Curriculum Vitae

i) Name: Xuming ZHANG

ii) Academic qualifications:

B.Eng., Mechanical Engineering, University of Science & Technology of China, 1994.

M.Eng., Optical Engineering, Shanghai Institute of Optics & Fine Mechanics, Chinese Academy of Sciences (CAS), 1997.

M.Eng., Mechanical Engineering, National University of Singapore, Singapore, 2000.

Ph.D., Electrical & Electronic Engineering, Nanyang Technological University, 2006.

iii) Academic positions:

Assistant Professor, Hong Kong Polytechnic University, 02 Jan 2009 – 31 Dec 2014.

Associate Professor, Hong Kong Polytechnic University, 01 Jan 2015 – 30 Jun 2022.

Professor, Hong Kong Polytechnic University, 01 Jul 2022 – now.

iv) Publication records:

Research interests: microfluidics; plasmonics; photocatalysis; water splitting.

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Section A - Five most representative publications in recent five years

[1] F.J. Xie, H.P. Jia, C.K.T. Wun, X.W. Huang, Y. Chai, C.C. Tsoi, Z.F. Pan, S.N. Zhu, K.N. Ren, T.W.B. Lo, Y.J. Zhu*, and X.M. Zhang*, "Dual-defect abundant graphitic carbon nitride for efficient photocatalytic nicotinamide cofactor regeneration," *ACS Sustain. Chem. Eng.* 11(30) 11002-11011, 2023. (Front inside cover)

[2] H.P. Jia, C.C. Tsoi, Abdel I. El Abed, W.X. Yu, A.Q. Jian*, S.B. Sang*, and X.M. Zhang*, "Plasmonic nanostructure arrays for enhanced solar photocatalysis," *Laser Photon. Rev.* 17(5), 2200700, 2023.

[3] Y.L. Wong, H.P. Jia, A.Q. Jian, D.Y. Lei*, Abdel I. El Abed, and X.M. Zhang*, "Enhancing plasmonic hot-carrier generation by strong coupling of multiple resonant modes," *Nanoscale* 13(5) 2792–2800, 2021. (Inside front cover)

[4] Q.M. Chen, X.L. Tong, Y.J. Zhu, C.C. Tsoi, Y. Jia, Z.H. Li and X.M. Zhang*, "Aberration-free aspherical in-plane tunable liquid lenses by regulating local curvatures," *Lab Chip* 20(5) 995 – 1001, 2020.

[5] Y.J. Zhu, Z.Y. Huang, Q.M. Chen, *Q. Wu, X.W. Huang, et al.*, X.M. Zhang*, "Continuous artificial synthesis of glucose precursor using enzyme-immobilized microfluidic reactors," *Nat. Commun.* 10(4049), 2019.

Section B - Five representative publications beyond the recent five-year period.

[1] Q.M. Chen, A.Q. Jian, Z.H. Li*, and X.M. Zhang*, "Optofluidic tunable lenses using laser-induced thermal gradient," *Lab Chip* 16(1) 104 – 111, 2016. (Inside back cover).

[2] N. Wang, X. M. Zhang*, Y. Wang, W. X. Yu and Helen L. W. Chan, "Microfluidic reactors for photocatalytic water purification," *Lab Chip* 14(6) 1074 – 1082, 2014.

[3] X. M. Zhang, Y. L. Chen, R-S Liu and D. P. Tsai*, "Plasmonic Photocatalysis," *Rep. Prog. Phys.* 76(4) 046401, 2013. *(highly-cited paper)*

[4] N. Wang, X. M. Zhang*, *et al.*, "Microfluidic photoelectrocatalytic reactors for water purification with integrated visible-light source," *Lab Chip* 12(20) 3983–3990, 2012.

[5] Y. Yang, A. Q. Liu, L. K. Chin, X. M. Zhang, D. P. Tsai, C. L. Lin, C. Lu, G. P. Wang and N. I. Zheludev, "Optofluidic waveguide as a transformation optics device for lightwave bending and manipulation," *Nat. Commun.* 3, 651, 2012.

[6] K. Zhang, A. Q. Jian, X. M. Zhang*, Y. Wang, Z. H. Li, and H-Y Tam, "Laser-induced thermal bubbles for microfluidic applications," *Lab Chip* 11(7) 1389-1395, 2011.

v) Others - Prize and awards (selected)

[1] *Best Paper Award*, IMCO2019 conference, 14 – 17 June 2019, Hong Kong.

[2] *Best Poster Paper Award*, IMCO2019 conference, 14 – 17 June 2019, Hong Kong.

[3] *Innovation Award*, IOO Foundation and IMCO International Committee, 7 Aug 2018.

vi) Patents (selected)

[1] X.M. Zhang and C.C. Tsoi, *A microfluidic chip based on dielectrophoresis/ electrowetting*, China Patents of Invention 201910479720.3, 2021.

[2] X.M. Zhang, T.H. Li, and Q.M. Chen, *An optical cross-connect device based on liquid crystal electro-optic waveguide*, China Patents of Invention CN107688250B, 3 Jul 2020.

[3] X.M. Zhang, T.H. Li, and Q.M. Chen, *An optical switch and optical cross-connect device*, China Patents of Invention CN109521529A, 26 Mar 2019.

[4] X.M. Zhang, T.H. Li, and Q.M. Chen, *An optical switch and optical cross-connect device*, China Patents 207301404, 2018.

vii) Book chapters (selected)

[1] Yanting Liu and Xuming Zhang, Chapter 10. Microfluidics-based plasmonic biosensors, in "*Microfluidic Biosensors*", Martin Mak and Aaron Ho Pui Ho (eds.), Elsevier, 2022.

[2] N. Wang and X. M. Zhang, Chapter 19. Microfluidic Photocatalysis, in "*Optical MEMS, Nanophotonics, and Their Applications*," Productivity Press, Guangya Zhou (ed.), 2017.

viii) Theses supervised (selected)

[1] Heng JIANG, Ph.D. student, 01 Sep 2021 – 31 Aug 2024.

[2] Fengjia XIE, Ph.D. student, 01 Sep 2020 – 31 Aug 2023.

[3] Chi Chung TSOI, Ph.D. student, 01 Sep 2019 – 31 Aug 2022.