

張家銘 Chia-Ming Chang

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Skill Summary

- Specialized in liquid crystal optics, physics and application development.
- Physical optics, Fourier optics and Surface hydrodynamics.
- 6 years of optical bench setup experience for optical/electro-optical property characterization and prototype development.
- Surface free energy analysis/dielectric property characterization/optical microscope operation.
- 5 years of teaching assistant experience on Physical Optics and Photonics.
- Software and programming: Matlab, Mathematica, AutoCAD, LabView, Techwiz LCD, Arduino, COMSOL, CodeV.
- Transferrable skills: Problem-solving, team player, team-building, organizing events, meeting deadlines, multitasking, planning, advising, training and desire to learn
- 6 peer-reviewed journal publications, 7 conference presentations (1 poster and 6 orals)
- Language skills : Mandarin, English (IELTS 6.5), German

Education

02/2014 - present	National Chiao Tung University PhD in Institute of Electric Optics Engineering
09/2013 - 02/2014	National Chiao Tung University MS in Institute of Electric Optics Engineering (Direct Pursuit PhD Degree)
09/2009 - 06/2013	National Chiao Tung University BS in Department of Photonics

Collaboration Projects

2016 - 2018	Adjustable-focus and safe smart glasses optical engine development Sponsor: Shinyoptics, Corp. and MOST, R.O.C.
2015 - 2016	Flexible liquid crystal lenses development Sponsor: Cooper Vision, Inc.
2012 - 2015	Large size liquid crystal ophthalmic lenses development Sponsor: Liqxtal Technology, Inc.

Awards

01/2017	Poster award of Annual Meeting of the Physical Society of the Republic of China
12/2014	Poster award of Taiwan Liquid Crystal Society conference
02/2014 - 09/2016	Scholarship of Institute of Electric Optics Engineering
10/2011	NCTU's Got Talent competition 5 th place

Leadership and Volunteer

2015~2018	SPIE Student and Early Career Professional Ad Hoc Committee member
2017	SPIE O+P Leadership Workshop Facilitator
2011~2017	Volunteer in Tin Ka Ping Photonics Week
2015	President of SPIE Student Chapter: National Chiao Tung University
06/2011~06/2012	Vice President of Association of students of Department of Photonics

Publication List

1. **Chia-Ming Chang**, Yi-Hsin Lin, Abhishek Kumar Srivastava, and Vladimir Grigorievich Chigrinov, "An optical system via liquid crystal photonic devices for photobiomodulation, " Scientific Reports 8(1), 4251, 2018
2. **Chia-Ming Chang**, Yi-Hsin Lin, Victor Reshetnyak, Chui Ho Park, Ramesh Manda, and Seung Hee Lee, "Origins of Kerr phase and orientational phase in polymer-dispersed liquid crystals, " Optics Express 25(17), 19807-19821, 2017
3. Hung-Shan Chen, Yu-Jen Wang, **Chia-Ming Chang**, and Yi-Hsin Lin, "A polarizer-free liquid crystal lens exploiting an embedded-multilayered structure, " IEEE Photonics Technology Letters, 27(8), 899-902, 2015
4. Hung-Shan Chen, Yi-Hsin Lin, **Chia-Ming Chang**, Yu-Jen Wang, Abhishek Kumar Srivastava, Jia Tong Sun, and Vladimir Grigorievich Chigrinov, "A polarized bifocal switch based on liquid crystals operated electrically and optically," Journal of Applied Physics 117(4), 044502, 2015
5. Hung-Shan Chen, Yi-Hsin Lin, Abhishek Kumar Srivastava, Vladimir Grigorievich Chigrinov, **Chia-Ming Chang**, and Yu-Jen Wang, "A large bistable negative lens by integrating a polarization switch with a passively anisotropic focusing element," Optics Express 22, 13138-13145, 2014
6. Hung-Shan Chen, Michael Chen, **Chia-Ming Chang**, Yu-Jen Wang, and Yi-Hsin Lin, "Simulation Study on Polarization-independent Microlens Arrays Utilizing Blue Phase Liquid Crystals with Spatially-distributed Kerr Constants," Micromachines 5(4), 859-867, 2014

International Conference Presentations

1. Yi-Hsin Lin, **Chia-Ming Chang**, and Hung-Chun Lin, "Water condensation via nematic liquid crystals," SPIE Photonics West 2018 Emerging Liquid Crystal Technologies XIII, San Francisco, USA. (Oral Presentation)
2. **Chia-Ming Chang**, Yi-Hsin Lin, Victor Reshetnyak, Chui Ho Park, Ramesh Manda, and Seung Hee Lee, "Investigation of polarization-independent optical phases in polymer-dispersed liquid crystals originating from Kerr effect and molecular orientations," SPIE Optics + Photonics 2017 Liquid Crystals XXI, San Diego, USA. (Oral Presentation)
3. **Chia-Ming Chang** and Yi-Hsin Lin, "Optical phase induced by electrically tunable surface free energy on a liquid crystal and polymer composite film," Progress In Electromagnetics Research Symposium 2017, St. Petersburg, Russia. (Oral Presentation)
4. **Chia-Ming Chang**, Jing-Yi Wang, Po-Ju Chen, Yi-Hsin Lin, Eunjeong Shin, Ramesh Manda and Seung-Hee Lee, "An investigation of optical phases resulting from Kerr effect and molecular orientations in polymer-dispersed liquid crystals," The 6th Symposium on Liquid Crystal Photonics, Tianjin, China. (Oral Presentation)
5. **Chia-Ming Chang**, Jing-Yi Wang, Po-Ju Chen, Yi-Hsin Lin, Eunjeong Shin, Ramesh Manda and Seung-Hee Lee, "Investigation of Orientational Phase and Kerr Phase in Polymer-Dispersed Liquid Crystals," 6th Workshop on Liquid Crystals for Photonics, Ljubljana, Slovenia. (Poster Presentation)
6. **Chia-Ming Chang**, Yu-Jen Wang, Hung-Shan Chen, Yi -Hsin Lin, Abhishek Kumar Srivastava, Vladimir Grigorievich Chigrinov, "An optical system adopting liquid crystals with electrical tunability of wavelength and energy density for low level light therapy," SPIE Optics + Photonics 2015 Liquid Crystals XIX, San Diego, USA. (Oral Presentation)
7. **Chia-Ming Chang**, Hung-Shan Chen, Yi-Hsin Lin, Yu-Jen Wang, Abhishek Kumar Srivastava, Vladimir Grigorievich Chigrinov. "A bistable negative lens by integrating a polarization switch of ferroelectric liquid crystals with a passively anisotropic focusing element" International Conference on Photoalignment and Photopatterning in Soft Materials 2014 LTJ-2-3, Hong Kong, China. (Oral Presentation)