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George Barbastathis

Singapore Research Professor of Optics and Professor of Mechanical Engineering

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Curriculum Vitae

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Education

Diploma, Electrical and Computer Engineering, National Technical University of Athens, 1993;
MS, Electrical Engineering, California Institute of Technology, 1994;
PhD, Electrical Engineering, California Institute of Technology, 1998.

Research Interests

Classical Optics

3D optical systems
Volume holography for imaging systems (3D pupils)
3D spatial and spectral microscopy without scanning
Underwater imaging by fleets of autonomous vehicles
Holographic particle image velocimetry
Quantitative phase recovery
Space-frequency analysis of optical systems

Subwavelength Optics

Non-periodic high-index-contrast dielectrics ("metamaterials")

- Hamiltonian Optics
- Transformation Optics for
 - Imaging
 - Cloaking
- Nonlinear metamaterial optics

Nanomanufacturing

Nanostructured origami™ 3D fabrication and assembly process
Micromechanical actuators for 3D nanophotonics



People

FACULTY
EMERITUS FACULTY
ADMIN STAFF
TEACHING STAFF
LECTURERS
RESEARCH STAFF
TECHNICAL STAFF
SUPPORT STAFF
POSTDOCS
VISITORS
FACULTY CLOUD

Scientific and Professional Societies

Fellow, Optical Society of America

Member, Institute of Electrical and Electronics Engineers

Member, American Society of Mechanical Engineers.

Teaching

2.672 (Spring '99) Undergraduate projects laboratory.

2.997 (Fall '99) Optical engineering.

2.671 (Spring '00) Measurement and instrumentation.

2.717 (Fall '00) Optical Engineering.

2.003 (Spring '01) Modeling dynamics and control I.

2.71/2.710 (Fall '01) Optics

2.717 (Spring '02) Optical Engineering

2.71/2.710 (Fall '02) Optics

on leave, Spring '03

2.71/2.710 (Fall '03) Optics

2.391J/6.781J (Spring '04) Submicrometer and nanometer technology

2.71/2.710 (Fall '04) Optics

2.717 (Spring '05) Optical Engineering

2.391J/6.781J (Spring '05) Submicrometer and nanometer technology

2.71/2.710 (Fall '05) Optics

2.007 (Spring '06) Design and Manufacturing I

on leave, Fall '06 and Spring '07

2.391/6.781J (Spring '06) Submicrometer and nanometer technology

2.004 (Fall '07) System Dynamics and Control

2.71/2.710 (Spring '07) Optics

on leave, Fall '08