Curriculum Vitae

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EDUCATIONAL BACKGROUND

Jul 2001 - Jun 2006	**Ph.D.** (Photonics and Nano-photonics) Nanyang Technological University (NTU), Singapore
Oct 1998 - Oct 2000	**M.Eng.** (Microsystems Technology) National University of Singapore (NUS), Singapore
Sep 1994 - Jun 1997	**M. Eng.** (Optical Engineering) Shanghai Institute of Optics & Fine Mechanics (SIOFM) The Chinese Academy of Science, China
Sep 1989 - Jul 1994	**B. Eng.** (Electronic and Mechanical Engineering) University of Science and Technology of China (USTC), China

WORKING EXPERIENCE

Jan 2015 - now	**Associate Professor** Department of Applied Physics, Hong Kong Polytechnic University, Hong Kong
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Sep 2007 - Dec 2008	**Research Associate (Faculty)** Department of Mechanical Engineering, University of Maryland College Park (UMCP), U.S.A.
Aug 2005 - Sept 2007	**Singapore Millennium Fellowship (SMF) Postdoctoral Fellow** School of Electrical and Electronic Engineering, Nanyang Technological University (NTU), Singapore
Oct 2000 - Jul 2005	**Research Associate** School of Electrical and Electronic Engineering, Nanyang Technological University (NTU), Singapore

BOOK CHAPTERS

1. Ning Wang and Xuming Zhang, “Chapter 19. Microfluidic Photocatalysis”, in Optical MEMS, nanophotonics, and their applications, ed. Guangya Zhou and Chengkuo Lee, Productivity Press, 14 December 2017.
2. Chapters 5-8, in *Photonic MEMS devices - Design, Fabrication and Control*, Ai-Qun Liu (ed.), Taylor-Francis, 2008.

LIST OF PUBLICATIONS

Journal papers (in reverse chronological order)

1. Yat Lam Wong, Huaping Jia, Aoqun Jian, Dangyuan Lei*, Abdel I. El Abed, and Xuming Zhang*, Enhancing plasmonic hot-carrier generation by strong coupling of multiple resonant modes, **Nanoscale**, vol. 13, no. 5, pp. 2731-3310, 7 February 2021. (***Inside front cover***)

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8. Tarik Bourouina and Xuming Zhang*, Editorial for the Special Issue on IMCO 2019, **Micromachines**, vol. 11, no. 7, pp. 684, 15 July 2020. DOI: 10.3390/mi11070684

9. Yatao Yang, Sankhyabrata Bandyopadhyay, Liyang Shao*, Jiahao Jiang, Zeng Peng, Shuaiqi Liu, Jie Hu, Perry Ping Shum, Jiandong Hu, and Xuming Zhang, Anomalous sensitivity enhancement of D-shaped fiber-based sandwiched structure optofluidic sensor, **IEEE Access**, vol. 8, pp. 105207 – 105216, 16 June 2020. DOI: 10.1109/ACCESS.2020.2999733

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Invited Talks (Selected)

1. Xuming Zhang, Artificial photosynthesis of glucose from CO2 using sunlight, Optoelectronics Global Conference (**OGC2019**), 3-6 September, 2019, Shenzhen, China (invited).
2. Xuming Zhang, Artificial photosynthesis of glucose from CO2 and sunlight using microfluidics technology, International Conference on Optical and Photonic Engineering (**icOPEN2019**), 16 - 20 July 2019, Phuket, Thailand (keynote).
3. Qingming Chen and Xuming Zhang, Optofluidic tunable lenses for in-plane light manipulation, The 9th International Multidisciplinary Conference on Optofluidics (**IMCO2019**), 14 – 17 June 2019, Hong Kong (invited).
4. Xuming Zhang, Microfluidics for photoenzymatic CO2 conversion using solar energy, The 13th Pacific Rim Conference on Lasers and Electro-Optics (**CLEO-PR 2018**), 29 Jul – 3 Aug 2018, Hong Kong (invited).
5. Xuming Zhang, Microfluidics for artificial photosynthesis of carbohydrates, 2018 Joint Annual Conference of Physical Societies in Guangdong-Hong Kong-Macao Greater Bay Area (**YGA2018**), 26-29 July 2018, Macau (Keynote).
6. Xuming Zhang, Rough gold films as broadband plasmonic absorbers of sunlight, Light Conference 2018 (**LC2018**), 16-18 July 2018, Changchun, China, pp. 165 (invited talk).
7. Xuming Zhang, Optofluidics for artificial photosynthesis, The 7th International Multidisciplinary Conference on Optofluidics (**IMCO2017**), 25 – 28 July 2017, Singapore, paper sciforum-011785 (invited talk).
8. Furui Tan, Ning Wang, Yang Liu and Xuming Zhang, Plasmonic black absorbers for photocurrent enhancement under visible light, The 38th Progress in Electromagnetics Research Symposium (**PIERS2017**), 22 – 25 May 2017, St Petersburg, Russia, 2A1.2.
9. Xuming Zhang, Yujiao Zhu, Yang Liu, Huan Lin and Xiaowen Huang, Optofluidics for artificial photosynthesis of glucose using sunlight, The 38th Progress in Electromagnetics Research Symposium (**PIERS2017**), 22 – 25 May 2017, St Petersburg, Russia, 2P5.7.
10. Xuming Zhang, Optofluidic photocatalysis driving up the conversion of solar energy into chemical energy, The 6th International Multidisciplinary Conference on Optofluidics (**Optofluidics2016**), 24 – 27 July 2016, Beijing, China.
11. X. M. Zhang, Microfluidics for artificial photosynthesis of glucose using sunlight, The 5th International Conference on Optofluidics (**Optofluidics2015**), 26 – 29 July 2015, Taipei, Taiwan.
12. X. M. Zhang, Microfluidics for photocatalysis: Planar microreactors for water purification using sunlight, International Conference on Energy, Materials and Photonics 2015 (**EMP15**), 4 – 6 July 2015, paper no. P35, Shenzhen, China.
13. X. M. Zhang, Photosynthesis of carbohydrate using microfluidic platform, The 18th Annual Conference of The Physical Society of Hong Kong (**PSHK**), 13 June 2015, Hong Kong, paper B09.
14. X. M. Zhang, Microfluidics for photocatalytic water purification: now and beyond, Lab-on-a-Chip Asia – Microfluidics and Point Of Care Diagnostics (**Lab-on-a-Chip Asia 2014**), 20 – 21 November 2014, Singapore.

15. X. M. Zhang, Optofluidics for Water Purification: Origin, Status & Perspectives, The 4th International Conference on Optofluidics (**Optofluidics 2014**), 28 – 30 August 2014, Guangzhou, China, paper I34.
16. X. M. Zhang, Optofluidics: New Paradigm for Micro/Nano Optics & Photonics, Workshop on Microfluidics@HK (Anderson Shum), 3 June 2014, the University of Hong Kong, Hong Kong.
17. X. M. Zhang, Microfluidic reactors for photocatalytic water purification, International Conference on Optoelectronic Technology and Applications (**IPTA2014**), 13 – 15 May 2014, Beijing, China.
18. X. M. Zhang, Optofluidics: New Paradigm for Micro/Nano Optics & Photonics, NSFC Micro/Nanophotonics Discipline Development Strategy Seminar (國家自然科學基金委員會"微納光子學"學科發展戰略研討會), 23 – 26 October 2013, Suzhou, China.
19. X. M. Zhang, Resonant optical tunneling effect and its applications, The 9th Asia-Pacific Conference on Near-field Optics (**APNFO2013**), 3 – 6 July 2013, Singapore.
20. X. M. Zhang, Optofluidic microreactors for photocatalytic water purification, The International Conference on Optofluidics (**Optofluidics 2012**), 13 – 15 Sept 2012, Suzhou, China, paper no. FA3.
21. A. Q. Jian, M. Yu and X. M. Zhang, Resonant optical tunneling effect for sensing applications, The 6th International Conference on Nanophotonics (**ICNP 2012**), 27 – 30 May 2012, Beijing, China, pp. 27.
22. X. M. Zhang, Microfluidics for solar-powered photocatalysis, International Conference on Materials for Advanced Technologies (**ICMAT 2011**), 26 June – 1 July 2011, Singapore.

Conferences (selected)

1. Xuming Zhang, Artificial photosynthesis of glucose from CO2 using sunlight, Optoelectronics Global Conference (**OGC2019**), 3-6 September, 2019, Shenzhen, China (*Invited*).
2. Xuming Zhang, Artificial photosynthesis of glucose from CO2 and sunlight using microfluidics technology, International Conference on Optical and Photonic Engineering (**icOPEN2019**), 16 - 20 July 2019, Phuket, Thailand (*Keynote*).
3. Yujiao Zhu, Qian Wu, Pui-Kin So, Xuming Zhang and Zhongping Yao, Microfluidic reactors for artificial synthesis of carbohydrates using Calvin cycle, The 9th International Multidisciplinary Conference on Optofluidics (**IMCO2019**), 14 – 17 June 2019, Hong Kong. (***Best Paper Award***)
4. Huaping Jia, Yat Lam Wong, Aoqun Jian*, Xuming Zhang and Wendong Zhang, Plasmonic nanohole array for enhanced photocatalytic activity with visible light, The 9th International Multidisciplinary Conference on Optofluidics (**IMCO2019**), 14 – 17 June 2019, Hong Kong. (***Best Poster Paper Award***)
5. Yat Lam Wong, Huaping Jia, Xuming Zhang, Generation of hot carrier in plasmonic film by mode coupling, The 9th International Multidisciplinary Conference on Optofluidics (**IMCO2019**), 14 – 17 June 2019, Hong Kong. (**Best Poster Paper Award**)

6. Qingming Chen and Xuming Zhang*, Dielectrophoresis-actuated tunable optofluidic lens for in-plane light manipulation, 2018 Joint Annual Conference of Physical Societies in Guangdong-Hong Kong-Macao Greater Bay Area (**YGA2018**), 26 – 29 July 2018, Macau.
7. Yangshi Jin, Chu Leung Chan and Xuming ZHANG*, Solar vapor desalination of seawater, 2018 Joint Annual Conference of Physical Societies in Guangdong-Hong Kong-Macao Greater Bay Area (**YGA2018**), 26 – 29 July 2018, Macau, paper p11.
8. Yujiao Zhu, Jinlin Long and Xuming Zhang*, Microfluidic reactors for conversion of CO2 into glucose precursor, Asia-Pacific Conference on Transducers and Micro-Nano Technology (**APCOT2018**), 24 – 27 June 2018, Hong Kong SAR, paper 91.
9. Yat Lam Wong, Pui Hong Yeung, Weixing Yub and Xuming Zhang*, Complementary plasmonic absorbers for visible-light photocatalysis, Asia-Pacific Conference on Transducers and Micro-Nano Technology (**APCOT2018**), 24 – 27 June 2018, Hong Kong SAR, paper 68.
10. New microfluidic reactors for photocatalytic water purification, Pui-Hong Yeung, Chi Chung Tsoi, Yat Lam Wong, Jinlin Long and Xuming Zhang*, Asia-Pacific Conference on Transducers and Micro-Nano Technology (**APCOT2018**), 24 – 27 June 2018, Hong Kong SAR, paper 4.
11. Xuming Zhang, Optofluidics for artificial photosynthesis, The 7th International Multidisciplinary Conference on Optofluidics (**IMCO2017**), 25 – 28 July 2017, Singapore, paper sciforum-011785 (*invited talk*).
12. Pui Hong Yeung, Chi Chung Tsoi, Ning Wang and Xuming Zhang*, Photocatalytic water purification by using nanomaterial and solar reactor, The 7th International Multidisciplinary Conference on Optofluidics (**IMCO2017**), 25 – 28 July 2017, Singapore, paper sciforum-011422.
13. Chi Chung Tsoi, Pui Hong Yeung and Xuming Zhang*, Solar reactor for photocatalytic water purification, The 7th International Multidisciplinary Conference on Optofluidics (**IMCO2017**), 25 – 28 July 2017, Singapore, paper sciforum-012821. (**Best Poster Award**)
14. Tenghao Li and Xuming Zhang, Optical buffer in waveguide lattices using discrete harmonic oscillation effect, The 38th Progress in Electromagnetics Research Symposium (**PIERS2017**), 22 – 25 May 2017, St Petersburg, Russia, 2A1.2 (invited talk).
15. Furui Tan, Ning Wang, Yang Liu and Xuming Zhang, Rough gold films as plasmonic black absorbers for visible photocatalysis, The International Symposium on Plasmonics and Nano-photonics (**iSPN2017**), 28-30 April 2017, Dalian, China, paper Oral-77.
16. Xuming Zhang, Yujiao Zhu and Xiaowen Huang, Microfluidic reactors for artificial photosynthesis of glucose, International Conference on Artificial Photosynthesis (**ICARP2017**), 2-5 March 2017, Kyoto, Japan, paper P05-01.
17. Tenghao Li, Qingming Chen and Xuming Zhang*, Tunable Optical Delay Line Using Quadratic-Coupled Waveguide Lattices, International Conference on Optical MEMS and Nanophotonics (**OMN2016**), 31 Jul – 04 Aug 2016, Singapore, paper Po2.3.
18. Yujiao Zhu*, Xiaowen Huang, and Xuming Zhang, Microfluidic reactors with immobilized enzymes for glucose generation, The 6th International Multidisciplinary Conference on Optofluidics (**Optofluidics2016**), 24 – 27 July 2016, Beijing, China.

19. Tenghao Li, Qingming Chen and Xuming Zhang*, Variable Optical Delay Line using Discrete Harmonic Oscillation in Waveguide Lattices, Conference on Lasers and Electro-Optics (**CLEO2016**), 7 – 9 Jun 2016, San Jose, CA, USA.
20. Qingming Chen and Xuming Zhang*, Optofluidic tunable lens using laser-induced thermal gradient, Conference on Lasers and Electro-Optics (**CLEO2016**), 7 – 9 Jun 2016, San Jose, CA, USA.
21. Yujiao Zhu, Xiaowen Huang, and Xuming Zhang*, Artificial photosynthesis on a chip: Enzymatic synthesis of glucose precursor with rubisco immobilized, The 19th Annual Conference of the Physical Society of Hong Kong (**PSHK2016**), 3 – 4 June 2016, Hong Kong.
22. Chi Chung Tsoi and Xuming Zhang*, Photocatalytic Ozonation for Sea Water Treatment, The 19th Annual Conference of the Physical Society of Hong Kong (**PSHK2016**), 3–4 June 2016, Hong Kong.
23. Ning Wang, Furui Tan, Chi Chung Tsoi and Xuming Zhang, Microfluidic reactors for photocatalytic conversion of solar energy into chemical energy, The 8th International Symposium on Microchemistry and Microsystems (**ISMM2016**), 30 May – 1 June 2016, Hong Kong.
24. Tenghao Li and Xuming Zhang, Waveguide lattices based optical buffer using discrete harmonic oscillation effect, The 8th International Symposium on Microchemistry and Microsystems (**ISMM2016**), 30 May –1 June 2016, Hong Kong.
25. Qingming Chen and Xuming Zhang, Optofluidic tunable lens using laser-induced thermal gradient, The 8th International Symposium on Microchemistry and Microsystems (**ISMM2016**), 30 May –1 June 2016, Hong Kong.
26. Yujiao Zhu, Xiaowen Huang, and Xuming Zhang, Artificial photosynthesis for carbohydrates generation with immobilized enzyme on gold nanoparticles patterned microfluidic reactors, The 8th International Symposium on Microchemistry and Microsystems (**ISMM2016**), 30 May –1 June 2016, Hong Kong. ***(Cheminas Best Poster Awards)***
27. Ning Wang, Furui Tan, Chi Chung Tsoiab and Xuming Zhang, Integrated optofluidic device with on-chip UV-Vis spectrophotometer for online monitoring of photocatalytic reactions, The 8th International Symposium on Microchemistry and Microsystems (**ISMM2016**), 30 May –1 June 2016, Hong Kong.
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29. Furui Tan, Ning Wang, Xuming Zhang*, Plasmonic black absorbers for solar photocurrent enhancement, Young Giants of Nanoscience 2016, May 29 – 2 June 2016, Hong Kong, paper P-020.
30. Xiaowen Huang, Qingjing Yang, Yang Liu, Yujiao Zhu, Xuming Zhang*, One-Step Fabrication of Artificail Photosystem I for Coenzyme Regeneration, International Symposium on Photochemistry (**IUPAC2016**), 3 – 8 April 2016, Osaka, Japan, paper 5BS07.

31. Yujiao Zhu, Xiaowen Huang, and Xuming Zhang*, Glucose Precursor Generation with Immobilized Enzyme on Gold Nanoparticles in Microfluidic Reactors, International Symposium on Photochemistry (**IUPAC2016**), 3 – 8 April 2016, Osaka, Japan, paper 5CS08.
32. Yang Liu and Xuming Zhang*, Wide range light response plasmonic photoelectrode for hydrogen production, The 2nd International Conference on Two-Dimensional Layered Materials (**2DLM**), 7 – 9 Jan 2016, Hong Kong, paper P21.
33. X. W. Huang, Y. J. Zhu and X. M. Zhang, Adhesive tape as microchip substrate for nanoparticle immobilization, The 5th International Conference on Optofluidics (**Optofluidics 2015**), 26 – 29 July 2015, Taipei, Taiwan.
34. F. R. Tan, N. Wang, S. Cao, Q. Q. Liang, W. X. Yu and X. M. Zhang, Plasmonic blackbody absorber for photocatalytic microreactors, The 5th International Conference on Optofluidics (**Optofluidics 2015**), 26 – 29 July 2015, Taipei, Taiwan.
35. X. W. Huang, Y. J. Zhu and X. M. Zhang, Adhesive tape as microchip substrate for nanoparticle immobilization, The 5th International Conference on Optofluidics (**Optofluidics 2015**), 26 – 29 July 2015, Taipei, Taiwan.
36. F. R. Tan, N. Wang, S. Cao, Q. Q. Liang, W. X. Yu and X. M. Zhang, Plasmonic blackbody absorber for photocatalytic microreactors, The 5th International Conference on Optofluidics (**Optofluidics 2015**), 26 – 29 July 2015, Taipei, Taiwan.
37. N. Wang, F. R. Tan, Y. Liu and X. M. Zhang, Photocatalytic water purification using microfluidic platform, The IWA Nano and Water Regional Conference (**IWA2015**), Dalian, China, 20 – 23 May 2015, paper O27.
38. N. Wang, F. R. Tan, C. C. Tsoi and X. M. Zhang, Optofluidic microreactors for visible-light photocatalysis, The Conference on Lasers and Electro-Optics (**CLEO2015**): Laser Science & Applications, 10 – 15 May 2015, San Jose, CA, USA, paper AW4K.3.
39. N. Wang, F. R. Tan and X. M. Zhang, Optofluidics microreactors for photocatalytic water purification, The 4th International Conference on Optofluidics (**Optofluidics 2014**), 28 – 30 August 2014, Guangzhou, China, paper P06 (**Best Poster Awards**).
40. Q. M. Chen and X. M. Zhang, Optofluidic tunable lens using laser-induced thermal gradient, The 4th International Conference on Optofluidics (**Optofluidics 2014**), 28 – 30 August 2014, Guangzhou, China, paper P07.
41. F. R. Tan, N. Wang, and X. M. Zhang, Visible-light photocatalysis using plasmonic coupling for optofluidic microreactors, The 4th International Conference on Optofluidics (**Optofluidics 2014**), 28 – 30 August 2014, Guangzhou, China, paper P08.
42. G. X. Bai, C-Y Tang, K. L. Jim, X. M. Zhang, K. H. Fung, Y. Chai, and Y. H. Tsang, Lensed water core optical fiber with potential to be used as graphene based devices for photonic applications, The 3rd International Conference on Optofluidics (**Optofluidics2013**), 15 – 17 Aug 2013, Hong Kong, paper P03, pp. 75 – 76.
43. N. Wang, N. Y. Chan, C. M. Luk and X. M. Zhang, Optofluidic microreactors using surface plasmon enhancement for photocatalytic water purification, The 3rd International Conference on Optofluidics (**Optofluidics2013**), 15 – 17 Aug 2013, Hong Kong, paper P19, pp. 107 – 108.

44. Q. M. Chen, A. Q. Jian, Z. H. Li, X. M. Zhang, Tunable optofluidic thermal lens, The 3rd International Conference on Optofluidics (**Optofluidics2013**), 15 – 17 Aug 2013, Hong Kong, paper P20, pp. 109 – 110.

45. M. Y. Lam, X. M. Zhang, Optofluidic tunable filters based on ionic liquid electrolyte capacitors, The 3rd International Conference on Optofluidics (**Optofluidics2013**), 15 – 17 Aug 2013, Hong Kong, paper P21, pp. 111 – 112.

46. F. R. Tan, N. Wang, X. M. Zhang, Bubble microreactors for photocatalytic water treatment, The 3rd International Conference on Optofluidics (**Optofluidics2013**), 15 – 17 Aug 2013, Hong Kong, paper P22, pp. 113 – 114.

47. Q. M. Chen, Y. Bao, Z. H. Li, X. M. Zhang, Novel high sensitive refractive index sensor based on ultra-fine optical frequency comb, The 3rd International Conference on Optofluidics (**Optofluidics2013**), 15 – 17 Aug 2013, Hong Kong, paper P23, pp. 115 – 116.

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51. X. M. Zhang, Microfluidic reactors for photocatalytic water purification, BIT's 4th Annual Global Congress of Catalysis 2013 (**GCC-2013**), 29 Jun – 1 Jul 2013, Dalian, China, pp. 102.

52. A. Q. Jian and X. M. Zhang, Resonant optical tunneling effect in metal structures, The 7th International Conference on Nanophotonics (**ICNP**) / The 3rd Conference on Advances in Optoelectronics and Micro/Nano Optics (AOM), 19 – 23 May 2013, Hong Kong, paper no. 170.

53. N. Wang, N. Y. Chan, C. H. To, F. R. Tan and X. M. Zhang, Photocatalytic microreactors for water purification: Selective control of oxidation pathways, The 8th Annual IEEE International Conference on Nano/MicroEngineered and Molecular Systems (**IEEE NEMS 2013)**, 7-10 April 2013, Suzhou, China, pp. 368 – 371.

54. N. Wang, F. R. Tan and X. M. Zhang, Photocatalytic water purification using planar microreactor, Photonics Global Conference **(PGC 2012)**, 13-16 December 2012, Singapore, paper 3-2G-5.

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Conference on Miniaturized Systems for Chemistry and Life Sciences (**μTAS 2012**), 28 Oct - 1 Nov 2012, Okinawa, Japan, paper W.9.195.

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59. N. Wang, Z. K. Liu, Helen L. W. Chan and X. M. Zhang, Microfluidic reactor for solar photocatalysis using $BiVO_4/TiO_2$ film, International Symposium on Integrated Functionalities (**ISIF2012**), 18 – 21 June 2012, Hong Kong, China, paper no. O504. *(Acknowledged projects: A-PD1S, B-Q26F, 1-ZV5K)*

60. A. Q. Jian, N. Wang, K. Zhang, Y. Wang, Y.H. Tsang and X. M. Zhang, Optofluidic manipulation using continuous-wave laser, The 1st International Conference on Optofluidics (**Optofluidics 2011**), 11 - 13 Dec 2011, Xi'an, China ***(Best Paper Award)***.

61. X. M. Zhang, N. Wang, L. Gao, M. Feng, B. Chen, Y.H. Tsang and A.Q. Liu, Narrow-linewidth external-cavity tunable lasers, The 10th International Conference on Optical Communications and Networks (**ICOCN2011**), 05 – 07 Dec 2012, Guanzhou, China.

62. A. Q. Jian, N. Wang and X. M. Zhang, Microfluidic manipulation using continuous-wave laser, International Conference on Materials for Advanced Technologies (**ICMAT 2011**), 26 June – 1 July 2011, Singapore.

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03 Apr 2019	**Xuming Zhang**, Tenghao Li, and Qingming Chen An optical switch and optical cross-connect device (一种光开关及光交叉互连器件), China Patents of Invention, Application No. 201710851522.6.
23 Feb 2018	**Xuming Zhang**, Tenghao Li, and Qingming Chen An optical switch and optical cross-connect device (一种光开关及光交叉互连器件), China Patents for Utility Models, Patent No. 201721204407.1.
20 Sep 2017	**Xuming Zhang**, Tenghao Li, and Qingming Chen An optical cross-connect device based on liquid crystal electro-optic waveguide (一种基于液晶电光波导的光学交叉互连器件), China Patents of Invention 201710855251.1.
18 Mar 2015	L. Gao, B. Chen, G. Y. Zhang, **X. M. Zhang** A type of external-cavity laser (一种外腔激光器), China patent no. CN103004039B

27 March 2013	L. Gao, B. Chen, G. Y. Zhang, **X. M. Zhang** A type of external-cavity laser (一种外腔激光器), China patent no. CN103004039A
3 Mar 2015	M. Yu, H. Bae, and **X. M. Zhang** Ultra-miniature fiber-optic pressure sensor system and method of fabrication, US Patents 8,966,988 B2
10 Apr 2012	M. Yu, N. Silas, Y. X. Liu and **X. M. Zhang** Ultra-miniature fiber-optic pressure sensor system and method of fabrication, US 61/032,469
3 Aug 2010	A. Q. Liu, X. J. Liang, **X. M. Zhang** and Y. Sun Cell analysis using laser with external cavity, U.S. Patent 7,767,444
7 Sep 2004	A. Q. Liu, **X. M. Zhang**, C. Lu and T. H. Cheng, Optical crossconnect and mirror systems, US patent No. 6,788,843

AWARDS & PRIZES (selected)

17 Jun 2019	**Best Paper Award**, Yujiao Zhu, The 9th International Multidisciplinary Conference on Optofluidics (**IMCO2019**), 14 – 17 June 2019, Hong Kong.
17 Jun 2019	**Best Poster Paper Award**, The 9th International Multidisciplinary Conference on Optofluidics (**IMCO2019**), 14 – 17 June 2019, Hong Kong.
Aug 2018	**Second prize,** The 11th National College Students' Energy-saving and Emission Reduction Social Practice and Technology Competition (第十一屆全國大學生節能減排社會實踐與科技競賽), Ministry of Education, China.
7 Aug 2018	**Innovation Award**, IOO Foundation and IMCO2018 conference
28 July 2017	**Best Poster Award**, The 7th International Multidisciplinary Conference on Optofluidics (IMCO2017), 25 – 28 July 2017, Singapore.
1 Jun 2016	**Cheminas Best Poster Awards**, The 8th International Symposium on Microchemistry and Microsystems (**ISMM2016**), 30 May – 1 Jun 2016, Hong Kong.
30 Aug 2014	**Best Poster Awards**, The 4th International Conference on Optofluidics, 28 – 30 Aug 2014, Guangzhou, China.
5 Jul 2013	**Best Poster Awards,** The 7th International Conference on Materials for Advanced Technologies (ICMAT 2013), 30 Jun – 5 Jul 2013, Singapore.
13 Dec 2011	**Best Paper Awards**, The 1st International Conference on Optofluidics, 11 – 13 Dec 2011, Xi'an, China
27 Oct 2006	**IES Prestigious Engineering Achievement Awards,** Singapore Engineering Society, Singapore
25 Feb 2006	**Chinese State Awards** for Outstanding Self-financed Students Abroad, Ministry of Education of China
27 Jan 2005	Bronze prize, **Young Inventor Awards 2005**, the Asian Wall Street Journal, Hong Kong

13 Mar 2005	**Gold Prize**, College of Engineering (CoE) Technological Week, Nanyang Technological University, Singapore
08 Mar 2003	**Gold Prize**, College of Engineering (CoE) Technological Week, Nanyang Technological University, Singapore

HIGHLIGHTS OF RESEARCH ACHIEVEMENTS (in reverse chronological order)

01 January 2020	**Reaction Chemistry & Engineering**, front cover Microfluidic immobilized enzyme reactors for continuous biocatalysis, vol. 5, no. 1, pp. 9 – 32.
18 Oct 2019	**Sky Post (晴報)** 研儀器持續合成葡萄糖 理大新發明紓糧食危機
18 Oct 2019	**Sing Tao Daily (星島日報)** 理大三項科研論文刊《自然》期刊
19 January 2017	**Advanced Optical Materials**, back cover Plasmonic black absorbers for enhanced photocurrent of visible-light photocatalysis, vol. 5, no. 1, paper 1600399.
06 December 2016	**Sing Tao Daily** PolyU graduates invented photocatalytic wastewater purifier, page F2.
07 Jan 2016	**Lab on a Chip**, inside back cover Optofluidic tunable lenses using laser-induced thermal gradient, vol. 16, no. 1, pp. 104 – 111, 07 Jan 2016.
29 Apr 2016	**Advances in Engineering** Clam-inspired nanoparticle immobilization method using adhesive tape as microchip substrate
14 Aug 2014	**International Innovation** Benjamin Skuse, “Waste not, want not,” no. 148, pp. 66–68.
24 Oct 2012	**SPIE Newsroom** Optofluidic transformation optics for innovative devices. (DOI: 10.1117/2.1201210.004509).
Oct 2012	**Nature Photonics** David Pile, “Photoelectrocatalysis - Improved efficiency,” vol. 6, no. 10, pp. 637.
May 2011	**Nature Photonics** Oliver Graydon, “Microfluidics: Laser-induced bubbles create valves and pumps,” vol. 5, no. 5, pp. 256. www.nature.com/nphoton/
Mar 2011	**Technology Review** Jan-Oliver Löfken, “Mikro-reaktor säubert wasser” (English: Microreactor clean water), pp. 25. http://www.heise.de/
2 Mar 2011	**Agency for Science Technology and Research**, Singapore Michael Segal, “Fiber-optics: Mastering bandwidth,” A*STAR news. http://www.research.a-star.edu.sg
28 Jan 2011	**Medill Reports** Chris Bentley, “Researchers purify water with trapped sunlight.” http://news.medill.northwestern.edu/

10 Jan 2011	**American Institute of Physics (AIP)** Jason Socrates Bardi, "Trapped sunlight cleans water." http://www.newswise.com/
11 Jan 2011	**The Green Optimistic** Ovidiu Sandru, "Photocatalysis-based water purifier uses sunlight to break down impurities." http://www.greenoptimistic.com/
16 Jan 2011	**Gizmag** Ben Coxworth, "Microfluidics and sunlight combined to purify water." http://www.gizmag.com/
24 Dec 2007	**Applied Physics Letters**, cover page Micromachined optical well structure for thermo-optic switching, vol. 91, no. 26, paper no. 261106.
Oct 2005	**Photonics Spectra** Daniel Burgess, "MEMS structures used to injection-lock miniature laser," pp. 16. http://www.photonics.com/
9 Feb 2004	**Frankfurter Allgemeine Zeitung** Manfred Lindinger, "Laserlicht nach Belieben Ein winziger beweglicher Spiegel beeinfluβt die Wellenlänge" (English translation: Laser light at discretion), pp. 32.
8 Jun 2002	**Fibers.org** Tami Freeman, "Optical attenuators get more from MEMS." http://fibers.org/articles/news/4/7/6/1.
Jun 2002	**Fibre Systems Europe** Tami Freeman, "Low-driving-voltage VOAs exploit MEMES", pp. 11.
Jul 2001	**WDM Solutions** Sunny Bains, "Fully integrated micromachine laser is tunable," pp. 10.

PROFESSIONAL SERVICE

1. Editor, Micromachines, Oct 2018 – now.
2. Editor, Journal of Solar Energy Research Updates, Oct 2018 – now.
3. Editor, Journal of Applied Physics Research, Jul 2017 – now.
4. Editor, Journal of Modern and Applied Physics, Aug 2017 – now.
5. Editor, Scientific Reports, 2016 – Now.
6. Conference Chair, The 9th Multidisciplinary Conference on Optofluidics, 14 – 17 Jn 2019, Hong Kong S.A.R.
7. Vice Chair, The Physical Society of Hong Kong (PSHK), 2018 – 2020.
8. Editor, Journal of Applied Physics Research, Jul 2017 – now.
9. Editor, Journal of Modern and Applied Physics, Aug 2017 – now.
10. Editor board member, Journal of Lasers, Optics & Photonics, 2015 – Now.
11. Editor board member, Advances in Water Science and Technology, 2014 – Now.
12. TPC chair, Asia-Pacific Conference of Transducers and Micro-Nano Technology (**APCOT2018**), 24 – 27 June 2018, HKUST, Hong Kong SAR.

13. Organizing co-chair, The 19th Annual Conference of the Physical Society of Hong Kong (**PSHK2016**), 3 – 4 June 2016, Hong Kong.
14. Member of Local Organizing Committee, The 8th International Symposium on Microchemistry and Microsystems (**ISMM2016**), 30 May –1 June 2016, Hong Kong.
15. **Conference chair,** X. M. Zhang and B. O. Guan (eds.), The 3rd International Conference on Optofluidics (**Optofluidics2013**), 15 – 17 Aug 2013, Hong Kong.
16. **Organizing committee,** The 4th International Conference on Optofluidics (**Optofluidics2014**), 28 – 30 Aug 2014, Guangzhou, China.
17. EXCO member & Honorary Treasurer, Physical Society of Hong Kong, Sep 2012 – Jun 2017.
18. Vice President, Physical Society of Hong Kong, Jun 2017– Now.
19. Steering Committee, the International Conferences on Optofluidics, 2013 – Now.
20. Program Committee, Symposium on Design, Test, Integration & Packaging *(DTIP) of MEMS/MOEMS*, 2013 – Now.