



# UNIVERSITY OF MARYLAND

OFFICE OF RESEARCH ADMINISTRATION AND ADVANCEMENT

Lee Building  
College Park, Maryland 20742-5141  
301.405.6269 TEL 301.314.9569 FAX  
[www.inform.umd.edu/ORAA](http://www.inform.umd.edu/ORAA)

May 4, 2004

Suzanne Fox  
Executive Director  
Maryland State Ethics Commission  
9 State Circle  
Suite 200  
Annapolis, MD 21401

Subject: Public/Private Partnership Act

Dear Ms. Fox,

A copy of the exemption granted by the University of Maryland, College Park, for Conflict of Interest Disclosure No. COI 0421 is enclosed for your records. If there are any questions about this disclosure, I can be reached by phone at 301-405-6278, or via e-mail at [gturnbull@umresearch.umd.edu](mailto:gturnbull@umresearch.umd.edu).

Sincerely,

A handwritten signature in cursive script that reads "George Turnbull".

George Turnbull  
Compliance Administrator

Enclosure

cc Erica Kropp  
Ann Wylie  
Kathleen Ryan



# UNIVERSITY OF MARYLAND

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## MEMORANDUM

**To:** Dr. C. D. Mote, Jr.  
President

**From:** Ms. Erica Kropp  
Director

*Erica Kropp*

**Through:** Dr. J. Dennis O'Connor  
Vice President for Research and Dean of Graduate School

*J. Dennis O'Connor*

**Subject:** Conflict of Interest Disclosure # COI 0421

**Date:** April 28, 2004

The subject disclosure was received and reviewed by the President's Advisory Committee on Conflict of Interest (COI Committee), in accordance with the provisions of III-1.11(A) University of Maryland Interim Procedures on Conflicts of Interest in Research or Development. The recommendation of the committee is forwarded herewith for your review and determination. The committee members are Dr. David F. Barbe, Dr. Suzanne M. Bianchi, Mr. Brian P. Darmody, Dr. Judith A. Lichtenberg, Dr. J. Dennis O'Connor (Acting Chair), Mr. James A. Poulos III, Dr. Donald Spero, Mr. George Turnbull, and me.

### Conflict

Dr. Kathryn L. Evarts has joint appointments with the University of Maryland (UM) and the University of Delaware (UD). Dr. Evarts is the Co-PI on a grant at UM, and will be the PI for UD for a subgrant to be issued under the UM grant.

### Disclosure Summary

The disclosure reports that Dr. Evarts, a faculty member in the Department of Natural Resource Sciences & Landscape Architecture, is the Co-PI on a grant to UM from the University of Vermont. That grant specifies that a subgrant will be issued by UM to the University of Delaware (UD), and that Dr. Evarts will be the UD PI for the work to be done there. Dr. Caragh Fitzgerald, also a UM Faculty member, will be the UM PI and manage the subgrant, and Dr. Evarts will not participate in the subgrant on behalf of UM.

Dr. C. D. Mote, Jr.  
Dr. Dennis O'Connor  
Conflict of Interest Disclosure # COI  
March 4, 2004  
Page 2 of 2

Conditions for Approval

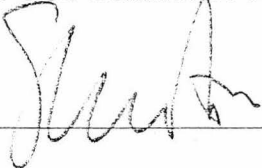
Dr. Evarts will not participate on behalf of UM in the subgrant to UD. Dr. Fitzgerald will handle all aspects of the subgrant to UD on behalf of UM.

Recommendation

The COI Committee has concluded that the disclosed involvement does not constitute a harmful interest, and recommends that this project be approved for exemption from the provisions of the State of Maryland Public Ethics Law.

If you concur, please sign below where indicated. Any exemptions granted will be reported to the Maryland State Ethics Commission and the Chancellor for the UMS, as required. If you have any questions, I can be reached at 301-405-6266, and [ekropp@umresearch.umd.edu](mailto:ekropp@umresearch.umd.edu).

Approve of COI Committee recommendation: Yes  No

\_\_\_\_\_  
Signature 

\_\_\_\_\_  
Date 5/3/4



UNIVERSITY SYSTEM OF MARYLAND

OFFICE OF THE CHANCELLOR

August 9, 2004

The Honorable Thomas V. Mike Miller, Jr.  
Co-Chair, Legislative Policy Committee  
State House  
Annapolis, MD 21401-1991

1807  
University of Maryland,  
Baltimore

1856  
University of Maryland,  
College Park

1865  
Bowie State University

1866  
Towson University

1886  
University of Maryland  
Eastern Shore

1898  
Frostburg State University

1900  
Coppin State College

1925  
Salisbury University

1925  
University of Baltimore

1925  
University of Maryland  
Center for Environmental  
Science

1947  
University of Maryland  
University College

1966  
University of Maryland,  
Baltimore County

1985  
University of Maryland  
Biotechnology Institute

The Honorable Michael E. Busch  
Co-Chair, Legislative Policy Committee  
State House  
Annapolis, MD 21401-1991

Dear Chairmen:

In accordance with State Government Article Sections 15-523c and 15-610(g) and (h) concerning the quarterly and annual reporting requirements, I am providing you our quarterly report. During the quarter ending June 30, 2004, the University of Maryland, College Park and University of Maryland, Baltimore County granted exemptions as indicated by the enclosed supporting documentation.

Also, during the calendar quarter ending June 30, 2004, the Board of Regents, in response to concerns communicated by the Ethics Commission considered and confirmed the exemption granted for President Gerald A. Heeger in connection with Edufund International, Inc.

These exceptions are in accord with the Board of Regents' Policy on Conflicts of Interest in Research or Development and procedures developed in accordance with the provisions of the Public/Private Partnership Act.

Sincerely yours,

William E. Kirwan  
Chancellor

Enclosures

cc: The Honorable Robert L. Ehrlich, Jr.  
Members of the Legislative Policy Committee  
Members of the State Ethics Commission  
Office of the Attorney General

# UMBC

AN HONORS UNIVERSITY IN MARYLAND

**FAXED**  
8/5/04

**Office of the President**

University of Maryland, Baltimore County  
1000 Hilltop Circle  
Baltimore, Maryland 21250

PHONE: 410-455-2274

FAX: 410-455-1210

VOICE/TTY: 410-455-3233

www.umbc.edu

August 3, 2004

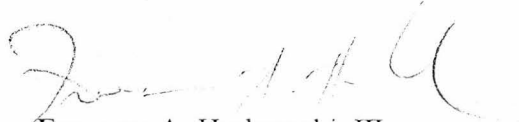
Dr. William Kirwan, Chancellor  
University System of Maryland  
3300 Metzerott Road  
Adelphi, MD 20783

Re: Public/Private Quarterly Reports

Dear Chancellor Kirwan:

In accordance with the Public Private Partnership Act, the policies of the University of Maryland Board of Regents, and UMBC, I have granted one exemption during the quarter ending June 30, 2004, to UMBC Professor Anthony M. Johnson, Ph.D. of the Departments of Computer Sciences, Electrical Engineering and Physics. Supporting documentation and letter was forwarded to your office on April 26, 2004. In addition, and in accordance with law, materials relating to this exemption have been provided to the State Ethics Commission and are available for examination in UMBC's public files.

Sincerely,



Freeman A. Hrabowski, III  
President

**UMBC**  
**Application for Exemption from the State Ethics Law for**  
**Sponsored Research or Development**

**Requestor's Name:** Anthony Johnson

**Department:** Computer Sciences/Electrical Engineering and Physics

**Academic/ UMBC Rank:** Full Professor, 2004 Wilson H. Elkins Professorship for University System of Maryland

**Administrative Positions:** Director of Center for Advanced Studies in Photonics Research (CASPR)

**Years of Service at UMBC:** Appointed September 2003

**Past and Current Sponsored Research (list):** See attached Vita

Current research interest include the ultrafast photophysics and nonlinear optical properties of bulk, nanostructured, and quantum well semiconductor structures, ultrashort pulse propagation in fibers and high-speed lightwave systems.

**Entity with which you want to affiliate:** Essex Corporation, 9150 Gulford Road, Columbia, MD 21046

**Describe fully the nature and extent of the relationship which might constitute a conflict of interest and for which this exemption is requested, including the nature and amount of any financial relationship, specifically addressing the following issues as they might apply:**

1. Employment: The title and duties you will hold, and the compensation you will earn, and the name and address of the company/ entity with which you plan to affiliate. Describe the nature/service/research/product provided by the company/entity.

Member - Board of Directors.

Board Members receive expense reimbursement and a maximum compensation fo \$1500 for each Board or \$750 for each Board Committee meeting attended. The Board typically meets quarterly

2. Ownership/ Financial Interest: the nature of the financial interest you will hold, when and how you will or did acquire it and for what consideration, whether you hold it jointly or individually and with whom in what percentage, and what conditions, if any attach to your financial interest.

None

3. Any other relationship/interest or information affecting your relationship with the entity/company with which you want to affiliate.

*UMBC and Essex Corporation will likely explore opportunities for further collaboration which may include sponsored research, joint endeavors and interaction with UMBC Centers, including CASPR*

**I understand and agreed to be bound by the following terms and conditions:**

1. The disclosure of my relationship with Essex Corporation will be maintained in UMBC's public files and be forwarded to the State Ethics Commission.
2. I affirm that during the course of my relationship/activity with Essex Corporation:
  - a. I will ensure that my actions, activities, and statements in the conduct of sponsored research or economic development will not give improper advantage to the business entity because of its affiliation with me; and
  - b. I will not misuse University students or employees for the benefit of the affiliated entity, and
  - c. I will not misuse my position for personal gain or someone's else's gain, nor solicit or accept improper gifts. I will not represent a party before the Board of Public Works or the Board of Regents for a contingent fee.
  - d. I will abide by any reasonable restrictions or conditions requested or negotiated by the University to prevent a substantial conflict with my responsibilities to the university during the course of my affiliations with Essex Corporation.
3. I understand that my activities with Essex Corporation will be reviewed by the Provost's office one year after an exemption is granted and annually thereafter if the exemption continues. I agree to cooperate with that review.
4. I understand that any exemption granted is subject to an annual review and re-approval process.
5. I understand that an exemption may be withdrawn at any time if I knowingly misrepresent my relationship with Essex Corporation or violate any law in the conduct of that relationship or if it is determined that the best interests of the university are not being served by the relationship.
6. I understand that I must file an annual report of my activities with the Provost if this exemption continues for more than one year.

Date:

4/29/04

Signature:



## ARTICLE III. BOARD OF DIRECTORS

SECTION 1. General Powers. The business and affairs of the corporation shall be managed by its Board of Directors.

SECTION 2. Number, Tenure and Qualifications. The number of directors of the corporation shall be not less than three nor more than nine, said number to be fixed from time to time by resolution of the Board of Directors. Each director shall hold office until the next annual meeting of shareholders and until his successor shall have been elected and qualified. Notwithstanding anything herein to the contrary, any member of the Board of Directors may be removed for any reason by the affirmative vote of the holders of two-thirds of all the votes entitled to be cast thereon.

SECTION 3. Regular Meetings. A regular meeting of the Board of Directors shall be held without other notice than this by-law immediately after, and at the same place as, the annual meeting of shareholders. The Board of Directors may provide, by resolution, the time and place for the holding of additional regular meetings without other notice than such resolution.

SECTION 4. Special Meetings. Special meetings of the Board of Directors may be called by, or at the request of the President or any two directors. The person or persons authorized to call special meetings of the Board of Directors may fix the place for holding any special meeting of the Board of Directors called by them.

SECTION 5. Notice. Notice of any special meeting shall be given at least 5 days previously thereto by written notice delivered personally or mailed to each director at his business address, or by telegram. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail so addressed, with postage thereon prepaid. If notice be given by telegram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. Any director may waive notice of any meeting. The attendance of a director at a meeting shall constitute a waiver of notice of such meeting, except where a director

attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened.

SECTION 6. Quorum. A majority of the number of directors then in office shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, but if less than such majority is present at a meeting, a majority of the directors present may adjourn the meeting from time to time without further notice.

SECTION 7. Manner of Acting. The act of the majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

SECTION 8. Vacancies. Any vacancy existing in the Board of Directors or to be filled by reason of an increase in the number of directors may be filled by the affirmative vote of a majority of the directors then in office, unless otherwise provided by law. A director elected to fill a vacancy shall be elected for the unexpired term of his predecessor in office.

SECTION 9. Compensation. By resolution of the Board of Directors, the directors may be paid their expenses, if any, of attendance at each meeting of the Board of Directors, and may be paid a fixed sum for attendance at each meeting of the Board of Directors or a stated salary as director. No such payment shall preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

SECTION 10. Presumption of Assent. A director of the corporation who is present at a meeting of the Board of Directors at which action on any corporate matter is taken shall be presumed, unless incapacitated, to have assented to the action taken unless his dissent shall be entered in the minutes of the meeting or unless he shall file his written dissent to such action with the person acting as the secretary of the meeting before the adjournment thereof or shall forward such dissent by registered mail to the Secretary of the corporation immediately after the adjournment of the meeting. Such right to dissent shall not apply to a director who voted in favor of such action.

SECTION 11. Executive Committee. The Board of Directors may designate two or more of its members to constitute an executive committee which shall have and may exercise all of the authority of the Board of Directors except to approve an amendment of the articles of incorporation, a plan of merger or consolidation, a plan of exchange under which the corporation would be acquired, the sale, lease or exchange, or the mortgage or pledge for a consideration other than money, of all, or substantially all, of the property and assets of the corporation otherwise than in the usual and regular course of its business, the voluntary dissolution of the corporation, or revocation of voluntary dissolution proceedings.

SECTION 12. Other Committees. The Board of Directors may designate two or more of its members to constitute audit, compensation or other committees, which committees, if any, shall have the authority and responsibilities set forth in the resolutions of the Board of Directors with regard to the establishment and/or activities of such committees.

SECTION 13. Officers of the Board. The Board of Directors shall have a Chairman of the Board, a Vice-Chairman of the Board, and, at the discretion of the Board, have other officers. The Chairman of the Board and the other officers shall be appointed from time to time by the Board of Directors and shall have such powers and duties as shall be designated by the Board of Directors and as are otherwise set forth in Article IV of these By-laws.

#### Remuneration of Directors

The Company's Board of Directors generally meets quarterly. Additionally, the By-Laws provide for special meetings and, as also permitted by Virginia law, Board action may be taken without a meeting upon unanimous written consent of all Directors. There are two Board members not employed by the Company who receive a maximum of \$1,500 for each Board or \$750 for each Board Committee Meeting attended. In 2002 the Board held three meetings; the entire membership of the Board was present at all of the meetings except one where one director was absent. Directors affiliated with the Private Investors have waived any board fees.

## Dr. Anthony M. Johnson, Director, CASPR, University of Maryland Baltimore County

Dr. Johnson was a Distinguished Member of Technical Staff in the Photonic Circuits Research Department at AT&T Bell Laboratories, in Holmdel, New Jersey. After 14 extremely rewarding years at Bell Labs, he joined the New Jersey Institute of Technology (NJIT) in Newark, NJ, on January 1, 1995 where he was the Chairperson (1/95-1/03) and Distinguished Professor of Physics (8/97-9/03). He is currently the Director of the Center for Advanced Studies in Photonics Research (CASPR, <http://www.umbc.edu/caspr>) and Professor of Physics and Professor of Computer Science and Electrical Engineering, University of Maryland, Baltimore County (UMBC), Baltimore, MD 21250. He also holds the 2004 Wilson H. Elkins Professorship of the University System of Maryland. His general area of research is in ultrafast optical and optoelectronic phenomena. He has over 60 refereed publications, 2 book chapters, and 4 US patents. His current research interests include the ultrafast photophysics and nonlinear optical properties of bulk, nanostructured, and quantum well semiconductor structures, ultrashort pulse propagation in fibers and high-speed lightwave systems. He served as Editor-in-Chief of the number one ranked *letters journal* in the field of optics, *Optics Letters* (11/1/95-12/31/01). He served as the 1990 Program Co-Chair, 1992 Conference Co-Chair and 1996 Steering Committee Chair of the Conference on Lasers and Electro-Optics (**CLEO '90, '92, '96**). He was a General Councillor (94-97), Member of the Executive Board (96-97) and Chair of the Committee on Minorities in Physics (92-93) of the American Physical Society (APS); Member, of the Board of Governors (93-95) of the IEEE Lasers and Electro-Optics Society (LEOS). He is currently a member of the DOE Basic Energy Sciences Advisory Committee (BESAC, 99-04) and a member of the Governing Board of the American Institute of Physics (AIP, 02-05). He was the 2002 **President** of the nearly 16,000 member Optical Society of America (OSA) and is currently the 2004 Chair of the Nominating Committee. Among his awards and honors, he received the 1988 AT&T Bell Labs Distinguished Technical Staff Award; the 1989 AT&T Bell Labs Research Area Affirmative Action Award; 1993 Distinguished Alumnus Award (Polytechnic Univ.); 1994 Black Engineer of the Year Special Recognition Award; 1996 **Edward A. Bouchet Award** of the **APS**. He is a **Fellow** of the following societies: OSA (1991), National Society of Black Physicists (NSBP) [1992], APS (1995), American Association for the Advancement of Science (AAAS) [1996], and IEEE (2000). He is a member of the American Association of Physics Teachers (AAPT). Dr. Johnson was a Member and Co-Founder of the **OSA Ad Hoc Committee on Women and Minorities in Optics** (88-93); Co-Chair, **OSA Committee on Women and Minorities in Optics** (94-98). Dr. Johnson holds a B.S. (Physics, Magna Cum Laude, 1975), from the Polytechnic Institute of New York and a Ph.D. in Physics (1981) from the City College of the City University of New York – the PhD thesis research was conducted at Bell Labs, Murray Hill, NJ with support from the Bell Labs Cooperative Research Fellowship Program (CRFP) for Minorities. Dr. Johnson is one of 6 six scientists highlighted in an educational interactive video designed for elementary school children called Minorities in Science® which was partially funded by NSF (<http://www.csy.com/DrAnthonyJohnson.htm>).

Most recent publications include:

H. Han, S. Vijayalakshmi, A. Lan, Z. Iqbal, H. Grebel, E. Lalanne and A. M. Johnson, "Linear and Nonlinear Optical Properties of Single-Wall Carbon Nanotubes within an Ordered Array of Nanosize Silica Spheres," *Applied Physics Letters* **82**, 1458 (2003).

H. Garcia, A. M. Johnson, F. A. Oguama, and S. Trivedi, "New approach to the measurement of nonlinear refractive index of short (<25 m) lengths of silica and erbium-doped fibers," *Optics Letters* **28**, 1796 (2003).

## Anthony M. Johnson, Ph.D.

*Home Address:* 170 Sherwood Drive  
Freehold, New Jersey 07728  
(732) 409-3826

*Business Address:* Director, CASPR  
Center for Advanced Studies in Photonics Research  
University of Maryland Baltimore County (**UMBC**)  
TRC Building, Room 271  
1000 Hilltop Circle  
Baltimore, MD 21250  
Tel: 410-455-8440  
Fax: 410-455-1521  
Email: [amj@umbc.edu](mailto:amj@umbc.edu)  
<http://www.umbc.edu/caspr>  
<http://www.umbc.edu/caspr/johnson%20bio.html>  
Minorities in Science@ homepage:  
<http://www.csy.com/DrAnthonyJohnson.htm>

### Appointments:

- 9/1/03 to present: Director, Center for Advanced Studies in Photonics Research (CASPR); Professor of Physics and Professor of Computer Science & Electrical Engineering; 2004 Wilson H. Elkins Professorship of the University System of Maryland  
University of Maryland Baltimore County (**UMBC**)  
Baltimore, MD 21250
- 1/03 to 9/1/03: Foundation Professor of Optics & Photonics and Distinguished Professor of Physics  
New Jersey Institute of Technology (**NJIT**)  
Newark, NJ 07102-1982
- 1/3/95 to 1/03: Chairperson and Professor, Department of Physics  
Distinguished Professor of Physics (8/97 - )  
Professor of Electrical and Computer Engineering (5/02 - )  
**NJIT**
- 8/81 to 1/1/95 AT&T Bell Laboratories, Holmdel, NJ; Member of Technical Staff in the Quantum Physics and Electronics Research Dept. – promoted to Distinguished Member of Technical Staff in 1988; joined the Photonic Circuits Research Dept. 9/90

Society Appointment: 2002 **President** of the Optical Society of America (**OSA**)  
<http://www.osa.org/aboutosa/leaders/pastofficers/>

*Citizenship:* USA

*Date of Birth:* May 23, 1954

*Marital Status:* Married with 3 children

*Education:*

9/75 to 9/81 City College of New York (City University of New York): Ph.D. degree in Physics; Ph.D. thesis research conducted at AT&T Bell Laboratories, Murray Hill, New Jersey.

9/71 to 6/75 Polytechnic Institute of New York (presently called Polytechnic University): B.S. degree in Physics (Magna Cum Laude).

9/69 to 6/71 Samuel J. Tilden High School, Brooklyn, New York.

*Research Experience:*

9/1/03 to present: Director of **CASPR** at **UMBC**  
As part of **CASPR** a state-of-the-art Ultrafast Optics and Optoelectronics Research and Teaching Laboratory is under construction. Research directions will include the ultrafast photophysics and nonlinear optical properties of nanostructured and semiconductor quantum materials; ultrashort pulse propagations in fibers and waveguide structures; high-speed lightwave systems; ultrafast applications in biophotonics and biophysics; picosecond time resolved Raman scattering.

1/1/95 to 9/1/03 Distinguished Professor (8/97) & Chairperson, Dept. of Physics, **NJIT**. Construction of an Ultrafast Optics and Optoelectronics Laboratory at NJIT. The general area of research is ultrafast optical and optoelectronic phenomena which includes the following current research thrusts: ultrafast photophysics and nonlinear optical properties of bulk, nanostructured and quantum well semiconductor structures; ultrashort pulse propagation and nonlinear optical properties of optical fibers and high-speed lightwave systems. AMJ is the Principal Investigator and Project Director of the Multidisciplinary Optical Science & Engineering Program (OPSE) supported by an NSF Combined Research-Curriculum Development grant – a truly multidisciplinary program that quite successfully melds the talents of individuals from the departments of Chemistry, Chemical Engineering & Environmental Science, Electrical and Computer Engineering, and Physics. Coupled to this program, AMJ

teaches an experimentally "hands-on" graduate level course (OPSE 601) entitled "Optical Pulse Compression in Fibers" from his Ultrafast Optics and Optoelectronics Laboratory.

[<http://www.njit.edu/Directory/Center/OPSE/Welcome.html>]

8/81 to 1/1/95

AT&T Bell Laboratories, Holmdel, NJ: Distinguished Member of Technical Staff in the Quantum Physics and Electronics Research Department. Joined the Photonic Circuits Research Department 9/90 (Dr. R. C. Alferness, Department Head). Research activities included the generation of picosecond and femtosecond optical sources, fiber-grating compression of laser pulses, ultrashort pulse propagation in fibers, nonlinear optics, ultrahigh-speed optoelectronic measurement techniques including photoconductive and photoemissive sampling, ultrafast optoelectronic devices, the physics of ultrafast electronic transport and spectroscopy in crystalline and polycrystalline semiconductors, cw and ultrafast photorefractive effects in semiconductors, optical and optoelectronic properties of room temperature excitons in II-VI and III-V semiconductor multiple quantum wells, high-speed lightwave systems, all optical signal regeneration, and ultrashort pulse generation in semiconductor diode lasers. Especially noteworthy was the research on optical fiber-grating pulse compression and the first demonstration of a tunable femtosecond dye laser pumped with compressed optical pulses; harmonic modelocking of a cw Nd:YAG laser; the first observation of the photorefractive effect in semiconductors; the first account of the effect of group velocity dispersion on stimulated Raman scattering in optical fibers; and the first demonstration of picosecond photoemission sampling of high-speed circuits; first use of photorefractive beam coupling to measure the coherence properties of ultrashort optical pulses (bandwidth, chirp, self-phase modulation); first measurement of room temperature excitonic absorption saturation and room temperature excitonic electroabsorption in a II-VI semiconductor (CdZnTe/ZnTe multiple quantum wells grown by MBE on GaAs substrates); first visible wavelength waveguide modulator based on the quantum confined Stark effect in II-VI semiconductors; first room temperature quasi-cw optically pumped II-VI quantum well laser; first measurement of the femtosecond dynamics of resonantly excited room temperature excitons in wide-gap II-VI multiple quantum wells. Measurements of ultrafast carrier escape times and resonant tunneling in 1.064- $\mu\text{m}$  tuned InGaAs/GaAsP quantum well modulators have been performed.

6/78 to 8/81

AT&T Bell Laboratories, Murray Hill, NJ: Ph.D. thesis included the first investigation of ultrafast electronic transport in amorphous silicon utilizing picosecond photoconductivity under the direction of Dr. David H. Auston. Constructed and utilized a picosecond dye laser to study and measure initial transient mobilities, relaxation rates, and relaxation mechanisms of photoexcited carriers in amorphous sili-

con, which resulted in an optoelectronic sampling technique which could generate and sample electronic transients with speeds less than 10 picoseconds. Official Ph.D. Thesis Advisor at City College -- Prof. Robert R. Alfano.

1974 to 1977  
(Summers)

AT&T Bell Laboratories, Murray Hill, NJ: Conducted photoconductivity experiments using a picosecond Nd:glass laser in crystalline silicon and germanium microstrip transmission line structures under the direction of Dr. David H. Auston. Achieved the picosecond switching and gating of dc and microwave electrical signals, and measured carrier relaxation rates due to fast non-radiative Auger recombination.

*Work Experience:*

9/1/03 to present

Director, **CASPR**; Profess of Physics and Professor of Computer Science & Electrical Engineering; 2004 Wilson H. Elkins Professorship **UMBC**

1/3/95 to 9/1/03

Distinguished Professor (8/97) & Chairperson (1/3/95-1/03), Department of Physics; Foundation Professor of Optics & Photonics (1/03-9/1/03) **NJIT**

8/81 to 1/1/95

AT&T Bell Laboratories, Holmdel, NJ: Member of Technical Staff in the Quantum Physics and Electronics Research Department -- promoted to Distinguished Member of Technical Staff in 1988. Joined the Photonic Circuits Research Department 9/90. Responsible for independent scientific research involving the conceptualization, definition, and execution of research projects in basic and applied physics. Responsible for supervision of one research technician and one post-doctoral candidate (Dr. Donghan Lee, 6/89-12/91; Dr. Nan Froberg, 10/92-10/94).

1974 to 1981  
(Summers)

AT&T Bell Laboratories, Murray Hill, NJ: Senior Technical Associate in the Summer Research Program for Minorities and Women (1974) and the Cooperative Research Fellowship Program (1975-1981). Responsible for the execution of research in the field of picosecond spectroscopy and optoelectronics under the direction of Dr. David H. Auston. Ph.D. co-thesis advisor Prof. Robert R. Alfano (CCNY).

*Publications:*

See attached publication list.

*Patents:*

Patent No. 4,555,622: "Photodetector Having Semi-Insulating Material and a Contoured, Substantially Periodic Surface."

Patent No. 4,703,996: "Integrated Optical Device Having Integral Photodetector."

Patent No. 4,721,910: "High Speed Circuit Measurements Using Photoemission Sampling."

Patent No. 4,933,542: "High Speed Photodetector Having Dual Transmission Line Geometry."

*Awards/Honors:*

- Graduated Magna Cum Laude in Physics (1975).
- Sigma Xi Undergraduate Research Award for Bachelor's Thesis (1975).
- AT&T Bell Laboratories Cooperative Research Fellowship (1975) to pursue a Ph.D. in physics.
- 1988 AT&T Bell Laboratories Distinguished Technical Staff Award for Sustained Achievement (Distinguished Member of Technical Staff). Citation: "... your pioneering contribution in nonlinear optics, ultrafast optoelectronics, and ultrashort laser sources. Especially noteworthy is your work on optical fiber-grating pulse compression as well as the first demonstration of a tunable femtosecond dye laser pumped with compressed pulses. Your important achievements in nonlinear optics include the first observation of the photorefractive effect in semiconductors and the first account of the effect of group velocity dispersion on stimulated Raman scattering in optical fibers. You have also contributed to important advances in ultrafast optoelectronics through your work on picosecond photoconductive sampling and electronic transport in polycrystalline semiconductors and the first demonstration of picosecond photoemission sampling of high-speed circuits..."
- 1989 "Minds In Motion" Award sponsored by the Science Skills Center, Brooklyn, NY, honoring African-American scientists.
- AT&T Bell Laboratories Research Area Affirmative Action Award (1989).
- **Senior Member** of the Institute of Electrical and Electronics Engineers [IEEE] (1989).
- **Fellow** of the IEEE (2000)  
Citation: "For contributions to ultrafast optoelectronics and nonlinear optics."
- **Fellow** of the Optical Society of America [OSA] (1991).  
Citation: "For investigations of fast carrier transport in amorphous silicon, contributions to tunable femtosecond lasers, and demonstrations of photorefractivity in semiconductors."
- African-American History Month Outstanding Contribution Award, AT&T Bell Laboratories (1992).
- **Charter Fellow** of the National Society of Black Physicists [NSBP] (1992).
- **Fellow** of the African Scientific Institute (1993)  
[ <http://www.asi-org.net/> ]
- Distinguished Alumnus Award from Polytechnic University (1993).

- 1994 Black Engineer of the Year Awards Conference -- Special Recognition Award.
- **Fellow** of the American Physical Society [**APS**] (1995).  
Citation: "For his contributions to ultrafast optoelectronics and nonlinear optics, including high-speed semiconductor sampling gates, optical pulse compression and tunable ultrafast laser sources."
- **1996 Edward A. Bouchet Award** of the American Physical Society [**APS**]  
Citation: "For his pioneering contributions to nonlinear optics, lasers, and optoelectronics; for his leadership in the national scientific community; and for his many efforts to attract minorities to careers in science and engineering."
- **Fellow** of the American Association for the Advancement of Science [**AAAS**] (1996)  
Citation: "For pioneering contributions to nonlinear optics, ultrafast optoelectronics, and ultrafast laser sources; for leadership in the scientific community; and for attracting minorities to careers in science."
- Promoted to Distinguished Professor of Physics at NJIT (1997)

*Professional Affiliations:*

- American Physical Society [**APS**], **Fellow** (1995)
  - ◆ Division of Condensed Matter Physics [**DCMP**]
  - ◆ Division of Laser Science [**DLS**]
  - ◆ Division of Atomic, Molecular, and Optical Physics [**DAMOP**]
- Institute of Electrical and Electronics Engineers [**IEEE**], **Fellow** (2000), **Senior Member** (1989)
  - ◆ Lasers and Electro-Optics Society [**LEOS**]
- National Society of Black Physicists [**NSBP**], **Charter Fellow** (1992)
- Optical Society of America [**OSA**], **Fellow** (1991)
- American Association for the Advancement of Science [**AAAS**], **Fellow** (1996)
- African Scientific Institute, **Fellow** (1993)
- American Association of Physics Teachers [**AAPT**]

*Professional Service & Activities:*

**PROFESSIONAL ORGANIZATION SERVICE**

**National Research Council (NRC)**

[The NRC is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering]

- Member, NRC Board on Assessment of the National Institute of Standards and Technology (**NIST**) Programs, *Panel for Physics* (93-95)
- Member, Committee on Atomic, Molecular, and Optical Sciences (**CAMOS**), which operates under the auspices of the Board on Physics and Astronomy (**BPA**) of the NRC's Commission on Physical Sciences, Mathematics, and Applications (11/1/96 - 6/30/99).
- Member, Physical Sciences Panel for the NRC's Associateship Programs Review, March 1-2, 2001.

### American Physical Society (APS)

- Elected Member, **APS** Council [General Councillor] (94-97)
  - ◆ Elected Member of the Executive Board (96-97)
  - ◆ Elected Member of the Committee on Committees (96-98)
- Elected Member, Executive Committee of the **APS** Laser Science Topical Group [LSTG] (93-95)
- Member, **APS** Committee on Membership (95-97)
- Member, **APS** Committee on Fellowship (97-99)
- Member, Fellowship Committee of the **APS** Division of Laser Science (96-98)
- Member, Nominating Committee of the **APS** Forum on Education (1996)
- Member, Selection Committee of the 1997 **APS Edward A. Bouchet Award**
- Member, **APS** Committee on Minorities in Physics (1991)
- Chairperson, **APS** Committee on Minorities in Physics (92-93)
- Member, Selection Committee of the **APS Visiting Minority Lectureship** Program (93-94)
- Member, **APS** Laser Science Topical Group Nominating Committee (1994)

### Optical Society of America (OSA)

- Chair of the 2004 **OSA** Nominating Committee
- Member of the 2003 **OSA** Nominating Committee
- Member of the **OSA** Audit Committee (04-06)
- Elected **Vice President** of the 14,000 member Optical Society of America (**OSA**) with duties beginning January 1, 2000. He served as **President** of the now nearly 16,000 member OSA during 2002  
<http://www.osa.org/aboutosa/leaders/pastofficers/>
- Nov. 1-3, 2000 presented the **OSA** Presidential Lecture/Plenary Talk at the Annual Meeting of the **Mexican Academy of Optics (AMO)** in Puebla City, Mexico and signed the Memorandum of Understanding between the **OSA** and the **AMO**.
- On November 7, 2000, visited Trieste, Italy to sign the Memorandum of Understanding between the **OSA** and the **Abdus Salam International Centre for Theoretical Physics (ICTP)**.
- Elected Member, Board of Directors of the **OSA** (93-96 & 00-03)
- Member, **OSA** Board of Editors (96-01)

- Member, **OSA/Materials Research Society** Congressional Fellow Selection Committee (95-97)
- Member and Co-Founder, **OSA** Ad Hoc Committee on Women and Minorities in Optics (88-93)
- Co-Chair, **OSA** Committee on Women and Minorities in Optics (94-98)
- Member, **OSA** Education Council (1994)
- Member, **OSA** Nominating Committee (1994)
- Member, **R. W. Wood Prize** Committee of the **OSA** (1989)
- Chairperson, **R. W. Wood Prize** Committee of the **OSA** (1990)
- Member, Technical Council and Chairperson of the *Ultrafast Optical Phenomena* Technical Group of the **OSA** (86-87)

#### **IEEE Lasers and Electro-Optics Society (LEOS)**

- Elected Member, **IEEE/LEOS** Board of Governors (93-95)
- Chairperson, **William Streifer Scientific Achievement Award** Committee of **IEEE/LEOS** (1996)
- Member, **IEEE Quantum Electronics** and **IEEE/LEOS Distinguished Lecturer** Awards Committees (1995)
- Member, **IEEE/LEOS Ultrafast Optics and Electronics** Technical Subcommittee (89-04) -- Chairperson (91-93)

#### **American Institute of Physics (AIP)**

- Member, **AIP** Governing Board (02-05)
- Member, American Institute of Physics (**AIP**) Advisory Committee of the Education and Employment Statistics Division (95-97)
- Member of the annual **Physics Today** roundtable, organized by Gloria Lubkin, Editor -- "*Physics Roundtable: Reinventing Our Future*," **Physics Today**, vol. 47, No. 3, March 1994, p. 30 (**AIP**).
- **Invited Article:** A. M. Johnson and C. B. Hitz, "*Career Opportunities in Optics*," **Physics Today**, Vol. 53, No. 5, p. 25-29 (May 2000) [<http://www.aip.org/pt/may00/optics.htm>].

#### **National Science Foundation (NSF)**

- Member of the 2003 **NSF** Engineering Research Centers (**ERC**) Panel and Site Visit Team -- meetings and site visits cover the period January 22-23, 2003 through April 22-25, 2003.
- Panel Review Member for **NSF CAREER Awards** in the Division of Materials Physics -- Condensed Matter Physics: Semiconductors, Jan. 28-29, 1997.
- Member of the Special Emphasis Panel to review the Atomic, Molecular, Optical, and Plasma Physics program in the Physics Division of the **NSF** (May 8-9, 1996)
- Panel Review Member for **NSF** Academic Research Infrastructure Instrumentation (**ARI**) proposals for the Division of Materials Research, May 24, 1996.
- Member of an **NSF** Workshop entitled: **Optical Science and Engineering: New Directions and Opportunities in Research and Education**

(May 23-24, 1994) -- Member of the *Fundamental Optical Interactions* Subcommittee.

- Member of the **NSF** Triennial Physics Division Oversight Review -- the **Committee of Visitors**, July 28-30, 1994 -- Member of the *Atomic, Molecular, and Optical Physics (AMO)* Subcommittee

### Department of Energy (DOE)

- Member, **DOE** Workshop on Atomic, Molecular, and Optical Physics – Panel on “*Interactions of Atoms and Molecules with Photons – High Field*”, Sept. 21-24, 1997.
- Member, **DOE** Basic Energy Sciences Advisory Committee [**BESAC**] (99-04) <http://www.sc.doe.gov/production/bes/BESAC/BESAC.htm>

### National Society of Black Physicists (NSBP)

- Chairperson, **NSBP** Nominations and Screening Committee (92-00)
- Chairperson, **NSBP** Annual Meeting, April 5-7, 1989, held at AT&T Bell Laboratories, Holmdel, NJ.

### National Conference of Black Physics Students (NCBPS)

- Served as an invited speaker, workshop organizer, session chair, fund raiser, and program committee member (1993-Present). **NCBPS '2001** held at Stanford University (3/29-4/1) had over 150 students committed to physics. **NCBPS '2002** held at Alabama A&M University (3/13-17/02) had over 200 students committed to physics.

### African/African-American Technical Exchange

- Member, Executive Council, **The Edward A. Bouchet—ICTP Institute** (88-Present) [ICTP is the International Centre for Theoretical Physics, Trieste, Italy] <http://ebasi.org>
- International Coordinator (USA), African Laser Atomic and Molecular Sciences Network [**LAM Network**] (91-Present). [Dr. A. Wague, President, **LAM Network**, Univ. of Cheikh Anta Diop, Dakar, Senegal] [ <http://www.lamnetwork.org> ]
- A Memorandum of Understanding for a **Physics Scholar Exchange Program** in *Laser, Atomic, Molecular and Optical Sciences* between the University of Cape Coast, Cape Coast, GHANA (UCC), NJIT, and Rutgers University, Newark Campus (RU-NC), was signed on May 26, 2000 by Prof. Samuel K. Adjepong, Vice Chancellor, UCC, Prof. William Van Buskirk, Provost, NJIT, Prof. Norman Samuels, Provost, RU-NC, Prof. Anthony M. Johnson, Chairperson, Physics Dept., NJIT and Prof. Earl Shaw, Chairperson, Physics Dept., RU-NC. The first Physics Scholar Exchange student, Raymond Edziah, arrived at NJIT September 4, 2001 and will work in my research group. A description of the program was published as part of an article entitled “*A New Ghana Student Chapter Formed*” by Tyler Krupa, Optical Society of America (**OSA**) Home Page, **Optics & Photonics News**, Vol. 12, No. 10, October 2001, page 6.

### Other Professional Service

- Member, Discipline Advisory Committee for **Fulbright Scholar Awards** in Physics for the Council for International Exchange of Scholars (93-95).
- Member, Research Vision Committee of the Canadian Institute for Photonic Innovations (**CIPI**) [2002- ]. **CIPI** is headquartered at Université Laval, Québec, Canada.

### EDITORIAL ADVISORY BOARDS

- Editor-in-Chief of the journal **Optics Letters** (11/1/95-12/31/01)
- Member, **OSA** Board of Editors (96-01)
- *Ultrafast Optical Phenomena* Topical Editor of the journal **Optics Letters** (1/89-6/95)
- Guest Editor, Special Issue of **IEEE Journal of Quantum Electronics** on *Ultrafast Optics and Electronics*, vol. **QE-24**, February 1988
- Guest Editor, Special Issue of **Optics & Photonics News** on *Ultrafast Optics & Optoelectronics*, May 1992
- Member, **Optics & Photonics News** Editorial Advisory Committee (89-91)
- Member, **Journal of the National Technical Association** (NTA) *Science and Technology* Advisory Board (89-94)
- Member, **Laser Focus World** Editorial Advisory Committee (90-Present)

### CONFERENCES

- Member, **ETOP '2003** (Education and Training in Optics and Photonics) Program Committee, Oct 6-8. 2003, Tucson, Arizona.
- Member, **CLEO '2000 & CLEO '2001** Program Subcommittee on *Ultrafast Optics and Electronics*
- Member, **LEOS '93 - LEOS '2004** Annual Meeting Subcommittee on *Ultrafast Optics and Electronics* (93-04)
- 1990 **Program Co-Chair** of the Conference on Lasers and Electro-Optics (**CLEO '90**), Anaheim, California
- **CLEO '91** Member-at-Large and **CLEO/IQEC** Technical Program Liaison
- **Conference (General) Co-Chair** of **CLEO '92**, Anaheim, California
- Member, **CLEO** Steering Committee (91-94)
- Chairperson, **CLEO '96** Steering Committee
- **CLEO** Steering Committee Liaison to the **Joint Council on Quantum Electronics** (92-94)
- Member, **CLEO** Program Subcommittee on *Ultrafast Optics and Electronics* (86-87)
- Chairperson, **CLEO** Program Subcommittee on *Ultrafast Optics and Electronics* (88-89)
- Member, Advisory Committee, **1999 Gordon Research Conference on Nonlinear**

*Optics and Lasers.*

- Member, Program Committee of the **OSA Annual Meeting** of the (85-88, 94)
- Organized and Chaired Symposium on *Ultrashort Pulses in Optical Fibers*, **OSA Annual Meeting** (1985)
- Organized and Chaired Symposium on *Ultrashort Nonlinear Pulse Propagation in Optical Fibers*, **OSA Annual Meeting** (1988)
- Member, Program Committee of the **First Edward Bouchet International Conference on Physics and Technology**, International Centre for Theoretical Physics (ICTP), Trieste, Italy, June 9-11, 1988
- Member, Executive Council and Technical Program Committee of the **Second Edward Bouchet International Conference on Physics and Technology**, University of Ghana, Accra, Ghana, West Africa, August 14-17, 1990
- Chairperson, **National Society of Black Physicists Annual Meeting**, April 5-7, 1989, held at AT&T Bell Laboratories, Holmdel, NJ
- Member, Program Committee of the Eleventh International Conference on Laser Spectroscopy (**ELICOLS '93**)
- Member, **APS Interdisciplinary Laser Science Conference (ILS) Program Subcommittee on Nonlinear Optics and Ultrafast Phenomena** (1994)
- Organized and Chaired the Joint **ILS/OSA Symposium on Ultrashort Pulse Solid-State Lasers**, **OSA/ILS Annual Meeting** (1994)
- Member, Program Committee of the **Ninth International Conference on Ultrafast Phenomena**, Dana Point, California (1994)
- Member, Program Committee of **Nonlinear Optics '94: Materials, Fundamentals, and Applications**, Maui, Hawaii (1994)
- Steering/Organizing Committee Member, American Association of Physics Teachers (AAPT), **Topical Conference on Recruitment and Retention of Minorities in Physics** (1993)
- Organized and Chaired the Symposium on *Research at Minority Institutions* at the Joint **April Meeting** of the **APS** and **AAPT** (1993)
- Organized and Chaired the Symposium on *Minority Researchers -- at the Forefront* at the **March Meeting** of the **APS** (1994)
- U.S. Member, Symposia Program Committee (**OPTICS**) of the Joint Canadian Association of Physicists (**CAP**), **APS**, and the Mexican Physical Society (**MPS**), CAM '94 Physics Meeting (Cancún, México, September, 1994)
- Judge (Physics and Engineering) for the Afro-Academic, Cultural, Technological and Scientific Olympics (**ACT-SO**) at the **NAACP** National Convention, July 1993, Indianapolis, Indiana
- Member, Steering/Organizing Committee for the Inaugural Forum and Open House for the **Research Center for Optical Physics** at Hampton University, September 22-23, 1993

### TECHNICAL ADVISORY BOARDS

- Member, Planning and Advisory Committee, Norfolk State University (Norfolk, VA) **NSF** sponsored Center for Photonic Materials Research (99-Present)
- Member, Polytechnic University Board of Fellows (89- )

- Member, US Department of Energy (**DOE**), Jackson State University (JSU)/Lawrence Berkeley Laboratory/Ana G. Mendez Educational Foundation Consortium Advisory Committee (90-95)
- Member, External Advisory Board of the University of Michigan's Center for *Ultrafast Optical Science* -- a National Science Foundation (**NSF**) Science and Technology Center (92-98)
- Member, Technical Advisory Board of Alabama A&M University's Center for *Nonlinear Optics and Materials* -- an **NSF** Minority Research Center of Excellence [MRCE] (94-98)
- Member, National Science Foundation, National Visiting Committee for the Course and Curriculum Development Project, "Activity Based Physics: Curricula, Computer Tools, and Apparatus for Introductory Physics Courses" -- project under direction of Principal Investigator Dr. Priscilla Laws, Dickinson College (96-97)
- Member, **NSF** External Advisory Committee for Integrated Core Curriculum for Mathematics, Physics, and Chemistry at Hunter College -- project under direction from Dr. Robert Marino, Chair Dept. of Physics, Hunter College (96-98)

References:                      Furnished upon request.

#### Invited Tutorials (2 or more hours)

##### "The Generation of Ultrashort Pulses of Light -- Compression in Optical Fibers"

- Training College on *Physics & Characterization of Lasers & Optical Fibers*, International Centre for Theoretical Physics (**ICTP**), Trieste, Italy, February 26 - March 2, 1990.
- Guest Physicist, Martin Luther King, Jr. Memorial Visiting Scientist Program (funded by the Martin Luther King, Jr./Caesar Chavez/Rosa Parks Visiting Professor Program supported by the State of Michigan) at the Physics Department of Wayne State University, Detroit, MI, January 14-17, 1991 -- scientific lectures, guest lecturer for a regularly scheduled undergraduate course for non-science majors, student and faculty interactions and visits to Middle Schools of the Detroit Public School System.
- Winter College on *Ultrafast Phenomena*, **ICTP**, Trieste, Italy, February 18-22, 1991.
- Summer School III, *Ultrafast & Super-Intense Laser Technology, Science & Applications*, Ontario Laser & Lightwave Research Centre, University of Toronto, Toronto, Canada, May 21-23, 1991.
- International Workshop on the *Physics & Modern Applications of Lasers*, University Cheikh Anta Diop of Dakar, Senegal, West Africa, May 22-28, 1991.

Anthony M. Johnson, Ph.D.

Publication List

1. A. M. Johnson and D. H. Auston, "Microwave Switching by Picosecond Photoconductivity," *IEEE J. Quantum Electron.* **QE-11**, 283 (1975).
2. D. H. Auston, P. R. Smith, A. M. Johnson, W. M. Augustyniak, J. C. Bean, and D. B. Fraser, "Recent Advances in Picosecond Optoelectronics," *Picosecond Phenomena II*, ed. by R. Hochstrasser, W. Kaiser, and C. V. Shank (Springer-Verlag, Berlin), p. 71 (1980).
3. A. M. Johnson, D. H. Auston, P. R. Smith, J. C. Bean, J. P. Harbison, and D. Kaplan, "Picosecond Photoconductivity in Amorphous Silicon," *Picosecond Phenomena II*, ed. by R. Hochstrasser, W. Kaiser, and C. V. Shank (Springer-Verlag, Berlin), p. 285 (1980).
4. D. H. Auston, A. M. Johnson, P. R. Smith, and J. C. Bean, "Picosecond Optoelectronic Detection, Sampling, and Correlation Measurements in Amorphous Semiconductors," *Appl. Phys. Lett.* **37**, 371 (1980).
5. P. R. Smith, D. H. Auston, A. M. Johnson, and W. M. Augustyniak, "Picosecond Photoconductivity in Radiation-Damaged Silicon-On-Sapphire Films," *Appl. Phys. Lett.* **38**, 47 (1981).
6. P. R. Smith, D. H. Auston, and A. M. Johnson, "Thin Film Photoconductor Mounting Schemes for Picosecond Optical Detectors," *Rev. Sci. Instrum.* **52**, 138 (1981).
7. A. M. Johnson, D. H. Auston, P. R. Smith, J. C. Bean, J. P. Harbison, and A. C. Adams, "Picosecond Time-Resolved Photoconductivity in Amorphous Silicon," *AIP Conference Proceedings, Tetrahedrally Bonded Amorphous Semiconductors*, ed. by R. A. Street, D. K. Biegelsen, and J. C. Knights (*AIP No. 73*, New York), p. 248 (1981).
8. A. M. Johnson, D. H. Auston, P. R. Smith, J. C. Bean, J. P. Harbison, and A. C. Adams, "Picosecond Transient Photocurrents in Amorphous Silicon," *Phys. Rev.* **B 23**, 6816 (1981).
9. A. M. Johnson, "Carrier Transport in Amorphous Silicon Utilizing Picosecond Photoconductivity," *Proceedings of the VIII Annual Day of Scientific Lectures and Meeting of the National Society of Black Physicists*, ed. by H. B. White, Jr., Fermi National Accelerator Laboratory, Batavia, Illinois, p. 81 (1981).
10. T. R. Harrison, A. M. Johnson, P. K. Tien, and A. H. Dayem, "NiSi<sub>2</sub>-Si Infrared Schottky Photodetectors Grown by Molecular Beam Epitaxy (MBE)," *Appl. Phys. Lett.* **41**, 734 (1982).
11. L. F. Johnson, H. J. Guggenheim, D. Bahnck, and A. M. Johnson, "Phonon-Terminated Laser Emission from Ni<sup>2+</sup> Ions in KMgF<sub>3</sub>," *Opt. Lett.* **8**, 371 (1983).
12. A. M. Johnson and W. M. Simpson, "CW Modelocked Nd:YAG Pumped Subpicosecond Dye Lasers," *Opt. Lett.* **8**, 554 (1983).

13. P. F. Liao, A. M. Glass, A. M. Johnson, D. H. Olson, L. M. Humphrey, and M. B. Stern, "Enhancement of Optical Detector Response via Microstructured Electrodes," *Proc. SPIE* **439**, 197 (1983).
14. A. M. Glass, P. F. Liao, A. M. Johnson, L. M. Humphrey, R. Lemons, D. H. Olson, and M. B. Stern, "Periodically Structured Amorphous Silicon Detectors with Improved Picosecond Responsivity," *Appl. Phys. Lett.* **44**, 77 (1984).
15. T. Miyoshi, P. K. Tien, R. J. Martin, D. M. Tennant, A. M. Johnson, and P. M. Downey, "Infrared Photodetection in Proton-Bombarded InP," *Appl. Phys. Lett.* **44**, 128 (1984).
16. A. M. Johnson, A. M. Glass, D. H. Olson, W. M. Simpson, and J. P. Harbison, "High Quantum Efficiency Amorphous Silicon Photodetectors With Picosecond Response Times," *Appl. Phys. Lett.* **44**, 450 (1984).
17. A. M. Johnson, R. H. Stolen, and W. M. Simpson, "80X Single-Stage Compression of Frequency Doubled Nd:YAG Laser Pulses," *Appl. Phys. Lett.* **44**, 729 (1984).
18. A. M. Glass, A. M. Johnson, D. H. Olson, W. M. Simpson, and A. A. Ballman, "Four-Wave Mixing in Semi-Insulating InP and GaAs Using The Photorefractive Effect," *Appl. Phys. Lett.* **44**, 948 (1984).
19. A. M. Johnson, A. M. Glass, D. H. Olson, W. M. Simpson, and J. P. Harbison, "High Quantum Efficiency a-Si:H Picosecond Transit-Time Limited Schottky Barrier Photodetectors," *J. Non-Cryst. Solids* **66**, 381 (1984).
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21. A. M. Johnson, R. H. Stolen, and W. M. Simpson, "Compression of Laser Pulses," *Optics News* **10(6)**, 42 (1984).
22. A. M. Johnson and W. M. Simpson, "A Tunable Femtosecond Dye Laser Synchronously Pumped by the Compressed Second Harmonic of Nd:YAG," *J. Opt. Soc. Am.* **B 2**, 619 (1985).
23. A. M. Johnson and W. M. Simpson, "Tunable Femtosecond Synchronously Modelocked Dye Laser Pumped by the Compressed Second Harmonic of Nd:YAG," *SPIE* **553**, 52 (1985).
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25. W. J. Tomlinson, R. H. Stolen, and A. M. Johnson, "Optical Wave Breaking of Pulses in Nonlinear Optical Fibers," *Opt. Lett.* **10**, 457 (1985).

26. A. M. Johnson and W. M. Simpson, "Optically Biased Tunable Femtosecond Dye Laser and Spectral Windowing of the Compressed Second Harmonic of Nd:YAG," *IEEE J. Quantum Electron.* **QE-22**, 133 (1986).
27. J. Bokor, A. M. Johnson, R. H. Storz, and W. M. Simpson, "High-Speed Circuit Measurements Using Photoemission Sampling," *Appl. Phys. Lett.* **49**, 226 (1986).
28. R. H. Stolen and A. M. Johnson, "The Effect of Pulse Walkoff on Stimulated Raman Scattering in Fibers," *IEEE J. Quantum Electron.* **QE-22**, 2154 (1986).
29. J. Bokor, A. M. Johnson, R. H. Storz, and W. M. Simpson, "High-Speed Circuit Measurements Using Photoemission Sampling," *Ultrafast Phenomena V*, ed. by G. R. Fleming and A. E. Siegman (Springer-Verlag, Berlin), p. 123 (1986).
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41. D. Lee, J. E. Zucker, M. D. Divino, R. F. Austin, R. D. Feldman, K. L. Jones, and A. M. Johnson, "Quantum Well Waveguide Intensity Modulator at Visible Wavelengths Using CdZnTe/ZnTe Quantum Wells," *Appl. Phys. Lett.* **59**, 1876 (1991).
42. R. S. Miranda, H. W. K. Tom, A. M. Johnson, T. J. Bridges, and G. D. Aumiller, "Using Time-Resolved IR Reflection and Transmission as a Probe of Carrier Dynamics in Semiconductors," *Opt. Lett.* **16**, 1859 (1991).
43. R. S. Miranda, H. W. K. Tom, A. M. Johnson, T. J. Bridges, and G. D. Aumiller, "Study of Carrier Dynamics in InP:Fe Using Time-Resolved IR Reflection and Transmission," *Appl. Phys. Lett.* **60**, 1105 (1992).
44. D. Lee, A. M. Johnson, J. E. Zucker, C. A. Burrus, R. D. Feldman, and R. F. Austin, "Quasi-Continuous Lasing From Optically Pumped CdZnTe/ZnTe Multiple Quantum Wells at Room Temperature," *Appl. Phys. Lett.* **60**, 739 (1992).
45. A. M. Johnson, "Room Temperature Excitonic Absorption in CdZnTe/ZnTe Multiple Quantum Wells -- Physics and Applications," Invited paper in *Recent Advances in the Uses of Light in Physics, Chemistry, Engineering, and Medicine*, June 19-21, 1991, The City College of New York, SPIE **1599**, 170 (1991).
46. R. D. Feldman, D. Lee, A. Partovi, R. P. Stanley, A. M. Johnson, J. E. Zucker, A. M. Glass, and J. Hegarty, "Growth, Optical and Optoelectronic Properties of CdZnTe/ZnTe Multiple Quantum Wells," *Critical Reviews in Solid State and Materials Sciences* **17**, 477 (1992).
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59. A. J. Campillo and A. M. Johnson, "The Impact of Optics Letters on Science and Technology," **Optics & Photonics News**, Vol. 13, No. 7, pp. 34-42 (July 2002) – This invited manuscript was published to celebrate the 25<sup>th</sup> Anniversary of the number one ranked letters journal in the field of optics, **Optics Letters**.
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62. F. A. Oguama, H. Garcia and A. M. Johnson, "*Technique for Simultaneous Measurement of the Raman Coefficient and Nonlinear Refractive Index of Optical Fibers – Theory and Experiment*," submitted to **Journal of the Optical Society of America B (JOSA B)**
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### Book Chapters

1. A. M. Johnson, "*Picosecond Optoelectronic Measurement of Carrier Transport in Amorphous Silicon*," in **Semiconductor Processes Probed By Ultrafast Laser Spectroscopy**, ed. by R. R. Alfano (Academic Press, New York), Volume 2, Chapter 14, p. 3 (1984).
2. A. M. Johnson and C. V. Shank, "*Pulse Compression in Single-Mode Fibers -- Picoseconds to Femtoseconds*," in **The Supercontinuum Laser Source**, ed. by R. R. Alfano (Springer-Verlag, New York), Chapter 10, pp. 399-449 (1989).

### General Interest Articles by AMJ

- "*Laser Technology -- Conferring on the Generation of Blue and Green Lights*," J. of the National Technical Association (**NTA**) **64(1)**, 62 (1990).
- "*Laser Technology -- From Military to Medical*," **J. of the NTA** **65(1)**, 20 (1991).
- Guest Editor of a Special Issue of **Optics & Photonics News (OSA)** -- "*Introduction to Special Issue: Ultrafast Optics & Optoelectronics*," May 1992, Vol. 3, No. 5, p. 8.
- "*Ultrafast Optical Phenomena*," **J. of the NTA** **66(2)**, 28 (1993).
- "*Searching for the Right Light for High-Speed Communications*," **National Technical News** **2(2)**, 4 (1993) (**NTA**).
- "*Physics Roundtable: Reinventing Our Future*," **Physics Today**, -- member of the annual **Physics Today** roundtable organized by Gloria Lubkin, Editor (**American Institute of Physics**), March 1994, Vol. 47, No. 3, p. 30
- "*Reducing Ph.D. Production vis-à-vis Minorities and Women*," OPINION in **APS News** (American Physical Society), November 1994, Vol. 3, No. 10, p. 5.
- "*Career Opportunities in Optics*," **Physics Today**, **Vol. 53**, No. 5, p. 25-29 (May 2000)  
[<http://www.aip.org/pt/may00/optics.htm>]
- During my 2002 term as **President** of the Optical Society of America (**OSA**), I prepared a monthly column for **Optics & Photonics News** entitled "*From the President*," presenting my personal thoughts, views and updates about the OSA:  
<http://physics.njit.edu/~johnson/OPN05Jan02Final.pdf>  
<http://physics.njit.edu/~johnson/OPNFeb02Final.pdf>  
<http://physics.njit.edu/~johnson/OPNMarch02Final.pdf>  
<http://physics.njit.edu/~johnson/OPNApril02Final.pdf>  
<http://physics.njit.edu/~johnson/OPNMay02Final.pdf>

<http://physics.njit.edu/~johnson/OPNJune02Final.PDF>

<http://physics.njit.edu/~johnson/OPNJuly02Final.pdf>

<http://physics.njit.edu/~johnson/OPNAug02Final.pdf>

<http://physics.njit.edu/~johnson/OPNSep02Final.PDF>

<http://physics.njit.edu/~johnson/OPNOct02Final.PDF>

<http://physics.njit.edu/~johnson/OPNNov02Final.PDF>

<http://physics.njit.edu/~johnson/OPNDec02Final.pdf>

- The December 2002 Presidents' letter [<http://physics.njit.edu/~johnson/OPNDec02Final.pdf>] is unprecedented because it represents the first co-authored Presidents' letter between the OSA and the SPIE (The International Society of Optical Engineering). This letter summarizes the collaborative effort of the OSA and SPIE to promote the importance of optics and photonics research and technology to the US government, by highlighting a briefing and roundtable discussion convened on August 8, 2002 at the White House Conference Center in Washington, DC, in coordination with the White House Office of Science and Technology Policy (OSTP), with direct participation by John H. Marburger, III, Science Advisor to the President and Director of OSTP.

### *Recent Articles Highlighting AMJ*

- "Residents open home to visiting Soviets," *The Journal* (local Monmouth County, NJ newspaper), Wednesday, May 17, 1989, p. 19. [Visit of optical physics colleague Dr. Boris Zel'dovich, then at the Polytechnic Institute, Chelyabinsk, the former Soviet Union]
- "Futuremakers: On The Cutting Edge," short biographical sketch in ***African Americans: Voices of Triumph***, Time-Life Books (Alexandria, Virginia), *Volume 2-- Leadership*, p. 73 (1993).
- "LEOS Profile", ***IEEE Lasers and Electro-Optics Society (LEOS) Newsletter***, Vol. 7, No. 3, June 1993, p.3.
- "Stepping into the Future: African Americans in Science and Engineering," American Association for the Advancement of Science (**AAAS**), Project Manager Margaret Tunstall, **AAAS** Publication: 96-10S, Copyright 1996, p.11.
- "Making a Difference: Ethnic Diversity in Physics", by James H. Stith, ***Physics Today***, July 1996, Vol. 49, No. 7, p. 39.
- "Changing Direction: Anthony Johnson's Move from Industry to the Classroom," by Jennifer M. Rice, Optical Society of America (**OSA**) HomePage, Supplement to ***Optics & Photonics News***, Vol. 9, No. 3, March 1998, p. 1.
- An article entitled, "Cultivating a field of dreams among a minority at NJIT," was published in the Sunday, April 30, 2000 ***Bergen Record*** by columnist Caroline Brewer (Living Section, page L-3). The article highlighted my 3 graduate students (Hernando Garcia, Elaine Lalanne, and Ferdinand Oguama) and 1 undergraduate (Robinson Kuis, NJIT McNair Fellow), who all happen to be underrepresented minorities conducting research, with the goal of being the first in their families to obtain a PhD, like myself. Hernando Garcia received his PhD in Applied Physics in May 2000 and is currently a Member of Technical Staff in the Research Division of Lucent Technologies. Robinson Kuis is currently an Applied Physics PhD graduate student in my research group and

won a highly competitive and prestigious 2002 Bell Labs, Lucent Technologies Cooperative Research Fellowship.

### Funded Research at NJIT

- National Science Foundation -- Principal Investigator -- "Multidisciplinary Optical Science & Engineering Combined Research-Curriculum Development Program (CRCD) at NJIT" - - \$400k -- effective 1/1/96 for approx. 3 years -- Grant No. EEC-9527491
- National Science Foundation -- Co-Principal Investigator [PI -- K. Farmer] -- "Acquisition of Instrumentation for Research and Development of Bonded Ultra Thin Silicon Wafers" - - \$202,556.00 -- 9/15/96 through 8/31/97 -- Grant No. ECS-9601937
- New Jersey Commission on Science and Technology -- Co-Principal Investigator [PI -- Warren S. Warren, Princeton University] -- "Center for Ultrafast Laser Applications" -- \$869,359 FY 1998 R&D Excellence award
- National Science Foundation -- Principal Investigator -- "Applied Optics Laboratories in an Undergraduate Optical Science and Engineering Program" -- \$54k -- 8/15/98 through 7/31/00 -- Instrumentation and Laboratory Improvement Program (ILI) -- Grant No. DUE-9850515.

### PhD Production at NJIT

- Graduate student Hernando Garcia successfully defended his doctoral thesis entitled, "*Time Domain Measurements of the Nonlinear Refractive Index in Optical Fibers and Semiconductor Films*" 4/2000.
- Graduate student Elaine Lalanne completed her Ph.D. in Applied Physics in May 2003. Her doctoral thesis is entitled, "*Nonlinear Optical Properties of Novel Nanostructured Ion Implanted and Microstructured Laser Ablated Silicon Using Femtosecond Pulse Excitation.*"
- Graduate student Ferdinand Oguama completed his Ph.D. in Applied Physics in August 2003. His doctoral thesis is entitled, "*Measurement of the Nonlinear Refractive Index ( $n_2$ ) and Stimulated Raman Scattering in Optical Fibers as a Function of Germania Content, Using the Photorefractive Beam Coupling Technique*".