

dheera venkatraman

graduate student @ MIT

email = dheera@dheera.net

address = 235 Albany St. / Cambridge MA 02139 USA

website = <http://dheera.net/>

[objective]

To improve the way we use information and to use physics to advance computing and communication. Seeking research opportunities in electrical engineering, applied physics or information-related fields. Particularly interested in **quantum devices, optics, semiconductors, nanotechnology and sensing**. United States citizen.

[education]

Massachusetts Institute of Technology, Ph.D. candidate, Electrical Engineering.
M.Eng. Electrical Engineering (MIT, 2007), S.B. Physics (MIT, 2007), S.B. Electrical Engineering (MIT, 2006).

[skills]

Languages: English, Mandarin, basic German

Computing: Perl, PHP, MySQL, Matlab, C/C++/C#, LaTeX, UNIX/Linux shell scripting, web design

Theoretical: Signals and systems, Quantum Optics, Stochastic Processing, Game Theory, Computation Structures

Experimental: Optical setups, cryogenics, microcontrollers, basic circuit design and assembly

[experience]

MIT RLE Optical and Quantum Communications Group | Cambridge, MA, USA | 2007-present
Working toward a Ph.D., exploring SLM-based classical and quantum imaging, ghost imaging and compressed sensing.

ETHZ Quantum Electronics Group | Zurich, Switzerland | Summer 2007
Explored photoluminescence excitation and polarisation of quantum dots.

Trumpf-Laser GmbH + Co. KG | Schramberg, Germany | Summer 2005
Helped develop high-power pulsed lasers over continuous-wave lasers as a technology for material processing.

A-STAR Institute of Bioengineering and Nanotechnology | Singapore | Summer 2004
Used laser doppler vibrometry to perform frequency analysis of human ear components.

[recent papers]

Classical Far-Field Phase-Sensitive Ghost Imaging. D. Venkatraman; N. D. Hardy, F. N. C. Wong; J. H. Shapiro. Optics Letters, 36 18, 3684-3686 (2011).

Experimental realization of phase-conjugate optical coherence tomography. J. Le Gouët, D. Venkatraman, F. N. C. Wong, J. Shapiro. Optics Letters, 35 7, 1001-1003 (2010).

Phase-Conjugate Optical Coherence Tomography. J. Le Gouët, D. Venkatraman, F. N. C. Wong, J. Shapiro. CLEO/IQEC Conference, paper IPDB7 (2009).

Classical low-coherence interferometry based on broadband fluorescence and amplification. J. Le Gouët, D. Venkatraman, F. N. C. Wong, J. Shapiro. Optics Express 17 20, 17874-17887 (2009).

[leadership]

Taiwan Tzu Chi Foundation | Boston TC Collegiate Association officer, Volunteered in Haiti in 2010

Ashdown House (graduate residence) | Executive Committee 2008-2010, IT Committee 2010

MIT-China Innovation and Entrepreneurship Forum | Organising Team

MIT Sustainability Summit | Organising Team

[interests]

DIY Electronics | Travelling | Piano | Hiking | Cycling | Badminton | Photography | Sustainability | Culture & History

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麻省理工學院 | 博士生

電子郵件 = dheera@dheera.net

住址 = 235 Albany St, Cambridge MA 02139 USA

個人網站 = <http://dheera.net/>

[職業目標]

探索新的資訊處理方法、提升信息利用效率、以物理學研究改進現代的計算與通訊架構。徵求電子工程、應用物理學或信息論研究的實習機會。對量子信息技術，光學，半導體，納米技術有濃厚的興趣。美國公民。

[學歷]

麻省理工學院 | 博士候選人，電子工程系

電子工程碩士學位 (MIT, 2007年)，物理學士學位 (MIT, 2007年)，電子工程學士學位 (MIT, 2006年)。

[專業能力]

語言：英文、中文、初級德文

技術能力：Perl、PHP、MySQL、Matlab、C/C++/C#、LaTeX、UNIX/Linux殼腳本、網站設計

理論能力：信號和系統、量子光學、隨機過程、博弈論、電子運算結構

實驗能力：光學設備、低溫物理學、單片機、電路設計

[研究經歷]

麻省理工學院電子研究中心(RLE)量子光纖通訊研究組 | 美國麻州劍橋 | 2007年-(現職)
目前在攻讀博士學位中，研究題目：量子傳感，壓縮傳感，單像素攝像，空間光調製器(SLM)鬼像。

瑞士聯邦理工學院量子電子學研究組 | 瑞士蘇黎世 | 2007年暑假
研究題目：量子點的自旋極化；以光致發光激發效應(Photoluminescence excitation)控制自旋。

德國通快(TRUMPF)有限公司 | 德國 | 2005年暑假
研究題目：激光切割機可用的高能脈衝激光。

A-STAR生物工程與納米科技研究院 | 新加坡 | 2004年暑假
研究題目：以激光多普勒技術探測耳朵聽骨鏈的頻率響應。

[近期發表的文章]

Classical Far-Field Phase-Sensitive Ghost Imaging. D. Venkatraman; N. D. Hardy, F. N. C. Wong; J. H. Shapiro. Optics Letters, 36 18, 3684-3686 (2011).

Experimental realization of phase-conjugate optical coherence tomography. J. Le Gouët, D. Venkatraman, F. N. C. Wong, J. Shapiro. Optics Letters, 35 7, 1001-1003 (2010).

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Classical low-coherence interferometry based on broadband fluorescence and amplification. J. Le Gouët, D. Venkatraman, F. N. C. Wong, J. Shapiro. Optics Express 17 20, 17874-17887 (2009).

[領導職務]

台灣慈濟基金會 | 波士頓聯絡處慈濟大專青年聯誼會，慈濟海地賑災第十一梯次

Ashdown House (宿舍) | 理事會員 2008至2010年，IT Committee 2010年

麻省理工學院中國創新與創業論壇 | 理事會會員

麻省理工學院環境永續高峰會(Sustainability Summit) | 理事會會員

[興趣]

DIY電子裝置 | 旅遊 | 鋼琴 | 爬山 | 腳踏車 | 羽毛球 | 攝影 | 環保節能減碳 | 文化