



CHEN Zaichun

Curriculum Vitae (December 5, 2015)

PERSONAL INFORMATION

Address Singapore University of Technology and Design, 8 Somapah Road, Singapore
Phone +65 9670 5327
Mail herman.chen.1986@gmail.com

APPOINTMENTS

Lecturer 2015-present
Singapore University of Technology and Design

- Research on metamaterial, nanoimaging and optics based gas sensor
- Teaching courses on Calculus, Linear Algebra, and Digital Signal Processing

Senior Teaching Fellow 2012-2015
Singapore University of Technology and Design

Scientist 2011-2012
Institute for Infocomm Research, Agency for Science, Technology and Research (ASTAR), Singapore

- Research and development of broadband terahertz wave plate (0.1 - 5 THz)

EDUCATION

PhD in Microelectronics 2008-2011
National University of Singapore

[“2D and 3D Terahertz Metamaterials: Design, Fabrication, and Characterization”](#)

Thesis advisors: Prof. Hong Minghui (NUS) / Prof. Chong Tow Chong (ASTAR)

Bachelor of Science in Physics 2004-2008
Xiamen University

Exchange student 2007
The University of Hong Kong

AWARDS

Chinese government award for outstanding self-financed students aboard <i>Ministry of Education of the People's Republic of China</i>	2011
NUS research scholarship <i>National University of Singapore</i>	2008-2011
Li and Fung scholarship <i>Li and Fung Group</i>	2007-2008

RESEARCH PROJECTS

- National Research Foundation (NRF), Singapore, “Development of super-resolution and high-sensitivity optical nanoscopes”, S\$4,796,428 (co-PI, January 2014 - December 2016).
- SUTD Temasek Laboratory, “All-dielectric terahertz metamaterial based gas detectors”, S\$48,000 (PI, June 2014 - May 2015).
- SUTD-MIT International Design Centre, “Design of novel channel codes for ultra-high density magnetic recording”, S\$360,000 (co-PI, September 2015 - September 2018).

JOURNAL PAPERS [[Google Scholar](#)]

The total citation is 571 as per December 5, 2015.

1. [Z.C. Chen](#) , M.H. Hong, C.S. Lim, N.R. Han, L.P. Shi, and T.C. Chong, “[Parallel laser microfabrication of large-area asymmetric split ring resonator metamaterials and its structural tuning for terahertz resonance](#)”, *Applied Physics Letters* **96**, 181101 (2010).
2. [Z.C. Chen](#), M.H. Hong, H. Dong, Y.D. Gong, C.S. Lim, L.P. Shi, and T.C. Chong, “[Parallel laser microfabrication of terahertz metamaterials and its polarization-dependent transmission property](#)”, *Applied Physics A* **101**, 33-36 (2010).
3. [Z.C. Chen](#), M.H. Hong, and T.C. Chong, “[Fabrication and characterization of broadband terahertz wire-grid polarizer](#)”, *Journal of Nonlinear Optical Physics & Materials* **19(4)**, 827-833 (2010).
4. C.S. Lim, M.H. Hong, [Z.C. Chen](#), N.R. Han, B. Luk'yanchuk, and T.C. Chong, “[Hybrid metamaterial design and fabrication for terahertz resonance response enhancement](#)”, *Optics Express* **18(12)**, 12421 (2010).
5. N.R. Han, [Z.C. Chen](#), C.S. Lim, B. Ng, and M.H. Hong, “[Broadband multi-layer terahertz metamaterials fabrication and characterization on flexible substrates](#)”, *Optics Express* **19(8)**, 6990-6998 (2011).

6. [Z.C. Chen](#), M.H. Hong, N.R. Han, Y.D. Gong, and T.C. Chong, “[Tunable resonance enhancement of multi-layer terahertz metamaterials fabricated by parallel laser micro-lens array lithography on flexible substrates](#)”, *Optical Materials Express* **1(2)**, 151-157 (2011).
7. M. Tang, [Z.C. Chen](#), Z.Q. Huang, Y.S. Choo, and M.H. Hong, “[Maskless multiple-beam laser lithography for large-area nanostructure/microstructure fabrication](#)”, *Applied Optics* **50(35)**, 6536-6542 (2011).
8. B. Ng, S. Hanham, V. Giannini, [Z.C. Chen](#), M. Tang, Y.F. Liew, N. Klein, M.H. Hong, and S.A. Maier, “[Lattice resonances in antenna arrays for liquid sensing in the terahertz regime](#)”, *Optics Express* **19(15)**, 14653-14661 (2011).
9. Zengbo Wang, Wei Guo, Lin Li, Boris Luk'yanchuk, Ashfaq Khan, Zhu Liu, [Zaichun Chen](#), and Minghui Hong, “[Optical virtual imaging at 50 nm lateral resolution with a white-light nanoscope](#)”, *Nature Communications* **2**, 218 (2011).
10. Honglei Wang, Tai-Shung Chung, Yen Wah Tong, Wolfgang Meier, [Zaichun Chen](#), and Minghui Hong, “[Preparation and characterization of pore-suspending biomimetic membranes embedded with Aquaporin Z on carboxylated polyethylene glycol polymer cushion](#)”, *Soft Matter* **7**, 7274 (2011).
11. [Chen Zaichun](#), Mohsen Rahmani, Gong Yandong, Chong Tow Chong, and Hong Minghui, “[Realization of Variable Three-Dimensional Terahertz Metamaterial Tubes for Passive Resonance Tunability](#)”, *Advanced Materials* **24(23)**, OP143-OP147 (2012).
12. Honglei Wang, Tai-Shung Chung, Yen Wah Tong, Kandiah Jeyaseelan, Arunmozhiarasi Arumugam, [Zaichun Chen](#), Minghui Hong, and Wolfgang Meier, “[Highly Permeable and Selective Pore-Spanning Biomimetic Membrane Embedded with Aquaporin Z](#)”, *Small* **8(8)**, 1185-1190 (2012).
13. [Chen Zaichun](#), Chong Tow Chong, and Hong Minghui, “[Laser nanofabrication: A route toward next-generation mass production](#)”, *Industrial Laser Solutions-for Manufacturing* **27(4)**, 18 (2012).
14. Phuoc H.H. Duonga, Tai-Shung Chunga, Kandiah Jeyaseelanb, Arunmozhiarasi Arumugamb, [Zaichun Chen](#), Jing Yang, and Minghui Hong, “[Planar biomimetic aquaporin-incorporated triblock copolymer membranes on porous alumina supports for nanofiltration](#)”, *Journal of Membrane Science* **409**, 34-43 (2012).
15. Z.Y. Pan, P. Zhang, [Z.C. Chen](#), G. Vienne, and M.H. Hong, “[Hybrid SRRs design and fabrication for broadband terahertz metamaterials](#)”, *Photonics Journal, IEEE* **4(5)**, 1267 (2012).
16. [Chen Zaichun](#), Chong Tow Chong, and Hong Minghui, “[Recent Progress and Development of the Laser Materials Processing in Singapore](#)”, *Journal of Japan Laser Processing Society* **19(3)**, 9 (2012).
17. [Zaichun Chen](#), Yandong Gong, Hui Dong, Takashi Notake, and Hiroaki Minamide, “[Terahertz achromatic quarter wave plate: Design, fabrication, and characterization](#)”, *Optics Communications* **311**, 1-5 (2013).
18. Zhu Hengyu, [Chen Zaichun*](#), Chong Tow Chong, and Hong Minghui, “[Photonic jet with ultralong working distance by hemispheric shell](#)”, *Optics Express* **23(5)**, 6626-6633 (2015).

19. Guoqiang Gu, Rui Zhou, Zaichun Chen, Huiying Xu, Guoxiong Cai, Zhiping Cai, and Minghui Hong, “[Super-long photonic nanojet generated from liquid-filled hollow microcylinder](#)”, *Optics Letters* **40**(4), 625-628 (2015).

INTERNATIONAL CONFERENCES

1. **Invited talk**, 9th Asia-Pacific Conference on Near Field Optics, Singapore, July 2013
2. **Invited talk**, 3rd Annual World Congress of Advanced Materials, Chongqing, China, June 2014
3. Chen Zaichun, Zhu Hengyu, and Hong Minghui , 36th International Conference on Infrared, Millimeter and Terahertz Waves, Houston, US, October 2011
4. M.H. Hong, C.H. Liu, F. Ma, Z.C. Chen, B. Luk'yanchuk, L.P. Shi, and T.C. Chong, Laser-based Micro- and Nanopackaging and Assembly III, San Jose, US, January 2009
5. Minghui Hong, Zaichun Chen, Chin Seong Lim, and B. Luk'yanchuk, OSA-COS Topical Meeting on Applications of Optical Metamaterials, Tianjin, China, June 2009
6. M. Hong, Z. Chen, M. Tang, L. Shi, and T.C. Chong, Conference on Lasers and Electro-Optics/Pacific Rim, Shanghai, China, August 2009
7. Yandong Gong, Zaichun Chen, and Minghui Hong, 36th International Conference on Infrared, Millimeter and Terahertz Waves, Houston, US, October 2011
8. M. Tang, X.Z. Xie, J. Yang, Z.C. Chen, L. Xu, Y.S. Choo, and M.H. Hong, Smart Nano-Micro Materials and Devices, Melbourne, Australia, December 2011
9. T. Notake, B. Zhang, H. Dong, Z. Chen, Y. Gong, and M. Minamide, International Workshop on Optical Terahertz Science and Technology, Kyoto, Japan, April 2013

PATENTS

- Honglei Wang, Tai-Shung Chung, Yen Wah Tong, Minghui Hong, Zaichun Chen, Kandiah Jeyaseelan, and Arunmozhiarasi Armugam, WO2,012,161,662 A1.

ACADEMIC ACTIVITIES

- Professional member, Functional Materials Society, 2014 - present.
- Young professional member, Optical Society of America, 2011 - present.
- Local committee, Conference on Laser Ablation, Singapore, November 2009.