structured Light Application Hsin Ju Yao ¹ , Yu Xiang Wang ^{1*} , Wei-Feng Hsu ¹ , ¹ National Taipei University of Technology Taipei.	2021-SAT-P0502-P019 Optical Surface Profilometer with An Auto-collimating Probe Po-Ming Lin ¹ , Chun-Chieh Lien ¹ , Hui-Chun Kuo ¹ , Ming-Fu Chen ¹ , Ho-Lin Tsay ^{1*} , ¹ National Applied Research Laboratories HsinChu.

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-SAT-P0102-P020 Insertion of InGaAs quantum well for improving the optical properties of InAs quantum dots with 1.3 μm emission Yung Jyun Liao ^{1*} , Wei Sheng Liu ¹ , Yang Kai Hsu ¹ , Ming En Hsu ¹ , ¹ <i>Yuan Ze University Taoyuan City.</i>	2021-SAT-P0202-P020 A Self-Protected TWDM-PON Based on Fiber- and FSO-Links for Long-Reach Application Wei-Hung Hsu ^{1*} , Bo-Yin Wang ¹ , Yi-Chi Chen ¹ , Chien-Hung Yeh ¹ , Chi-Wai Chow ² , Shien-Kuei Liaw ³ , ¹ <i>Feng Chia University Taichung</i> , ² <i>National Yang Ming Chiao Tung University Hsinchu</i> , ³ <i>National Taiwan University of Science and Technology Taipei.</i>		2021-SAT-P0402-P020 Design and Analysis of Dual Fresnel-Mirror System (DFMS) Teng-Wei Fu ^{1*} , Jyun-Yu Chen ¹ , Wei-Feng Hsu ¹ , ¹ <i>National Taipei University of Technology Taipei.</i>	2021-SAT-P0502-P020 Unwrapping phase-shifted fringe projection profilometry in metal powder bed fusion system by phase-offset approach Te-Wei Chiang ^{1*} , Kuo-Kuang Jen ² , Yuan-Yao Lin ¹ , ¹ <i>National Sun Yat-sen University Kaohsiung</i> , ² <i>National Chung-Shan Institute of Science & Technology Taoyuan.</i>
2021-SAT-P0102-P021 Effect of Nitrogen ratio on the Growth of High Quality AlN on Si<111> Substrate by RF Magnetron Sputtering Yu Lun Jiang ^{1*} , Wei Sheng Liu ¹ , Sui Hua Wu ¹ , Balaji G ¹ , Chung Kai Chi ¹ , Li Cheng Huang ¹ , ¹ <i>Yuan Ze University Taoyuan.</i>	2021-SAT-P0202-P021 The Spectrum and Extinction Ratio Analysis of the On-chip Waveguide with Asymmetric Mach-Zehnder Interferometers for WDM System Yu-Lun Juan ^{1*} , Zih-Yuan Ciou ¹ , Shih-Chun Kao ¹ , Kuo-Fang Chung ¹ , Ding-Wei Huang ¹ , Gong-Ru Lin ¹ , ¹ <i>National Taiwan University Taipei.</i>		2021-SAT-P0402-P021 Digital-grating Moiré Technique for the Measurement of Focal Length of Spherical Lenses and Mirrors Chen-Hsin Tu ^{1*} , Chien-Yuan Han ² , Kun-Huang Chen ³ , Chien-Hung Yeh ¹ , Jing-Heng Chen ¹ , ¹ <i>Feng Chia University Taichung</i> , ² <i>National United University Miaoli</i> , ³ <i>Feng Chia University Taichung.</i>	2021-SAT-P0502-P021 Direct lasing of topological charge tunable vortex lasers in resonator with spiral-phase defect Yu-Wei Lee ^{1*} , ¹ <i>National Sun Yat-sen University Kaohsiung.</i>
2021-SAT-P0102-P022 The effects of growth temperatures on the growth of high quality AlN (002) thin films on Si (111) substrate by RF magnetron sputtering Sui Hua Wu ^{1*} , Wei Sheng Liu ¹ , Li Cheng Huang ¹ , Chung-Kai Chi ¹ , Balaji Gururajan ¹ , Yu Lun Jiang ¹ , ¹ <i>Yuan Ze University Zhongli.</i>				
2021-SAT-P0102-P023 Comparative studies of Zn (O:S) thin films by post sulfuration of RF sputtering-deposited ZnO layers Yung Chen Li ^{1*} , Wei Sheng Liu ¹ , Balaji G ¹ , Ming Hsuan Tsai ¹ , ¹ <i>Yuan Ze University Taoyuan.</i>				
2021-SAT-P0102-P024 Effects of indium composition of InGaAs quantum well on the optical properties of InAs/InGaAs dots-in-a-well structure Kai-Yang Hsu ^{1*} , Wei-Sheng Liu ¹ , Ming-En Syu ¹ , Po-Hao Chang ¹ , Yung-jyun Liao ¹ , ¹ <i>Yuan Ze University Chung-Li.</i>				

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-SAT-P0102-P025 Novel Quantum Dot Light-Emitting Diodes Based on Nanoporous Nickel Oxide as the HIL Wei-Sheng Chen ¹ , Ming-Ru WEN ^{1*} , Sheng-Hsiung Yang ¹ , Wei-Sheng Chen ¹ , ¹ <i>National Yang Ming Chiao Tung University Tainan.</i>				
2021-SAT-P0102-P026 Optical properties and mode analysis of tripod structures of metallic gyroids Yi-Ting Lin ¹ , Guan-Hong Li ^{1*} , Yu-Chueh Hung ^{1,2} , ¹ <i>National Tsing Hua University Hsinchu 30013</i> , ² <i>National Tsing Hua University Hsinchu 30013.</i>				
2021-SAT-P0102-P027 Preparation and characterization of flexible DNA resistive switching devices Tzu-Hsin Hsiao ^{1*} , Yu-Yu Chen ¹ , Yu-Chueh Hung ^{1,2} , ¹ <i>National Tsing Hua University Hsinchu</i> , ² <i>National Tsing Hua University Hsinchu.</i>				
2021-SAT-P0102-P028 Waveguide-coupled surface enhanced Raman scattering substrates using lithium niobate ferroelectric templates Ying-Yu Wang ^{1*} , Zhe-Yuan Liu ¹ , Hsin-An Chi ¹ , Tzyy-Jian Wang ¹ , ¹ <i>National Taipei University of Technology Taipei.</i>				
2021-SAT-P0102-P029 Moiré Metalens for Optical Sectioning Fluorescence Microscopy Yu-Hsin Chia ^{1,2*} , Hsin-Yu Kuo ^{2,4} , Sunil Vyas ² , Yi-You Huang ^{1,5} , Yuan Luo ^{2,3} , Din Ping Tsai ^{6,7} , ¹ <i>National Taiwan University Taipei</i> , ² <i>National Taiwan University Taipei</i> , ³ <i>National Taiwan University Taipei</i> , ⁴ <i>National Taiwan University Taipei</i> , ⁵ <i>National Taiwan University Hospital Taipei</i> , ⁶ <i>National Taiwan University Taipei</i> , ⁷ <i>National Taiwan University Taipei.</i>				

Nanophotonic Materials and Devices	Optical Waveguides and Communications	Quantum Electronics and Laser Technology	Holography and Information Processing	Optical Design
2021-SAT-P0102-P030 Improving device characteristics of dual-gate IGZO thin-film transistors with rapid thermal annealing processes Yu Jiang¹, Wei-Sheng Liu^{1*}, Chih-Hao Hsu¹, ¹<i>Yuan Ze University Chung-Li.</i>	2021-SAT-P0102-P031 Influence of growth temperature of InAs/GaSb Type I Superlattice Infrared Photodetector prepared using Molecular Beam Epitaxy Guan-Ru Chen^{1*}, Wei-Sheng Liu¹, Po-Hao Chang¹, Balaji G¹, Tsun-Jie Ko², Ming-En Syu¹, Jen-Inn Chyi², ¹<i>Yuan Ze University Chung-Li</i>, ²<i>Electrical Engineering Chung-Li.</i>			

Poster Session I (12/03 14:00~16:00)

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
2021-FRI-P0601-P001 Development of hand-held optical system for in-vivo quantification of human total hemoglobin concentration Guan-Hua Lai^{1*}, Sheng-Hao Tseng¹, ¹<i>National Cheng Kung University Tainan.</i>	2021-FRI-P0701-P001 Liquid crystal privacy films using dual liquid crystal alignment structures Ching-An Chih^{1*}, Yu-Ci Huang¹, Ko-Ting Cheng¹, ¹<i>National Central University Taoyuan.</i>	2021-FRI-P0801-P001 Direct TIR Lens for High Beam Design Chang-Kun Zhang^{1*}, Chi-Shou Wu¹, Shih-Kang Lin¹, Ching-Cherng Sun¹, Tsung-Hsun Yang¹, Yeh-Wei Yu¹, ¹<i>National Central University TAOYUAN.</i>	2021-FRI-P0901-P001 Silicon Heterojunction Solar Cells Using Thermally Evaporated Molybdenum Oxides as Dopant-Free Hole Selective Contact Ting-Yun Yang¹, Chien-Chi Huang¹, Shih-Wei Chen², Tong-Ke Lin^{1*}, Peichen Yu¹, ¹<i>National Yang Ming Chiao Tung University Hsinchu 30010</i>, ²<i>Chip Integration Technology Department Hsinchu.</i>	2021-FRI-P1001-P001 Nickel-Induced Laterally Crystallization Polysilicon Thin Film Transistor for In-Display Photo-sensing Application Po-An Lin^{1*}, Tsung-Che Chiu¹, Zhen-Hao Li¹, Po-Tsun Liu¹, ¹<i>National Yang Ming Chiao Tung University Hsinchu.</i>
2021-FRI-P0601-P002 Development of Cone-beam X-ray Luminescence Computed Tomography (CB-XLCT) Subsystem: X-ray Micro-CT Platform Simulation Shih-Chun Jin^{1*}, Yu-Hong Wang^{2,1}, Jyh-Cheng Chen¹, Snow H Tseng³, Tse-Ying Liu⁴, ¹<i>National Yang-Ming Chiao-Tung University (Yang-Ming campus) Taipei</i>, ²<i>National Yang-Ming Chiao-Tung University (Yang-Ming campus) Taipei</i>, ³<i>National Taiwan University Taipei</i>, ⁴<i>National Yang-Ming Chiao-Tung University (Yang-Ming campus) Taipei.</i>	2021-FRI-P0701-P002 Plasmonic Effects of Gold Nanoparticles on the Performance of TADF Organic Light-Emitting Diodes Huai-Yu Lei¹, Tzu-Yu Hsu^{1*}, Fang-Chung Chen¹, ¹<i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-FRI-P0801-P002 Realization and Verification of Dynamic Sleep Assistant light Source on Mobile Device Platform You-Kwang Wang¹, Tzu-An Chou², Yi-Sheng Chen¹, Chih Hao Chuang³, Chien Yu Chen¹, ¹<i>National Taiwan University of Science and Technology Taipei</i>, ²<i>National Taiwan University of Science and Technology Taipei</i>, ³<i>National Taiwan University Taipei.</i>	2021-FRI-P0901-P002 Cost-effective high-resolution wide-field Fourier ptychographic microscopy Hung Yu Chia^{1*}, ¹<i>National Changhua University of Education Changhua City.</i>	2021-FRI-P1001-P002 Enhancement of Resistive Switching Characteristics of InWZnO-based CBRAM with Low Power Consumption Sheng-Jie Su^{1*}, Chih-Chieh Hsu², Shu-Wei Chang¹, Po-Tsun Liu¹, ¹<i>National Yang Ming Chiao Tung University Hsinchu</i>, ²<i>National Yang Ming Chiao Tung University Hsinchu.</i>

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
2021-FRI-P0601-P003 Study the Influence of Light and Source Configuration on the Accuracy of Reflective Pulse Oximeter in Low Perfusion Condition Ming-Lin Yang ^{1*} , Cheng-Yan Yang ¹ , Chun-Yen Kuo ¹ , Sheng-Hao Tseng ¹ , ¹ National Cheng Kung University Tainan.	2021-FRI-P0701-P003 High Efficiency Thermal Activated Delayed Fluorescence Organic Light-Emitting Diode Based on Naphthyridine Derivatives Emitter Chia-Hsun Chen ^{1*} , Jing-Xiang Huang ¹ , Rasa Keruckiene ² , Bo-Yen Lin ³ , Juozas Vidas Grazelevicius ² , Tien-Lung Chiu ³ , Jun-Haw Lee ¹ , ¹ National Taiwan University Taipei; ² Kaunas University of Technology Kaunas; ³ Yuan Ze University Taoyuan.	2021-FRI-P0801-P003 High Luminance White Light Source based on Blue Laser Pumping Single Crystal Phosphor Yang-Kuan Tseng ^{1*} , Yu-Liang Lin ¹ , Tsung-Xian Lee ¹ , ¹ National Taiwan University of Science and Technology Taipei.	2021-FRI-P0901-P003 A stable small molecule organic photovoltaic with Alq3:C60 buffer layer Meng-Hsueh Kuo ^{1*} , ¹ National Taiwan University of Science and Technology Taipei.	2021-FRI-P1001-P003 Investigation of optical and electrochromic properties of complementary V2O5/WO3 all-solid-state electrochromic devices deposited with magnetron sputtering Ri-Jun Li ^{1*} , Hsi-Chao Chen ^{1,2} , Yu-Hung Yen ² , Bo-Jun Guo ² , Guan-Yu Chen ² , Tsung-tse Wu ² , Chu-Han Huang ² , ¹ National Yunlin University of Science and Technology Yunlin, Douliu; ² National Yunlin University of Science and Technology Yunlin, Douliu.
2021-FRI-P0601-P004 Deep Learning for Near-Infrared Optical Bone Densityometry Po-Yuan Chen ^{1*} , Wei-Chun Chang ¹ , Tsai-Hsueh Leu ¹ , Chia-Wei Sun ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0701-P004 Blue-emitting non-doped OLEDs with triphenylethene-carbazole-based aggregation-induced emission molecules to realize high luminance Chen-Hsun Wu ^{1*} , Cheng-Yun Ho ¹ , Wei-Han Lin ¹ , Jhao-Cheng Lu ¹ , Chih-Hao Chang ¹ , Gintare Krucaite ² , Raminta Beresneviute ² , Saulius Grigalevicius ² , ¹ Yuan Ze University Chung-Li; ² Kaunas University of Technology Kaunas.	2021-FRI-P0801-P004 Correlation Between Diopter and Brightness Required for Text-reading: Effect of Light Color Zhi-Qiao Liu ^{1*} , Liang-Hsuan Huang ¹ , Luke The ² , Ya-Chen Hsieh ² , Ming-Li Chou ¹ , Po-Ting Yeh ³ , Jwo-Huei Jou ² , ¹ Shu Guang Girls' Senior High School Hsin Chu; ² National Tsing Hua University Hsin Chu; ³ National Taiwan University Hospital Hsin Chu Branch Hsin Chu.	2021-FRI-P0901-P004 Improvement of the reliability of organic solar cells by inserting the electron-transporting material Lee Yong Yuan ^{1*} , ¹ National Taiwan University of Science and Technology Taipei.	2021-FRI-P1001-P004 Copper oxide heterojunction on photocathodes for photoelectrochemical water splitting Chih-Jui Chang ^{1*} , Chih-Wei Lai ¹ , Wei-Cheng Jiang ¹ , Chang-Sik Choi ² , Hsin-Chieh Yu ¹ , YongMan Choi ¹ , ¹ National Yang Ming Chiao Tung University Tainan; ² Institute for Advanced Engineering Yongin-si.
2021-FRI-P0601-P005 Cellular imaging with a customized spectral-domain OCT system and an in-house developed cell incubator You-Nan Tsai ^{1*} , Ting-Hao Chen ¹ , Ting-Yen Tsai ¹ , Meng-Tsan Tsai ^{2,3} , Hsiang-Chieh Lee ^{1,4} , ¹ National Taiwan University Taipei; ² Chang Gung University of Science and Technology Taoyuan; ³ Chang Gung Memorial Hospital Linkou, Taoyuan; ⁴ National Taiwan University Taipei.	2021-FRI-P0701-P005 Improvement in 80×160 Passive-Matrix μ -LED Display via Passivation Coatings Nai-Ren Chang ^{1*} , Po-Hao Chen ² , Po-Liang Liu ¹ , Dong-Sing Wu ^{2,3} , ¹ National Chung Hsing University Taichung; ² National Chung Hsing University Taichung; ³ National Chi Nan University Nantou 54561.	2021-FRI-P0801-P005 The Effects of p-type Last Barrier on Deep Ultraviolet Light Emitting Diodes Tien-Yu Wang ^{1*} , Wei-Chih Lai ^{1,2} , Syuan-Yu Sie ¹ , Sheng-Po Chang ¹ , Yuh-Renn Wu ³ , Yu-Zung Chiou ⁴ , Cheng-Huang Kuo ⁵ , Jinn-Kung Sheu ^{1,2} , ¹ National Cheng Kung University Tainan 70101; ² National Cheng Kung University Tainan 70101; ³ National Taiwan University Taipei 10617; ⁴ Southern Taiwan University of Science and Technology Tainan 710; ⁵ National Yang Ming Chiao Tung University Tainan 71150.	2021-FRI-P0901-P005 XPS depth profiling of Al2O3 passivation layer of photovoltaic with different annealing temperatures Man-Ying Wang ^{1*} , Pei-Chen Huang ¹ , Yi-Kai Wang ² , Yu-Chun Huang ^{3,4} , Jun-Xian Li ² , Jui-Fu Tang ¹ , Hsun-Yun Chang ⁵ , Wei-Chun Lin ^{1,2} , ¹ National Sun Yat-Sen University Kaohsiung; ² Feng Chia University Taichung; ³ National Cheng Kung University Tainan; ⁴ Development Center Kaohsiung; ⁵ Analytical Laboratory Chigasaki, Kanagawa.	2021-FRI-P1001-P005 Tin Oxide Semiconductor for High Performance P-TYPE Thin Film Transistor Application You-Syuan Zhou ^{1*} , Tsung-Che Chiang ¹ , Zhen-Hao Li ¹ , Po-Tsun Liu ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.

Biophotonics and Biomedical Imaging	Display Technology	Solid State Lighting	Photovoltaic Technology	Thin-Film Technology & Coating Design
2021-FRI-P0601-P006 Nitride-based substrate for DNA microarray by SERS Nguyet Thi Anh Nguyen ¹ ,*, Kun-Yu Lai ¹ , ¹ National Central University Zhongli, Taoyuan.	2021-FRI-P0701-P006 Metal-Organic Frameworks as Hole Injection Materials for Organic Light-Emitting Diodes Hoong Lien Lai ¹ , Jing-Yuan Su ¹ , Fang-Chung Chen ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu.	2021-FRI-P0801-P006 White Light Lamp with Adjustable Spatial Colour Distribution Nai-Te Yin ^{1*} , Ting-Jou Ding ² , Shih-Hsin Ma ¹ , ¹ Feng Chia University Taichung, ² Ming Dao University Changhua.	2021-FRI-P0901-P006 A Hot Fiber Fabry-Pérot Interferometer by Laser Heating Chi-Shiang Chen ¹ , Hsu-Hui Chou ¹ , Chien-Hsing Chen ² , Yi-Ching Chang ^{1*} , Cheng-Li ng Lee ¹ , ¹ National United University Miaoli, ² National Pingtung University Pingtung.	2021-FRI-P1001-P006 Enhanced photoelectrochemical water splitting using nano-structured CuO-based heterojunction electrodes Chih-Wei Lai ^{1*} , Yi-Syuan Li ¹ , Chih-Jui Chang ¹ , Chang-Sik Choi ² , YongMan Choi ¹ , ¹ National Yang Ming Chiao Tung University Tainan, ² Institute for Advanced Engineering Yongin-si.
2021-FRI-P0601-P007 Noninvasive 3D Structure Inspection with Multiphoton-excited Fluorescence Microscopy Dong-Yi Wang ^{1*} , ¹ National Cheng Kung University Tainan.	2021-FRI-P0701-P007 Color-converted Micro-LEDs Displays with CdSe/ZnS@SiO₂ Quantum Dots and Distributed Bragg Reflector Chih-Wei Lo ^{1*} , Kai-Ping Chang ¹ , Chung-Jui Wu ¹ , Po-Wei Chen ¹ , Chao-Chun Yen ¹ , Dong-Sing Wu ^{1,2} , ¹ National Chung Hsing University Taichung, ² National Chi Nan University Nantou.	2021-FRI-P0801-P007 Study of LED Array for Low-High Beams with One Reflector Jie-Xun Liu ^{1*} , Yi-You Lin ¹ , Ching-Cherng Sun ¹ , Tsung-Hsun Yang ¹ , Chi-Shou Wu ¹ , Shih-Kang Lin ¹ , ¹ National Central University Taoyuan.	2021-FRI-P0901-P007 Near-field study of uniform current distribution vertical structure LED at different wavelengths Wei-Yuan Wang ^{1*} , ¹ National Changhua University of Education Changhua.	2021-FRI-P1001-P007 Effects of UV-ozone treatment on Deep-Ultraviolet Photodetectors based on ZnGa₂O₄ thin film Yun-Sheng Li ^{1*} , Ray-Hua Horng ¹ , Fu-Gow Tarntair ¹ , ¹ National Yang Ming Chiao Tung University Hsinchu City.
2021-FRI-P0601-P008 Deep Residual Learning Reconstructed the Periodic Noise of NIR Vessel Image Yi-Feng Liu ^{1*} , Ying-Sheng Lin ³ , Hsi-Chao Chen ^{1,2} , Zheng-Ann Xiong ² , Wang-Tzu His ² , ¹ National Yunlin University of Science and Technology Yunlin, Douliou, ² National Yunlin University of Science and Technology Yunlin, Douliou, ³ National Taiwan University Hospital Yunlin Branch Yunlin, Douliou.	2021-FRI-P0701-P008 Waveguide liquid crystal devices with asymmetrical light scattering properties and their applications Yuan-Chang Tsai ^{1*} , Sheng-Wein Wang ¹ , Cheng-Kai Liu ¹ , Ko-Ting Cheng ¹ , ¹ National Central University Taoyuan.	2021-FRI-P0801-P008 Optimization of Triangular Graded EBL for DUV LEDs Zen-Kai Chen ^{1*} , Man-Fang Huang ¹ , Jih-Yuan Chang ² , Yen-Kuang Ku ³ , ¹ National Changhua University Of Education Changhua, ² National Changhua University Of Education Changhua, ³ National Changhua University Of Education Changhua.	2021-FRI-P0901-P008 Stability investigation via surface analysis techniques on mixed halide perovskite films under heat exposure Pei-Chen Huang ^{1*} , Man-Ying Wang ¹ , Jui-Fu Tang ¹ , Yi-Sheng Tsai ² , Jun-Xian Li ² , Yi-Kai Wang ² , Wei-Chun Lin ^{1,2} , ¹ National Sun Yat-sen University Kaohsiung, ² Feng Chia University Taichung.	2021-FRI-P1001-P008 Post-treatment methods to improve the performance of near-infrared perovskite light-emitting diodes Johan Iskandar ^{1,3*} , Ade Kurniawan ^{1,3} , Xiang-Ren Teng ² , Cheng-Kai Hsu ² , Jeng-Huang Ou ² , Shun-Wei Liu ^{2,3} , Hsin-Ming Cheng ^{2,3} , Chih-Chien Lee ¹ , ¹ National Taiwan University of Science and Technology Taipei City, ² Ming Chi University of Technology New Taipei City, ³ Ming Chi University of Technology New Taipei City.
2021-FRI-P0601-P009 Process Insensitive Broadband Coupler for Optical Coherence Tomography Application Hong-Yan Zheng ^{1*} , Bo-Liang Chen ¹ , Hsiao-Yen Lu ¹ , Shih-Hsiang Hsu ¹ , ¹ National Taiwan University of Science and Technology Taipei.	2021-FRI-P0701-P009 Efficient deep blue OLED achieved by a new fluorophore Jing-Xiang Huang ^{1*} , Bo-Yen Lin ² , Chia-Hsun Chen ^{1,3} , Jian-Haur Lee ⁴ , Chin-Ti Chen ⁴ , Tien-Lung Chiu ² , Jiun-Haw Lee ¹ , ¹ National Taiwan University Taipei, ² Yuan Ze University Taoyuan, ³ National Taiwan University Taipei, ⁴ Taiwan International Graduate Program and Institute of Chemistry Taipei.	2021-FRI-P0801-P009 Study on the optical-thermal characteristics of LED by doping graphene in silver paste Cheng-Mao Yu ¹ , Chun-Liang Lin ¹ , Hao-Yu Wang ¹ , Ping-Chuan Chang ^{1*} , ¹ Kun Shan University Tainan.	2021-FRI-P0901-P009 Analysis of Tungsten Absober for Solar Thermophotovoltaics via FDTD simulation Yu-Tse Tsai ^{1*} , Snow H Tsen ¹ , ¹ National Taiwan University Tainan.	2021-FRI-P1001-P009 Design of shadow mask for large-area anti-reflective coating by plasma-assisted reactive magnetron sputtering Yi Chen ^{1*} , Yung-Che Lee ¹ , Chien-Jen Tang ¹ , ¹ Feng Chia University Taichung.

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2021-FRI-P0601-P010 Fano-resonance Biosensing through Windowed Fourier Transform Hsuan Lai ^{1*} , Guan-Bo Jhao ¹ , Jia-Yi Xu ¹ , Tzu-Ning Kuo ¹ , Cheng-Lun Lu ¹ , Shih-Hsiang Hsu ¹ , ¹ National Taiwan University of Science and Technology Taipei.	2021-FRI-P0701-P010 Flexible light-emitting electrochemical cells employing muscovite mica substrates Dian Luo ^{1*} , Yu-Ru Li ¹ , Tzu-Hsin Hsiao ² , Yi-Ching Chen ² , Ron-Huei Yi ³ , Chin-Wei Lu ³ , Chih-Hao Chang ² , Hai-Ching Su ¹ , ¹ National Yang Ming Chia o Tung University Tainan, ² Yuan Ze University Taoyuan, ³ Providence University Taichung.	2021-FRI-P0801-P010 Improving the Angular Color Uniformity of White LEDs with Negative Rose Petal Replica Films Kai-Jie Huang ^{1*} , Shang-Ping Ying ¹ , ¹ Minghsin University of Science & Technology Hsinchu.	2021-FRI-P0901-P010 Effect of Perovskite Layer Annealed at Different Normal Temperatures on Perovskite Solar Cell Min-Yi Jiang ^{1*} , Hsueh-Tao Chou ¹ , Zi-Heng Lin ¹ , Guan-Yu Lin ¹ , ¹ National Yunlin University of Science and Technology Douliu, Yunlin.	2021-FRI-P1001-P010 Optimizing Zinc Oxide transparent conductive electrode to apply on light-emitting diode Tseng Shih-cheng ^{1*} , Lin Yen-Sheng ¹ , ¹ I-Shou University Kaohsiung.
	2021-FRI-P0701-P011 Transparent flexible electrode consisting of AgCr alloy and Mo-doped GaZnO Jui-Ming Wong ^{1*} , Ming-Jung Lin ¹ , Meng-Hsuan Chiu ¹ , Chih-Hao Chang ¹ , ¹ Yuan Ze University Chung-Li.	2021-FRI-P0801-P011 Effect of Aging on Curcumin Embedded in Host Materials for White Light-Emitting Diodes Ji-Xian Weng ^{1*} , Bing-Mau Chen ¹ , ¹ Minghsin University of Science and Technology Hsinchu.	2021-FRI-P0901-P011 Fiber Bragg Grating Tire Pressure Sensor Chong-Wei Chen ^{1*} , Cheng-Yu Lin ¹ , Wen-Fung Liu ¹ , Jui-Chi Yao ² , ¹ Feng Chia University Taichung, ² Minghsin University of Science and Technology Hsinchu.	2021-FRI-P1001-P011 Improving Efficiency in MAPbI₃ based near-infrared Perovskite LED by a LiQ Interlayer Ade Kurniawan ^{1,3*} , Johankandar ^{1,3} , Xiang-Ren Teng ² , Cheng-Kai Hsu ² , Jeng-Huang Ou ² , Shun-Wei Liu ^{2,3} , Hsin-Ming Cheng ^{2,3} , Chih-Chien Lee ¹ , ¹ National Taiwan University of Science and Technology Taipei City, ² Ming Chi University of Technology New Taipei City, ³ Ming Chi University of Technology New Taipei City.
	2021-FRI-P0701-P012 Research of Amorphous Indium Zinc Oxide Thin Film Transistors for Low Illumination and High Responsivity Photo Sensor Yu-Han Chen ^{1*} , Yu-Chuan Chiu ¹ , Jia-Lin Huang ¹ , Po-Tsun Liu ¹ , ¹ National Yang Ming Chia o Tung University Hsinchu.	2021-FRI-P0801-P012 Investigated Aging Testing of Red QDs with SiO₂ Layer Deposited by an Atomic Layer Deposition System Kai-Wun Jhuang ^{1*} , Yan-Zhang Chen ¹ , Shao-Yu Chu ¹ , Chia-Hsun Chen ² , Hsin-Ying Lee ¹ , Ching-Ting Lee ^{1,3} , Kai-Ling Liang ⁴ , Wei-Hung Kuo ⁴ , Yen-Hsiang Fang ⁴ , Chien-Chung Lin ^{4,5} , ¹ National Cheng Kung University Tainan, ² Chung Hwa University of Medical Technology Tainan, ³ Yuan Ze University Taoyuan, ⁴ Industrial Technology Research Institute Hsinchu, ⁵ National Chia o Tung University Tainan.	2021-FRI-P0901-P012 Hydrophone Based on Fiber Bragg Gratings Cheng-Hsuan Tsai ¹ , Yu-Chun Chang ^{1*} , Wen-Fung Liu ¹ , Yu-Chung Chang ² , ¹ Feng Chia University Taichung, ² National Changhua University of Education Changhua.	2021-FRI-P1001-P012 Study of Electrical Properties on ZTO TFTs With Different Oxygen Flow Chi Wei Ho ^{1*} , Fan Ku ² , Shiu-Min Ma ³ , Shih-Chang Shieh ⁴ , ¹ National University of Tainan Tainan, ² National University of Tainan Tainan, ³ National University of Tainan Tainan, ⁴ National University of Tainan Tainan.

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	2021-FRI-P0701-P013 Bipolar Emitter for Non-Doped White-light Organic Light-emitting Diode Application Chun-Chieh Chu ^{1*} , Chia-Hsun Chen ¹ , R. Keruckiene ² , Bo-Ye Lin ³ , Chi-Feng Lin ⁴ , Tien-Lu ng Chiu ³ , Jiun-Haw Lee ¹ , J. V. Grazulevicius ² , ¹ National Taiwan University Taipei, ² Kaunas University of Technology Kaunas, ³ Yuan Ze University Taoyuan, ⁴ National United University Miaoli.	2021-FRI-P0801-P013 The Influence of Color Temperature and Circadian Stimulus of Indoor Lighting on Work Concentration Yu-Jian Hu ¹ , Yu-Chen Cheng ^{1*} , Yi-Chun Chen ¹ , ¹ National Central University Taoyuan.		2021-FRI-P1001-P013 Investigation of optical and supercapacitance properties of doped copper oxide thin films Yu-Wei Lin ^{1*} , Tai-Hsin Yin ¹ , Chih-Wei Lai ¹ , Bu-Jine Liu ¹ , Chang-Sik Choi ² , YongMan Choi ¹ , ¹ National Yang Ming Chiao Tung University Tainan, ² Institute for Advanced Engineering Yongin-si.
	2021-FRI-P0701-P014 High-Protection Structure of Low-Diffraction Transparent Micro LED Display Ying-Ting Liou ¹ , Wei-Chung Chen ^{1*} , ¹ Electronic and Optoelectronic System Research Laboratories Hsinchu.	2021-FRI-P0801-P014 The Optical Characteristics of the Assembled Planar Light Source for Laser-Driven White Lighting Hsuan-Li Huang ^{1*} , Shang-Ping Ying ¹ , ¹ Minghsin University of Science & Technology Hsinchu.		2021-FRI-P1001-P014 Investigation of optical and biaxial stress properties of multi-layers deposited on flexible PET with ion-assisted E-gun deposition Kun-Hong Chen ^{1*} , Hsi-Chao Chen ^{1,2} , Chun-Hao Chang ¹ , Chou-Kai Kuo ² , Chi-Yan g Lai ² , ¹ National Yunlin University of Science and Technology Yunlin County, Douliu City, ² National Yunlin University of Science and Technology Yunlin County, Douliu City.
	2021-FRI-P0701-P015 Green Organic Light-emitting Diodes with Low Turn-on Voltages Che-Yu Li ^{1*} , Chia-Hsun Chen ² , Shih-Chun Lin ² , Bo-Yen Lin ³ , Chi-Feng Lin ¹ , Ken-Tsung Wong ² , Tien-Lung Chiu ³ , Jiun-Haw Lee ⁴ , ¹ National United University Miaoli City, ² National Taiwan University Taipei, ³ Yuan Ze University Taoyuan, ⁴ National Taiwan University Taipei.	2021-FRI-P0801-P015 The Optical Characteristics of the White LEDs with Warm Correlated Color Temperature Using Red Pomegranate Extract Hong-Yu Zhang ^{1*} , Bing-Mau Chen ¹ , Shang-Ping Ying ¹ , ¹ Minghsin University of Science and Technology Hsinchu.		2021-FRI-P1001-P015 Optical Phase Array Based on LiNbO3 Optical Waveguide for Three-Dimensional Scanning Ming Yuan Chen ^{1*} , Chia Ming Liu ² , Chun Nien Liu ² , Charles Tu ^{3,2} , Wood Hi Cheng ¹ , ¹ Graduate Institute of Optoelectronic Engineering Taichung, ² Department of Electronic Engineering Taichung, ³ Department of Electrical and Computer Engineering California 92093.
		2021-FRI-P0801-P016 High-dynamic imaging system for real-time detection illuminance Kun-Han Yu ^{1*} , Li-Wei Hsiao ¹ , Chi-Shou Wu ¹ , Shih-Kang Lin ¹ , Xuan-Hao Lee ¹ , Ching-Cherng Sun ¹ , Tsung-Hsun Yang ¹ , Yeh-Wei Yu ¹ , ¹ National Central University Taoyuan.		2021-FRI-P1001-P016 Sputtering ZnO thin film to apply on CO gas sensor Yi-Zhe Zhang ^{1*} , Yen-Sheng Lin ¹ , ¹ I-Shou University Kaohsiung.

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		2021-FRI-P0801-P017 Enhancing the luminous efficiency of white phosphorescent organic light-emitting diodes using dual charge control layers Jyun-Yi Li ^{1*} , Shui-Hsiang Su ¹ , You-Hong Liu ¹ , ¹ <i>I-Shou University Kaohsiung.</i>		2021-FRI-P1001-P017 Silver coating verification for space telescope mirrors Ching-Wei Chen ^{1*} , Liang-Tang Chen ¹ , Chia-Ray Chen ¹ , Ching-Hsiang Kou ² , Zong-Ru Yu ² , Min-Wei Hung ² , ¹ <i>NSPO Hsinchu</i> , ² <i>TIRI Hsinchu.</i>
		2021-FRI-P0801-P018 The Algorithm for Optimal Power Characteristics of Driving Purple Light-Emitting Diode by Pulse-Width Modulation Henglong Yang ¹ , Tzu-Huan Hsu ¹ , Jun-Hong Chen ^{1*} , ¹ <i>National Taipei University of Technology Taipei.</i>		
		2021-FRI-P0801-P019 Uniformity measurement and analysis for sterilization UVC LED module Yang-Jun Zheng ^{1*} , Yuan-Heng Cheng ¹ , Zhi-Ting Ye ¹ , ¹ <i>National Chung Cheng University Chia-Yi.</i>		

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2021-SAT-P0602-P001 Assessment of Neurofeedback Training based on Functional Near-Infrared Spectroscopy Yao Hong Liu ^{1*} , Chia Wei Sun ¹ , Ting Ying Li ¹ , BAO-LING ZHANG ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu.</i>	2021-SAT-P0702-P001 Gate Driver with Triggering External Compensation Function for AMOLED Application Meng-Yuan Chen ¹ , Ting-Yi Yi ^{1*} , Guang-Ting Zheng ¹ , Po-Tsun Liu ¹ , ¹ <i>National Yang-Ming Chiao-Tung University Hsinchu.</i>		2021-SAT-P0902-P001 Human Pulse Diagnosis Fiber Sensors Cheng-Yu Lin ^{1*} , Wen-Fung Liu ¹ , ¹ <i>Feng-Chia University Taichung.</i>	2021-SAT-P1002-P001 Resistance Study of Ag₃PO₄-Na₂SiO₃ Hybrid Photocatalyst to the Degradation of MB under Visible Light Yong-Yu Chen ^{1*} , Jui-Yang Feng ¹ , Ming-Chang Shih ¹ , Hsin-Hui Kuo ¹ , Wen-How Lan ¹ , ¹ <i>National University of Kaohsiung Kaohsiung.</i>
2021-SAT-P0602-P002 Real-time monitoring of lower limb microcirculation in patients with ECMO by near-infrared spectroscopy Yu-Han Zheng ^{1*} , Hsiao-Huang Chang ² , Yi-Chih Chen ¹ , Chia-Wei Sun ¹ , ¹ <i>National Yang Ming Chiao Tung University Hsinchu</i> , ² <i>Taipei Veterans General Hospital Taipei.</i>	2021-SAT-P0702-P002 Deep-red phosphorescent OLEDs with a wide electroluminescent spectrum for phototherapy light source Chia-Chen Chung ^{1*} , Kuan-Wei Chen ¹ , Shan-Yu Chen ¹ , Wei-Ling Chien ¹ , Dun-Cheng Huang ¹ , Chih-Hao Chang ¹ , ¹ <i>Yuan Ze University Chung-Li.</i>		2021-SAT-P0902-P002 Analysis of two parameters sensing by using surface plasmon resonance based on Silicon core fiber Chih-Chieh Li ^{1*} , Xiao-Hui Wang ¹ , I-Jou Lin ¹ , Hiroki Kishikawa ³ , Shie n-Kuei Liaw ² , Wen-Fung Liu ¹ , Yi-Lin Yu ¹ , ¹ <i>Feng Chia University Taichung</i> , ² <i>National Taiwan University of Science and Technology Taipei</i> , ³ <i>Tokushima University Tokushima.</i>	2021-SAT-P1002-P002 TiO₂ Nanostructures for Glucose Sensor Fabricated by Hydrothermal Growth Method An-Kai Shih ^{1,2*} , Jhih-Yuan Jhu ¹ , Feng-Jui Hsu ^{1,2} , Chih-Chiang Yang ^{1,2} , Yan-Kuin Su ^{1,2} , ¹ <i>National Cheng Kung University Tainan</i> , ² <i>Kun Shan University Tainan.</i>

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2021-SAT-P0602-P003 Development of Machine Learning Model for Enhancing Gigitis Diagnosis based on Giga Tissue Functional Parameters derived from Diffuse Reflectance Spectroscopy Tzu-Chia Liu ^{1*} , Guan-Hua Lai ¹ , Chieh Yeh ¹ , Bing-Hsuan Sung ¹ , I-Wen Huang ² , Yuan-Hsun Tsai ² , Po-Chi Hu ² , Chen-Chou Tsai ³ , Sheng-Hao Tseng ¹ , <i>¹National Cheng Kung University Tainan, ²Metal Industries Research & Development Centre Kaohsiung, ³Chi Mei Medical center Tainan.</i>	2021-SAT-P0702-P003 Realizing efficient exciplex organic light-emitting diode through hole injection interface modification Yu-Chih Lin ^{1*} , <i>¹National Taiwan University of Science and Technology Taipei.</i>		2021-SAT-P0902-P003 Study on Combustion Processed Nickel Oxide and Zinc Doped Nickel Oxide Thin Films as Hole Transport Layers for Perovskite Solar Cells Ponmudi Selvan T ¹ , Chien-Chih Lai ^{1,2} , Tsung-Chun Huang ^{2*} , Chih-Hung Tsai ² , <i>¹National Dong Hwa University Hualien, ²National Dong Hwa University Hualien.</i>	2021-SAT-P1002-P003 The Effects of Post-Annealing Treatment on Photocatalytic Activity of Spray Pyrolysis Deposited TiO2 Thin Films yu chang chen ^{1*} , yao te wang ¹ , <i>¹National Taipei University of Technology Taipei.</i>
2021-SAT-P0602-P004 The Effective Method of Using Ultraviolet Light-Emitting Diode on Wound Sterilization to Avoid Cell Damage Ying-Chang Li ^{1*} , Hao-Zong Lo ² , Chia Yu Chang ^{1,3} , Liann-Be Chang ^{1,3} , Chao-Sung Lai ^{2,6} , Jwu-Ching Shu ⁹ , Wei-Tze Chen ¹⁰ , Ming-Jer Jeng ^{2,4} , Hong-Yi Chen ⁹ , Yi-Hsuan Lo ⁹ , <i>¹Chang Gung University Taoyuan City, ²Chang Gung University Taoyuan, ³Chang Gung University Taoyuan City, ⁴Chang Gung Memorial Hospital Taoyuan, ⁵Ming Chi University of Technology New Taipei City, ⁶Chang Gung University Taoyuan, ⁷Chang Gung Memorial Hospital Linkou, ⁸Ming-Chi University of Technology New Taipei City, ⁹Chang Gung University Taoyuan, ¹⁰Chang Gung University Taoyuan.</i>	2021-SAT-P0702-P004 Effects of Eye Protection Modes of Smartphone Screen on Reading Safety and Clarity En-Le Su ^{1*} , Pei-hsuan Hung ¹ , Chih-Ying Huang ¹ , Hao-Jen Chen ² , Yun-Jie Lin ² , Ming-Li Chou ¹ , Po-Ting Yeh ³ , Jwo-Huei Jou ² , <i>¹Shu-Guang Girls' Senior High School Hsin-Chu, ²National Tsing Hua University Hsin-Chu, ³National Taiwan University Hospital Taipei.</i>		2021-SAT-P0902-P004 Surface Modification Using Quantum Dots CsPbI3 to Improve the Efficiency of Perovskite Solar Cells Yu-Chen Liu ^{1*} , Hong-Ye Lai ¹ , Ching-Ho Tien ¹ , Lung-Chien Chen ¹ , <i>¹National Taipei University of Technology Taipei.</i>	2021-SAT-P1002-P004 Process improvement with multiple quality characteristics via Taguchi methods and BPN ChiAn Wang ^{1*} , KuoPing Cheng ¹ , <i>¹NYCU Tainan.</i>
2021-SAT-P0602-P005 An Interactive Diffuse Optical Imaging Platform: DOT•FD-PC Bo-Ting Li ^{1*} , Min-Chun Pan ¹ , <i>¹National Central University Taoyuan.</i>	2021-SAT-P0702-P005 Enhancing Device Performance of CsPbBr3 Perovskite Light-Emitting Diodes with Polymer-Based Additive Material Yen-Ting Chen ^{1*} , Zhao-Cheng Zhan ¹ , Ching-Ho Tien ¹ , Lung-Chien Chen ¹ , <i>¹National Taipei University of Technology Taipei.</i>		2021-SAT-P0902-P005 Synthesis and Material characteristics of Multi-dimensional Pseudohalide perovskite by Low pressure Vapor-Assisted Solution Process Chen-Fu Lin ^{1*} , Peter Chen ^{1,3} , <i>¹National Cheng Kung University Tainan, ²National Chi Nan University Nantou, ³National Cheng Kung University Tainan, ⁴National Cheng Kung University Tainan.</i>	2021-SAT-P1002-P005 Investigation of MgGa2O4 Fabricated as Switching Layer of Resistive Random Access Memory Yu-Neng Kao ¹ , Wei-Lun Huang ¹ , Sheng-Po Chang ^{2*} , Wei-Chih Lai ² , Shouu-Jinn Chang ¹ , <i>¹National Cheng Kung University Tainan City, ²National Cheng Kung University Tainan City.</i>

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2021-SAT-P0602-P006 Biosensor for Photoelectrochemical and Impedance Detection of Pleural Effusion Ray-Feng Zhang ^{1*} , Ding-kai Su ¹ , Hsiang-Chen Wang ¹ , ¹ National Chung Cheng University Chia Yi.	2021-SAT-P0702-P006 A stray light detection model for VR head-mounted display based on visual perception Hung-Chung Li ^{1*} , Meng-Che Tsai ² , Tsung-Xian Lee ³ , Yi-Yung Chen ³ , Pei-Li Sun ³ , ¹ Chang Gung University of Science and Technology Taoyuan, ² National Taiwan University of Science and Technology Taipei, ³ National Taiwan University of Science and Technology Taipei.		2021-SAT-P0902-P006 Study on Different Doping Ratio of The Cesium Chloride and Formamidinium Iodide on Perovskite Solar Cell Hai-Xing Chang ^{1*} , Wei-Chen Lin ¹ , Ching-Ho Tien ¹ , Lung-Chien Chen ¹ , ¹ National Taipei University of Technology Taipei.	2021-SAT-P1002-P006 Design a TiN-SiO₂ symmetric film stack for thermophotovoltaic application Yi-Jun Jen ¹ , Ting-Yen Lin ^{1*} , ¹ National Taipei University of Technology Taipei.
2021-SAT-P0602-P007 Identification of Arteries and Veins with Fundus Images by Hyperspectral Imaging Technique Shih-Wun Liang ^{1*} , Hsiang-Chen Wang ¹ , Wen-Shuang Fan ² , Shuan-Yu Huang ^{3,4} , Fen-Chi Lin ⁵ , ¹ National Chung Cheng University Chia Yi, ² Dalin Tzu Chi General Hospital Chia-Yi, ³ Chung Shan Medical University Tai-chung, ⁴ Chung Shan Medical University Hospital Taichung, ⁵ Kaohsiung Armed Forces General Hospital Kaohsiung.	2021-SAT-P0702-P007 Deep-Blue Fluorescence Emitters Based on Acridine Moiety for OLED application Chieh-An Chen ^{1*} , Chia-Hsun Chen ¹ , Bo-Yen Lin ² , Shao-Cheng Fang ³ , Ken-Tsung Wong ³ , Tien-Lung Chiu ² , Jiun-Haw Lee ¹ , ¹ National Taiwan University Taipei, ² Yuan Ze University Taoyuan, ³ National Taiwan University Taipei.		2021-SAT-P0902-P007 Fiber-optic interferometer sensor by femtosecond laser micromachining Chien-Hsing Chen ^{1*} , Chang-Yue Chiang ^{2,3} , Yang Lu ⁴ , Cheng-Ling Lee ⁴ , ¹ National Pingtung University of Science and Technology Pingtung, ² National Yunlin University of Science and Technology Yunlin, ³ National Yunlin University of Science and Technology Yunlin, ⁴ National United University Miaoli.	2021-SAT-P1002-P007 Research on Improving Epitaxial Growth of Gallium Oxide by Hydride Vapor Phase Epitaxy by Pulse Flow Modulation Method En-Wei Ni ^{1*} , Po-Yuan Cheng ¹ , Chu-An Lee ¹ , Mitch M.C. Chou ¹ , ¹ National Sun Yat-sen University Kaohsiung.
2021-SAT-P0602-P008 Fabrication of MoS₂ Biosensor and Analysis of Photoelectrochemical Response of Lung Cancer Cell Pei-Ching Chen ^{1*} , Wei-Yi Lai ¹ , Hsiang-Chen Wang ¹ , Vladimir E. Fedorov ^{2,3} , ¹ National Chung Cheng University Chia Yi, ² Nikolaev Institute of Inorganic Chemistry Novosibirsk, ³ Novosibirsk State University Novosibirsk.	2021-SAT-P0702-P008 Influence of organic ammonium salt on the quasi-2D perovskite sky-blue light-emitting diodes Po-An Liu ^{1*} , Wei-Chen Chiang ¹ , Ching-Ho Tien ¹ , Lung-Chien Chen ¹ , ¹ National Taipei University of Technology Taipei.		2021-SAT-P0902-P008 Localized Surface Plasmon Resonance Effect of Silica Shell/Gold Core Nanoparticles Modified TiO₂ as Mesoporous Layer for Perovskite Solar Cells Hsueh-Tao Chou ¹ , Tien-Ming Wu ² , Guan-Yu Lin ¹ , Yao-Chieh Wu ¹ , Min-Yi Jiang ^{1*} , Kuan-Hua Chiang ¹ , Yong-Sen Liao ¹ , ¹ National Yunlin University of Science and Technology Douliu, Yunlin, ² National Yunlin University of Science and Technology Douliu, Yunlin.	2021-SAT-P1002-P008 Silver Decorated Zinc Oxide Nanostructure as a Surface-Enhanced Raman Scattering (SERS) Chip for Acetamiprid Detection Sripansuang Tangsuwanjinda ^{1,2*} , Tsung-Yi Su ³ , Zhe-Zheng Su ³ , Ren-Hao Ko ³ , Zhi-Xuan Tsai ³ , Hsin-Ming Cheng ^{2,3} , ¹ Ming Chi University of Technology New Taipei City, ² Ming Chi University of Technology New Taipei City 24301, ³ Ming Chi University of Technology New Taipei City 24301.
2021-SAT-P0602-P009 Target Detection and hyperspectral imaging to identify early esophageal cancer Yu-Lin Liu ^{1*} , Hsiang-Chen Wang ¹ , Yao-Kuang Wang ² , ¹ National Chung Cheng University Chia Yi, ² Kaohsiung Medical University Hospital Kaohsiung.	2021-SAT-P0702-P009 Using Double-Stranded Ligands to Modify Perovskite Quantum Dots Applied to Light-Emitting Diodes You-Siang Wei ^{1*} , Hui-Hsuan Tsai ¹ , Ching-Ho Tien ¹ , Lung-Chien Chen ¹ , ¹ National Taipei University of Technology Taipei.		2021-SAT-P0902-P009 Utilization of Nanoporous NiOx Layer and NiOx Thin Film as the HTL in Perovskite Solar Cells for Comparison Zhang-Wei Huang ¹ , Bo-Rong Jheng ^{1*} , Chih-Yu Chang ¹ , You-Wei Wu ¹ , Sheng-Hsiung Yang ¹ , ¹ National Yang Ming Chiao Tung University Tainan.	2021-SAT-P1002-P009 Growth of Hexagonal Boron Nitride on Silicon substrate by Low-Pressure Chemical Vapor Deposition Zhong-Jun Jiang ^{1*} , Jen-Hao Wei ¹ , Sheng-Hui Chen ¹ , ¹ National Central University Taoyuan.

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Huai-Ming Kuan	2021-THU-S0402-O001		2021-FRI-P0301-P002
Huang-Tian Chan	2021-SAT-P0402-P009	KAI-WEN YU	2021-SAT-S0606-O004
Hui-Ching Chang	2021-SAT-P0402-P018	Kai-Wun Jhuang	2021-FRI-P0801-P012
Hung Chuan Hsu	2021-THU-S0402-O003	Kai-Yang Hsu	2021-SAT-P0102-P024
Hung Huang	2021-SAT-S0405-O001	Kao Hsiang-Chih	2021-FRI-P0201-P010
Hung Yu Chia	2021-FRI-P0901-P002	Ke-Cheng Huang	2021-FRI-P0401-P005
Hung-Chih Hsieh	2021-SAT-P0402-P017	Keng-Yi Tsai	2021-SAT-S0605-O003
Hung-Ching Chung	2021-FRI-S0204-O003	Ke-Yu Liu	2021-SAT-P0702-P013
Hung-Chung Li	2021-SAT-P0702-P006	Kiichi Hamamoto	2021-FRI-S0204-I001
Huy Xuan Nguyen	2021-SAT-P0402-P006	Kin Chun Kwong	2021-SAT-P0402-P008
I-CHIEH HSU	2021-SAT-S0606-O001	Kuan-Hsun Wang	2021-SAT-P0702-P016
Kuan-Yu Chen	2021-FRI-S0203-O001	Pei-Chen Huang	2021-FRI-P0901-P008
Kun-Han Yu	2021-FRI-P0801-P016	Pei-Chieh Chen	2021-FRI-P0501-P006
Kun-Hong Chen	2021-FRI-P1001-P014	Pei-Ching Chen	2021-SAT-P0602-P008
Kuntal Barman	2021-FRI-P0101-P001	Pei-Hsun Wang	2021-SAT-S0206-O001
Kun-You Huang	2021-FRI-S0303-O004	Pei-Jung Wu	2021-SAT-P0602-P018
Kuo-Ping Chen	2021-FRI-S0104-I001	Pei-Yuan Wu	2021-FRI-S0104-O001
Lai Fang-I	2021-SAT-P0102-P010	Peter Chen	2021-SAT-P0902-P011
Lee Yong Yuan	2021-FRI-P0901-P004	Pin Han	2021-SAT-S0505-O002
Liang-Wei Chen	2021-THU-S0402-O005		2021-FRI-P0501-P012
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Li-Ci Chen	2021-FRI-P0201-P005	Ping Hsuan Yang	2021-FRI-P0201-P008
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Lu-Ting Chou	2021-FRI-S0604-O001	Po-An Liu	2021-SAT-P0702-P008
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Ming Shung Tsai	2021-FRI-S0303-O001	Po-Yuan Chen	2021-FRI-P0601-P004
Ming Yuan Chen	2021-FRI-P1001-P015	Qi-Yan Zheng	2021-SAT-P0202-P005
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