Dr. CHEN Nanguang

- **Associate Professor,** Department of Bioengineering, Faculty of Engineering, National University of Singpapore

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Website

Google Scholar

LocationE1-08-06

Academic qualifications (Indicate institution's name and year degree awarded)

2000	Ph. D. in Biomedical Engineering, Department of Electrical Engineering, Tsinghua University.
1994	M. S. in Theoretical Physics, Department of Physics, Peking University.
1988	B. S. in Electrical Engineering, Department of Electrical Engineering, Hunan University.

Research Interest

1. Biomedical Optical Imaging including Diffuse Optical Tomography
2. Optical Coherence Tomography
3. Focal Modulation Microscopy

Research Project

1. NRF: PI, Line-scan focal modulation microscopy, 2010-2011 (S$220,300)
2. NSBIC-SSCC/A*STAR, PI, Novel insight into basic problems of stem cell biology through live imaging of neuronal stem cells using Focal Modulation Microscopy, 2008-2011 (S$1.2M)
3. SERC/A*STAR: PI, Pseudo-random single photon counting for time-resolved optical spectroscopy and imaging, 2006-2009 (S$635,140)
4. FRC/NUS: PI, Real-Time In Vitro Dual-Mode Imaging for Tissue Engineering, 2005-2008 (S$82,500)
5. OLS/NUS: PI, Optical Mammography for Breast Cancer Early Detection, 2005-2008 (S$200,000)

Book Chapter

1. Molecular Imaging, ISBN: 978-953-51-0359-2 Link
2. Focal Modulation Microscopy: Principle and Techniques by **Nanguang Chen**, Guangjun Gao and Shau Poh Chong Link

Membership in Scientific/Professional Organization

- Society of Photo-Optical Instrumentation Engineers (SPIE)
- Optical Society of America (OSA)

Selected Journal Publications

1. M. Sun and N. G. Chen, "Non-invasive measurement of blood glucose level by time-resolved transmission spectroscopy: A feasibility study," Opt. Commun.011), doi:10.1016/j.optcom.2011.11.091
2. K. Si, W. Gong, N. G. Chen, and C. J. R. Sheppard, "Two-photon focal modulation microscopy in turbid media," Appl. Phys. Lett. 99, 233702 (2011); doi: 10.1063/1.3665936
3. K. Mehta and N. G. Chen, "Plasmonic chiral contrast agents for optical coherence tomography," Optics Express 19 (16), 14903 – 14912 (2011).
4. G. Gao, S. P. Chong, C. J. R. Sheppard, N. G. Chen, "Considerations of aperture configuration in focal modulation microscopy from the standpoint of modulation depth," Journal of the Optical Society of America A 28 (4), 496-501 (2011).
5. L. Chen and N. G. Chen, "Optimization of Source and Detector Configurations Based on Cramer-Rao Lower Bound Analysis," Journal of Biomedical Optics 16 (3), 035001 (2011).
6. K. Si, W. Gong, N. G. Chen, and C. J. R. Sheppard, "Enhanced background rejection in thick tissue using focal modulation microscopy with quadrant apertures,"Optics Communications 284 (5), 1475-1480 (2011).
7. S. P. Chong, C. H. Wong, K. F. Wong, C. J. R. Sheppard, and N. G. Chen, "High-speed focal modulation microscopy using acousto-optical modulators,"Biomedical Optics Express 1 (3), 1026-1033 (2010).
8. Q. Zhang, L. Chen, and N. G. Chen, "Pseudo-random single photon counting: a high-speed implementation," Biomedical Optics Express 1 (1), 41-46 (2010).
9. S. P. Chong, C. H. Wong, C. J. R. Sheppard, and N. G. Chen, "Focal Modulation Microscopy: A Theoretical Study," Optics Letters 35 (11), 1804-1806 (2010).
10. W. Gong, K. Si, N. G. Chen, and C. J. R. Sheppard, "Focal modulation microscopy with annular apertures: A numerical study," Journal of Biophotonics 3 (7), 476-484 (2010).
11. W. Mo and N. G. Chen, "Design of Advanced Time-Domain Diffuse Optical Tomography System," IEEE Journal of Selected Topics in Quantum Electronics 16 (3), 581-587 (2010).
12. Y. Xu, J. Singh, and N. G. Chen, "Large rotation angle micromirror based on ypocycloidal electrothermal actuators," Electronics Letters 46 (10) 704-706 (2010).
13. H. T. Tian, F. Shakith, H. W. Soon, Q. Zhang, C. Zhang, Y. Ha and N. G. Chen, "Ultra Storage Efficient Time Digitizer for Pseudo Random Single Photon Counter Implemented on Field Programmable Gate Array," IEEE Transactions on Biomedical Circuits and Systems 4 (1), 1-10 (2010).
14. K. Agarwa, L. Chen, N. G. Chen, and X. Chen, "Multistage Inversion Algorithm for Biological Tissue Imaging," Journal of Biomedical Optics 15 (1), 016007 (2010).

15. Y. Xu, M. F. Wang, C. S. Premachandran, K. W. S. Chen, N. G. Chen and M. Olivo, “Platinum microheater integrated silicon optical bench assembly for endoscopic optical coherence tomography,” Journal of Micromechanics and Microengineering 20 (2010), 015008 (8pp).