

Oral Presentations



Sunday, 31 August 2025

Chair : Chia-Rong Lee

(National Cheng Kung University, Taiwan)

Floor : 5F

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| 15:20–16:00 | T-01 Ferroelectricity and chirality
<u>Ewa Górecka</u>
<i>Department of Chemistry, University of Warsaw, Poland</i> |
| 16:00–16:40 | T-02 Photonic applications of liquid crystals—Selected topics
<u>Janusz Parka</u>
<i>Institute of Applied Physics, Military University of Technology, Poland</i> |
| 16:40–17:20 | T-03 Manufacturing liquid crystal phase devices in a research laboratory
<u>Xabier Quintana</u>
<i>CEMDATIC, ETSI Telecomunicación, Universidad Politécnica de Madrid, Spain</i> |
| 17:20–18:00 | T-04 Macroscopic polarity in liquid crystals
<u>Masanori Ozaki</u>
<i>Graduate School of Engineering, University of Osaka, Japan</i> |
| 18:00–20:30 | Welcome Reception & Supper |
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Monday, 1 September 2025



Chair : Tsung-Hsien Lin

(National Sun Yat-Sen University, Taiwan)

Floor : 5F

08:45–09:00	Opening
09:00–09:30	PL-01 Liquid crystals for nonlinear optical switching and image processing <u>Iam-Choon Khoo</u> <i>Pennsylvania State University, USA</i>
09:30–09:55	K-01 Integrated light-addressable liquid crystal systems: Addressing barriers for smart, energy-efficient optical components <u>Malgosia Kaczmarek</u> ¹ , Ben Stedman ¹ , Nicolas Brouckaert ¹ , Ben Beddoes ¹ , Denitsa Bankova ¹ , Giampaolo D'Alessandro ² , Yaochen Lin ³ , Thomas Heiser ³ ¹ <i>School of Physics and Astronomy, University of Southampton, UK</i> ² <i>School of Mathematical Sciences, University of Southampton, UK</i> ³ <i>ICube Research Institute, Université de Strasbourg, France</i>
09:55–10:15	I-01 Physical properties of hydrogen-bonded liquid crystal mixture with difluoro benzoic acid isomers <u>Rumiko Yamaguchi</u> <i>Graduate School of Engineering Science, Electrical and Electronic Engineering Course, Akita University, Japan</i>
10:15–10:30	O-01 Sub-microsecond response induced by polarization inversion in blue phase liquid crystal with ferroelectricity <u>Kazuma Nakajima</u> ¹ , Hirokazu Kamifuji ¹ , Hirotsugu Kikuchi ² , Masanori Ozaki ² ¹ <i>Division of Electrical, Electronic, Informational Engineering, Graduate School of Engineering, Japan</i> ² <i>Institute for Materials Chemistry and Engineering, Kyushu University, Japan</i>
10:30–10:55	Coffee Break

Chair : Chun-Ta Wang

(National Sun Yat-Sen University, Taiwan)



Monday, 1 September 2025

Floor : 5F

10:55–11:20	K-02 e-Tint guest-host liquid crystals for light control in AR/XR applications <u>Bahman Taheri</u> , Pedro Coutino-Soto, Tamas Kosa, Ludmila Sukhomlinova, and Eui-Yeul Park <i>Alpha Micron Inc. USA</i>
11:20–11:40	I-02 Optical textures of biological liquid crystal: cellulose and gelatin aqueous solutions Yueh-Ching Huang, Li-Yen Hung, Bo-Hsien Wu, Yu-Chieh Huang, Kaizien Foo and <u>Jieh-Wen Tsung</u> <i>Department of Electrophysics, National Yang Ming Chiao Tung University, Hsinchu, Taiwan</i>
11:40–12:00	I-03 Optical field induced first-order bistable Freedericksz transitions in a nematic liquid crystal <u>Hiap L. Ong</u> ¹ and Sergey A. Shvetsov ² ¹ <i>Syndiant, Inc., USA</i> ² <i>Institute of Physics, Yerevan State University, Armenia</i>
12:00–12:15	O-02 Liquid crystal particle-like structure driven by light <u>Emma Furlanetto</u> , Delphine Coursault, and Etienne Brasselet <i>LOMA, CNRS, University of Bordeaux, France</i>
12:15–12:30	O-03 Emergence and stabilization of splay-bend phases in nematic twist-bend liquid crystals under spatial confinement: molecular simulation insights <u>Lech Longa</u> ^{1,2} , Szymon Drzazga ¹ , and Piotr Kubala ¹ ¹ <i>Institute of Theoretical Physics and Mark Kac Center for Complex Systems Research, Jagiellonian University, Poland</i> ² <i>International Institute for Sustainability with Knotted Chiral Meta Matter (WPI-SKCM²), Hiroshima University, Japan</i>
12:30–12:45	O-04 Tunable light manipulation using geometric phase metasurfaces incorporated into Tamm plasmon polariton structures <u>Rashid G. Bikbaev</u> ^{1,2} , Wei Lee ³ , and Ivan V. Timofeev ^{1,2} ¹ <i>Kirensky Institute of Physics, Federal Research Center KSC SB RAS, Russia</i> ² <i>Siberian Federal University, Russia</i> ³ <i>Institute of Imaging and Biomedical Photonics, College of Photonics, National Yang Ming Chiao Tung University, Taiwan</i>
12:45–14:15	Lunch (6F)

Chair : Chi-Yen Huang

(National Changhua University of Education,
Taiwan)



Monday, 1 September 2025

Floor : 5F

14:15–14:40	<p>K-03 Liquid crystal tuned microcavities – a universal platform for generation of Bose-Einstein condensates and microlasers</p> <p>Wiktor Piecek¹, Rafał Mazur¹, Przemysław Morawiak¹, Eva Oton¹, Przemysław Kula¹, Marcin Muszyński², Przemysław Oliwa², Piotr Kapuściński², Karolina Łempicka – Mirek², Barbara Piętka², and Jacek Szczytko²</p> <p>¹ <i>Military University of Technology, Poland</i></p> <p>² <i>Faculty of Physics, University of Warsaw, Poland</i></p>
14:40–15:00	<p>I-04 Which chiral group is crucial for realizing the axially polar ferroelectric columnar phase in liquid crystalline ureas?</p> <p>Keiki Kishikawa^{1,2}, Yoshiki Ogura³, Azumi Akiyama³, Michinari Kohri^{1,2}</p> <p>¹ <i>Applied Materials and Biotechnology, Graduate School of Engineering, Chiba University, Japan</i></p> <p>² <i>Molecular Chirality Research Center, Chiba University, Japan</i></p> <p>³ <i>Applied Materials and Biotechnology, Division of Advanced Science and Engineering, Graduate School of Science and Engineering, Chiba University, Japan</i></p>
15:00–15:20	<p>I-05 Photonic liquid crystal soft matter</p> <p>Miha Ravnik^{1,2}</p> <p>¹ <i>Faculty of Mathematics and Physics, University of Ljubljana, Slovenia</i></p> <p>² <i>Josef Stefan Institute, Slovenia</i></p>
15:20–15:35	<p>O-05 Helfrich deformation-induced waveguide effect revealed by mismatched bragg band dynamics in cholesteric liquid crystals</p> <p>Chi-Tang Huang, Pravinraj Selvaraj, Su-Hui Cheng, and Ko-Ting Cheng</p> <p><i>Department of Optics and Photonics, National Central University, Taoyuan City 320, Taiwan</i></p>
15:35–15:50	<p>O-06 Light-powered microengines based on chiral liquid crystalline polymers</p> <p>Yera Ussembayev¹, Filip Beunis¹, Albert Schenning², Kristiaan Neyts^{1,3}</p> <p>¹ <i>LCP research group, ELIS Department, Ghent University, Belgium</i></p> <p>² <i>SFD research group, Eindhoven University of Technology, The Netherlands</i></p> <p>³ <i>Hong Kong University of Science and Technology, Hong Kong</i></p>
15:50–16:05	<p>O-07 Light-induced nonlinear response and microparticle manipulation in free-surface liquid crystals</p> <p>Sergey Shvetsov, Tetiana Orlova, Aleksandr Hayrapetyan, and Mushegh Rafayelyan</p> <p><i>Institute of Physics, Yerevan State University, Armenia</i></p>
16:05–16:30	Coffee Break

Chair : Hsiu-Hui Chen

(National Taipei University of Technology,
Taiwan)



Monday, 1 September 2025

Floor : 5F

16:30–16:55	K-04 Liquid crystalline order and time-periodic dynamics guided by unstructured light Ivan I. Smalyukh ^{1,2,3,4} and Hanqing Zhao ¹ ¹ Department of Physics, University of Colorado, USA ² Materials Science and Engineering Program, University of Colorado, USA ³ International Institute for Sustainability with Knotted Chiral Meta Matter (WPI-SKCM ²), Hiroshima University, Japan ⁴ Renewable and Sustainable Energy Institute, National Renewable Energy Laboratory and University of Colorado, USA
16:55–17:15	I-06 Illumination-Induced solute uptake in liquid crystal droplets: The role of cyanobiphenyl-type excimers Kenji Katayama Department of Applied Chemistry, Chuo University, Japan
17:15–17:35	I-07 Roof-shaped nematogens with optimum molecular biaxiality—A new avenue towards the real thermotropic biaxial nematic phase? Matthias Lehmann ¹ , Nikolai Scheuring ¹ , Ann-Christin Pöppler ¹ , and João Figueirinhas ² ¹ Institute of Organic Chemistry, University of Würzburg, Germany ² Instituto Superior Técnico CeFEMA, University of Lisbon, Portugal
17:35–17:50	O-08 Photonic eigenmodes of 2D cylindrical cholesteric liquid crystal resonators Urban Mur ^{1,2} , Jaka Zaplotnik ^{1,3} , Martin Horvat ¹ , Igor Muševič ^{1,3} , and Miha Ravnik ^{1,3} ¹ Faculty of Mathematics and Physics, University of Ljubljana, Slovenia ² University of Oxford, Department of Engineering Science, United Kingdom ³ Jožef Štefan Institute, Slovenia
17:50–18:05	O-09 Dielectric, Electro-optical and Optical Properties of Diamond Nanoparticle Liquid Crystal composites for display and photonic devices Pankaj Kumar Tripathi and Vershika Singh Department of Physics, Sharda University, India
18:05–18:20	O-10 Breaking symmetry without chirality: Achiral polar mesogens with spontaneous helical superstructures Jakub Herman ¹ , Jakub Karcz ¹ , Ewa Górecka ² , Damian Pociecha ² , Przemysław Kula ¹ ¹ Faculty of Advanced Technology and Chemistry, Military University of Technology, Poland ² Faculty of Chemistry, University of Warsaw, Poland
18:20–18:35	Rapid Fire Session A Wei Lee
18:35–20:30	Poster Session A & Finger Food (4F)

Tuesday, 2 September 2025



Chair : Ko-Ting Cheng

(National Central University, Taiwan)

Floor : 5F

08:45–09:15 **PL-02 Polarization patterns of ferroelectric nematics**
Oleg D. Lavrentovich
Advanced Materials and Liquid Crystal Institute, Materials Science Graduate Program, Department of Physics, USA

09:15–09:40 **K-05 Topological soft matter : selected examples of use in optics and photonics**
Slobodan Žumer
Faculty of Mathematics and Physics, University of Ljubljana, Slovenia
Condensed Matter Physics Department, Jožef Stefan Institute, Slovenia

09:40–10:00 **I-08 Chiral optics and nonlinear optics in the helical nano filament template system**
Fumito Araoka¹, Jae-Jin Lee², and Suk-Won Choi²
¹ *RIKEN Center for Emergent Matter Science, Japan*
² *Department of Advanced Materials Engineering for Information and Electronics, Kyung Hee University, South Korea*

10:00–10:15 **O-11 Variation of terminal groups in benzoate ferroelectric nematics**
M. Cigl¹, N. Podoliak, V. Novotna, D. Repčec, and A. Bubnov
Institute of Physics of the Czech Academy of Sciences, Czech Republic

10:15-10:30 **O-12 The Practical Approach to True Random Number Generator Using Nematic Liquid Crystals**
Jae Hoon Lee¹, Jun-Yong Lee², Jeong-Seon Yu², and Jong-Hyun Kim^{1,2}
¹ *Department of Physics, Chungnam National University, Republic of Korea*
² *Institute of Quantum Systems, Chungnam National University, Republic of Korea*

10:30–10:55 **Coffee Break**

Chair : Hong-Cheu Lin

(National Yang Ming Chiao Tung University,
Taiwan)



Tuesday, 2 September 2025

Floor : 5F

	K-06 Holographic structures with liquid crystals
10:55-11:20	<u>Francesco Simoni</u> <i>Università Politecnica delle Marche, Italy</i>
	I-09 On the road to chiral photoactive liquid crystals
	Jana Poláčková ¹ , Marek Novák ¹ , Michal Šmahel ¹ , Sergei Mironov, ² Terézia Jurkovičová ² , Mario Cifelli ³ , Valentina Domenici ³ , Alexej Bubnov ² , and <u>Michal Kohout</u> ¹
11:20-11:40	¹ <i>Department of Organic Chemistry, University of Chemistry and Technology, Czech Republic</i> ² <i>Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic</i> ³ <i>Department of Chemistry and Industrial Chemistry, University of Pisa, Italy</i>
	I-10 Multifunctional photo-active liquid crystalline materials
11:40-12:00	Martin Cigl, Vera Hamplova, and <u>Alexej Bubnov</u> <i>Institute of Physics, Czech Academy of Sciences, Czech Republic</i>
	O*-13 Dynamically modulated terahertz chirality in liquid crystal metasurface lens
12:00-12:15	<u>Sixue Chen</u> and Kristiaan Neyts <i>State Key Laboratory of Displays and Opto-Electronics, The Hong Kong University of Science and Technology, Hong Kong</i>
	O*-14 Lateral electric field ferroelectric nematic liquid crystal switching in thin photopatterned cells
	<u>Yu-Tung Hsiao</u> ¹ , Kristiaan Neyts ^{1,2} , and Inge Nys ¹
12:15-12:30	¹ <i>LCP Group, Department of Electronics and Information Systems, Ghent University, Belgium</i> ² <i>State Key Laboratory of Displays and Opto-Electronics, The Hong Kong University of Science and Technology, Hong Kong</i>
	O*-15 Unconventional dual-frequency dielectric behavior in bent-core/rod-shaped liquid crystal mixtures
	Pei-Ching Wei ¹ , <u>I-Tseng Lin</u> ¹ , and Wei Lee ²
12:30-12:45	¹ <i>Institute of Photonics System, College of Photonics, National Yang Ming Chiao Tung University, Taiwan</i> ² <i>Institute of Imaging and Biomedical Photonics, National Yang Ming Chiao Tung University, Taiwan</i>
12:45-14:15	Lunch (6F)

Chair : Jieh-Wen Tsung

(National Yang Ming Chiao Tung University,
Taiwan)



Tuesday, 2 September 2025

Floor : 5F

14:15–14:40 K-07 Liquid crystals for light scattering devices and surface metrology

Aloka Sinha

Department of Physics, Indian Institute of Technology Delhi, India

14:40–15:00 I-11 Two-dimensional molecular alignment patterning by scanning light

Atsushi Shishido

Laboratory for Chemistry and Life Science, Institute of integrated Research, Institute of Science Tokyo, Japan

15:00–15:20 I-12 From structure to security: Cellulose nanocrystals as platforms for circularly polarized luminescent materials

E. Fuoco^{1,2}, R. Chagas^{3,4}, M. P. De Santo^{1,2}, R. C. Barberi^{1,2}, J. Avó⁴, M. H. Godinho³, and **S. N. Fernandes**³

¹ *Physics Department, University of Calabria, Italy*

15:00–15:20 ² *CNR-Nanotec c/o Department of Physics, University of Calabria, Italy*

³ *i3N|CENIMAT, Department of Materials Science, NOVA School of Science and Technology, NOVA University Lisbon, Portugal*

⁴ *REQUIMTE–Associated Laboratory for Green Chemistry NOVA School of Science and Technology, NOVA University Lisbon, Portugal*

15:20–15:35 O-16 Chiral ground state in ferroelectric smectic phases

Hiroya Nishikawa^{1,*}, Yasushi Okumura², Dennis Kwaria¹, Atsuko Nihonyanagi¹, and Fumito Araoka^{1, *}

15:20–15:35 ¹ *RIKEN Center for Emergent Matter Science, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan*

² *Institute for Materials Chemistry and Engineering (IMCE), Kyushu University, 6-1 Kasuga-Koen, Kasuga, Fukuoka 816–8580, Japan*

15:35–15:50 O*-17 Controlling reflection wavelengths in blue-phase liquid crystals with dual alignment structures for tunable applications

Jia-Yu Cao¹, Ting-Mao Feng¹, Duan-Yi Guo¹, Kamil Orzechowski² and Chun-Ta Wang¹

15:35–15:50 ¹ *Department of Photonics, National Sun Yat-sen University, Taiwan.*

² *Faculty of Physics, Warsaw University of Technology, Poland*

15:50–16:05 O*-18 Numerical modelling of controlled light amplification in liquid crystal micro-structures

Jaka Zaplotnik^{1,2}, Urban Mur^{1,3}, Igor Muševič^{2,1}, and Miha Ravnik^{1,2}

15:50–16:05 ¹ *Faculty of Mathematics and Physics, University of Ljubljana, Slovenia*

² *Department of Condensed Matter, Jožef Stefan Institute, Slovenia*

³ *Department of Engineering Science, University of Oxford, UK*

16:05–16:30 Coffee Break

Chair : Chih-Hsin Chen
(Tamkang University, Taiwan)



Tuesday, 2 September 2025

Floor : 5F

16:30–16:55	K-08 Maier-Saupe theory generalization for LC elastomers and ferroelectric nematics <u>Victor Reshetnyak</u> ¹ , Emily J. Cooper ² , Diana Nikolova ² , Thomas Raistrick ² , and Helen F. Gleeson ² <i>¹ Physics Faculty, Taras Shevchenko National University of Kyiv, Ukraine</i> <i>² School of Physics and Physics and Astronomy, University of Leeds, U.K.</i>
16:55–17:15	I-13 Nonlinear propagation of optical vortices in nematic liquid crystals Michał Kwaśny, Bartłomiej Klus, Urszula A. Laudyn, and <u>Mirosław A. Karpierz</u> <i>Warsaw University of Technology, Poland</i>
17:15–17:35	I-14 Asymmetric optically compensated LCDs such as IPS, FFS, ECB, VA, and FLC that generate extra phase advancement in their switching angles accompanying temporal effects <u>S. Kobayashi</u> ¹ , M. Kitamura ² , A. Ikemura ³ <i>¹ Tokyo University of Science, Japan</i> <i>² Shintech, Japan</i> <i>³ Shintech, Japan</i>
17:35–17:50	O*-19 Simulation and experimental characterization of liquid crystal- gratings for dynamic beam steering applications <u>Qihao Han</u> , Steve J. Elston, Waqas Kamal, Linpei Xue, and Stephen M. Morris <i>Department of Engineering Science, University of Oxford, UK</i>
17:50–18:05	O*-20 Photoalignment with freeform patterning for chiral liquid crystal diffractive components <u>Rohan Sharma</u> ¹ , Miglė Stebrytė ¹ , Inge Nys ¹ , Kristiaan Neyts ^{1,2} <i>¹ LCP Group, ELIS Department, Ghent University, Belgium</i> <i>² State Key Laboratory of Displays and Opto-Electronics, The Hong Kong University of Science and Technology, Hong Kong, China SAR</i>
18:05–18:20	O*-21 Augmented reality waveguide with two-dimensional exit pupil expansion using polarization volume gratings <u>Yu-Wei Cheng</u> , Chien-Chieh Huang, Nien-Jung Chiang, and Yu-Chieh Cheng <i>Department of Electro-Optical Engineering, Taipei Tech, Taiwan</i>
18:20–18:35	Rapid Fire Session B Jia-De Lin



Tuesday, 2 September 2025

Floor : 4F

18:35–20:30 Poster Session B & Finger Food

Wednesday, 3 September 2025



Chair : Yi-Hsin Lin

(National Yang Ming Chiao Tung University,
Taiwan)

Floor : 5F

PL-03 Self-organised cellulose-based liquid crystalline systems: a colourful world of opportunities

08:45–09:15 **Maria Helena Godinho**

i3N/CENIMAT, Department of Materials Science, Faculty of Science and Technology, Universidade NOVA de Lisboa, Portugal

K-09 Dynamic heterogeneity in soft matter

09:15–09:40 **Jun Yamamoto**, *Department of Physics, Graduate School of Science, Kyoto University, Japan*

I-15 Recent progress in high performance varifocal spiral diffractive lenses

09:40–10:00 **Morten Andreas Geday**¹, Javier Pereiro-Garcia¹, José A. Jarabarrojo¹, Théo Vioux^{1,2}, Xabier Quintana¹

¹ *CEMDATIC, ETSI Telecomunicación, Universidad Politécnica de Madrid, Spain*

² *ENSICAEN, France*

O-22 Photoluminescent properties of molecularly-engineered excited-state intramolecular proton transfer fluorophores in liquid crystal matrices

10:00–10:15 **Tsuneaki Sakurai**¹, Yoshiya Omori², Masaya Kobayashi², Hiroyuki Yoshida³, Masaki Shimizu¹

¹ *Faculty of Molecular Engineering, Kyoto Institute of Technology, Japan*

² *Graduate School of Science and Technology, Kyoto Institute of Technology, Japan*

³ *School of Engineering, Kwansai Gakuin University, Japan*

10:15–10:40 **Coffee Break**

Chair : Jia-De Lin

(National Dong Hwa University, Taiwan)



Wednesday, 3 September 2025

Floor : 5F

10:40-11:05 **K-10 Anisotropic nonlinear optical response of sunset yellow chromonic nematic lyotropic liquid crystal**
P. S. Terceiro, F. Cuppo, and D. Reis, and **A. M. Figueiredo Neto**
University of São Paulo, Institute of Physics, Brazil

11:05-11:25 **I-16 Liquid crystals-enhanced beam steering for terahertz photonics**
Tomasz R. Woliński¹, Oleksandra Gridyakina¹, Piotr Lesiak¹, Adrianna Nieradka¹, Agnieszka Siemion¹, Urszula Chodorow², Karol Sielezin², and Janusz Parka²
¹ *Warsaw University of Technology, Faculty of Physics, Poland*
² *Military University of Technology, Poland*

11:25-11:35 **Group Photo & Announcement**

11:35-12:15 **Lunch Box Pickup (5F)**

11:50-19:00 **Conference Tour**

Thursday, 4 September, 2025



Chair : Tsung-Hsien Lin

(National Sun Yat-Sen University, Taiwan)

Floor : 5F

08:45–09:15 **PL-04 Emerging biomedical applications of liquid crystals; the case of microscopy**
Tigran Galstian
Université Laval, Canada

09:15–09:40 **K-11 Reformulating the 4X4 matrix method from the Pancha-ratnam–Berry phase perspective**
Hiroshi Yokoyama
Kent State University, USA

09:40–10:00 **I-17 Conferring Wavelength Selectivity in Transmissive Liquid Crystal Diffractive Optical Elements**
Hiroyuki Yoshida and Taiki Yoda
Kwansei Gakuin University, Japan

10:00–10:15 **O-23 Preparation and evaluation of optical property of polymerizable liquid-crystalline mechanochromic compound**
Mizuho Kondo, Tsuyoshi Iida, and Sho Iida
Department of Applied Chemistry, Graduate School of Engineering University of Hyogo, Japan

10:15–10:30 **O-24 Bulk photovoltaic effect in p-conjugated ferroelectric liquid crystals bearing lactate moieties**
Masahiro Funahashi^{1,2,5}, Yasuko Koshihara^{1,2}, Azumi Akiyama¹, Shohei Horike^{1,2,3}, Taiyo Sugihara⁴, and Shinobu Uemura^{4,5}
¹ *Department of Chemical Science and Engineering, Graduate School of Engineering, Kobe University, Japan*
² *Research Center for Membrane and Film Technology, Kobe University, Japan*
³ *Center for Environmental Management, Kobe University, Japan*
⁴ *Program in Advanced Materials Science, Faculty of Engineering and Design, Kagawa University, Japan*
⁵ *Health and Medical Research Institute, National Institute of Advanced Industrial Science and Technology, Japan*

10:30–10:55 **Coffee Break**

Chair : Shie-Chang Jeng

(National Yang Ming Chiao Tung University,
Taiwan)



Thursday, 4 September, 2025

Floor : 5F

10:55–11:20	<p>K-12 Optical Properties and Applications of Photoaligned Liquid Crystal Kristiaan Neyts^{1,2,*}, Sunqian Liu², Migne Stebryte², Rohan Sharma², Yera Ussembayev², Ke Xu¹, Pouya Nosrathkhan¹, Le Zhou¹, Inge Nys² ¹ <i>State Key Laboratory of Displays and Opto-Electronics, The Hong Kong University of Science and Technology, Hong Kong</i> ² <i>Liquid Crystals and Photonics Group, ELIS Department, Ghent University, Ghent, Belgium</i></p>
11:20–11:40	<p>I-18 Immunoassay of disease biomarkers by lyotropic cholesteric nematic liquid crystals through real-time monitoring and analysis of binding kinetics Mon-Juan Lee¹, Hassanein Shaban^{2,3}, Jui-Teng Hsieh², Yi-Chong Wu⁴, Po-Yu Chan⁵, Ching-Ming Chien⁶, Yi-Chun Chen², and Wei Lee² ¹ <i>Department of Chemical and Materials Engineering, National Kaohsiung University of Science and Technology, Taiwan</i> ² <i>Institute of Imaging and Biomedical Photonics, College of Photonics, National Yang Ming Chiao Tung University, Taiwan</i> ³ <i>Department of Basic Science, Faculty of Engineering, The British University in Egypt, Egypt</i> ⁴ <i>Institute of Photonic System, College of Photonics, National Yang Ming Chiao Tung University, Taiwan</i> ⁵ <i>Department of Medical Science Industries, Chang Jung Christian University, Taiwan</i> ⁶ <i>Department of Applied Chemistry, National Chiayi University, Taiwan</i></p>
11:40–12:00	<p>I-19 Expanding the color gamut through wavelength-selective polarization modulation in chiral liquid crystals Hyewon Park and Dong Ki Yoon <i>Department of Chemistry, Korea Advanced Institute of Science and Technology, Republic of Korea</i></p>
12:00–12:15	<p>O-25 Photomagnetic effects of organic paramagnetic liquid crystal Yoshiaki Uchida <i>Graduate School of Engineering Science, Osaka University, Japan</i></p>
12:15–12:30	<p>O-26 Urease-immobilized PCLC-IPN biosensor array for colorimetric urea detection in sweat Bhupendra Pratap Singh, Qi-Jia Hong, and Shug-June Hwang <i>Department of Electro-Optical Engineering, National United University, Taiwan</i></p>
12:30–12:45	<p>O-27 Mechanosensitive photonic particles based on chiral-nematic liquid crystals for high-resolution strain sensing Maki Ogata, Kohsuke Matsumoto, and Osamu Tsutsumi <i>Department of Applied Chemistry, Ritsumeikan University, Japan</i></p>
12:45–14:15	Lunch (6F)

Chair : Hung-Shan Chen
(Liqxal Technology Inc.)



Thursday, 4 September, 2025

Floor : 5F

14:15–14:40	K-13 Cholesteric optical tags with complex twist Michel Mitov ¹ , Shallu Dhingra ¹ , Adriana Scarangella ² , Cécilia Boyon ² , and Vanessa Soldan ³ ¹ <i>INPHYNI, Institut de Physique de Nice, CNRS, Univ. Côte d'Azur, France</i> ² <i>CEMES, CNRS, France</i> ³ <i>Centre de Biologie Intégrative, Univ. of Toulouse, France</i>
14:40–15:00	R-01 Liquid-crystal-based sources of quantum light Matjaž Humar ^{1,2,3} ¹ <i>J. Stefan Institute, Ljubljana, Slovenia</i> ² <i>Faculty of Mathematics and Physics, University of Ljubljana, Slovenia</i> ³ <i>CENN Nanocenter, Ljubljana, Slovenia</i>
15:00–15:20	R-02 Multiscale approaches to light guiding in cholesteric topological patterns G. Poy ^{1,2} and S. Žumer ^{3,4} ¹ <i>L2C, Univ Montpellier, CNRS, France</i> ² <i>International Institute for Sustainability with Knotted Chiral Meta Matter (WPI-SKCM2), Hiroshima University, Japan</i> ³ <i>Jožef Stefan Institute, Slovenia</i> ⁴ <i>Faculty of Mathematics and Physics, University of Ljubljana, Slovenia</i>
15:20–15:40	R-03 Self-accumulation of polymers in a liquid-crystalline droplet under temperature gradient Jun Yoshioka , Hitomi Ando, and Koji Fukao <i>Department of physical sciences, Ritsumeikan University, Japan</i>
15:40–16:00	R-04 Liquid crystal-based optical sensor for selective detection Hyein Kim ¹ , Yeongseon Choi ¹ , Kwang-Suk Oh ¹ , Jun-Hyung Im ¹ , Won-Sik Kim ¹ , Asmita Shah ² , Dharmendra Pratap Singh ² , and Young-Ki Kim ¹ ¹ <i>Department of Chemical Engineering, Pohang University of Science and Technology (POSTECH), Republic of Korea</i> ² <i>Unité de Dynamique et Structure des Matériaux Moléculaires (UDSMM), Université du Littoral Côte d'Opale, France</i>
16:00–16:20	R-05 Designing polar topology in ferroelectric nematic liquid crystals for nonlinear photonics Satoshi Aya ¹ , Yu Zou ¹ , Jidan Yang ¹ , Ze-Ning Hong ² , Qi-Huo Wei ² ¹ <i>South China Advanced Institute for Soft Matter Science and Technology (AISMST), School of Emergent Soft Matter, South China University of Technology, Guangzhou, China</i> ² <i>Department of Mechanical and Energy Engineering, Southern University of Science and Technology, Shenzhen, China</i>
16:20–16:45	Coffee Break

Chair : Yu-Chieh Cheng

(National Taipei University of Technology,
Taiwan)



Thursday, 4 September, 2025

Floor : 5F

16:45–17:10	K-14 Photoaligned and polymer-protected liquid crystal spatial light modulators <u>Liang-Chy Chien</u> <i>Advanced Materials and Liquid Crystal Institute, Kent State University, USA</i>
17:10–17:30	R-06 Electrically switchable multi-stable liquid crystal configurations for optical applications <u>Inge Nys</u> ¹ , Jelto Neiryndck ¹ , Yu-Tung Hsiao ¹ , Migle Stebryte ¹ , Kristiaan Neyts ² ¹ <i>Liquid Crystals and Photonics, Ghent University, Belgium</i> ² <i>Hong Kong University of Science and Technology, Hong Kong</i>
17:30–17:50	R-07 Developing real-time stress sensing applications with mechanochromic chiral liquid crystal elastomer fibers for practical use <u>Dae Seok Kim</u> <i>Department of Polymer Engineering, Pukyong National University, Republic of Korea</i>
17:50–18:10	R-08 3D deformation of liquid crystals elastomer for small-scale structural manipulation <u>Mingchao Zhang</u> <i>Department of Materials Science and Engineering, National University of Singapore, Singapore</i>
18:10–18:30	R-09 Enabling active textiles using liquid crystalline elastomer yarn <u>Pedro E. S. Silva</u> , Maija Vaara, Marie Vihmar, Elizaveta Sovdagarova, and Jaana Vapaavuori <i>Department of Chemistry and Materials Science, School of Chemical Engineering, Aalto University, Finland</i>
18:35–21:00	Banquet (6F)

Friday, 5 September, 2025



Chair : Yi-Hsin Lin

(National Yang Ming Chiao Tung University,
Taiwan)

Floor : 5F

08:45–09:15	<p>PL-05 Photonic liquid crystal devices for fast light modulation, imaging, and energy saving <u>Ibrahim Abdulhalim</u> <i>Department of Electro-Optics and Photonics Engineering and the Ilse Katz Institute for Nanoscale Science and Technology, School of Electrical and Computer Engineering, Ben-Gurion University of the Negev, Israel</i></p>
09:15–09:40	<p>K-15 Liquid crystal thin film optical elements <u>T. J. Bunning</u>¹, M. E. McConney², K. M. Lee³, R. Dupont³, S. Wolf³, and N. Tabirian⁴ ¹ <i>Beavercreek, OH 45431, USA</i> ² <i>Air Force Research Laboratory, WPAFB, USA</i> ³ <i>Core4ce, AFRL, USA</i> ⁴ <i>Beam, Inc., USA</i></p>
09:40–10:00	<p>I-20 Interactive liquid crystal polymers for haptics and optics <u>Danqing Liu</u>^{1,2} ¹ <i>Group Human Interactive Materials (HIM), Department of Chemical Engineering & Chemistry, Eindhoven University of Technology, The Netherlands</i> ² <i>Institute for Complex Molecular Systems, The Netherlands</i></p>
10:00–10:15	<p>O-28 Advanced geometric phase planar optics in nanomotor-added heliconical superstructure with ultrabroadband tunability and chirality invertibility <u>Anup Kumar Sahoo</u>, Ya-Han Zheng, Ching-Han Yang, Yi Chen Shen, Zhi-Qun Wang, and Chia-Rong Lee <i>Department of Photonics, National Cheng Kung University, Taiwan</i></p>
10:15–10:30	<p>O-29 Effects of elastic layers on mechano-optical responses of main-chain chiral-nematic liquid-crystalline lastomers <u>Kohsuke Matsumoto</u>, Riku Kitaoka, Davit Galih Raga Siwi, and Osamu Tsutsumi <i>Department of Applied Chemistry, Ritsumeikan University, Japan</i></p>
10:30–10:55	<p>Coffee Break</p>

Chair : Wing-Kit Choi

(National Taiwan University, Taiwan)



Friday, 5 September, 2025

Floor : 5F

O-30 Synergistic effects of nanoparticles and surface anchoring on fine-tuning photonic bandgap in blue phase liquid crystals

10:55–11:10 **Kamil Orzechowski**¹, Martyna Wasiluk², Weronika Milewska¹, Yi-Te Chuang³, Chun-Ta Wang³, Aleksandra Neumann¹, Olga Strzeżysz⁴, Anna Kozanecka-Szmigiel¹, Jolanta Konieczkowska⁵, Ewa Schab-Balcerzak⁵, Wiktor Lewandowski², and Tomasz R. Woliński¹

¹ Faculty of Physics, Warsaw University of Technology, Poland

² Faculty of Chemistry, University of Warsaw, Poland

³ Department of Photonics, National Sun Yat-sen University, Taiwan

⁴ Institute of Chemistry, Military University of Technology, Poland

⁵ Centre of Polymer and Carbon Materials Polish Academy of Sciences, Poland

O-31 Recent progress in orbital angular momentum multiplexing employing liquid crystal reconfigurable devices

11:10–11:25 **Javier Pereiro-García**, José A. Jaraba-Rojo, Byron Ganazhapa, Ricardo Hervás García, Morten A. Geday, and Xabier Quintana
CEMDATIC, ETSI Telecomunicación, Universidad Politécnica de Madrid, Spain

O-32 Electrically tunable reflectarray in 100 GHz band with double layer patch element using nematic liquid crystal

11:25–11:40 **Hiroshi Moritake** and Yo Inoue
National Defense Academy, Japan

11:40–12:00 **Closing**

12:00–13:00 **Lunch Box Pickup / General Assembly of TLCS Members**
