

Designing and Conducting Research in Health and Human Performance

Edited Books

(1) H.W. Choi, "Handbook of Optical Microcavities", Pan Stanford Publishing, ISBN 978-9-81446-324-9 (2014).

Book Chapters

(1) H.W. Choi, "Light-emitting Diode Technologies", in "Handbook of Semiconductor Lasers and Diode-based Light Sources in Biophotonics", edited by Peter Andersen and Paul Michael Petersen, The Institution of Engineering and Technology (2018).

(2) Y.F. Cheung, Z.T. Ma and H.W. Choi, "Colour Tuneable LEDs and Pixelated micro-LED Arrays", in "Nitride semiconductor light-emitting diodes (LEDs): Materials, performance and applications (2nd Edition)", edited by J.J. Huang, H.C. Kuo and S.C. Chen, Woodhead Publishing, ISBN 978-0-08101-942-9, (2017).

(3) K.H. Li and H.W. Choi, "Photonic Crystal Light-Emitting Diodes by Nanosphere Lithography", in "Handbook of Solid-state Lighting and LEDs", edited by Zhe Chuan Feng, Taylor and Francis (2017).

(4) K.H. Li and H.W. Choi, "Nanosphere-patterned Gallium Nitride Optical Microcavities", in "Handbook of Optical Microcavities", edited by H.W. Choi, Pan Stanford Publishing, ISBN 978-9-81446-324-9, (2014).

(5) Z.T. Ma, Y.F. Cheung and H.W. Choi, "Colour Tuneable LEDs", in "Nitride semiconductor light-emitting diodes (LEDs): Materials, performance and applications (1st Edition)", edited by J.J. Huang, H.C. Kuo and S.C. Chen, Woodhead Publishing, ISBN 978-0-85709-507-7 (2014).

(6) H.W. Choi, "Nitride Microdisplay and Micro-scale Light Emitting Diodes", in "III-Nitride Devices and Nano-Engineering", edited by Zhe Chuan Feng, Imperial College Press, ISBN 978-1-84816-223-5 (2008).

Patents

(a) Granted and Pending

(1) "GaN-based Thin-film Edge-emitting Laser"

-US Provisional Patent Application 63/428,993

(2) "Light-emitting Diodes with Monolithically-integrated Photodetectors for In-situ Real-time Intensity Monitoring"

- Chinese Patent ZL 2016 8 0085809.6 (2021)

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(3) "Strain-inducing Nanostructures for Spectral Red-shifting of Light Emitting devices"

-US Patent 11,094,855 (2021)

-US Patent Application 17/321,744

-Chinese Patent Application 201880017057.9

(4) "Flexible GaN Light-emitting Diodes"

-US Patent 10,615,222 (Apr 2020)

-Chinese Patent ZL201580044661.7 "GaN..."

(5) "White nanoLED Without Requiring Color Conversion"

-US Patent 9,401,453 (Jul 2016)

(6) "Chip Stacking"

-Korean Patent 10-1622930 (May 2016) "i, mu e..."

(7) "Semiconductor Color-tunable Broadband Light Sources and Full-Color Microdisplays"

-US Patent 7,982,228 (Jul 2011)

-Chinese Patent ZL 2009 8 0139766.5 (Mar 2013) "S..."

- Korean Patent 10-1207796 (Nov 2012) "e..."

- German Patent (2021) "Farbabstimmbare Halbleiter-Breitbandlichtquellen und Vollfarbmikrodisplays".

(8) "Method of making white light LEDs and continuously wavelength tunable LEDs".

-Chinese patent ZL 2007 8 002814.1 (Nov 2010) "Micro-LEDs".

(9) "Micro-LEDs".

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Magazine Articles

(1) H.W. Choi, W.Y. Fu and H. Lyu, "Colourful Chip-scale microLED displays", 25, 18, Compound Semiconductor (July 2019).

(2) H.W. Choi, W.Y. Fu, K.H. Li and Y.F. Cheung, "Making Monolithic Integrated Systems with GaN", 24, 54, Compound Semiconductor (March 2018).

(3) H.W. Choi, "Shaping Up LED Chips", 17, 24, Compound Semiconductor (January 2011).

Journal Articles

(1) X. Ma, H. Lyu, Y.F. Cheung and H.W. Choi, "Heterogeneous integration of monolithic LED-PD with circuitry for intensity-stabilization", IEEE Transactions on Industrial Electronics.

(2) X. Ma and H.W. Choi, "Observation of ground loop signals in GaN monolithically-integrated devices", Journal of Vacuum Science and Technology B.

(3) W.Y. Fu, Y.F. Cheung and H.W. Choi, "Monolithic multi-wavelength lasing from multi-sized microdisk lasers", Optics Letters.

- (4) W.Y. Fu and H.W. Choi, "Progress and prospects of III-nitride optoelectronic devices adopting lift-off processes", *Journal of Applied Physics* 132, 060903 (2022).
- (5) H. Zi, W.Y. Fu, Y.F. Cheung, B. Damilano, E. Frayssinet, B. Alloing, J.-Y. Duboz, P. Boucaud, F. Semond and H.W. Choi, "Comparison of lasing characteristics of GaN microdisks with different structures", *Journal of Physics D: Applied Physics* (2022).
- (6) H. Zi, Y.F. Cheung, B. Damilano, E. Frayssinet, B. Alloing, J.-Y. Duboz, P. Boucaud, F. Semond and H.W. Choi, "Influence of surface roughness on the lasing characteristics of optically-pumped thin-film GaN microdisks", *Optics Letters* 47, 1521 (2022).
- (7) W.Y. Fu and H.W. Choi, "Monolithic InGaN multi-color light-emitting devices", *Physica Status Solidi (RRL) - Rapid Research Letters* 16, 2100628 (2022).
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- (11) K.H. Li, Y.F. Cheung, W.Y. Fu and H.W. Choi, "Electrically-injected whispering-gallery mode InGaIn/GaIn microdisks", *Applied Physics Letters* 119, 101106 (2021).
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- (13) H. Zi, W.Y. Fu, F. Tabataba-Vakili, H. Kim-Chauveau, E. Frayssinet, P. De Mierry, B. Damilano, J.-Y. Duboz, Ph. Boucaud, F. Semond, H.W. Choi, "Whispering-Gallery Mode InGaIn Microdisks on GaIn Substrates", *OSA Optics Express*

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(14) W.Y. Fu and H.W. Choi, "Phosphor-free InGaN Nanopillar White LEDs by Random Clustering of Mono-Sized Nanospheres", *Applied Physics Letters* 118, 201106 (2021).

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(21) K.H. Li, Y.F. Cheung, W.Y. Fu, K.K.Y. Wong and H.W. Choi, "Monolithic Integration of GaN-on-Sapphire Light-Emitting Diodes, Photodetectors, and Waveguides", *IEEE Journal of Selected Topics in Quantum Electronics* 24, 3801706 (2018).

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