

CURRICULUM VITAE
ARMAND R. TANGUAY, JR.

Present Address:

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Birth: 15 November, 1949; Northampton, Massachusetts

Citizenship: USA

Education:

---	1970	UCLA Plasma Physics Workshop University of California, Los Angeles
---	1971	NSF Solid State Physics Workshop Montana State University
B.S.	1971	Physics (Honors) California Institute of Technology
M.S.	1972	Engineering and Applied Science Yale University
M.Phil.	1975	Engineering and Applied Science Yale University
Ph.D.	1977	Engineering and Applied Science Yale University Thesis: "The Czochralski Growth and Optical Properties of Bismuth Silicon Oxide"

Revised: February 1, 2015

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Professional Experience:

- 1963 – 1970 Engineering Assistant
Meteorology Research, Inc.
Altadena, California
- 1968 – 1971 Summer Research Assistant
California Institute of Technology
Pasadena, California
- 1968 – 1971 Teaching Assistant and Academic Tutor
California Institute of Technology
Pasadena, California
- 1972 Seminar Instructor
Albertus Magnus College
New Haven, Connecticut
- 1972 – 1975 Teaching Fellow, Seminar Instructor, and
Academic Tutor (Yale College Dean’s Office)
Yale University
New Haven, Connecticut
- 1971 – 1977 Henry P. Becton Fellow, Danforth Foundation
Kent Fellow, and Graduate Research Assistant
Department of Engineering and Applied Science
Yale University
New Haven, Connecticut
- 1977 – 1983 Assistant Professor
Electrical Engineering and Materials Science
University of Southern California
Los Angeles, California
- 1983 – 2000 Associate Professor
Electrical Engineering, Materials Science
and Biomedical Engineering;
Neuroscience Graduate Program
University of Southern California
Los Angeles, California
- 1984 Visiting Associate in Electrical Engineering and Applied Physics
California Institute of Technology
Pasadena, California

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Professional Experience: (cont.)

- 1984 Visiting Senior Research Scientist
Newport Corporation
Holography Division
Fountain Valley, California
- 1985 – 1986 Associate Director
Center for Photonic Technology
University of Southern California
Los Angeles, California
- 1989 – 1991 Associate Director
Center for Photonic Technology
University of Southern California
Los Angeles, California
- 1991 – 1994 Director
Center for Photonic Technology
University of Southern California
Los Angeles, California
- 1993 – 1994 Co-Thrust Leader
Studio of the Future
Multimedia and Creative Technologies Research Center
University of Southern California
Los Angeles, California
- 1994 – 1997 Associate Director
Signal and Image Processing Institute
University of Southern California
Los Angeles, California
- 1994 – 1997 Director
Center for Neural Engineering
University of Southern California
Los Angeles, California
- 1995 – 1996 Associate Director for Research
Integrated Media Systems Center
University of Southern California
Los Angeles, California

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Professional Experience: (cont.)

- 1996 – 1997 Deputy Director
Integrated Media Systems Center
A National Science Foundation Engineering Research Center
University of Southern California
Los Angeles, California
- 1998 – 2003 Principal Investigator
Adaptive Optoelectronic Eyes: Hybrid Electronic/Photonic
Sensor/Processor Architectures
A DDR&E/ARO Multidisciplinary University Research
Initiative (MURI)
- 1999 – 2003 Visiting Associate in Electrical Engineering and Applied Physics
California Institute of Technology
Pasadena, California
(Sabbatical Leave: May, 1999 through September, 2000)
- 1999 – 2003 Visiting Professor of Optics
Institute of Optics, University of Rochester
Rochester, New York
(Sabbatical Leave: July – August, 1999 and July, 2001)
- 2001 – 2009 Professor
Electrical Engineering,
Chemical Engineering and Materials Science,
and Biomedical Engineering;
Neuroscience Graduate Program
University of Southern California
Los Angeles, California
- 2009 – 2010 Professor
Electrical Engineering,
Chemical Engineering and Materials Science,
Biomedical Engineering, and
Ophthalmology;
Neuroscience Graduate Program
University of Southern California
Los Angeles, California

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Professional Experience: (cont.)

2010 – Present Professor
Electrical Engineering,
Chemical Engineering and Materials Science,
Biomedical Engineering, Ophthalmology, and
Physics and Astronomy;
Neuroscience Graduate Program
University of Southern California
Los Angeles, California

Consultancies:

Rockwell International
Itek Corporation
TRW, Inc.
Xerox Corporation, Palo Alto Research Center
Rome Air Development Center
Aerodyne Research, Inc.
Newport Corporation
University of California, San Diego
International Business Machines Corporation
Battelle Memorial Institute, Columbus Laboratories
Lockheed Missiles and Space Company, Inc.
National Bureau of Standards, Center for Materials Science
Optron Systems, Inc.
Zaddick Technologies, Inc.
Pulson Industries
Defense Advanced Research Projects Agency,
Strategic Technology Office
Microelectronics and Computer Technology Corporation (MCC)
Honeywell Physical Sciences Center
California Institute of Technology,
Jet Propulsion Laboratory
Science Applications International Corporation
(Office of the Undersecretary of Defense for Research and Development)
Hoechst Celanese Corporation
Glenwood Management
Biological Components Corporation
PARSA
Teledyne Microelectronics
Latham and Watkins, Attorneys at Law
Teledyne Relays
Viracon
(Glass Fabrication Division of Apogee Enterprises, Inc.)
Environmental Lighting Systems, Inc. (ELSI)
LightPath Technologies
Teledyne Electronic Technologies (TET)

Consultancies: (cont.)

Commercial Technologies Corporation (CTC)
Research and Development Laboratories (RDL)
APIC Corporation (Member, Technical Advisory Board)

Scholarships, Fellowships, and Awards:

Bank of America Prize Scholarship for Science and Mathematics
California Institute of Technology, 1967 – 1971

National Merit Scholarship
California Institute of Technology, 1967 – 1971

University of California, Los Angeles (UCLA) Scholarship
Plasma Physics Workshop
University of California, Los Angeles, 1970

National Science Foundation Scholarship
Solid State Physics Workshop
Montana State University, 1971

Henry P. Becton Prize Fellowship
Yale University, 1971 – 1973

Danforth Foundation Kent Fellowship
Yale University, 1973 – 1976

Graduate Research Fellowship
Yale University, 1971, 1976 – 1977

Harding Bliss Prize
Yale University, 1978

Archimedes Circle Faculty Service Award
University of Southern California, 1983

Fellow, Optical Society of America (OSA), 1986

Rudolph Kingslake Medal and Prize
Society of Photo-Optical Instrumentation Engineers
(SPIE–The International Society for Optical Engineering), 1986

NATO Collaborative Award
University College London (Prof. John Midwinter), 1986

Fellow, American Association for the Advancement of Science (AAAS), 1999
“For distinguished contributions to physical optics, optical materials and devices, and optical information processing and computing, including the invention of stratified volume holographic optical elements”

Scholarships, Fellowships, and Awards: (cont.)

- Teacher of the Year Award
USC Latter Day Saint Student Association, University of Southern California, 2002
- Faculty Fellow, Center for Excellence in Teaching
University of Southern California, 2001 – 2005
- Distinguished Faculty Fellow, Center for Excellence in Teaching
University of Southern California, 2005 – Present
- Popular Mechanics Breakthrough Award 2010
For the development of intraocular retinal prostheses
Mark S. Humayun, James D. Weiland, Satinderpall S. Pannu,
Wentai Liu, Armand R. Tanguay, Jr., Yu-Chong Tai, and
Kurt O. Wessendorf
- Finalist, Steven B. Sample Teaching and Mentoring Awards,
October 27, 2011 (Certificate)

Research Interests and Experience:

- Crystal Growth of Optical and Electronic Materials
- Photochromic Effects in Optical Materials
- Dielectric and Optical Thin Film Physics
- Thin Film Deposition Technology and Characterization
- Physical Optics (Linear and Nonlinear Polarization Effects)
- Physics of Photonic, Electrooptic, Optoelectronic,
and Integrated Optical Devices
- Spatial Light Modulators (Optically and Electrically Addressed)
- Smart Pixel Arrays
- Optical Disk Spatial Light Modulators (OD-SLMs)
- Photorefractive Volume Holographic Optical Elements
- Diffraction Optical Elements
- Stratified Volume Holographic Optical Elements (SVHOEs)
- Computer-Generated Stratified Volume Holographic Optical Elements
(CG-SVHOEs)
- Computer-Generated Stratified Volume Diffractive Optical Elements
(CG-SVDOEs)
- Synthetic Aperture Radar Image Formation
- Advanced Integrated Optical Signal Processors

Research Interests and Experience: (cont.)

Photonic Implementations of Neural Networks
Multilayer Silicon Retinas
Dense 3-D Optical Interconnections
Hybrid Electronic/Photonic Vertically-Interconnected Multichip Modules
Flip Chip Bonding for Hybrid Dense 2-D Array Interconnections
Electronic/Photonic Packaging Technology
Fundamental Physical and Technological Limitations of
Optical Information Processing and Computing
Smart Cameras
Immersive Cameras
Full Volume 3-D Displays and Smart Displays
Adaptive Environmental Feature Recognition and Tracking
Smart Fiducials
Conformal Multielectrode Arrays for Parallel Neural Interfaces
Neural Prosthetic Devices
Hybrid Neural-Silicon Computational Modules
Tissue-Based Biosensors
Photonic Implementations of Optical Code Division Multiple Access Networks
Intraocular Cameras for Retinal Prostheses
Eye-Tracked Extraocular Cameras for Retinal Prostheses
Psychophysics of the Human Visual System
Visual Prosthesis Simulation
Lateral Brightness Adaptation, Chromatic Adaptation
Optimal Image Processing in the Low Pixellation Limit for Retinal Prostheses
Persistence of Monocular Depth Perception in the Low Resolution Limit
Low Light Level Imaging for Ophthalmological Examinations
Fundamental Origins of Layering in the Human Visual System
Chaos in Neural Networks
Optical Properties of Metamorphopsia
Ultraminiature Cameras
Ultraminiature Wide Field of View Optical Imaging Systems
Ultralow Power CMOS Clock Circuits
CMOS Positive Mobile Ion Contamination Sensors
Multilayer Thin Film Hermetic Coatings for Implantable Biomedical Devices

University Research Center Affiliations:

Image Processing Institute (IPI)
Center for Photonic Technology (CPT)
 Founding Member
 Associate Director
 Director

Center for the Integration of Optical Computing (CIOC)
 Founding Member

Signal and Image Processing Institute (SIPI)
 Associate Director

Center for Neural Engineering (CNE)
 Director

Program in Neural, Informational, and Behavioral Sciences (NIBS)
National Center for Integrated Photonic Technology (NCIPT)
 Founding Member
 Thrust Leader, Photorefractive Materials and Devices

Multimedia and Creative Technologies Research Center (MCTRC)
 Founding Member
 Thrust Leader, Studio of the Future

Integrated Media Systems Center (IMSC)
 A National Science Foundation Engineering Research Center
 Founding Member
 Associate Director for Research
 Deputy Director

Multidisciplinary University Research Center on Adaptive Optoelectronic Eyes:
 Hybrid Electronic/Photonic Sensor/Processor Architectures
 A DDR&E-sponsored Multidisciplinary University Research Initiative
 (MURI) funded through the Army Research Office (ARO)
 Principal Investigator

Neuroscience Graduate Program
 Voting Member

Biomimetic MicroElectronic Systems Center (BMES)
 A National Science Foundation Engineering Research Center
 Founding Member

Center for Vision Science and Technology (CVST)
 Founding Member

University Research Center Affiliations: (cont.)

Neuroscience Research Institute (NRI)

Founding Member

Teaching Experience:

Physics of Solid State Devices

Solid State Processing and Integrated Circuit Technology

Solid State Processing and Integrated Circuit Laboratory

Solid State Physics

Optical Properties of Solids

Introduction to Electrical Engineering

Energy and the Environment

Crystal Growth, Thin Films, and Defects

Principles and Properties of Electrooptic Devices

Crystal Dynamics

Band Theory of Solids

Physical Optics

Advanced Physical Optics

Optical Information Processing

Semiconductor Photonic Devices

Chaos, Fractals, and Complexity

Optics

Introduction to Electrical Engineering

The Future Professoriate

Low Level Vision

Retinal and Cortical Prostheses

Advanced Geometrical Optics

Contemporary Issues in Optics and Photonics

Doctoral Students (Ph.D. Dissertations):

1. Yuri Owechko, "Effects of Charge Transport and Crystallographic Orientation on Electrooptic Spatial Light Modulator Resolution and Sensitivity", Ph.D. Thesis, University of Southern California, (August, 1983).
2. Abdellatif Marrakchi El Fellah, "Real-Time Holography in Photorefractive Bismuth Silicon Oxide Crystals: Polarization Properties of Diffraction and Application to Spatial Light Modulation", Ph.D. Thesis, University of Southern California, (February, 1986).
3. Chiung-Sheng (John) Wu, "The Origin and Properties of the Variable Grating Mode Liquid Crystal Effect for Optical Processing Device Applications", Ph.D. Thesis, University of Southern California, (January, 1987).
4. Sangkuk Kim, "Study of the Total Internal Reflection Spatial Light Modulator for Optical Signal Processing Applications", Ph.D. Thesis, University of Southern California, (December, 1987).
5. Kasra Rastani, "Advanced Integrated Optical Signal Processing Components", Ph.D. Thesis, University of Southern California, (December, 1988).
6. Praveen Asthana, "Volume Holographic Techniques for Highly Multiplexed Interconnection Applications", Ph.D. Thesis, University of Southern California, (December, 1991).
7. Gregory P, Nordin, "Volume Diffraction Phenomena for Photonic Neural Network Implementations and Stratified Volume Holographic Optical Elements", Ph.D. Thesis, University of Southern California, (December, 1992).
8. John Rilum, "Optical Disk Spatial Light Modulators: A Novel Use of Optical Disk Technology", Ph.D. Thesis, University of Southern California, (May, 1993).
9. Christos Kyriakakis, "Fundamental and Technological Limitations in Optical Processing and Computing: Algorithms, Architectures, and Devices", Ph.D. Thesis, University of Southern California, (December, 1993).
10. Zaheed Karim, "Thin Film Coatings for Optical Information Processing and Computing Applications", Ph.D. Thesis, University of Southern California, (December, 1993).
11. Jong-Je Jung, "Stratified Volume Holographic Optical Elements: Analysis of Diffraction Behavior and Implementation Using InGaAs/GaAs Multiple Quantum Well Structures", Ph.D. Thesis, University of Southern California, (February, 1994).

Doctoral Students (Ph.D. Dissertations): (cont.)

12. Scott De Mars, “Advanced Hybrid Bulk/Integrated Optical Signal Processing Modules”, Ph.D. Thesis, University of Southern California, (December, 1995).
13. Edward J. Herbulock, “Photorefractive Volume Holographic Grating Recording with Applied Electric Fields”, Ph.D. Thesis, University of Southern California, (December, 1999).
14. Patrick J. Nasiatka, “Design, Fabrication, and Integration of a 3-D Hybrid Electronic/Photonic Smart Camera”, Ph.D. Thesis, University of Southern California, (June, 2003).
15. Martin Han, “Cytoarchitecturally Conformal Multielectrode Arrays for Neuroscience and Neural Prosthetic Applications”, Ph.D. Thesis, University of Southern California, (June, 2003).
16. Jaw-Chyng (Lormen) Lue, “Neuron Unit Arrays and Nature/Nurture Adaptation for Photonic Multichip Modules”, Ph.D. Thesis, University of Southern California, (October, 2007).
17. Michelle C. Hauer, “Intraocular Camera for Retinal Prosthesis: Refractive and Diffractive Lens Systems”, Ph.D. Thesis, University of Southern California, (January, 2009).
18. Benjamin P. McIntosh, Research Topic (Research Areas): Intraocular Retinal Prostheses: Effects of Foveation (Optical Systems Design, Wide Angle Aspherical Refractive Lenses, Diffractive Optical Elements, Stratified Volume Diffractive Optical Elements, Eye-Tracking, Extraocular Cameras for Intraocular Retinal Prostheses, Image Processor Integration, Low Power CMOS Clock Design and Fabrication); “Intraocular and Extraocular Cameras for Retinal Prostheses: Effects of Foveation by Means of Visual Prosthesis Simulation”, Ph.D. Thesis, University of Southern California, (January, 2015).
19. Furkan E. Sahin, Research Topic (Research Areas): Eye-Tracked Extraocular Cameras for Retinal Prostheses (Wide Angle Aspherical Refractive Lenses, Image Dewarping Algorithms); Ultraminiature Intraocular Cameras for Retinal Prostheses (Ultraminiature Optical Imaging Systems, Wide Dynamic Range Image Sensor Arrays); “Novel Imaging Systems for Intraocular Retinal Prostheses, Extraocular Retinal Prostheses, and Wearable Visual Aids”, Ph.D. Thesis, University of Southern California, (Expected December, 2015).

Doctoral Students (Ph.D. Dissertations): (cont.)

20. Kartik Ananthanarayanan, Research Topic (Research Areas): Electronic/Photonic Multichip Module Integration (Integrated Optical Devices, Flip Chip Bonding, Hybrid Array Integration, Diffractive Optical Element Fabrication, Deposition and Characterization of Thin Film Coatings); “Hybrid Array Integration and Antireflection Coatings for Photonic Multichip Modules”, Ph.D. Thesis, University of Southern California, (Expected December, 2015).

Honorary and Professional Organizations:

Sigma Xi

Tau Beta Pi

New York Academy of Sciences

American Physical Society (APS)

Division of Solid State Physics

Forum on Physics and Society

Optical Society of America (OSA) (Fellow, 1986)

Lasers and Electro-Optics Group

Optical Materials Group

Optical Physics Group

Information Processing and Holography Group

Vision Group

Society of Photo-Optical Instrumentation Engineers (SPIE)

Institute of Electrical and Electronics Engineers (IEEE)

Quantum Electronics Group

Electron Devices Group

American Association for the Advancement of Science (AAAS) (Fellow, 1999)

American Association for Crystal Growth (AACG)

Southern California Crystal Growers Association (SCCGA)

Materials Research Society (MRS)

Society for Values in Higher Education (SVHE)

Society for Neuroscience (SFN)

Association for Research in Vision and Ophthalmology (ARVO)

Publications:

Journal Articles:

1. A. R. Tanguay, Jr., "Comment on Polar Intensity Profile of Elliptically Polarized Light", *American Journal of Physics*, **45**, 873-874, (1977).
2. A. R. Tanguay, Jr., S. Mroczkowski, and R. C. Barker, "The Czochralski Growth of Optical Quality Bismuth Silicon Oxide $\text{Bi}_{12}\text{SiO}_{20}$ ", *Journal of Crystal Growth*, **42**, 431-434, (1977).
3. S. C. Abrahams, C. Svensson, and A. R. Tanguay, Jr., "Crystal Chirality and Optical Rotation Sense in Isomorphous $\text{Bi}_{12}\text{SiO}_{20}$ and $\text{Bi}_{12}\text{GeO}_{20}$ ", *Solid State Communications*, **30**, 293-295, (1979).
4. J. Feinberg, D. Heiman, A. R. Tanguay, Jr., and R. W. Hellwarth, "Photorefractive Effects and Light-Induced Charge Migration in Barium Titanate", *Journal of Applied Physics*, **51**, 1297-1305, (1980).
5. P. Chavel, A. A. Sawchuk, T. C. Strand, A. R. Tanguay, Jr., and B. H. Soffer, "Optical Logic with Variable-Grating-Mode Liquid Crystal Device", *Optics Letters*, **5**, 398-400, (1980).
6. B. H. Soffer, J. D. Margerum, A. M. Lackner, D. Boswell, A. R. Tanguay, Jr., T. C. Strand, A. A. Sawchuk, and P. Chavel, "Variable-Grating-Mode Liquid Crystal Device for Optical Processing and Computing", *Molecular Crystals and Liquid Crystals*, **70**, 145-161, (1981).
7. Y. Owechko and A. R. Tanguay, Jr., "Effects of Operating Mode on Electrooptic Spatial Light Modulator Resolution and Sensitivity", *Optics Letters*, **7**, 587-589, (1982).
8. Y. Owechko and A. R. Tanguay, Jr., "Effects of Crystallographic Orientation on Electrooptic Spatial Light Modulator Amplitude and Phase Responses", *Optics Communications*, **44**, 239-242, (1983).
9. A. R. Tanguay, Jr., P. Chavel, T. C. Strand, C. S. Wu, and B. H. Soffer, "Physical Characterization of the Variable Grating Mode Liquid Crystal Device", *Optical Engineering (Special Issue on Spatial Light Modulators: Critical Issues)*, **22**(6), 687-694, (1983).
10. Y. Shi, D. Psaltis, A. Marrakchi, and A. R. Tanguay, Jr., "Photorefractive Incoherent-to-Coherent Optical Converter", *Applied Optics (Rapid Communications)*, **22**(23), 3665-3667, (1983).

Journal Articles: (cont.)

11. A. R. Tanguay, Jr., P. Chavel, T. C. Strand, C. S. Wu, and B. H. Soffer, "Polarization Properties of the Variable Grating Mode Liquid Crystal Device", *Optics Letters*, **9**, 174-176, (1984).
12. Y. Owechko and A. R. Tanguay, Jr., "Theoretical Resolution Limitations of Electrooptic Spatial Light Modulators. I. Fundamental Considerations", *Journal of the Optical Society of America A*, **1**(6), 635-643, (1984).
13. Y. Owechko and A. R. Tanguay, Jr., "Theoretical Resolution Limitations of Electrooptic Spatial Light Modulators. II. Effects of Crystallographic Orientation", *Journal of the Optical Society of America A*, **1**(6), 644-652, (1984).
14. A. Marrakchi, A. R. Tanguay, Jr., J. Yu, and D. Psaltis, "Physical Characterization of the Photorefractive Incoherent-to-Coherent Optical Converter", *Optical Engineering (Special Issue on Optical Information Processing Components)*, **24**(1), 124-131, (1985); (Invited Review Paper).
15. A. R. Tanguay, Jr., "Materials Requirements for Optical Processing and Computing Devices", *Optical Engineering (Special Issue on Critical Reviews of Technology: Optical Computing)*, **24**(1), 002-018, (1985); (Invited Review Paper).
16. R. P. Vasquez, A. Madhukar, and A. R. Tanguay, Jr., "Spectroscopic Ellipsometry and X-Ray Photoelectron Spectroscopy Studies of the Annealing Behavior of Amorphous Si Produced by Si Ion Implantation", *Journal of Applied Physics*, **58**(6), 2337-2343, (1985).
17. A. Marrakchi, R. V. Johnson, and A. R. Tanguay, Jr., "Polarization Properties of Photorefractive Diffraction in Electrooptic and Optically Active Sillienite Crystals (Bragg Regime)", *Journal of the Optical Society of America B*, **3**(2), 321-336, (1986).
18. R. V. Johnson and A. R. Tanguay, Jr., "Optical Beam Propagation Method for Birefringent Phase Grating Diffraction", *Optical Engineering*, **25**(2), 235-249, (1986).
19. D. A. Seery, M. H. Garrett, and A. R. Tanguay, Jr., "Electrooptic Measurement of the Volume Resistivity of Bismuth Silicon Oxide ($\text{Bi}_{12}\text{SiO}_{20}$)", *Journal of Crystal Growth*, **85**, 282-289, (1987).
20. A. Marrakchi, R. V. Johnson, and A. R. Tanguay, Jr., "Polarization Properties of Enhanced Self-Diffraction in Sillienite Crystals", *IEEE Journal of Quantum Electronics, Special Issue on Electrooptic Materials and Devices*, **QE-23**(12), 2142-2151, (1987).

Journal Articles: (cont.)

21. R. V. Johnson and A. R. Tanguay, Jr., "Stratified Volume Holographic Optical Elements", *Optics Letters*, **13**(3), 189-191, (1988).
22. A. R. Tanguay, Jr., "Integrated Optical Processing and Computing", *Optics News*, Special Issue on Integrated Optics: Evolution and Prospects, **14**(2), 23-26, (1988); (Invited Paper).
23. A. R. Tanguay, Jr., "Physical and Technological Limitations of Optical Information Processing and Computing", *Materials Research Society Bulletin*, Special Issue on Photonic Materials, **XIII**(8), 36-40, (1988); (Invited Paper).
24. R. V. Johnson and A. R. Tanguay, Jr., "Stratified Volume Holographic Optical Elements", *Optics News*, Special Issue on "Optics in 1988", **14**(12), 30-31, (1988); (Invited Article).
25. K. Hu, L. Chen, A. Madhukar, P. Chen, K. C. Rajkumar, K. Kaviani, Z. Karim, C. Kyriakakis, and A. R. Tanguay, Jr., "High Contrast Ratio Asymmetric Fabry-Perot Reflection Light Modulator Based on GaAs/InGaAs Multiple Quantum Wells", *Applied Physics Letters*, **59**(9), 1108-1110, (1991).
26. K. Hu, L. Chen, A. Madhukar, P. Chen, C. Kyriakakis, Z. Karim, and A. R. Tanguay, Jr., "Inverted Cavity GaAs/InGaAs Asymmetric Fabry-Perot Reflection Modulator", *Applied Physics Letters*, **59**(14), 1664-1666, (1991).
27. S. Piazzolla, B. K. Jenkins, and A. R. Tanguay, Jr., "Single-Step Copying Process for Multiplexed Volume Holograms", *Optics Letters*, **17**(9), 676-678, (1992).
28. G. P. Nordin, R. V. Johnson, and A. R. Tanguay, Jr., "Diffraction Properties of Stratified Volume Holographic Optical Elements", *Journal of the Optical Society of America A*, **9**(12), 2206-2217, (1992).
29. G. P. Nordin and A. R. Tanguay, Jr., "Photopolymer-Based Stratified Volume Holographic Optical Elements", *Optics Letters*, **17**(23), 1709-1711, (1992).
30. J. S. Osinski, P. Grodzinski, Y. Zou, P. D. Dapkus, Z. Karim, and A. R. Tanguay, Jr., "Low Threshold Current 1.5 μm Buried Heterostructure Lasers Using Strained Quaternary Quantum Wells", *IEEE Photonics Technology Letters*, **4**(12), 1313-1315, (1992).
31. J. Rilum and A. R. Tanguay, Jr., "High Performance Optical Disk SLM Uses Differential Interferometric Readout", *Optical Processing & Computing*, **3**(3), 8, (1992); (Invited Article).

Journal Articles: (cont.)

32. P. Asthana, G. P. Nordin, A. R. Tanguay, Jr., and B. K. Jenkins, "Analysis of Weighted Fan-Out/Fan-In Volume Holographic Interconnections", *Applied Optics*, **32**(8), 1441-1469, (1993).
33. D. H. Reitze, E. Haton, R. Ramesh, S. Etemad, D. E. Leaird, T. Sands, Z. Karim, and A. R. Tanguay, Jr., "Electro-Optic Properties of Single Crystalline Ferroelectric Thin Films", *Applied Physics Letters*, **63**(5), 596-598, (1993).
34. Z. Karim, C. Kyriakakis, A. R. Tanguay, Jr., K. Hu, L. Chen, and A. Madhukar, "Externally-Deposited Phase-Compensating Dielectric Mirrors for Asymmetric Fabry-Perot Cavity Tuning", *Applied Physics Letters*, **64**(22), 2913-2915, (1994).
35. A. D. Norte, A. E. Willner, W. Shieh, and A. R. Tanguay, Jr., "Multiple-Layer Optical Interconnections Using Through-Wafer Hollow-Dielectric-Waveguide Vias", *IEEE Photonics Technology Letters*, **6**(7), 851-854, (1994).
36. Z. Karim, C. Kyriakakis, A. R. Tanguay, Jr., R. F. Cartland, K. Hu, L. Chen, and A. Madhukar, "Post-Growth Tuning of Inverted Cavity InGaAs/GaAs Spatial Light Modulators Using Phase Compensating Dielectric Mirrors", *Applied Physics Letters*, **66**(21), 2774-2776, (1995).
37. G. C. Petrisor, A. A. Goldstein, B. K. Jenkins, E. J. Herbulock, and A. R. Tanguay, Jr., "Convergence of Backward-Error-Propagation Learning in Photorefractive Crystals", *Applied Optics*, **35**(8), 1328-1343, (1996).
38. Z. Karim, C. Kyriakakis, and A. R. Tanguay, Jr., "A Wide-Angle Bandpass AR Coating for Bismuth Silicon Oxide ($\text{Bi}_{12}\text{SiO}_{20}$)", *Applied Physics Letters*, **70**(12), 2793-2795, (1997).
39. T. W. Berger, M. Baudry, R. D. Brinton, J.-S. Liaw, V. Z. Marmarelis, A. Y. Park, B. J. Sheu, and A. R. Tanguay, Jr., "Brain-Implantable Biomimetic Electronics as the Next Era in Neural Prosthetics", *Proceedings of the IEEE*, **89**(7), 993-1007, (2001); (Invited Paper).
40. A. R. Tanguay, Jr. and B. Keith Jenkins, "Photonic Multichip Modules for Vision Applications", *Optics in Information Systems, Special Issue on Integrated Computational Sensors*, D. Brady, Ed., **13**(1), 4ff, (2002); (Invited Paper).
41. T. W. Berger, A. Ahuja, S. H. Courellis, S. A. Deadwyler, G. Erinjippurath, G. A. Gerhardt, G. Gholmieh, J. J. Granacki, R. Hampson, M. C. Hsaio, J. LaCoss, V. Z. Marmarelis, P. Nasiatka, V. Srinivasan, D. Song, A. R. Tanguay, Jr., and J. Wills, "Restoring Lost Cognitive Function", *IEEE Engineering in Medicine and Biology Magazine*, **24**(5), 30-44, (2005).

Journal Articles: (cont.)

42. G. Gholmieh, W. Soussou, M. Han, A. Ahuja, M. C. Hsiao, D. Song, A. R. Tanguay, Jr., and T. W. Berger, "Custom-Designed High-Density Conformal Planar Multielectrode Arrays for Brain Slice Electrophysiology", *Journal of Neuroscience Methods*, **152**(1-2), 116-29, (2006).
43. M. T. Kim, W. Soussou, G. Gholmieh, A. Ahuja, A. R. Tanguay, Jr., T. W. Berger, and R. D. Brinton. "17beta-Estradiol Potentiates Field Excitatory Postsynaptic Potentials within each Subfield of the Hippocampus with Greatest Potentiation of the Associational/Commissural Afferents of CA3", *Neuroscience*, **141**(1), 391-406, (2006).
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23. A. R. Tanguay, Jr., and Y. Owechko, "Materials Considerations for Electrooptic Spatial Light Modulators", 1982 Annual Meeting of the Optical Society of America, Tucson, Arizona, (1982); *J. Opt. Soc. Am.*, **72**(12), 1832-1833, (1982).
24. Y. Owechko and A. R. Tanguay, Jr., "Imaging Properties of the PRIZ Electrooptic Spatial Light Modulator", 1982 Annual Meeting of the Optical Society of America, Tucson, Arizona, (1982); *J. Opt. Soc. Am.*, **72**(12), 1832, (1982).
25. A. R. Tanguay, Jr., "Polarization Properties of Birefringent Phase Gratings", 1982 Annual Meeting of the Optical Society of America, Tucson, Arizona, (1982); *J. Opt. Soc. Am.*, **72**(12), 1832, (1982).
26. I. Abramov and A. R. Tanguay, Jr., "Real Time Synthetic Aperture Radar Image Formation Utilizing an Electrooptic Spatial Light Modulator", NASA Spaceborne Imaging Radar Symposium, Jet Propulsion Laboratory, Pasadena, California, (1983); (Invited Paper).
27. Y. Owechko and A. R. Tanguay, Jr., "Fundamental and Materials Limitations of Electrooptic Spatial Light Modulators", SPIE International Symposium, Los Angeles, California, (1983); (Invited Paper).
28. I. Abramov, A. R. Tanguay, Jr., and T. Bicknell, "Real Time Synthetic Aperture Radar Image Formation", NASA Conference on Optical Information Processing for Aerospace Applications. II, Hampton, Virginia, (1983); (Invited Paper).

Conference and Invited Presentations: (cont.)

29. J. AuYeung and A. R. Tanguay, Jr., "Photorefractive Materials for Real Time Holographic Nondestructive Testing Applications", International Conference on the Applications of Lasers and Electro-Optics, Los Angeles, California, (1983); (Invited Paper).
30. A. R. Tanguay, Jr., "Spatial Light Modulators for Image Processing and Optical Computing", Polaroid Corporation, Cambridge, Massachusetts, (April, 1983), (Invited Paper).
31. A. R. Tanguay, Jr., "Variable Grating Mode Liquid Crystal Devices for Optical Processing and Computing Applications", Polaroid Corporation, Cambridge, Massachusetts, (April, 1983), (Invited Paper).
32. A. R. Tanguay, Jr., "The Nature of Scientific Style", Arts and Humanities Lecture Series, California State Polytechnic University, San Luis Obispo, California, (1983); (Invited Paper).
33. A. R. Tanguay, Jr., "Materials Requirements for Optical Processing and Computing Devices: Electrooptics", National Science Foundation Symposium on The Future of Lightwave Technology, Los Angeles, California, (1984); (Invited Paper).
34. A. R. Tanguay, Jr., "Electrooptic Spatial Light Modulation", Gordon Research Conference on Optical Information Processing and Holography, Plymouth, New Hampshire, (1984); (Invited Paper).
35. A. R. Tanguay, Jr., "Programmable Optical Interconnections", DARPA Materials Research Council Meeting on Interconnection Technologies, La Jolla, California, (1984); (Invited Paper).
36. A. R. Tanguay, Jr., "Materials Requirements for Optical Processing and Computing", National Bureau of Standards, Gaithersburg, Maryland, (1984); (Invited Paper).
37. A. R. Tanguay, Jr., "Variable Grating Mode Liquid Crystal Device Research", Air Force Office of Scientific Research, Washington, D.C., (1984); (Invited Presentation).
38. A. R. Tanguay, Jr., Invited Participant, ARO-Sponsored Workshop on Optical Switching Technology, Irvine, California, (1984).
39. A. R. Tanguay, Jr., "Optical Devices for Image Processing and Computing", Yale University, New Haven, Connecticut, (1984); (Invited Colloquium).

Conference and Invited Presentations: (cont.)

40. A. R. Tanguay, Jr., "Optical Information Processing Components: Fundamental Issues", 1984 Annual Meeting of the Optical Society of America, San Diego, California, (1984); (Invited Paper).
41. A. Marrakchi and A. R. Tanguay, Jr., "Polarization Properties of Volume Phase Gratings in Optically Active Materials", 1984 Annual Meeting of the Optical Society of America, San Diego, California, (1984); *J. Opt. Soc. Am. A*, **1**(12), 1313, (1984).
42. A. Marrakchi, A. R. Tanguay, Jr., D. Psaltis, and J. Yu, "Resolution and Sensitivity Enhancement of the Photorefractive Incoherent-to-Coherent Optical Converter", 1984 Annual Meeting of the Optical Society of America, San Diego, California, (1984); *J. Opt. Soc. Am. A*, **1**(12), 1313, (1984).
43. D. Seery, M. H. Garrett, and A. R. Tanguay, Jr., "Electrooptic Measurements of the Volume Resistivity of Bismuth Silicon Oxide ($\text{Bi}_{12}\text{SiO}_{20}$)", 1984 Annual Meeting of the Optical Society of America, San Diego, California, (1984); *J. Opt. Soc. Am. A*, **1**(12), 1312-1313, (1984).
44. S. W. McCahon, S. Kim, and A. R. Tanguay, Jr., "Optically Modulated Linear Array Total Internal Reflection Spatial Light Modulator", 1984 Annual Meeting of the Optical Society of America, San Diego, California, (1984); *J. Opt. Soc. Am. A*, **1**(12), 1314, (1984).
45. A. R. Tanguay, Jr., "Single Crystal and Thin Film Electrooptic Materials: Characterization for Optical Device Applications", DARPA Annual Conference on Optical Processing and Computing, McLean, Virginia, (1984); (Invited Paper).
46. A. R. Tanguay, Jr., "Optical Devices for Image Processing and Computing", Optical Sciences Center, University of Arizona, Tucson, Arizona, (1984); (Invited Colloquium).
47. A. R. Tanguay, Jr., "Functional Requirements for Optical Processing and Computing", ITT Corporation Symposium on Ultra-High Bandwidth Communications, SEL Laboratories, Stuttgart, Federal Republic of Germany, (1985); (Invited Paper).
48. A. R. Tanguay, Jr., "Optical Materials Requirements for Optical Processing and Computing Devices", Symposium on Materials in Emerging Technologies, American Chemical Society, Chicago, Illinois, (1985); (Invited Paper).
49. A. R. Tanguay, Jr., "Optical Computing Components: Fundamental Issues", 1985 Annual Meeting of the Optical Society of America, Washington, D.C., (1985); (Invited Paper).

Conference and Invited Presentations: (cont.)

50. T. Bicknell, D. Psaltis, and A. R. Tanguay, Jr., "Integrated Optical Synthetic Aperture Radar Processor", 1985 Annual Meeting of the Optical Society of America, Washington, D.C. (1985); J. Opt. Soc. Am. A, **2**(13), P8, (1985).
51. R. V. Johnson and A. R. Tanguay, Jr., "Optical Beam Propagation in Anisotropic Media", 1985 Annual Meeting of the Optical Society of America, Washington, D.C., (1985); J. Opt. Soc. Am. A, **2**(13), P98, (1985).
52. A. Marrakchi, R. V. Johnson, and A. R. Tanguay, Jr., "Readout Optimization of Volume Holograms in Bismuth Silicon Oxide", 1985 Annual Meeting of the Optical Society of America, Washington, D.C., (1985); J. Opt. Soc. Am. A, **2**(13), P98, (1985).
53. C. S. Wu, R. V. Johnson, and A. R. Tanguay, Jr., "Optical Diffraction Characteristics of the Variable Grating Mode Liquid Crystal Device", 1985 Annual Meeting of the Optical Society of America, Washington, D.C., (1985); J. Opt. Soc. Am. A, **2**(13), P98, (1985).
54. R. V. Johnson and A. R. Tanguay, Jr., "Single Crystal and Thin Film Electrooptic Materials: Characterization for Optical Device Applications", DARPA Annual Conference on Optical Processing and Computing, McLean, Virginia, (1985); (Invited Paper).
55. A. R. Tanguay, Jr., "Materials Requirements for Photorefractive Volume Holographic Optical Devices", Nonlinear Optical Materials Symposium of the Materials Research Society, Boston, Massachusetts, (1985); (Invited Review Paper).
56. S. Sriram, T. Waiss, K. Rastani, S. W. McCahon, and A. R. Tanguay, Jr., "Integrated Optical Devices in Lithium Niobate", SPIE International Symposium, Los Angeles, California, (1986).
57. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", Southern California Crystal Growers Association Meeting, El Segundo, California, (1986); (Invited Paper).
58. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", Jet Propulsion Laboratory, Pasadena, California, (1986); (Invited Paper).
59. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", Microelectronics and Computer Technology Corporation, Austin, Texas, (1986); (Invited Paper).

Conference and Invited Presentations: (cont.)

60. A. R. Tanguay, Jr., "Research in the Center for Photonic Technology at USC", USC Board of Trustees Annual Retreat, Palm Springs, California, (1986); (Invited Presentation).
61. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", Minnesota Mining and Manufacturing Co., St. Paul, Minnesota, (1986); (Invited Colloquium).
62. A. R. Tanguay, Jr., "Research in the Center for Photonic Technology at USC", Minnesota Mining and Manufacturing Co., St. Paul, Minnesota, (1986); (Invited Presentation).
63. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", Honeywell Physical Sciences Center, Bloomington, Minnesota, (1986); (Invited Colloquium).
64. A. R. Tanguay, Jr., "Research in the Center for Photonic Technology at USC", Honeywell Physical Sciences Center, Bloomington, Minnesota, (1986); (Invited Presentation).
65. P. Asthana and A. R. Tanguay, Jr., "Brewster Cut Tilted Fiber Isolation", Battelle Memorial Institute Symposium on the Guided Wave Optoelectronics Manufacturing Technology Development Program, Columbus, Ohio, (1986); (Invited Paper).
66. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", Lockheed Palo Alto Research Laboratories, Palo Alto, California, (1986); (Invited Colloquium).
67. A. R. Tanguay, Jr. and R. V. Johnson, "Stratified Volume Holographic Optical Elements", 1986 Annual Meeting of the Optical Society of America, Seattle, Washington, (1986); J. Opt. Soc. Am. A, **3**(13), P53, (1986).
68. S. Kim, R. V. Johnson, and A. R. Tanguay, Jr., "Observation of Electric Field Enhanced Electrode Indiffusion in Lithium Niobate", 1986 Annual Meeting of the Optical Society of America, Seattle, Washington, (1986); J. Opt. Soc. Am. A, **3**(13), P90, (1986).
69. A. Marrakchi, R. V. Johnson, and A. R. Tanguay, Jr., "Polarization Properties of Two-Beam Coupling With Running Gratings in BSO", 1986 Annual Meeting of the Optical Society of America, Seattle, Washington, (1986); J. Opt. Soc. Am. A, **3**(13), P105, (1986).

Conference and Invited Presentations: (cont.)

70. S. Kim, R. V. Johnson, A. R. Tanguay, Jr., and R. R. Neurgaonkar, "Total Internal Reflection Spatial Light Modulator Utilizing Strontium Barium Niobate", 1986 Annual Meeting of the Optical Society of America, Seattle, Washington, (1986); *J. Opt. Soc. Am. A*, **3**(13), P105, (1986).
71. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", The Institute of Optics, University of Rochester, Rochester, New York, (1986); (Invited Colloquium).
72. K. Rastani, Z. Karim, R. V. Johnson, and A. R. Tanguay, Jr., "Optical Information Processing Components", Gordon Research Conference on Optical Information Processing and Holography, Santa Barbara, California, (1987); (Invited Paper).
73. A. R. Tanguay, Jr., "Optical Information Processing Components", Celanese Research Company, Summit, New Jersey, (1987); (Invited Presentation).
74. R. V. Johnson and A. R. Tanguay, Jr., "Single Crystal and Thin Film Electrooptic Materials: Characterization for Optical Device Applications", DARPA Annual Conference on Optical Processing and Computing, Leesburg, Virginia, (1987); (Invited Paper).
75. A. R. Tanguay, Jr., "Optical Information Processing Components", Hewlett-Packard Research Laboratories, Palo Alto, California, (1987); (Invited Presentation).
76. C. Kyriakakis, P. Asthana, R. V. Johnson, and A. R. Tanguay, Jr., "Fundamental Physical Limitations of Optical Information Processing and Computing", 1987 Optical Society of America Topical Meeting on Optical Computing, Incline Village, Nevada, (1987); (Invited Paper).
77. A. R. Tanguay, Jr., "Spatial Light Modulators and Volume Holographic Optical Elements", Symposium of the Center for the Integration of Optical Computing, University of Southern California, Los Angeles, California, (1987); (Invited Paper).
78. A. R. Tanguay, Jr., "Optical Information Processing Components", Georgia Institute of Technology, Atlanta, Georgia, (1987); (Invited Colloquium).
79. A. R. Tanguay, Jr., and R. V. Johnson, "Stratified Volume Holographic Optical Elements", Conference on Lasers and Electro-Optics, Baltimore, Maryland, (1987).
80. A. R. Tanguay, Jr., "Fundamental Physical Limitations of Optical Information Processing and Computing", NATO Collaborative Award Colloquium, University College London, London, England, (1987); (Invited Colloquium).

Conference and Invited Presentations: (cont.)

81. A. R. Tanguay, Jr., "Optical Information Processing Components", GEC Research, Marconi Research Centre, Chelmsford, England, (1987); (Invited Colloquium).
82. A. R. Tanguay, Jr., "Fundamental Physical Limitations of Optical Information Processing and Computing", British Telecom Research Laboratories, Ipswich, England, (1987); (Invited Colloquium).
83. A. R. Tanguay, Jr., "Optical Information Processing Components", University of California at Santa Barbara, Santa Barbara, California, (1987); (Invited Colloquium).
84. A. R. Tanguay, Jr., "Fundamental Physical Limitations of Optical Information Processing and Computing", University of Rochester, Institute of Optics, Rochester, New York, (1987); (Invited Colloquium).
85. M. H. Garrett, D. A. Seery, and A. R. Tanguay, Jr., "Electrooptic Measurement of the Volume Resistivity of Bismuth Silicon Oxide ($\text{Bi}_{12}\text{SiO}_{20}$)", American Conference on Crystal Growth-7, Monterey, California, (1987); (Invited Paper).
86. A. R. Tanguay, Jr., "Optical Processing and Computing Devices: The Materials Perspective", American Conference on Crystal Growth-7, Monterey, California, (1987); (Invited Paper).
87. A. R. Tanguay, Jr., "The Professor Profession", 1987 Annual Meeting of the Optical Society of America, Rochester, New York, (1987); (Invited Presentation).
88. A. R. Tanguay, Jr., "Optical Information Processing Components", Bell Communications Research, Morristown, New Jersey, (1987), (Invited Colloquium).
89. A. R. Tanguay, Jr., "Optical Information Processing Components", IBM Almaden Research Center, San Jose, California, (1987); (Invited Colloquium).
90. A. R. Tanguay, Jr., "Fundamental Physical Limitations of Optical Information Processing and Computing", DARPA Panel on Neural Networks, California Institute of Technology, Pasadena, California, (1987); (Invited Presentation).
91. A. R. Tanguay, Jr., and R. V. Johnson, "Stratified Volume Holographic Optical Elements", IEEE-LEOS Southern California Section Winter Regional Meeting, University of Southern California, Los Angeles, California, (1988).
92. K. Rastani and A. R. Tanguay, Jr., "Grating Outcoupling from Large Area Rib Waveguide Arrays Fabricated on Titanium Indiffused Lithium Niobate Substrates", Integrated and Guided Wave Optics '88, Albuquerque, New Mexico, (1988).

Conference and Invited Presentations: (cont.)

93. A. R. Tanguay, Jr., "Photonic Materials and Devices for Optical Information Processing and Computing Applications", DARPA Annual Conference on Optical Processing and Computing, Leesburg, Virginia, (1988); (Invited Paper).
94. A. R. Tanguay, Jr., "Electro-Optical Information Processing and Computing Components", Conference on Lasers and Electro-Optics, Anaheim, California, (1988); (Invited Paper).
95. A. R. Tanguay, Jr., and R. V. Johnson, "Spatial Light Modulators and Volume Holographic Optical Elements", Symposium of the Center for the Integration of Optical Computing, University of Southern California, Los Angeles, California, (1988); (Invited Paper).
96. A. R. Tanguay, Jr., "Optical Information Processing Components", Industrial Associates Program 7th Annual Research Review, University of Southern California, Los Angeles, California, (May 9, 1988).
97. M. H. Garrett and A. R. Tanguay, Jr., "Crystal Growth and Characterization of Nonstoichiometric Bismuth Silicon Oxide ($\text{Bi}_x\text{SiO}_{1.5x+2}$)", AACG/West Tenth Conference on Crystal Growth, Fallen Leaf Lake, California, (1988).
98. C. Kyriakakis, P. Asthana, R. V. Johnson, and A. R. Tanguay, Jr., "Spatial Light Modulators: Fundamental and Technological Issues", Optical Society of America Topical Meeting on Spatial Light Modulators, Lake Tahoe, Nevada, (1988); (Invited Paper).
99. S. Mroczkowski and A. R. Tanguay, Jr., "Impurity Induced Photochromic Behavior in Bismuth Silicon Oxide ($\text{Bi}_{12}\text{SiO}_{20}$)", American Conference on Crystal Growth/East-2, Atlantic City, New Jersey, (1988).
100. G. P. Nordin, R. V. Johnson, and A. R. Tanguay, Jr., "Physical Characterization of Stratified Volume Holographic Optical Elements", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 106, (1988).
101. M. H. Garrett, S. W. McCahon, and A. R. Tanguay, Jr., "Crystal Growth and Characterization of Nonstoichiometric Bismuth Silicon Oxide, $\text{Bi}_{12}\text{SiO}_{1.5x+2}$ ", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 106, (1988).
102. P. Asthana and A. R. Tanguay, Jr., "Charge-Screening-Induced Switching in Spatially Multiplexed Sub-Holograms in $\text{Bi}_{12}\text{SiO}_{20}$ ", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 151, (1988).

Conference and Invited Presentations: (cont.)

103. J. H. Rilum and A. R. Tanguay, Jr., "Utilization of Optical Memory Discs for Optical Information Processing Applications", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 43, (1988).
104. Z. Karim, M. H. Garrett, and A. R. Tanguay, Jr., "A Bandpass AR Coating Design for Bismuth Silicon Oxide", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 125, (1988).
105. K. Rastani, Z. Karim, and A. R. Tanguay, Jr., "Selective Focusing into Rib Waveguide Arrays via Large Aperture Integrated Lenses on LiNbO₃", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 133, (1988).
106. A. Marrakchi, R. V. Johnson, and A. R. Tanguay, Jr., "Polarization Properties of Enhanced Self-Diffraction in Sillenite Crystals", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 107, (1988).
107. E. J. Herbulock, M. H. Garrett, and A. R. Tanguay, Jr., "Electric Field Profile Effects on Photorefractive Grating Formation in Bismuth Silicon Oxide", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, Vol. 11 of the 1988 OSA Technical Digest Series, p. 143, (1988).
108. S. Mroczkowski and A. R. Tanguay, Jr., "Crystal Growth and Impurity Induced Photochromic Behavior in Bismuth Silicon Oxide (Bi₁₂SiO₂₀)", The Eighth National Conference on Crystal Growth and Materials, Guilin, China, (1988).
109. A. R. Tanguay, Jr., "Advanced Integrated Optical Processing Components", Signal and Image Processing Institute Annual Research Review, University of Southern California, Los Angeles, California, (1989).
110. G. P. Nordin, R. V. Johnson, and A. R. Tanguay, Jr., "Physical Characterization of Stratified Volume Holographic Optical Elements", Signal and Image Processing Institute Annual Research Review, University of Southern California, Los Angeles, California, (1989).
111. P. Asthana and A. R. Tanguay, Jr., "Charge-Screening-Induced Switching in Spatially Multiplexed Sub-Holograms in Bi₁₂SiO₂₀", Signal and Image Processing Institute Annual Research Review, University of Southern California, Los Angeles, California, (1989).

Conference and Invited Presentations: (cont.)

112. M. Hibbs-Brenner, S. D. Mukherjee, M. P. Bendett, and A. R. Tanguay, Jr., "Integrated Optoelectronic Cellular Array for Fine-Grained Parallel Processing Systems", Proc. OSA Topical Meeting on Optical Computing, Salt Lake City, Utah, (1989).
113. A. R. Tanguay, Jr., "Device Development for Optical Computing", Conference on Lasers and Electro-Optics (CLEO '89), Baltimore, Maryland, (1989); (Invited Paper).
114. A. R. Tanguay, Jr., and R. V. Johnson, "Spatial Light Modulators and Volume Holographic Optical Elements", Symposium of the Center for the Integration of Optical Computing, University of Southern California, Los Angeles, California, (1989); (Invited Paper).
115. A. R. Tanguay, Jr., "Photonic Materials and Devices for Optical Information Processing and Computing Applications", DARPA Annual Conference on Optical Processing and Computing, Airlie, Virginia, (1989).
116. Z. Karim, C. Kyriakakis, and A. R. Tanguay, Jr., "Improved Two-Beam Coupling Gain and Diffraction Efficiency in Bismuth Silicon Oxide Crystals Using a Bandpass AR Coating", 1989 Annual Meeting of the Optical Society of America, Orlando, Florida, Vol. 18 of the 1989 OSA Technical Digest Series, p. 29, (1989).
117. Z. Karim and A. R. Tanguay, Jr., "Bandpass AR Coating for the Photorefractive Materials LiNbO_3 , BaTiO_3 , CdTe , and PLZT ", 1989 Annual Meeting of the Optical Society of America, Orlando, Florida, Vol. 18 of the 1989 OSA Technical Digest Series, p. 78, (1989).
118. K. Rastani, S. De Mars, A. R. Tanguay, Jr., N. C. Frateschi, R. Kapre, and A. Madhukar, "Grating Outcoupling from Large Area Rib Waveguide Arrays Fabricated on GaAs/AlGaAs by Selective Ion Beam Milling", 1989 Annual Meeting of the Optical Society of America, Orlando, Florida, Vol. 18 of the 1989 OSA Technical Digest Series, p. 116, (1989).
119. J. H. Rilum and A. R. Tanguay, Jr., "Performance Characteristics of Optical Memory Disc Spatial Light Modulators", 1989 Annual Meeting of the Optical Society of America, Orlando, Florida, Vol. 18 of the 1989 OSA Technical Digest Series, pp. 171-172, (1989).
120. A. R. Tanguay, Jr., "Fundamental Physical and Technological Limitations of Optical Information Processing and Computing", Quantum Electronics Seminar, University of Southern California, Los Angeles, California, (November 8, 1989).

Conference and Invited Presentations: (cont.)

121. B. K. Jenkins, G. C. Petrisor, S. Piazzolla, P. Asthana, and A. R. Tanguay, Jr., "Photonic Architecture for Neural Network Implementation", Signal and Image Processing Institute Annual Research Review, University of Southern California, Los Angeles, California, (1990).
122. P. Asthana, H. Chin, G. Nordin, A. R. Tanguay, Jr., S. Piazzolla, B. K. Jenkins, and A. Madhukar, "Component Technology Development for Optical Implementations of Neural Networks", Signal and Image Processing Institute Annual Research Review, University of Southern California, Los Angeles, California, (1990).
123. P. Asthana, G. Nordin, H. Chin, and A. R. Tanguay, Jr., "Incoherent/Coherent Holographic Interconnections and Optoelectronic Components for Application to Optical Neural Networks", Signal and Image Processing Institute Annual Research Review, University of Southern California, Los Angeles, California, (1990).
124. J. H. Rilum and A. R. Tanguay, Jr., "Optical Memory Disc Based Neural Networks", Signal and Image Processing Institute Annual Research Review, University of Southern California, Los Angeles, California, (1990).
125. B. K. Jenkins, G. C. Petrisor, S. Piazzolla, P. Asthana, and A. R. Tanguay, Jr., "Photonic Architecture for Neural Nets Using Incoherent/Coherent Holographic Interconnections", Proceedings of the International Conference on Optical Computing OC'90, Kobe, Japan, International Commission for Optics, Technical Digest, pp. 317-318, April 8-12, (1990).
126. P. Asthana, H. Chin, G. Nordin, A. R. Tanguay, Jr., S. Piazzolla, B. K. Jenkins, and A. Madhukar, "Photonic Components for Neural Net Implementations Using Incoherent/Coherent Holographic Interconnections", Proceedings of the International Conference on Optical Computing OC'90, Kobe, Japan, International Commission for Optics, Technical Digest, pp. 323-324, April 8-12, (1990).
127. C. Kyriakakis, P. Asthana, Z. Karim, and A. R. Tanguay, Jr., "Fundamental Physical and Technological Considerations for Spatial Light Modulation", Proceedings of the International Conference on Optical Computing OC'90, Kobe, Japan, International Commission for Optics, Technical Digest, pp. 8-14, April 8-12, (1990); (Invited Paper).
128. P. Asthana, H. Chin, S. De Mars, E. Herbulock, Z. Karim, C. Kyriakakis, G. P. Nordin, J. H. Rilum, and A. R. Tanguay, Jr., "Volume Holographic Interconnections and Spatial Light Modulators for Generalizable Photonic Neural Networks", University Research Initiative: Center for the Integration of Optical Computing Annual Review, University of Southern California, Los Angeles, California, (1990).

Conference and Invited Presentations: (cont.)

129. A. R. Tanguay, Jr., "Comments on Photonic Information Systems", ATT Workshop on Free-Space Digital Optics, Naperville, Illinois, (1990).
130. B. K. Jenkins and A. R. Tanguay, Jr., "Photonic Neural Networks with Incoherent/Coherent Holographic Interconnections", Joint USA (NSF)/Korea (KOSEF) Workshop on Optical Neural Networks, Seoul, South Korea, (1990).
131. C. Kyriakakis, Z. Karim, J. H. Rilum, J. J. Jung, A. R. Tanguay, Jr., and A. Madhukar, "Fundamental and Technological Limitations of Asymmetric Cavity MQW InGaAs/GaAs Spatial Light Modulators", OSA Topical Conference on Spatial Light Modulators and Applications, Incline Village, Nevada, Vol. 14 of the 1990 OSA Technical Digest Series, pp. 7-10, (1990).
132. J. H. Rilum and A. R. Tanguay, Jr., "Device Characteristics of Optical Disc Spatial Light Modulators", OSA Topical Conference on Spatial Light Modulators and Applications, Incline Village, Nevada, Vol. 14 of the 1990 OSA Technical Digest Series, pp. 200-203, (1990).
133. A. R. Tanguay, Jr., "Advances in Spatial Light Modulator Technology", OSA Topical Conference on Spatial Light Modulators and Applications, Incline Village, Nevada, Vol. 14 of the 1990 OSA Technical Digest Series, (1990).
134. P. Asthana, H. Chin, S. De Mars, E. Herbulock, Z. Karim, C. Kyriakakis, G. Nordin, J. H. Rilum, and A. R. Tanguay, Jr., "The Critical Role of Dielectric and Optoelectronic Materials in Optical Information Processing and Computing Devices", Gordon Research Conference on Dielectric Materials, Plymouth, New Hampshire, (1990); (Invited Paper).
135. P. Asthana, H. Chin, S. De Mars, E. Herbulock, Z. Karim, C. Kyriakakis, G. Nordin, J. H. Rilum, and A. R. Tanguay, Jr., "The Critical Role of Dielectric and Optoelectronic Materials in Optical Information Processing and Computing Devices", DARPA Materials Research Council Meeting on Optical Computing, La Jolla, California, (1990); (Invited Paper).
136. C. Kyriakakis, P. Asthana, Z. Karim, and A. R. Tanguay, Jr., "Fundamental and Technological Limitations of Optical Information Processing and Computing", DARPA Materials Research Council Meeting on Optical Computing, La Jolla, California, (1990); (Invited Paper).
137. A. R. Tanguay, Jr., "Photonic Materials and Devices for Optical Information Processing and Computing Applications", DARPA Annual Conference on Optical Processing and Computing, Reston, Virginia, (1990).

Conference and Invited Presentations: (cont.)

138. B. K. Jenkins, A. R. Tanguay, Jr., and A. Madhukar, "Photonic Technology for Implementation of Generalizable Neural Networks: A Synthetic Approach", DARPA Annual Conference on Artificial Neural Networks, Arlington, Virginia, (1990).
139. G. C. Petrisor, B. K. Jenkins, H. Chin, and A. R. Tanguay, Jr., "Dual-Function Adaptive Neural Networks for Photonic Implementation", 1990 Annual Meeting of the Optical Society of America, Boston, Massachusetts, Vol. 15 of the 1990 OSA Technical Digest Series, p. 56, (1990).
140. B. K. Jenkins, A. R. Tanguay, Jr., S. Piazzolla, G. C. Petrisor, and P. Asthana, "Photonic Neural Network Architecture Based on Incoherent-Coherent Holographic Interconnections", 1990 Annual Meeting of the Optical Society of America, Boston, Massachusetts, Vol. 15 of the 1990 OSA Technical Digest Series, p. 56, (1990).
141. P. Asthana, H. Chin, G. Nordin, A. R. Tanguay, Jr., G. C. Petrisor, B. K. Jenkins, and A. Madhukar, "Photonic Components for Neural Network Implementations Using Incoherent-Coherent Holographic Interconnections", 1990 Annual Meeting of the Optical Society of America, Boston, Massachusetts, Vol. 15 of the 1990 OSA Technical Digest Series, p. 57, (1990).
142. J. H. Rilum and A. R. Tanguay, Jr., "Optical Memory Disc Spatial Light Modulators", 1990 Annual Meeting of the Optical Society of America, Boston, Massachusetts, Vol. 15 of the 1990 OSA Technical Digest Series, p. 72, (1990); (Invited Paper).
143. C. Kyriakakis, P. Asthana, Z. Karim, G. Nordin, J. Rilum, and A. R. Tanguay, Jr., "Fundamental Physical and Technological Constraints on Optical Information Processing and Computing", 1990 Annual Meeting of the Optical Society of America, Boston, Massachusetts, Vol. 15 of the 1990 OSA Technical Digest Series, p. 241, (1990); (Invited Paper).
144. P. Asthana, G. Nordin, S. Piazzolla, A. R. Tanguay, Jr., and B. K. Jenkins, "Analysis of Interchannel Crosstalk and Throughput Efficiency in Highly Multiplexed Fan-out/Fan-in Holographic Interconnections", 1990 Annual Meeting of the Optical Society of America, Boston, Massachusetts, Vol. 15 of the 1990 OSA Technical Digest Series, p. 242, (1990).
145. A. R. Tanguay, Jr., "Photonic Implementations of Neural Networks", Workshop on "Contemporary Optics", Carolinas & Ohio Science Education Network (COSEN), Kenyon College, Gambier, Ohio, (February 8-9, 1991).

Conference and Invited Presentations: (cont.)

146. A. R. Tanguay, Jr., “Diffraction from Periodically Modulated Volume Structures”, Workshop on “Contemporary Optics”, Carolinas & Ohio Science Education Network (COSEN), Kenyon College, Gambier, Ohio, (February 8-9, 1991).
147. A. R. Tanguay, Jr., “Volume Holographic Interconnections and the Photorefractive Effect”, Workshop on “Contemporary Optics”, Carolinas & Ohio Science Education Network (COSEN), Kenyon College, Gambier, Ohio, (February 8-9, 1991).
148. A. R. Tanguay, Jr., “Multiple Quantum Well Spatial Light Modulators and Surface Emitting Laser Diode Arrays”, Workshop on “Contemporary Optics”, Carolinas & Ohio Science Education Network (COSEN), Kenyon College, Gambier, Ohio, (February 8-9, 1991).
149. P. Asthana, E. J. Herbulock, Z. Karim, C. Kyriakakis, and A. R. Tanguay, Jr., “Electrooptic Materials Requirements for Optical Information Processing and Computing”, 1991 Spring Meeting of the Materials Research Society, Anaheim, California, (May 3, 1991); (Invited Paper).
150. P. Asthana, H. Chin, S. De Mars, E. Herbulock, Z. Karim, C. Kyriakakis, G. P. Nordin, J. H. Rilum, and A. R. Tanguay, Jr., “Volume Holographic Interconnections and Spatial Light Modulators for Generalizable Photonic Neural Networks”, University Research Initiative: Center for the Integration of Optical Computing Annual Review, University of Southern California, Los Angeles, California, (May 6, 1991).
151. A. R. Tanguay, Jr., “Advances in Optical Information Processing and Computing”, First Workshop on Integrated Optics for Military and Commercial Applications, Huntsville, Alabama, (May 7, 1991); (Invited Paper).
152. A. R. Tanguay, Jr., “Novel Components for Advanced Integrated Optical Signal Processing Modules”, First Workshop on Integrated Optics for Military and Commercial Applications, Huntsville, Alabama, (May 8, 1991); (Invited Paper).
153. B. K. Jenkins and A. R. Tanguay, Jr., “Photonic Interconnections for Neural Network Implementations”, Gordon Research Conference on Holography and Optical Information Processing, Plymouth, New Hampshire, (June 17-21, 1991); (Invited Paper).
154. K. Hu, L. Chen, R. Kapre, K. C. Rajkumar, A. Madhukar, Z. Karim, C. Kyriakakis, and A. R. Tanguay, Jr., “The Growth and Performance of Strained InGaAs/GaAs Multiple Quantum Well Based Asymmetric Fabry-Perot Reflection Modulators”, Topical Conference on Epitaxial Materials and In Situ Processing for Optoelectronic Devices, Newport Beach, California, (July 29-31, 1991).

Conference and Invited Presentations: (cont.)

155. S. Piazzolla, B. K. Jenkins, and A. R. Tanguay, Jr., "Single-Step Copying Technique for Multiplexed Volume Holograms", Technical Digest, 1991 Annual Meeting of the Optical Society of America, San Jose, California, TuH2, (November 4-9, 1991).
156. B. K. Jenkins, A. R. Tanguay, Jr., and A. Madhukar, "Photonic Technology for Implementation of Generalizable Neural Networks: A Synthetic Approach", DARPA Artificial Neural Network Technology Program Review, Defense Advanced Research Projects Agency, Microelectronics Technology Office, Arlington, Virginia, (December 10-12, 1991).
157. A. R. Tanguay, Jr., "USC's Center for Photonic Technology", Los Angeles Chapter of the Lasers and Electro-Optics Society (IEEE-LEOS), Los Angeles, California, (January 15, 1992).
158. A. R. Tanguay, Jr. and B. Keith Jenkins, "Photonic Implementations of Neural Networks", Workshop on Neural Network Hardware, Lake Louise, Alberta, Canada, (March 3-6, 1992); (Invited Paper).
159. A. R. Tanguay, Jr. and R. Howard, "A Critical Comparison of Electronic and Photonic Implementations of Neural Networks", Workshop on Neural Network Hardware, Lake Louise, Alberta, Canada, (March 3-6, 1992); (Invited Paper).
160. A. R. Tanguay, Jr., "Photonic Components for Optical Information Processing and Computing Applications", Joint Center for Photonic Technology and Signal and Image Processing Institute Review for Teledyne Corporation, University of Southern California, Los Angeles, California, (April 9, 1992).
161. A. R. Tanguay, Jr., B. K. Jenkins, A. Madhukar, and C. von der Malsburg, "Photonic Implementations of Neural Networks", Signal and Image Processing Institute Research Review, Marina del Rey, California, (April 10, 1992).
162. G. P. Nordin and A. R. Tanguay, Jr., "Analysis of Weighted Fan-Out/Fan-In Volume Holographic Optical Interconnections", Signal and Image Processing Institute Research Review, Marina del Rey, California, (April 10, 1992).
163. J. H. Rilum and A. R. Tanguay, Jr., "Differential Interferometric Readout Optical Disk Spatial Light Modulators", Signal and Image Processing Institute Research Review, Marina del Rey, California, (April 10, 1992).
164. S. De Mars, Z. S. Karim, and A. R. Tanguay, Jr., "Implementation of Synthetic Aperture Radar Processing in an Integrated Optical Architecture Capable of Supporting Computationally Complex Algorithms", Signal and Image Processing Institute Research Review, Marina del Rey, California, (April 10, 1992).

Conference and Invited Presentations: (cont.)

165. G. P. Nordin, P. Asthana, A. R. Tanguay, Jr., and B. K. Jenkins, "Analysis of Weighted Fan-out/Fan-in Volume Holographic Interconnections", 1992 OSA Topical Conference on Diffractive Optics, New Orleans, Louisiana, Vol. 9 of the 1992 Technical Digest Series, pp. 165-167, (April 13-15, 1992).
166. P. Asthana, S. De Mars, E. Herbulock, Z. Karim, C. Kyriakakis, G. P. Nordin, J. H. Rilum, D. Su, and A. R. Tanguay, Jr., "Volume Holographic Interconnections and Spatial Light Modulators for Generalizable Photonic Neural Networks", University Research Initiative: Center for the Integration of Optical Computing Annual Review, University of Southern California, Los Angeles, California, (May 18, 1992).
167. E. J. Herbulock and A. R. Tanguay, Jr., "Reduction of Applied Field Collapse Phenomenon in Photorefractive Bismuth Silicon Oxide Crystals", Technical Digest, 1992 Annual Meeting of the Optical Society of America, Albuquerque, New Mexico, (September 20-25, 1992).
168. G. C. Petrisor, S. Piazzolla, G. P. Nordin, P. Asthana, E. J. Herbulock, B. K. Jenkins, and A. R. Tanguay, Jr., "Experimental Evaluation of Incoherent/Coherent Volume Holographic Interconnection Systems", Technical Digest, 1992 Annual Meeting of the Optical Society of America, Albuquerque, New Mexico, (September 20-25, 1992).
169. B. K. Jenkins, A. R. Tanguay, Jr., A. Madhukar, and C. von der Malsburg, "Photonic Neural Networks Based on Incoherent/Coherent Double Angular Multiplexing", Technical Digest, 1992 Annual Meeting of the Optical Society of America, Albuquerque, New Mexico, MBB1, (September 20-25, 1992).
170. A. R. Tanguay, Jr., "Photonic Technology: Toward a Revolution in Communications and Computing", USC Explore Engineering Day, University of Southern California, Los Angeles, California, (October 31, 1992).
171. B. K. Jenkins, A. R. Tanguay, Jr., and A. Madhukar, "Photonic Technology for Densely-Interconnected Neural Networks", Proceedings of the Government Microcircuit Applications Conference (GOMAC '92), Las Vegas, Nevada, pp. 563-566, (November 9-12, 1992).
172. A. R. Tanguay, Jr., "Photonic Implementations of Neural Networks", Workshop on "Contemporary Optics: From Laser Cooling to Modern Optical Devices", Argonne National Laboratory, Argonne, Illinois, (January 22-23, 1993).
173. A. R. Tanguay, Jr., "Diffraction from Periodically Modulated Volume Structures", Workshop on "Contemporary Optics: From Laser Cooling to Modern Optical Devices", Argonne National Laboratory, Argonne, Illinois, (January 22-23, 1993).

Conference and Invited Presentations: (cont.)

174. A. R. Tanguay, Jr., “Photorefractive Volume Holographic Optical Elements”, Workshop on “Contemporary Optics: From Laser Cooling to Modern Optical Devices”, Argonne National Laboratory, Argonne, Illinois, (January 22-23, 1993).
175. A. R. Tanguay, Jr., “Fundamental Physical and Technological Limitations of Optical Information Processing and Computing”, Workshop on “Contemporary Optics: From Laser Cooling to Modern Optical Devices”, Argonne National Laboratory, Argonne, Illinois, (January 22-23, 1993).
176. A. R. Tanguay, Jr., “Photonic Implementations of Neural Networks”, Signal and Image Processing Institute Annual Research Review, Marina del Rey, California, (February 16, 1993).
177. Z. Karim, C. Kyriakakis, D. Su, J. H. Rilum, K. Hu, L. Chen, R. F. Cartland, A. R. Tanguay, Jr., A. Madhukar, and B. K. Jenkins, “Hybrid Silicon/Gallium Arsenide Inverted Fabry-Perot Cavity Multiple Quantum Well Spatial Light Modulators”, Technical Digest, Optical Society of America Topical Meeting on Spatial Light Modulators and Applications, Palm Springs, California, (March 15-17, 1993); (Invited Paper).
178. A. R. Tanguay, Jr., “Photonic Technology: Toward a Revolution in Communications and Computing”, Keynote Address, USC Trustee Scholarship Program, University of Southern California, (March 20, 1993).
179. A. D. Norte, A. E. Willner, W. Shieh, and A. R. Tanguay, Jr., “Multiple-Plane Optical Interconnections Using Through-Wafer Hollow Dielectric Waveguide Vias, Optical Society of America Topical Meeting on Optical Design for Photonics, Palm Springs, California, (March 22-24, 1993).
180. Z. Karim, S. De Mars, K. Ananthanarayanan, and A. R. Tanguay, Jr., “Advanced Integrated Optical Signal Processors for Interferometric Correlator and Synthetic Aperture Radar Image Formation Applications”, Army Research Laboratory, Adelphi, Maryland, (April 3-6, 1993).
181. E. Herbulock, Z. Karim, C. Kyriakakis, S. Piazzolla, G. Petrisor, A. R. Tanguay, Jr., and B. Keith Jenkins, “Photonic Implementations of Neural Networks”, Army Research Laboratory, Adelphi, Maryland, (April 3-6, 1993).
182. B. K. Jenkins, A. Madhukar, and A. R. Tanguay, Jr., “Photonic Technology Development for Densely-Interconnected Neural Networks”, DARPA Artificial Neural Network Technology Program Review, Defense Advanced Research Projects Agency, Microelectronics Technology Office, Arlington, Virginia, (April 20-22, 1993).

Conference and Invited Presentations: (cont.)

183. A. R. Tanguay, Jr., “Photonic Technology: Toward a Revolution in Communications and Computing”, USC Engineering Day, University of Southern California, Los Angeles, California, (May 15, 1993).
184. B. K. Jenkins, A. Madhukar, A. R. Tanguay, Jr., L. Chen, K. Z. Hu, Z. Karim, C. Kyriakakis, G. P. Nordin, G. C. Petrisor, S. Piazzolla, and D. Su, “Photonic Neural Network Implementations Based on Incoherent/Coherent Holographic Interconnections”, Symposium on Photonics for Processors, Neural Networks, and Memories, Session on Optoelectronic Neural Networks, San Diego, California, July 4-8, 1993, Society for Photo-Optical Instrumentation Engineers, Bellingham, Washington, (1993); (Invited Paper).
185. G. C. Petrisor, S. Piazzolla, G. P. Nordin, B. K. Jenkins, and A. R. Tanguay, Jr., “Volume Holographic Interconnection and Copying Architectures Based on Incoherent/Coherent Source Arrays”, Proceedings of the Fourth International Conference on Holographic Components, Systems, and Applications, Neuchatel, Switzerland, 13–15 September, 1993, IEE Conference Publication No. 379, Institution of Electrical Engineering, London, 1993), 21-26, (1993).
186. A. R. Tanguay, Jr., B. K. Jenkins, and A. Madhukar, “Component Technology Development for Optical Implementations of Neural Networks”, Center for Neural Engineering Research Review, University of Southern California, Los Angeles, California, (October 17, 1993).
187. A. R. Tanguay, Jr., “The Studio of the Future” Multimedia and Creative Technologies Research Center Review for Lockheed Corporation, University of Southern California, Los Angeles, California, (January 11, 1994).
188. A. R. Tanguay, Jr., B. Keith Jenkins, and R. Weinberg, “Photonic Visualization and Display Systems”, Multimedia and Creative Technologies Research Center Review for Lockheed Corporation, University of Southern California, Los Angeles, California, (January 11, 1994).
189. A. R. Tanguay, Jr. and C. L. Nikias, “The Multimedia and Creative Technologies Research Center at USC”, Multimedia and Creative Technologies Research Center Review for TRW, Inc., University of Southern California, Los Angeles, California, (January 27, 1994).
190. A. R. Tanguay, Jr., “The Studio of the Future”, Multimedia and Creative Technologies Research Center Review for TRW, Inc., University of Southern California, Los Angeles, California, (January 27, 1994).

Conference and Invited Presentations: (cont.)

191. A. R. Tanguay, Jr., "Photonic Technology: From Neural Networks to Multimedia Applications", First Annual Meeting of The Photonics Society of Chinese-Americans (PSC), Southern California Chapter, OE/LASE '94, Los Angeles, California, (January 27, 1994); (Invited Plenary Presentation).
192. A. R. Tanguay, Jr., B. Keith Jenkins, and R. Weinberg, "Photonic Visualization and Display Systems", Multimedia and Creative Technologies Research Center, Entertainment Technology Center Annual Board Meeting, University of Southern California, Los Angeles, California, (1994).
193. A. R. Tanguay, Jr., "The Studio of the Future", Multimedia and Creative Technologies Research Center Review for Philips N.V., Inc., University of Southern California, Los Angeles, California, (April 7, 1994).
194. A. R. Tanguay, Jr., B. Keith Jenkins, and R. Weinberg, "Photonic Visualization and Display Systems", Multimedia and Creative Technologies Research Center Review for Philips N.V., Inc., University of Southern California, Los Angeles, California, (April 7, 1994).
195. C. Kyriakakis and A. R. Tanguay, Jr., "Chaos and Complexity", 1994 Southern California Regional Meeting of the Society for Values in Higher Education, Claremont College, Pomona, California, (May 21, 1994).
196. A. R. Tanguay, Jr., B. K. Jenkins, and A. A. Sawchuk, "Dense 3-D Integrated Electronic/Photonic Computing Structures Enabled by Diffractive Optical Elements", ARPA Optics Program Review, Advanced Research Projects Agency, Microelectronics Technology Office, Monterey, California, (June, 1994).
197. C. Kyriakakis, Z. Karim, and A. R. Tanguay, Jr., "Fundamental Physical and Technological Constraints on Optical Information Processing and Computing", IEEE Distinguished Lecture, Hong Kong University of Science and Technology, New Territories, Hong Kong, (July 7, 1994); (Invited Paper).
198. Z. Karim, C. Kyriakakis, G. P. Nordin, A. R. Tanguay, Jr., S. Piazzolla, G. Petrisor, B. K. Jenkins, R. F. Cartland, K. Hu, L. Chen, A. Madhukar, and C. von der Malsburg, "Photonic Implementations of Neural Networks", IEEE Distinguished Lecture, Hong Kong University of Science and Technology, New Territories, Hong Kong, (July 7, 1994); (Invited Paper).
199. Z. Karim, C. Kyriakakis, G. P. Nordin, A. R. Tanguay, Jr., S. Piazzolla, G. Petrisor, B. K. Jenkins, R. F. Cartland, K. Hu, L. Chen, A. Madhukar, and C. von der Malsburg, "Photonic Implementations of Neural Networks", International Symposium on Ultrafast and Ultra-Parallel Optoelectronics (UUO), Chiba, Japan, (July 12, 1994); (Invited Plenary Presentation).

Conference and Invited Presentations: (cont.)

200. Z. Karim, C. Kyriakakis, G. P. Nordin, A. R. Tanguay, Jr., S. Piazzolla, G. Petrisor, B. K. Jenkins, R. F. Cartland, K. Hu, L. Chen, A. Madhukar, and C. von der Malsburg, "Photonic Implementations of Neural Networks", GoldStar Central Research Laboratory, Seoul, South Korea, (July 18, 1994); (Invited Paper).
201. Z. Karim, C. Kyriakakis, G. P. Nordin, A. R. Tanguay, Jr., S. Piazzolla, G. Petrisor, B. K. Jenkins, R. F. Cartland, K. Hu, L. Chen, A. Madhukar, and C. von der Malsburg, "Photonic Implementations of Neural Networks", Electro-Technical Research Institute (ETRI), Daeduk, South Korea, (July 20, 1994); (Invited Paper).
202. Z. Karim, C. Kyriakakis, G. P. Nordin, A. R. Tanguay, Jr., S. Piazzolla, G. Petrisor, B. K. Jenkins, R. F. Cartland, K. Hu, L. Chen, A. Madhukar, and C. von der Malsburg, "Photonic Implementations of Neural Networks", Korea Advanced Institute of Science and Technology (KAIST), Daeduk, South Korea, (July 20, 1994); (Invited Paper).
203. J. J. Jung, G. P. Nordin, and A. R. Tanguay, Jr., "Effect of Buffer Layer Thickness Variations on Stratified Volume Holographic Optical Elements", Technical Digest, 1994 Annual Meeting of the Optical Society of America, Dallas, Texas, (October, 1994).
204. A. R. Tanguay, Jr., "Photonic Technology: A New Frontier for Communications and Computing", USC Engineering Day, University of Southern California, Los Angeles, California, (October 21, 1994).
205. A. R. Tanguay, Jr., "Photonic Technology: Toward a Revolution in Communications and Computing", USC Explore Engineering Day, University of Southern California, Los Angeles, California, (October 29, 1994).
206. A. R. Tanguay, Jr., B. Keith Jenkins, and R. Weinberg, "Multichip Module Integration for Photonic Visualization and Display Systems", Multimedia and Creative Technologies Research Center Review for Advanced Micro Devices (AMD), Inc., Sunnyvale, California, (1994).
207. A. R. Tanguay, Jr., B. Keith Jenkins, and R. Weinberg, "Multichip Module Integration for Photonic Visualization and Display Systems", Multimedia and Creative Technologies Research Center Review for Philips N.V., Inc., University of Southern California, Los Angeles, California, (1994).
208. B. K. Jenkins, A. Madhukar, and A. R. Tanguay, Jr., "Photonic Technology Development for Densely-Interconnected Neural Networks", ARPA Artificial Neural Network Technology Program Review, Advanced Research Projects Agency, Microelectronics Technology Office, Key West, Florida, (December 6-9, 1994).

Conference and Invited Presentations: (cont.)

209. A. R. Tanguay, Jr., “Photonic Implementations of Neural Networks”, Irvine Sensors Corporation, Irvine, California, (December 27, 1994)
210. A. R. Tanguay, Jr., “Photonic Implementations of Neural Networks and Hybrid Electronic/Photonic Multichip Modules for Vision Applications”, Neuroscience Lecture Series, Program in Neural, Informational, and Behavioral Sciences (NIBS), University of Southern California, Los Angeles, California, (February 15, 1995); (Invited Presentation).
211. A. R. Tanguay, Jr., “Photonic Implementations of Neural Networks”, University of California Distinguished Lecture Series, University of California, San Diego (UCSD), La Jolla, California, (February 17, 1995); (Invited Presentation).
212. A. R. Tanguay, Jr., “Integrated Media Systems Center: Research Program and Strategic Plan”, Integrated Media Systems Center Review for The Fraunhofer Institute, University of Southern California, Los Angeles, CA, (February 28, 1995).
213. A. R. Tanguay, Jr., “Integrated Media Systems Center: Research Program and Strategic Plan”, Integrated Media Systems Center Review for Panoram Technologies Corporation, University of Southern California, Los Angeles, CA, (February 28, 1995).
214. A. R. Tanguay, Jr., B. Keith Jenkins, and A. Madhukar, “Photonic Implementations of Neural Networks”, Optical Society of America Topical Meeting on Optical Computing (OC '95), Salt Lake City, Utah, (March, 1995), (Invited Paper).
215. G. C. Petrisor, A. A. Goldstein, E. J. Herbulock, B. K. Jenkins, and A. R. Tanguay, Jr., “Convergence of Backward Error Propagation Learning in Photorefractive Crystals”, Optical Society of America Topical Meeting on Optical Computing (OC '95), Salt Lake City, Utah, (March, 1995).
216. A. R. Tanguay, Jr., “Integrated Media Systems Center: Research Program and Strategic Plan”, Integrated Media Systems Center Review for Xerox Corporation, University of Southern California, Los Angeles, California, (April 21, 1995).
217. A. R. Tanguay, Jr., “Photonic Implementations of Neural Networks and Hybrid Electronic/Photonic Multichip Modules for Vision Applications”, Presentation to Xerox Corporation, University of Southern California, Los Angeles, California, (April 21, 1995).

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Conference and Invited Presentations: (cont.)

218. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Analog Devices, Inc., Boston (Norwood), Massachusetts, (June 6, 1995).
219. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Avid Technologies Corporation, Tewksbury, Massachusetts, (June 6, 1995).
220. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Kopin Corporation, Corporate Headquarters, Westboro, Massachusetts, (June 7, 1995).
221. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Kopin Corporation, Application Design Center, Los Gatos, California, (June 12, 1995).
222. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Kaiser Electronics Corporation, San Jose, California, (June 12, 1995).
223. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Northrop-Grumman Corporation, University of Southern California, Los Angeles, California, (June 13, 1995).
224. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Sierra Semiconductor Corporation, University of Southern California, Los Angeles, California, (June 13, 1995).
225. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Hitachi Corporation, University of Southern California, Los Angeles, California, (July 17, 1995).
226. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Fuji-Xerox Corporation, Palo Alto Research Center, University of Southern California, Los Angeles, California, (July 19, 1995).
227. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Fuji-Xerox Corporation, Palo Alto Research Center, Palo Alto, California, (August 31, 1995).

Conference and Invited Presentations: (cont.)

228. A. R. Tanguay, Jr., "Photonic Implementations of Neural Networks and Hybrid Electronic/Photonic Multichip Modules for Vision Applications", Biomedical Engineering Lecture Series, University of Southern California, Los Angeles, California, (October 3, 1995); (Invited Presentation).
229. A. R. Tanguay, Jr. and C. Kyriakakis, "Hybrid Electronic/Photonic Packaging Using Flip-Chip Bonding", Research Working Group on Multiple Modules and Input/Output, 9th Biennial Workshop on Superconductive Electronics: Devices, Circuits, and Systems, Farmington, Pennsylvania, (October 8-10, 1995).
230. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", National Science Foundation Engineering Research Center Site Visit, University of Southern California, Los Angeles, CA, (December 5-7, 1995).
231. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Hughes Research Laboratories, University of Southern California, Los Angeles, California, (February 13, 1995).
232. A. R. Tanguay, Jr., "Photonic Implementations of Neural Networks and Hybrid Electronic/Photonic Multichip Modules for Vision Applications", Physics Colloquium Series, University of Southern California, Los Angeles, California, (February 26, 1996).
233. A. R. Tanguay, Jr., "Emerging Trends in Integrated Media Technology", Distinguished Lecture Series, Hong Kong University of Science and Technology (HKUST), New Territories, Hong Kong, (March 9, 1996); (Invited Presentation).
234. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Computer Science Annual Research Review, University of Southern California, Los Angeles, California, (April 26, 1996).
235. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for AT&T Networks, University of Southern California, Los Angeles, California, (May 20, 1996).
236. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Silicon Graphics, Palo Alto, California, (June 13, 1996).
237. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Apple Computer, Irvine, California, (July 19, 1996).

Conference and Invited Presentations: (cont.)

238. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for IBM Corporation, University of Southern California, Los Angeles, California, (August 14, 1996).
239. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for National Science Foundation (Dr. Deborah Crawford), University of Southern California, Los Angeles, California, (August 15, 1996).
240. A. R. Tanguay, Jr., "Multimedia and Creative Technologies", USC Engineering Welcome Week, (August 26, 1996).
241. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Representatives from Malaysia (MIMOS), University of Southern California, Los Angeles, California, (September 5, 1996).
242. A. R. Tanguay, Jr., "Integrated Media Systems Center Research Overview", Integrated Media Systems Center Awareness Day, (September 18, 1996).
243. A. R. Tanguay, Jr., B. K. Jenkins, and A. A. Sawchuk, "Dense 3-D Integrated Electronic/Photonic Computing Structures Enabled by Diffractive Optical Elements", ARPA Optics Program Review, Advanced Research Projects Agency, Microelectronics Technology Office, Orlando, Florida, (October 7-10, 1996).
244. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for United States Transportation Command (USTRANSCOM), University of Southern California, Los Angeles, California, (October 16, 1996).
245. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", USC Alumni Association Day, Las Vegas, Nevada, (October 17, 1996).
246. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Eastman Kodak Corporation, University of Southern California, Los Angeles, California, (October 23, 1996).
247. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for III, Taiwan, University of Southern California, Los Angeles, California, (November 1, 1996).

Conference and Invited Presentations: (cont.)

248. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for David Lane, Alpine Technology Ventures, University of Southern California, Los Angeles, California, (November 13, 1996).
249. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Dr. Francis Lawrence, President, and Dr. Christine Haska, Vice Provost, Rutgers University, University of Southern California, Los Angeles, California, (November 15, 1996).
250. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Council on Urban Economic Development (CUED), sponsored by the Los Angeles Regional Technology Alliance (LARTA), University of Southern California, Los Angeles, California, (November 15, 1996).
251. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Softopia, Japan, University of Southern California, Los Angeles, California, (December 3, 1996).
252. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Arte Bella Corporation, University of Southern California, Los Angeles, California, (December 3, 1996).
253. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program", International Business Education and Research Program (IBEAR) Forum for Japan American Society, University of Southern California, Los Angeles, California, (December 4, 1996).
254. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program", United States Transportation Command (USTRANSCOM), Scott Air Force Base, Illinois, (December 17, 1996).
255. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", United States Transportation Command (USTRANSCOM), Scott Air Force Base, Illinois, (December 18, 1996).
256. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Representatives from the Russian Academy of Sciences (including Academician Nikolai Laverov, Vice Chairman of the Russian Academy of Sciences and Science Advisor to President Boris Yeltsin), University of Southern California, Los Angeles, California, (December 20, 1996).

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Conference and Invited Presentations: (cont.)

257. A. R. Tanguay, Jr., "Opportunities for Research in Emerging Multimedia Science and Technology", USC Department of Electrical Engineering Annual Retreat, Pasadena, California, (January 7, 1997).
258. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", University of Southern California Alumni Association Board of Governors Retreat, Mandalay Inn Beach Resort, Oxnard, California, (January 17-18, 1997).
259. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for British Technology Group (BTG), University of Southern California, Los Angeles, California, (January 22, 1997).
260. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", National Science Foundation Engineering Research Center Director's Conference, Washington, D.C., (January 26-30, 1997).
261. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Presentation to Members of the Defense Science Board, at Paramount Digital Entertainment (PDE), Hollywood, California, (February 8-9, 1997).
262. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Daniel Goldin, Administrator, National Aeronautics and Space Administration (NASA), University of Southern California, Los Angeles, California, (February 18, 1997).
263. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Communication Sciences Institute Annual Research Review, University of Southern California, Los Angeles, California, (February 27, 1997).
264. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Asia-Pacific Institute Leadership Forum, Los Angeles, California, (March 3, 1997).
265. A. R. Tanguay, Jr., "Emerging Minors in Multimedia and Creative Technologies for Undergraduate Education", USC Board of Trustees Meeting, Palm Springs, California, (March 16, 1997).
266. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", NASA Workshop on CAD/CAM/CAE, Hampton, Virginia, (March 17-19, 1997).

Conference and Invited Presentations: (cont.)

267. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for Representatives from the National Aeronautics and Space Administration (NASA), University of Southern California, Los Angeles, California, (April 8, 1997).
268. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for John Funk, Media Technologies, University of Southern California, Los Angeles, California, (April 21, 1997).
269. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", TRW, Inc., Hawthorne, California, (May 1, 1997).
270. A. R. Tanguay, Jr., "Integrated Media Systems Center: Research Program and Strategic Plan", Integrated Media Systems Center Review for United States Transportation Command (USTRANSCOM), Admiral Richard J. Naughton, University of Southern California, Los Angeles, California, (July 10, 1997).
271. A. R. Tanguay, Jr. and B. K. Jenkins, "Photonic Implementations of Neural Networks", Center for Neural Engineering Annual Review, University of Southern California, Los Angeles, California, (September 12, 1997).
272. A. R. Tanguay, Jr., "Adaptive Optoelectronic Eyes: Hybrid Electronic/Photonic Sensor/Processor Architectures", Presentation to Eastman Kodak Company (Dr. James Meyer, Chief Technology Officer; Dr. Gary Bottger, Director of External Technology), University of Southern California, Los Angeles, California, (October 31, 1997).
273. A. R. Tanguay, Jr., "Adaptive Optoelectronic Eyes: Hybrid Electronic/Photonic Sensor/Processor Architectures", Presentation to Eastman Kodak Company (Dr. James Stoffel), University of Southern California, Los Angeles, California, (November 19, 1997).
274. A. R. Tanguay, Jr., "Introduction to Astronomy: Scientific Notation, the Scale of the Universe, and the Constellations", Lecture Series, Fairmont Private School, Anaheim Hills, CA, (Spring, 1998).
275. A. R. Tanguay, Jr., "Photonic Implementations of Neural Networks", Symposium on Hardware Implementations of Neural Networks, Institut fur Neuroinformatik Systembiophysik, Ruhr Universitat Bochum, Bochum, Germany, (June 30, 1998); (Invited Presentation).

Conference and Invited Presentations: (cont.)

276. A. R. Tanguay, Jr., “Parallel Neural Probe Arrays for Hippocampal Slice Culture and Dissociated Cell Growth Neuron-Silicon Interface Devices”, Symposium on Hardware Implementations of Neural Networks, Institut für Neuroinformatik Systembiophysik, Ruhr Universität Bochum, Bochum, Germany, (July 2, 1998); (Invited Presentation).
277. A. R. Tanguay, Jr., “Technologies for the Implementation of Neural Networks”, Neuroinformatik Seminar, Institut für Neuroinformatik Systembiophysik, Ruhr Universität Bochum, Bochum, Germany, (July 2, 1998); (Invited Presentation).
278. A. R. Tanguay, Jr., “Adaptive Optoelectronic Eyes: Hybrid Sensor/Processor Architectures”, Kick-Off Meeting for Multidisciplinary University Research Initiative (MURI), Program on Adaptive Optoelectronic Eye, Ann Arbor, Michigan, (July 11-14, 1998).
279. A. R. Tanguay, Jr., “Emerging Smart Camera Technologies: Toward an Adaptive Optoelectronic Eye”, Eastman Kodak Company, Kodak Research Laboratories, Rochester, New York, (July 22, 1998); (Invited Presentation).
280. A. R. Tanguay, Jr., “Development of a Multimedia-Based Introductory Course on Electrical Engineering”, Freshman (Introductory Course) Engineering Retreat, (held in Marina del Rey, California), University of Southern California, Los Angeles, CA, (August 26, 1998); (Invited Presentation).
281. A. R. Tanguay, Jr., “Emerging Smart Camera Technologies: Toward an Adaptive Optoelectronic Eye”, Teledyne Electronic Technology R&D Symposium, Los Angeles, California, (September 1-2, 1998); (Invited Presentation).
282. M. Baudry, T. W. Berger, R. D. Brinton, B. Sheu, and A. R. Tanguay, Jr., “Hybrid Biological-Electronic Biosensor for Detection of Chemically- or Biologically-Induced Cognitive Impairment”, DARPA Tissue Based Biosensors Program Annual Program Review, Washington, D.C., (October 12-15, 1998).
283. A. R. Tanguay, Jr., “Photonic Implementations of Neural Networks”, BMSR Workshop, (held in Marina del Rey, CA), University of Southern California, Los Angeles, California, (November 14, 1998); (Invited Presentation).
284. T. W. Berger, M. Baudry, R. D. Brinton, J. Liaw, V. Marmarelis, B. Sheu, and A. R. Tanguay, Jr., “A Hybrid Neuron-Silicon Computational System for Pattern Recognition”, DARPA Controlled Biological Systems Program Annual Program Review, Tucson, Arizona, (February, 1999).

Conference and Invited Presentations: (cont.)

285. M. Baudry, T. W. Berger, R. D. Brinton, J. Liaw, V. Marmarelis, B. Sheu, and A. R. Tanguay, Jr., “Hybrid Biological-Electronic Biosensor for Detection of Chemically- or Biologically-Induced Cognitive Impairment”, DARPA Tissue Based Biosensors Program Annual Program Review, Tucson, Arizona, (February, 1999).
286. A. R. Tanguay, Jr. and B. K. Jenkins, “Adaptive Optoelectronic Eyes: Hybrid Sensor/Processor Architectures and Smart Camera Applications”, presentation for Matsushita Corporation, Center for Neural Engineering, University of Southern California, Los Angeles, California, (February 18, 1999).
287. A. R. Tanguay, Jr. and B. K. Jenkins, “Emerging Smart Camera Technologies: Toward an Adaptive Optoelectronic Eye”, Winter Conference on Synaptic Plasticity, Workshop on Hardware Implementations of Neural Networks, St. Lucia, West Indies, (February 23-26, 1999); (Invited Paper).
288. B. K. Jenkins and A. R. Tanguay, Jr., “3-D Photonic Artificial Neural Systems with Applications to Vision”, Winter Conference on Synaptic Plasticity, Workshop on Hardware Implementations of Neural Networks, St. Lucia, West Indies, (February, 23-26, 1999); (Invited Paper).
289. B. K. Jenkins, P. Nasiatka, and A. R. Tanguay, Jr., “Use of VCSEL Arrays in 3-D Photonic Multichip Modules”, Joint Optoelectronics Program (JOP) User Review Seminar, San Francisco, California, (March 29-30, 1999); (Invited Paper).
290. M. Han, P. Nasiatka, and A. R. Tanguay, Jr., “Fabrication of Conformally-Mapped Microelectrode Arrays for *in-vitro* Stimulation and Recording of Hippocampal Slice Activity”, Fred S. Grodins Memorial Symposium, University of Southern California, Los Angeles, California, (May 5, 1999).
291. B. K. Jenkins and A. R. Tanguay, Jr., “Applications of 3-D Photonic Multichip Modules and 2-D Incoherent/Coherent Source Arrays”, presentation for Matsushita Corporation, Center for Neural Engineering, University of Southern California, Los Angeles, California, (July 16, 1999).
292. A. R. Tanguay, Jr., “Emerging Smart Camera Technologies: Toward an Adaptive Optoelectronic Eye”, Eastman Kodak Company, Systems Concept Center, Rochester, New York, (August 4, 1999); (Invited Presentation).
293. A. R. Tanguay, Jr., “Emerging Smart Camera Technologies: Toward an Adaptive Optoelectronic Eye”, Institute of Optics, University of Rochester, Rochester, New York, (August 10, 1999); (Invited Presentation).

Conference and Invited Presentations: (cont.)

294. A. R. Tanguay, Jr. and B. K. Jenkins, “Hybrid Electronic/Photonic Multichip Modules for Vision and Neural Prosthetic Applications”, National Institutes of Mental Health/Alfred E. Mann Institute-USC Conference on Replacement Parts for the Brain: Intracranial Implantation of Hardware Models of Neural Circuitry, Washington, D.C., (August 12-14, 1999); (Invited Paper).
295. B. K. Jenkins and A. R. Tanguay, Jr., “Photonic Artificial Neural Adaptive Systems with Applications to Vision”, National Institutes of Mental Health/Alfred E. Mann Institute-USC Conference on Replacement Parts for the Brain: Intracranial Implantation of Hardware Models of Neural Circuitry, Washington, D.C., (August 12-14, 1999); (Invited Paper).
296. A. R. Tanguay, Jr., “Adaptive Optoelectronic Eyes: Hybrid Sensor/Processor Architectures”, ARO MURI Adaptive Optoelectronic Eye Research Review, Army Research Laboratory, Adelphi, Maryland, (August 23-24, 1999).
297. R. H. Tsai, J. C. Tai, B. J. Sheu, A. R. Tanguay, Jr., and T. W. Berger, “Design of a Scalable and Programmable Hippocampal Neural Network Multichip Module”, Society for Neuroscience Annual Meeting, Miami, Florida, (October 23-28, 1999).
298. A. R. Tanguay, Jr., “The Art of Scientific Presentation”, Academic Career Panel, California Institute of Technology, Pasadena, California, (December 1, 1999); (Invited Presentation).
299. A. R. Tanguay, Jr., M. Han, and P. Nasiatka, “Hybrid Biological/Electronic/Photonic Devices”, Joint DARPA Controlled Biological Systems (CBS) and Tissue Based Biosensors (TBB) Annual Program Review, University of Southern California, Los Angeles, California, (December 8, 1999).
300. A. R. Tanguay, Jr., “Adaptive Optoelectronic Eyes: Hybrid Sensor/Processor Architectures”, ARL-SEDD/ARL-ARO Integrated Imaging Workshop, Army Research Office, Research Triangle Park, North Carolina, (December 17, 1999); (Invited Presentation).
301. A. R. Tanguay, Jr., “Introduction to Astronomy: The Sun, The Solar System, and the Night Sky”, lecture series presented to Southern California Brownies and Girl Scouts, Brea Community Center, Brea, CA, (March, 2000).
302. T. W. Berger, M. Baudry, R. D. Brinton, J. Liaw, V. Marmarelis, B. Sheu, and A. R. Tanguay, Jr., “A Hybrid Neuron-Silicon Computational System for Pattern Recognition”, DARPA Controlled Biological Systems Program Annual Program Review, San Antonio, Texas, (April, 2000).

Conference and Invited Presentations: (cont.)

303. M. Baudry, T. W. Berger, R. D. Brinton, J. Liaw, V. Marmarelis, B. Sheu, and A. R. Tanguay, Jr., “Hybrid Biological-Electronic Biosensor for Detection of Chemically- or Biologically-Induced Cognitive Impairment”, DARPA Tissue Based Biosensors Program Annual Program Review, San Antonio, Texas, (April, 2000).
304. M. Han, P. Nasiatka, and A. R. Tanguay, Jr., “Fabrication of Conformally-Mapped, High-Density Multielectrode Arrays for In-Vitro Stimulation and Recording of Hippocampal Slice Activity”, Fred S. Grodins Memorial Symposium, University of Southern California, Los Angeles, California, (May 1, 2000).
305. A. R. Tanguay, Jr., “The Art of Scientific Presentation: The Scientist as World-Class Communicator”, Caltech Ph.D.–Postdoc Career Conference, California Institute of Technology, Pasadena, California, (September 7, 2000).
306. A. R. Tanguay, Jr., B. K. Jenkins, C. von der Malsburg, B. Mel, I. Biederman, J. O’Brien, and P. D. Dapkus, “Dense 3-D Integrated Photonic Multichip Modules for Adaptive Spatial and Spectral Image Processing Applications”, DARPA Photonic Wavelength and Spatial Signal Processing Kick-Off Meeting, Colonial Williamsburg, Virginia, (September 12, 2000).
307. A. R. Tanguay, Jr. and P. Bhattacharya, “Adaptive Optoelectronic Eyes: Integrated Program Overview”, ARO MURI Adaptive Optoelectronic Eye Research Review, University of Southern California, Los Angeles, California, (September 27, 2000).
308. A. R. Tanguay, Jr., B. K. Jenkins, C. von der Malsburg, B. Mel, I. Biederman, J. O’Brien, and A. Madhukar, “Adaptive Optoelectronic Eyes: Hybrid Sensor/Processor Architectures”, ARO MURI Adaptive Optoelectronic Eye Research Review, Davidson Conference Center, University of Southern California, Los Angeles, California, (September 28, 2000).
309. A. R. Tanguay, Jr., B. K. Jenkins, and J. O’Brien, “Hybrid Electronic/Photonic Multichip Module Integration”, ARO MURI Adaptive Optoelectronic Eye Research Review, University of Southern California, Los Angeles, California, (September 28, 2000).
310. A. R. Tanguay, Jr., B. K. Jenkins, C. von der Malsburg, B. Mel, I. Biederman, J. O’Brien, and P. D. Dapkus, “Dense 3-D Integrated Photonic Multichip Modules for Adaptive Spatial and Spectral Image Processing Applications”, DARPA Microelectronics Technology Office Optoelectronics Program Review, Poster Session, Cincinnati, Ohio, (October 18, 2000).

Conference and Invited Presentations: (cont.)

311. A. R. Tanguay, Jr., B. K. Jenkins, C. von der Malsburg, B. Mel, I. Biederman, J. O'Brien, and P. D. Dapkus, "Dense 3-D Integrated Photonic Multichip Modules for Adaptive Spatial and Spectral Image Processing Applications: Program Overview", DARPA Microelectronics Technology Office Optoelectronics Program Review, General Session, Cincinnati, Ohio, (October 19, 2000).
312. A. R. Tanguay, Jr., B. K. Jenkins, C. von der Malsburg, B. Mel, I. Biederman, J. O'Brien, and A. Madhukar, "Adaptive Optoelectronic Eyes: Hybrid Sensor/Processor Architectures", Symposium in Honor of Prof. Richard K. Chang, Yale University, New Haven, Connecticut, (October 20, 2000).
313. A. R. Tanguay, Jr., "The Scientific and Personal Legacy of Richard K. Chang", Symposium in Honor of Prof. Richard K. Chang, Yale University, New Haven, Connecticut, (October 20, 2000).
314. A. R. Tanguay, Jr., B. K. Jenkins, C. von der Malsburg, B. Mel, G. Holt, J. O'Brien, I. Biederman, A. Madhukar, P. Nasiatka, and Y. Huang, "Hybrid Sensor/Processor Architectures for Emerging Smart Camera Technologies", Symposium on Physical Optics for Digital Imaging/Digital Optics for Physical Imaging, David J. Brady, Symposium Organizer; Annual Meeting of the Optical Society of America, Providence, Rhode Island (October 22-27, 2000); (Invited Paper).
315. M. Han, P. Nasiatka, G. Gholmieh, W. Soussou, M. Baudry, T. W. Berger, and A. R. Tanguay, Jr., "Conformally-Mapped Neural Probe Arrays for Multisite Stimulation and Recording", Society for Neuroscience Annual Meeting, New Orleans, Louisiana, (November 4-9, 2000).
316. T. W. Berger, M. Baudry, R. D. Brinton, J. Liaw, V. Marmarelis, B. Sheu, and A. R. Tanguay, Jr., "A Hybrid Neuron-Silicon Computational System for Pattern Recognition", DARPA Controlled Biological Systems Program Annual Program Review, San Diego, California, (February, 2001).
317. M. Baudry, T. W. Berger, R. D. Brinton, J. Liaw, V. Marmarelis, B. Sheu, and A. R. Tanguay, Jr., "Hybrid Biological-Electronic Biosensor for Detection of Chemically- and Biologically-Induced Cognitive Impairment", DARPA Tissue Based Biosensors Program Annual Program Review, San Diego, California, (February, 2001).
318. A. R. Tanguay, Jr., "The Art of Scientific Presentation: The Scientist as World-Class Communicator", University of Southern California, Los Angeles, California, (February 7, 2001).

Conference and Invited Presentations: (cont.)

319. A. R. Tanguay, Jr., “Introduction to Optics and Photonics”, Fairmont Private School, Anaheim Hills, California, (March 23, 2001).
320. M. Han, P. Nasiatka, and A. R. Tanguay, Jr., “Conformally-Mapped, High-Density Multielectrode Arrays for In-Vitro Stimulation and Recording of Hippocampal Slice Activity”, Fred S. Grodins Memorial Symposium, University of Southern California, Los Angeles, California, (April 30, 2001).
321. P. Nasiatka, K. Ananthanarayanan, Z. Karim, and A. R. Tanguay, Jr., “Novel Indium-Bump Bonding Technique for Hybrid Integration of Electronic and Photonic Devices”, Symposium on Photonic Devices and Packaging (2), Annual Meeting of the Optical Society of America, Long Beach, California, (October 14-18, 2001).
322. P. Nasiatka, Z. Karim, D. M. Chambers, B. K. Jenkins, G. P. Nordin, and A. R. Tanguay, Jr., “Minimization of Spurious Diffraction Effects in Anti-Reflection-Coated High-Index Diffractive Optical Elements”, Symposium on Photonic Devices and Packaging (2), Annual Meeting of the Optical Society of America, Long Beach, California, (October 14-18, 2001).
323. J.-C. Lue, P. Nasiatka, K. Ananthanarayanan, D. Su, and A. R. Tanguay, Jr., “Fabrication and Characterization of Analog Silicon VLSI Neuron-Unit Arrays for Photonic Multichip-Module-Based Adaptive Vision Sensors”, Symposium on Photonic Devices and Packaging (1), Annual Meeting of the Optical Society of America, Long Beach, California, (October 14-18, 2001).
324. A. R. Tanguay, Jr., “Preparing Your CV and Portfolio”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 16, 2002).
325. A. R. Tanguay, Jr., “The Nature of Scientific Style: Biologically-Inspired Vision Systems”, The Science of Scientists Series, Amgen Center for Science Learning, California Science Center, Museum of Science and Industry, (May 15, 2003).
326. A. R. Tanguay, Jr. and H. James, “Preparing Your CV and Portfolio”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (January 30, 2004).
327. A. R. Tanguay, Jr., “Effective Teaching Strategies: Improving College Teaching”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (March 27, 2004).
328. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (2004).

Conference and Invited Presentations: (cont.)

329. A. R. Tanguay, Jr., “Transformative Research: The Research Center Perspective”, National Science Board Workshop on Identifying, Reviewing, and Funding Transformative Research, Santa Fe, New Mexico, (September 22-23, 2004).
330. A. K. Ahuja, P. J. Nasiatka, G. Gholmieh, M.-C. Hsaio, D. Song, J.-C. Lue, M. Behrend, A. Gill, T. W. Berger, and A. R. Tanguay, Jr., “A Biomimetic Electronic Prosthetic for Hippocampus: Planar Conformal Multielectrode Arrays for VLSI/Hippocampal Slice Interface”, Society for Neuroscience Annual Meeting, San Diego, California, (November, 2004).
331. A. R. Tanguay, Jr., “The Art of Presentations”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (January 20, 2005).
332. M. H. Quick and A. R. Tanguay, Jr., “Research Methodologies: Establishing Your Research Program”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (February 5, 2005).
333. M. H. Quick and A. R. Tanguay, Jr., “Teaching with Technologies: Ideas and Issues”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (March 5, 2005).
334. A. R. Tanguay, Jr., “The Art of Scientific Presentations”, Beckman Institute, California Institute of Technology, Pasadena, California, (March 25, 2005).
335. A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, USC Vision Symposium, University of Southern California, Los Angeles, California, (March 29, 2005).
336. A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, Electrical Engineering Advisory Board Meeting, University of Southern California, Los Angeles, California, (April 15, 2005).
337. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (April 21, 2005).
338. P. J. Nasiatka, A. Ahuja, N. R. B. Stiles, M. C. Hauer, R. N. Agrawal, R. Freda, D. Guven, M. S. Humayun, J. D. Weiland, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, Florida, Paper B480, (May 1-5, 2005).

Conference and Invited Presentations: (cont.)

339. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, L. Lue, S. Takahashi, R. N. Agrawal, R. Freda, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses”, Neuroscience Graduate Program Annual Retreat, Lake Arrowhead, California, (May 21-22, 2005).
340. A. Ahuja, P. J. Nasiatka, and A. R. Tanguay, Jr., “Conformal Microelectrode Arrays for Cortical Prostheses”, DARPA BMI-HAND Program Review, Wake Forest University, Winston-Salem, North Carolina, (June 13-14, 2005).
341. A. R. Tanguay, Jr., “Retinal and Cortical Prostheses: Interdisciplinary Research at the Cutting Edge”, Huck Institute Colloquium, The Huck Institutes of the Life Sciences, The Pennsylvania State University, State College, Pennsylvania, (September 20, 2005); (Invited Colloquium).
342. P. J. Nasiatka, A. Ahuja, N. R. B. Stiles, M. C. Hauer, R. N. Agrawal, R. Freda, D. Guven, M. S. Humayun, J. D. Weiland, and A. R. Tanguay, Jr., “Intraocular Camera Design for Retinal Prostheses”, Annual Meeting of the Optical Society of America, Tucson, Arizona, (October 16-21, 2005).
343. A. R. Tanguay, Jr., “What Matters to Me and Why”, University of Southern California, (November 2, 2005).
344. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (February 15, 2006).
345. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, L. Lue, S. Takahashi, R. N. Agrawal, R. Freda, M. S. Humayun, J. D. Weiland, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, Florida, Paper B554, (May, 2006).
346. P. J. Nasiatka, A. Ahuja, N. R. B. Stiles, M. C. Hauer, R. N. Agrawal, R. Freda, D. Guven, M. S. Humayun, J. D. Weiland, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, Neuroscience Graduate Program Annual Retreat, Aliso Creek, California, (September 8, 2006).
347. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, L. Lue, S. Takahashi, R. Agrawal, M. S. Humayun, J. D. Weiland, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses”, 2nd Frontiers in Biomedical Devices Conference, Irvine, California, (June 7-8, 2007).

Conference and Invited Presentations: (cont.)

348. N. R. B. Stiles, M. C. Hauer, P. Lee, P. J. Nasiatka, J.-C. Lue, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Design Constraints Based on Visual Psychophysics”, Annual Meeting of the Optical Society of America, San Jose, California, (September 19, 2007).
349. M. C. Hauer, P. J. Nasiatka, N. R. B. Stiles, J.-C. Lue, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Optical Design”, Annual Meeting of the Optical Society of America, San Jose, California, (September 20, 2007).
350. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, N. Suwanmonkha, M. Leighton, J.-C. Lue, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Provision of Natural Foveation in Retinal Prostheses”, Biomedical Engineering Society Annual Meeting, North Hollywood, California, (September 29, 2007).
351. A. R. Tanguay, Jr., “Preparation of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (January 16, 2008).
352. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, J.-C. Lue, B. P. McIntosh, R. Agrawal, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses: Restoring Sight to the Blind”, Annual Meeting of the Electrical Engineering Executive Advisory Board, University of Southern California, Los Angeles, California, (February 21, 2008).
353. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, J.-C. Lue, B. P. McIntosh, R. Agrawal, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses: Restoring Sight to the Blind”, Texas Instruments, Japan, Tokyo, Japan, (February 22, 2008).
354. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, J.-C. Lue, B. P. McIntosh, R. Agrawal, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses: Restoring Sight to the Blind”, Texas Instruments, Inc., Dallas, Texas, (March 11, 2008).
355. N. R. B. Stiles, M. C. Hauer, P. Lee, P. J. Nasiatka, J.-C. Lue, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Design Constraints Based on Visual Psychophysics”, Neuroscience Graduate Program Annual Retreat, Aliso Creek, California, (September 6, 2008).
356. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (November 4, 2008).

Conference and Invited Presentations: (cont.)

357. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (November 4, 2008).
358. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, B. P. McIntosh, R. Agrawal, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses: Restoring Sight to the Blind”, Microdevices Laboratory Seminar Series, Jet Propulsion Laboratory, (January 23, 2009); (Invited Seminar).
359. J. Wills, J. LaCoss, J. Granacki, P. J. Nasiatka, B. P. McIntosh, J. D. Weiland, and A. R. Tanguay, Jr., “Biomimetic Power Supply Requirements”, Texas Instruments, Inc., Dallas, Texas, (February 11, 2009).
360. P. J. Nasiatka, N. R. B. Stiles, B. P. McIntosh, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Advanced Imaging Devices for Biomedical Applications: IOC CMOS Clock Generation”, Texas Instruments, Inc., Dallas, Texas, (February 11, 2009).
361. P. J. Nasiatka, N. R. B. Stiles, B. P. McIntosh, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Hermetic Coatings and Hermetic Coating Test Chips”, Texas Instruments, Inc., Dallas, Texas, (February 12, 2009).
362. N. J. Parikh, B. P. McIntosh, A. R. Tanguay, Jr., M. S. Humayun, and J. D. Weiland, “Biomimetic Image Processing for Retinal Prostheses: Peripheral Saliency Cues”, Paper SaA11.5, 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Minneapolis, Minnesota, (September 2-5, 2009).
363. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 15, 2009).
364. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 15, 2009).
365. P. J. Nasiatka, B. P. McIntosh, N. R. B. Stiles, M. C. Hauer, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Provision of Natural Foveation in Retinal Prostheses”, Neural Interfaces Conference 2010, Long Beach, California, (June 21-23, 2010).
366. B. P. McIntosh, P. J. Nasiatka, N. R. B. Stiles, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “The Importance of Foveation in Retinal Prostheses:

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

- Experiments with a Visual Prosthesis Simulator”, Neural Interfaces Conference 2010, Long Beach, California, (June 21-23, 2010).
367. N. R. B. Stiles, B. P. McIntosh, P. J. Nasiatka, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Psychophysical Analysis of Image Sampling and Filtering”, Neural Interfaces Conference 2010, Long Beach, California, (June 21-23, 2010).
 368. P. J. Nasiatka, B. P. McIntosh, N. R. B. Stiles, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Advanced Imaging Devices for Biomedical Applications”, Texas Instruments, Inc., Dallas, Texas, (August 12, 2010); (Invited Seminar).
 369. P. J. Nasiatka, B. P. McIntosh, J. LaCoss, J. Wills, J. Granacki, and A. R. Tanguay, Jr., “Advanced Packaging for Electronic Medical Implants: Biomedical CMOS Clock Generation”, Texas Instruments, Inc., Dallas, Texas, (August 12, 2010); (Invited Seminar).
 370. P. J. Nasiatka, B. P. McIntosh, V. Sukumaran, V. Sundaram, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Hermetic Coatings and Hermetic Coating Test Chips”, Texas Instruments, Inc., Dallas, Texas, (August 12, 2010); (Invited Seminar).
 371. P. J. Nasiatka, N. R. B. Stiles, B. P. McIntosh, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Ultraminiature Low Power Imaging Systems”, Texas Instruments, Inc., Dallas, Texas, (August 12, 2010); (Invited Seminar).
 372. P. J. Nasiatka, N. R. B. Stiles, B. P. McIntosh, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Ultralow Power Analog to Digital Converters”, Texas Instruments, Inc., Dallas, Texas, (August 12, 2010); (Invited Seminar).
 373. P. J. Nasiatka, N. R. B. Stiles, B. P. McIntosh, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Wide Dynamic Range Image Acquisition and Processing”, Texas Instruments, Inc., Dallas, Texas, (August 12, 2010); (Invited Seminar).
 374. P. J. Nasiatka, N. R. B. Stiles, B. P. McIntosh, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Mixed Signal Floating Point DSPs for Wide Dynamic Range Imaging”, Texas Instruments, Inc., Dallas, Texas, (August 12, 2010); (Invited Seminar).
 375. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 7, 2010).
 376. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 7, 2010).

Conference and Invited Presentations: (cont.)

377. P. J. Nasiatka, B. P. McIntosh, M. C. Hauer, N. R. B. Stiles, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, National Science Foundation Engineering Research Center on Biomimetic MicroElectronic Systems, California Institute of Technology, Pasadena, California, (June 15, 2011).
378. B. P. McIntosh, P. J. Nasiatka, N. R. B. Stiles, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Effects of Foveation on Prosthetic Vision: Simulations”, National Science Foundation Engineering Research Center on Biomimetic MicroElectronic Systems, California Institute of Technology, Pasadena, California, (June 15, 2011).
379. F. E. Sahin, B. P. McIntosh, P. J. Nasiatka, N. R. B. Stiles, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Wide-Angle Lenses for Eye-Trackled Extraocular Cameras”, National Science Foundation Engineering Research Center on Biomimetic MicroElectronic Systems, California Institute of Technology, Pasadena, California, (June 15, 2011).
380. N. R. B. Stiles and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Monocular Depth Perception in the Low Pixellation Limit”, National Science Foundation Engineering Research Center on Biomimetic MicroElectronic Systems, California Institute of Technology, Pasadena, California, (June 15, 2011).
381. A. R. Tanguay, Jr., “The Art of Scientific Presentation”, USC Keck School of Medicine, Harkness Auditorium, University of Southern California, Los Angeles, California, (August 8, 2011).
382. A. R. Tanguay, Jr., “The Art of Scientific Presentation”, USC Keck School of Medicine, McKibben Hall, University of Southern California, Los Angeles, California, (September 2, 2011).
383. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 20, 2011).
384. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 20, 2011).
385. J. D. Weiland, A. R. Tanguay, Jr., and F. Kimock, “Biocompatible Hermetic Coatings, High Density Feedthroughs, and Hermetic Coating Test Chips for Implantable Biomedical Devices”, DARPA RE-NET Kickoff Meeting, Austin, Texas, (December 15, 2011).

Conference and Invited Presentations: (cont.)

386. A. R. Tanguay, Jr., “The Art of Scientific Presentation”, Caltech Project for Effective Teaching (CPET), California Institute of Technology, Pasadena, California, (January 25, 2012); (Invited Presentation).
387. N. R. B. Stiles and A. R. Tanguay, Jr., “The Conference for Undergraduate Women in Physics: Advancing Graduate Education in Physics”, Winter Meeting of the American Association of Physics Teachers, Ontario, California, 7 February, 2012; (Invited Paper).
388. A. R. Tanguay, Jr., “The Art of Scientific Presentation”, Caltech Project for Effective Teaching (CPET), California Institute of Technology, Pasadena, California, (January 25, 2012); (Invited Presentation).
389. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, B. P. McIntosh, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Restoring Sight to the Blind”, Associated Students of Biomedical Engineering (ASBME) and IEEE, University of Southern California, Los Angeles, California, (March 6, 2012).
390. P. J. Nasiatka, B. P. McIntosh, M. C. Hauer, N. R. B. Stiles, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, 10th Annual USC Vision Symposium, University of Southern California, Los Angeles, California, (April 10, 2012).
391. B. P. McIntosh, P. J. Nasiatka, N. R. B. Stiles, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Effects of Foveation on Prosthetic Vision: Simulations”, 10th Annual USC Vision Symposium, University of Southern California, Los Angeles, California, (April 10, 2012).
392. F. E. Sahin, B. P. McIntosh, P. J. Nasiatka, N. R. B. Stiles, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Wide-Angle Lenses for Eye-Tracked Extraocular Cameras”, 10th Annual USC Vision Symposium, University of Southern California, Los Angeles, California, (April 10, 2012).
393. N. R. B. Stiles, J. Crisp, B. P. McIntosh, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Monocular Depth Perception in the Low Pixellation Limit”, 10th Annual USC Vision Symposium, University of Southern California, Los Angeles, California, (April 10, 2012).
394. N. R. B. Stiles, J. Crisp, B. P. McIntosh, M. S. Humayun, and A. R. Tanguay, Jr., “Retinal Prostheses: Monocular Depth Perception in the Low Pixellation Limit”, ARVO 2012, Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, Ft. Lauderdale, Florida, Paper D1152, (May 9, 2012).

Conference and Invited Presentations: (cont.)

395. N. R. B. Stiles, J. Crisp, B. P. McIntosh, M. S. Humayun, and A. R. Tanguay, Jr., “Persistence of Monocular Depth Perception in the Low Pixellation Limit”, Vision Sciences Society 12th Annual Meeting, Naples, Florida, Paper 56.449, (May 15, 2012); Armand R. Tanguay, Jr., Noelle R. Stiles, Jennifer Crisp, and Benjamin P. McIntosh, “Persistence of Monocular Depth Perception in the Low Resolution Limit”, *Journal of Vision* **12**(9), (2012).
396. N. R. B. Stiles, J. Crisp, B. P. McIntosh, M. S. Humayun, and A. R. Tanguay, Jr., “Retinal Prostheses: Monocular Depth Perception in the Low Pixellation Limit”, University of Southern California Neuroscience Graduate Program Annual Retreat 2012, UCLA Conference Center, Lake Arrowhead, California, (September 28, 2012).
397. F. E. Sahin, B. P. McIntosh, P. J. Nasiatka, N. R. B. Stiles, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Wide-Angle Lenses for Eye-Trackled Extraocular Cameras”, University of Southern California Neuroscience Graduate Program Annual Retreat 2012, UCLA Conference Center, Lake Arrowhead, California, (September 28, 2012).
398. B. P. McIntosh, P. J. Nasiatka, N. R. B. Stiles, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Effects of Foveation on Prosthetic Vision: Simulations”, University of Southern California Neuroscience Graduate Program Annual Retreat 2012, UCLA Conference Center, Lake Arrowhead, California, (September 28, 2012).
399. P. J. Nasiatka, B. P. McIntosh, M. C. Hauer, N. R. B. Stiles, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses”, University of Southern California Neuroscience Graduate Program Annual Retreat 2012, UCLA Conference Center, Lake Arrowhead, California, (September 28, 2012).
400. B. P. McIntosh, P. J. Nasiatka, F. E. Sahin, N. R. B. Stiles, J. Crisp, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses: Foveation and Monocular Depth Perception”, University of Southern California Neuroscience Graduate Program Annual Retreat 2012, UCLA Conference Center, Lake Arrowhead, California, (September 29, 2012; Invited Presentation).
401. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 11, 2012).

Conference and Invited Presentations: (cont.)

402. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 11, 2012).
403. J. D. Weiland, A. R. Tanguay, Jr., F. Kimock, J. Yehoda, and E. Gill, “Biocompatible Hermetic Coatings, High Density Feedthroughs, and Hermetic Coating Test Chips for Implantable Biomedical Devices”, DARPA RE-NET Principal Investigator Meeting, New Orleans, Louisiana, (November 13, 2012).
404. P. J. Nasiatka, M. C. Hauer, N. R. B. Stiles, B. P. McIntosh, F. E. Sahin, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular Camera for Retinal Prostheses: Restoring Sight to the Blind”, Eta Kappa Nu Upsilon Chapter, University of Southern California, Los Angeles, California, (November 28, 2012).
405. A. R. Tanguay, Jr., “Development of a Research Statement”, Caltech Project for Effective Teaching (CPET), California Institute of Technology, Pasadena, California, (February 28, 2013); (Invited Presentation).
406. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Caltech Project for Effective Teaching (CPET), California Institute of Technology, Pasadena, California, (February 28, 2013); (Invited Presentation).
407. N. R. B. Stiles, B. P. McIntosh, A. R. Tanguay, Jr., and M. S. Humayun, “Retinal Prostheses: Functional Use of Monocular Depth Perception in the Low Resolution Limit”, 2013 Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO), Seattle, Washington, (May 5, 2013).
408. B. P. McIntosh, N. R. B. Stiles, M. S. Humayun, and A. R. Tanguay, Jr., “Visual Prosthesis Simulation: Effects of Foveation on Visual Search”, 2013 Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO), Seattle, Washington, (May 5, 2013).
409. F. E. Sahin, B. P. McIntosh, P. J. Nasiatka, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Design of a Compact Wide-Field-of-View Camera for Retinal Prostheses”, 2013 Annual Meeting of the Association for Research in Vision and Ophthalmology (ARVO), Seattle, Washington, ARVO Abstract 1068, Paper C0045, (May 5, 2013).
410. B. P. McIntosh, N. R. B. Stiles, M. S. Humayun, and A. R. Tanguay, Jr., “Effects of Foveation on Visual Search Task with Visual Prosthesis Simulation”, Annual Meeting of the Vision Sciences Society, Naples, Florida, (May 12, 2013); B. P. McIntosh, N. R. B. Stiles, M. S. Humayun, and A. R. Tanguay, Jr., “Effects of Foveation on Visual Search Task with Visual Prosthesis Simulation”, *Journal of Vision* **13**(9), (2013).

Conference and Invited Presentations: (cont.)

411. A. R. Tanguay, Jr., N. R. B. Stiles, B. P. McIntosh, and M. S. Humayun, “Functional Use of Monocular Depth Perception in the Low Resolution Limit”, Annual Meeting of the Vision Sciences Society, Naples, Florida, (May 14, 2013); A. R. Tanguay, Jr., N. R. B. Stiles, B. P. McIntosh, and M. S. Humayun, “Functional Use of Monocular Depth Perception in the Low Resolution Limit”, *Journal of Vision* **13**(9), (2013).
412. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (September 12, 2013).
413. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (September 12, 2013).
414. B. P. McIntosh, P. J. Nasiatka, F. E. Sahin, N. R. B. Stiles, J. Crisp, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “An Intraocular Camera for Retinal Prostheses: Foveation and Monocular Depth Perception”, 12th Annual USC Vision Symposium, University of Southern California, Los Angeles, California, (April 22, 2014).
415. A. R. Tanguay, Jr., “The Art of Scientific Presentations”, Caltech Project for Effective Teaching (CPET), California Institute of Technology, Pasadena, California, (April 23, 2014); (Invited Presentation).
416. A. R. Tanguay, Jr., “Development of a Research Statement”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 9, 2014).
417. A. R. Tanguay, Jr., “Stating Your Teaching Philosophy”, Center for Excellence in Teaching, University of Southern California, Los Angeles, California, (October 9, 2014).
418. F. E. Sahin, P. J. Nasiatka, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Optimal Design of Wide-Angle Computational Cameras for Retinal Prostheses and Wearable Visual Aids”, Annual Meeting of the Optical Society of America, Tucson, Arizona, (October 21, 2014).
419. N. R. B. Stiles, B. P. McIntosh, A. R. Tanguay, Jr., and M. S. Humayun, “Intraocular Retinal Prostheses: Monocular Depth Perception in the Low Resolution Limit”, Annual Meeting of the Optical Society of America, Tucson, Arizona, (October 22, 2014).

Conference and Invited Presentations: (cont.)

420. B. P. McIntosh, P. J. Nasiatka, F. E. Sahin, N. R. B. Stiles, J. D. Weiland, M. S. Humayun, and A. R. Tanguay, Jr., “Intraocular and Eye-Tracked Extraocular Cameras for Retinal Prostheses: Restoration of Foveation”, 12th Annual World Congress of the Society for Brain Mapping and Therapeutics, Los Angeles Convention Center, Los Angeles, California, (March 6-8, 2015); (Invited Presentation).
421. A. R. Tanguay, Jr., “Unusually Effective Teaching Strategies: Innovation at the Undergraduate and Graduate Levels”, Caltech Project for Effective Teaching (CPET), California Institute of Technology, Pasadena, California, (April, 2015); (Invited Presentation).

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Conferences: (Chaired Conferences, Seminars, or Sessions; Panel Memberships)

1. Co-Chairman, “Colloquium on University Education”, (co-sponsored by the Danforth Foundation and the Yale University Graduate School), Yale University, (Fall, 1975).
2. Seminar Chairman, “Devices and Systems for Optical Signal Processing”, SPIE International Symposium, Los Angeles, (February, 1980).
3. Session Chairman, “Spatial Light Modulators”, SPIE International Symposium, Los Angeles, (February, 1980).
4. Session Chairman, “Devices in Optical Processing Systems”, SPIE International Symposium, Los Angeles, (February, 1980).
5. Invited Panel Member, “Information Processing and Holography”, 1981 Annual Meeting of the Optical Society of America, Orlando, Florida, (October, 1981).
6. Seminar Co-Chairman, “Advances in Optical Signal Processing”, SPIE International Symposium, Los Angeles, California, (January, 1983).
7. Session Chairman, “Devices for Optical Information Processing”, SPIE International Symposium, Los Angeles, (January, 1983).
8. Technical Program Committee, Conference on Lasers and Electro-Optics (CLEO), Baltimore, Maryland, (May, 1983).
9. Conference Chairman, Society For Values in Higher Education Western Regional Conference, Catalina Island, California, (May, 1983).
10. Seminar Co-Chairman, “Spatial Light Modulators and Applications”, SPIE International Symposium, Los Angeles, California, (January, 1984).
11. Session Chairman, “Materials Issues”, SPIE International Symposium, Los Angeles, California, (January, 1984).
12. Workshop Co-Chairman, “Optical Processing and Computing”, National Science Foundation Symposium on The Future of Lightwave Technology, Los Angeles, California, (February, 1984).
13. Workshop Co-Chairman, “Optical Switching: Materials Issues”, Army Research Office Symposium on Optical Switching Technology, Irvine, California, (March, 1984).
14. Invited Panel Member, “Foreign Optical Processing Technology”, Air Force Systems Command, Dayton, Ohio, (May, 1984).

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Conferences: (Chaired Conferences, Seminars, or Sessions; Panel Memberships) (cont.)

15. Technical Program Committee, Conference on Lasers and Electro-Optics (CLEO), Anaheim, California, (June, 1984).
16. Session Chairman, “Materials and Devices for Optical Signal Processing”, Conference on Lasers and Electro-Optics (CLEO), Anaheim, California, (June, 1984).
17. Session Chairman, 1984 Annual Meeting of the Optical Society of America, San Diego, California, (November, 1984).
18. Organizing Committee Member, National Bureau of Standards Conference on “Basic Properties of Optical Materials”, Gaithersburg, Maryland, (May, 1985).
19. Technical Program Committee Member, National Bureau of Standards Conference on “Basic Properties of Optical Materials,” Gaithersburg, Maryland, (May, 1985).
20. National Technical Advisor, Battelle Memorial Institute, Guided Wave Optoelectronics Manufacturing Technology Development Program, Battelle Columbus Laboratories, (1984 – 1986).
21. Invited Participant, National Symposium on Optoelectronic Technology, Battelle Columbus Laboratories, (1985 – 1986).
22. Session Chairman, “Spatial Light Modulators and Applications”, Topical Conference on Optical Computing, Optical Society of America, Lake Tahoe, Nevada, (March, 1985).
23. Invited Panel Member, “Optical Processing and Computing Terminology and Conventions”, 1985 Annual Meeting of the Optical Society of America, Washington, D. C., (October, 1985).
24. Invited Panel Member, AFOSR Optical Processing and Computing Program, (1985).
25. Session Chairman, “Photorefractive Materials: 1”, 1986 Annual Meeting of the Optical Society of America, Seattle, Washington, (October, 1986).
26. Session Chairman, “Optical Properties”, DARPA Workshop on Novel Tubular Structures, Santa Barbara, California, (May, 1986).
27. Invited Panel Member, AFOSR Committee on Optical Processing and Computing, SPIE International Symposium, Los Angeles, California, (January, 1986).

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Conferences: (Chaired Conferences, Seminars, or Sessions; Panel Memberships) (cont.)

28. Technical Program Committee, Optical Society of America Topical Meeting on Optical Computing, Incline Village, Nevada, (March, 1987).
29. Session Chairman, "Optical Devices: 1", 1987 Annual Meeting of the Optical Society of America, Rochester, New York, (1987).
30. Invited Panel Member, "Graduate Education in Optics", 1987 Annual Meeting of the Optical Society of America, Rochester, New York, (1987).
31. Invited Panel Member, NASA Space Systems and Technology Advisory Committee on Photonics, (1987-88).
32. National Science Foundation Technical Review Board, Center for Optical Computing Systems, A National Science Foundation Engineering Research Center (ERC), University of Colorado, Boulder, Colorado, (1987).
33. Invited Panel Member, DARPA Materials Research Council Symposium on Nonlinear Optical Materials, La Jolla, California, (1987).
34. Session Chairman, IEEE-LEOS Southern California Winter Regional Meeting, University of Southern California, Los Angeles, California, February, (1988).
35. Session Chairman, "Optical Processing", Conference on Lasers and Electro-Optics (CLEO), Anaheim, California, (April, 1988).
36. Session Chairman, "Electrooptical Components", Conference on Lasers and Electro-Optics (CLEO), Anaheim, California, (April, 1988).
37. Technical Organizing Committee, The International Congress on Optical Science and Engineering, SPIE-Europtica, Hamburg, FRG, (September 19-23, 1988).
38. Conference Co-Chairman, "Electro-Optic and Magneto-Optic Materials", The International Congress on Optical Science and Engineering, SPIE-Europtica, Hamburg, FRG, (September 19-23, 1988).
39. Session Chairman, "Information Processing: 1", 1988 Annual Meeting of the Optical Society of America, Santa Clara, California, (1988).
40. Technical Program Committee, Conference on Lasers and Electro-Optics (CLEO), Baltimore, Maryland, (April, 1989).
41. Technical Program Committee, Optical Society of America Topical Conference on Spatial Light Modulators and Applications, Incline Village, Nevada, (1990).

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Conferences: (Chaired Conferences, Seminars, or Sessions; Panel Memberships) (cont.)

42. Session Chairman, "MQW Devices and Circuits", Optical Society of America Topical Conference on Spatial Light Modulators and Applications, Incline Village, Nevada, (1990).
43. Invited Panel Member, "Future Directions in Spatial Light Modulator Technology", Optical Society of America Topical Conference on Spatial Light Modulators and Applications, Incline Village, Nevada, (1990).
44. Conference Co-Chairman, International Conference on Physical Concepts of Materials for Novel Optoelectronic Device Applications", Aachen, Federal Republic of Germany, (1990).
45. Invited Panel Member, First Workshop on Integrated Optics for Military and Commercial Applications, Huntsville, Alabama, (May 8, 1991).
46. Technical Program Committee, Topical Meeting on Photonic Switching (PS '92), Minsk, Republic of Belarus, Union of Soviet Socialist Republics, (July 1-3, 1992).
47. Session Chairman, "Photorefractive Materials", 1992 Annual Meeting of the Optical Society of America, Albuquerque, New Mexico, (September 21, 1992).
48. Session Chairman, "Symposium on Holographic Storage in Photorefractives", 1992 Annual Meeting of the Optical Society of America, Albuquerque, New Mexico, (September 24, 1992).
49. Session Chairman, "Advanced Materials for Optical Storage and Signal Processing", Symposium on Optical Packaging and Interconnects, Technical Conference on Nonlinear Optical Properties of Advanced Materials, OE/LASE '93, Society of Photo-Optical Instrumentation Engineers, Los Angeles, California, (January 21, 1993).
50. Technical Program Committee, Optical Society of America Topical Meeting on Spatial Light Modulators and Applications, Palm Springs, California, (1993).
51. Invited Panel Member, ARPA/AFOSR Workshop on Free Space Optics, Washington, D.C., (November 4, 1994).
52. Research Working Group Chairman, "Multiple Modules and Input/Output", 9th Biennial Workshop on Superconductive Electronics: Devices, Circuits, and Systems, Farmington, Pennsylvania, (October 8-10, 1995).

CURRICULUM VITAE: ARMAND R. TANGUAY, JR.

Conferences: (Chaired Conferences, Seminars, or Sessions; Panel Memberships) (cont.)

53. Research Working Group Co-Chairman, “High-Performance Packaging”, 10th Biennial Workshop on Superconductive Electronics: Devices, Circuits, and Systems, Iron Horse Resort Retreat, Winter Park, Colorado, (September 14-18, 1997).
54. National Science Foundation Technical Review Board, Center for Neuromorphic Systems Engineering, A National Science Foundation Engineering Research Center (ERC), California Institute of Technology, Pasadena, California (November 4-6, 1998).
55. Invited Panel Member (Chairman), Session on Neural Prosthetics and Hardware Implementations, National Institutes of Mental Health/Alfred E. Mann Institute-USC Conference on Replacement Parts for the Brain: Intracranial Implantation of Hardware Models of Neural Circuitry, Washington, D.C., (August 12-14, 1999).
56. Invited Panel Member, Academic Career Panel, California Institute of Technology, Pasadena, California, (December 1, 1999).
57. Invited Panel Member, ARL-SEDD/ARL-ARO Integrated Imaging Workshop, Army Research Office, Research Triangle Park, North Carolina, (December 17, 1999).
58. Invited Panel Member, National Science Board Workshop on Identifying, Reviewing, and Funding Transformative Research, Santa Fe, New Mexico, (September 22-23, 2004).
59. Faculty Advisor, 4th Annual Conference for Undergraduate Women in Physics, University of Southern California, Los Angeles, California, (January 16-18, 2009).
60. Faculty Advisor, 6th Annual Conference for Undergraduate Women in Physics, University of Southern California, Los Angeles, California, (January 14-16, 2011).
61. Faculty Advisor, 8th Annual Conference for Undergraduate Women in Physics, California Institute of Technology, Pasadena, California, (January 18-20, 2013).

Professional Organization Responsibilities:

1. Member, Publications Committee, Optical Society of America, (1985).
2. Treasurer, Los Angeles Chapter of the Institute of Electrical and Electronics Engineers - Lasers and Electro-Optics Society, (1985 – 1986, 1986 – 1987).
3. Secretary, Los Angeles Chapter of the Institute of Electrical and Electronics Engineers - Lasers and Electro-Optics Society, (1986 – 1987).
4. Member, Edwin H. Land Medal Award Committee, Optical Society of America, (2005 – 2009).

Editorships:

1. “Devices and Systems for Optical Signal Processing”, *Proceedings of the Society of Photo-Optical Instrumentation Engineers*, Volume **218**, (February, 1980), (with T. C. Strand).
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9. Regional Editor for North America, *Optical and Quantum Electronics*, 1994 – 1996.