



System and Method for Isotropic Quantitative Differential Phase Contrast Microscopic Imaging

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Experience:

學校名稱	學位	起訖年月
College of Optical Sciences, University of Arizona	Ph. D	2004/08~2008/09
College of Optical Sciences, University of Arizona	M.S.	2004/08~2007/06

Affiliation	Title	Period
Current Position:		
Institute of Medical Device and Imaging	Professor	2019/08-present
Former Position:		
Institute of Medical Device and Imaging	Associate Professor	2015/08~2019/07
Molecular Imaging Center	Division Chief	2012/01~2017/07
Opto-electronic Biomedical Research Center	Assistant Professor	2011/08~2015/07
Mechanical Engineering, MIT, USA	Postdoctoral Associate	2008/12~2011/07

Market Needs:

Our technique can provide the quantitative phase information of cells for biomedicine study. Furthermore, with multi-wavelength illumination, phase information for different wavelengths can be simultaneously extracted from different color channels which reduces acquisition time to half.

Our Technology:

We design a new illumination method to modulate the optical field of cell to generate the phase contrast images. The captured phase contrast image data can be utilized to reconstruct the quantitative information of optical path length through cell sample and detailed information of live cells can

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be clearly discerned.

Strength:

Past technique needs more than ten frames for quantitative phase image, our technique only requires 2-3 frames for reconstruction so as to provide better efficiency and robustness.

Competing Products:

FourierScope™ Clearbridge BioPhotonics Pte Ltd

Intellectual Properties:

Based on our algorithm with a gradient pattern in Fourier plane of illumination unit in a microscopic system, the quantitative phase information of cells can be reconstructed.

Contact (do not need to fill out):

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