

Andrew Yick

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<http://polymerphotonics.usc.edu/andrew>

Career Objective

A full time research position for a photonics professional with 8+ years combined academic and industrial experience

Keywords: PHOTONICS. Electro-Optic Polymers, Optical Modulators and Resonators, Microwave Photonics, Analog Optical Systems, Device Theory and Simulation, Laser Rapid Prototyping, Optical Communication Links, Microfabrication, Electromagnetics, Antenna Theory, Signal Processing, Statistics, Control Systems, Time Study, Science Education, Team Management and Leadership

Professional Experience

2003-
Present **UNIVERSITY OF SOUTHERN CALIFORNIA**
Research Assistant, Polymer Photonics Lab
Proposed and realized a novel fabrication strategy to increase electro-optic poling efficiency in polymers from 50% to >90%. Theoretically analyzed and developed MATLAB numerical solvers to completely optimize designs of electro-optic ring resonators.

2001-
2003 **UNIVERSITY OF TORONTO**
Research Assistant, UV Laser Microfabrication Lab
In conjunction with biology researchers, designed and successfully fabricated glass lab-on-a-chip devices via rapid UV laser prototyping.

2000 **QUEEN'S UNIVERSITY, KINGSTON**
Research Assistant, Optical Communications Lab
Independently evaluated software models for optical component behavior in communication systems and verified simulations with in-lab experimentation.

1999 **JDS UNIPHASE, OTTAWA**
Process Engineer, DWDM Division
Improved manufacturing yield and removed production bottlenecks via work study and by establishing process guidelines.

1997-
1998 **NEWRIDGE NETWORKS (ALCATEL), KANATA**
CAE Engineer, TDM Product Support (part time)
Created and modified schematic drawings and oversaw the migration of older schematics to the new Mentor 8 CAE platform.

1996-
1997 **LUMONICS (GSI GROUP INC.), KANATA, CANADA**
Process Technician, Laser Applications Lab (part-time)
Independently designed experiments leading to efficient processing of customer samples using industrial laser systems

Education

2003-
Present **UNIVERSITY OF SOUTHERN CALIFORNIA**
PhD. in Electrical Engineering (expected May 2008)
Certificate in Engineering Technology Commercialization (in progress)
Thesis: "All-Dielectric Electro-Optic Polymer Modulators and Sensors." *3.93GPA*. Awarded two fellowships based on academic and research merit. Results contributed to both journal and book chapter publications. 13 graduate courses in optics, electromagnetics, quantum electronics and entrepreneurship.

2001-
2003 **UNIVERSITY OF TORONTO**
MaSc. Eng in Electrical and Computer Engineering
Thesis: "UV Laser Microfabrication of Lab-on-a-Chip Devices." *4.0GPA. Thesis: A+*. Two first-authored conference papers.

1997-
2001 **QUEEN'S UNIVERSITY, KINGSTON**
BaSc. Eng in Applied Mathematics and Engineering
Concentration in Control and Communication Systems. *88%, University Medal: highest graduating average in engineering discipline*. 8 awards and scholarships for academic merit. 19 courses in the full range of Applied Mathematics.

Technical Skills

Software: MATLAB, Alcatel OlympIOs (Selene, BPM), Maple, Labview, AutoCAD, C, Optsim, VPI Photonic Design Suite, Microcal Origin

Microfabrication: Photolithography, Wet and Dry Etching, Oxide and Metal Deposition, Electroplating, High Voltage Poling, Laser Microfabrication

Metrology: Optical Microscopy, SEM, AFM, Profilometry, Reflectometry

Laboratory : full range of optical and RF test equipment

Other Activities

- USC Kung Fu Club, completed 15 forms (2004-present)
- USC Concert Orchestra, 7 public concerts (2004-2007)
- USC Chinese American Student Association Executive Board, Community Service Chair (2005-2006)
- Chinese American Culture Show, directed 70 performers and production crew to 2.5 hour show (2006)
- Volunteer Work:
 - USC JEP Mission Science (2004)
 - Huntington Memorial Hospital (2004)