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Qualifications:

- PhD NUS; 2000
- M.Sc. Xiamen Univ.; 1988;
- M.Eng. NUS; 1996
- B.Sc. Xiamen Univ.; 1985

Research Interests: My primary research interest is focused on the laser interactions with materials. Comprehensive theoretical simulations, novel experimental processes and implementation of ultrafast & high sensitivity optical diagnostics are being carried out to investigate in detail how light interacts with materials. My desire to uncover the physics behind the laser interactions with materials has led me to conduct research activities that include dynamic laser ablation to remove substrate materials for surface nano-patterning and nano-materials' synthesis as well as super-resolution nano-imaging and nano-lithography down to 20 nm via the combination of laser means with other advanced tools (AFM, NSOM and transparent particles).

My secondary research interest is on applying my research outcomes to develop new techniques to solve the "Mission Impossible" issues in the field of: Micro processing and Nanofabrication; Nano photonics: Plasmonics, THz technology and Meta-materials; Optical diagnostics for process real-time monitoring.

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Publication List:

1. Hong MH, Chen GX, Chong TC, "Synthesis of 4th Group (C, Si, and Ge) Nanoparticles by Laser Ablation in Liquids", Nanomaterials (WILEY-VCH Weinheim, 2012), 457-496.
2. Hong MH, Chen GX, "From Optical Diffraction Limit to Super-resolution Imaging and Processing (in Chinese)10,000 Selected Problems in Sciences (Science Press, Beijing, 2012),989-995.

3. Hong MH, "Laser Applications in Nanotechnology", The Oxford Handbook of Nanoscience and Technology Volume III: Applications (Oxford University Press, 2010),860-886.
4. Huang WM, Hong MH, "Laser Post-Annealing and Theory", Thin film shape memory alloys properties, characterization and applications (Cambridge University Press, 2009), 226-260.
5. Luk`yanchuk BS, Wang ZB, Zhou Y, Hong MH, Song WD, Chong TC, "Particle on surface: about possible acoustic and plasmonic effects in dry laser cleaning", Laser Cleaning II (World Scientific Publishing, Singapore, 2007), 81-116.
6. Luk`yanchuk BS, Song WD, Wang ZB, Zhou Y, Hong MH, Chong TC, Graf J, Mosbacher M, Leiderer P, "New methods for laser cleaning of nanoparticles, Laser Ablation and its Applications", Laser Ablation and its Applications (Springer-Verlag, Berlin, 2007), 37-66.
7. MH Hong, WD Song, YF Lu, B Luk'yanchuk, TC Chong, "Laser Cleaning of Organic Contamination on Microelectronic Devices and Process real-time monitoring", Laser Cleaning (World Scientific Publishing, Singapore,2002), 433-464.
8. WD Song, MH Hong, L Zhang, YF Lu, TC Chong, "Laser cleaning technology and its application", Laser and Cleaning Process (South Korea Press, South Korea, 2002), 105-114.
9. Luk'yanchuk BS, Mosbacher M, Zheng YW, Munzer HJ, Lu YF, Leiderer P, Hong MH, Chong TC, "Optical Resonance and Near-Field Effects in Dry Laser Cleaning", Laser Cleaning (World Scientific Publishing, Singapore, 2002), 103-180.
10. YF Lu, WD Song, L Zhang, B Luk'yanchuk, YW Zheng, WJ Wang, MH Hong, TC Chong, "Laser removal of particles from solid surfaces", Particles on Surfaces 7: Detection, Adhesion and Removal (International Science Publishers, The Netherlands, 2002), 261-273.
11. Hong, MH*, "Laser Applications in Nanotechnology", The Oxford Handbook of Nanoscience and Technology Volume III: Applications, (Oxford University Press, 2010), 860~886.
12. N. Bityurin*, B. S. Luk'yanchuk, M. H. Hong, and T. C. Chong, "Models for laser ablation of polymers," CHEMICAL REVIEWS, 103, 519~552 (2003).
13. Wang Zengbo*; Guo Wei; Li Lin; Luk'yanchuk, Boris; Khan, Ashfaq; Liu, Zhu; Chen, Zaichun; Hong, Minghui, "Optical virtual imaging at 50 nm lateral resolution with a white-light nanoscope", NATURE COMMUNICATIONS, 2, 218 (2011).
14. Rahmani Mohsen; Lei Dang Yuan; Giannini Vincenzo; Lukiyanchuk, Boris; Ranjbar, Mojtaba; Liew, Thomas Yun Fook; Hong, Minghui*; Maier, Stefan A.*, "Subgroup Decomposition of Plasmonic Resonances in Hybrid Oligomers: Modeling the Resonance Lineshape", NANO LETTERS, 12, 2101-2106 (2012).
15. Chen Zaichun; Rahmani Mohsen; Gong Yandong; Chong Tow Chong; Hong Minghui*, "Realization of Variable Three-Dimensional Terahertz Metamaterial Tubes for Passive Resonance Tunability", ADVANCED MATERIALS, 24, OP143-OP147 (2012).