February 11, 2014

T. E. (Ed) Schlesinger

Whiting School of Engineering
Johns Hopkins University
Baltimore, MD

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Citizenship: United States

T.E. Schlesinger is the Benjamin T. Rome Dean of the Whiting School of Engineering at Johns Hopkins University. Prior to this he was the David Edward Schramm Professor and Head of Electrical and Computer Engineering at Carnegie Mellon University. He was the Director of the Data Storage Systems Center, Associate Department Head in ECE at CMU, and was the founding co-director of the General Motors Collaborative Research Laboratory at CMU. Professor Schlesinger also directed the DARPA MISCIC Center at Carnegie Mellon. He received his B.Sc. degree in Physics from the University of Toronto in 1980 and his M.S. and Ph.D. degrees in Applied Physics from the California Institute of Technology in 1982 and 1985 respectively. His research interests are in the areas of solid state electronic and optical devices, nanotechnology, and information storage systems. His work and the work of his students is of direct interest to a number of industrial partners with which he has collaborated on a number of projects resulting in practical implementations of his work. He has received a number of awards and honors including; the Carnegie Institute of Technology George Tallman Ladd Award for research, the Carnegie Institute of Technology Benjamin Richard Teare Award for teaching, a Presidential Young Investigator Award, 1999 and 1998 R&D 100 Awards for his work on nuclear detectors and electro-optic device technology and the Carnegie Science Center 1998 "Scientist" award. He is a Fellow of the IEEE and the SPIE, was President of the ECE Department Heads' Association and served on its board of directors, was a member of the International Advisory Panel for the A*STAR Graduate Academy in Singapore and is on the Advisory Board for the ECE Department, Georgia Tech and the Technology Commercialization Advisory Board for Innovation Works.

Education:

Ph.D. in Applied Physics, Caltech
Completed: Spring, 1985
Thesis Topic: Optical and Opto-Electronic Investigations of Semiconductor Heterostructures and Defects

M.S. in Applied Physics, Caltech
Completed: June 1982

B.Sc. in Physics, University of Toronto
Completed: June 1980

Honors and Awards:

Benjamin T. Rome Dean, Johns Hopkins
Fellow of the IEEE
David Edward Schramm Memorial Professor, Carnegie Mellon
Benjamin Richard Teare Award 2001
Fellow of the SPIE
1999 R&D 100 Award
1998 R&D 100 Award
Carnegie Science Center 1998 “Scientist” Award
George Tallman Ladd Award 1988

Presidential Young Investigator
IBM Faculty Development Award 1986-1988
G T E Advanced Technologies Fellowship 1984-85
N S E R C Postgraduate Scholarship 1981-84
Caltech Tuition Scholarship 1980-84
Graduated *With High Distinction*, University of Toronto, 1980
University College (U. of T.) Alumni Scholarship, 1979-80
Reuben Wells Leonard Scholarship, 1976-80
Ontario Scholar, 1976

Work Experience:

1/14 – present	Benjamin T. Rome Dean, Whiting School Johns Hopkins University
2/05- 12/13	Head, Electrical and Computer Engineering Carnegie Mellon University
9/06 – 9/12	Director, Center for MEMS Instrumented Self-Configuring Integrated Circuits Carnegie Mellon University
6/04 – 4/05	Director, Data Storage Systems Center Carnegie Mellon University
1/04- 5/04	Professor Dept. of Electrical and Computer Engineering Carnegie Mellon University
7/96-12/03	Professor and Associate Department Head Dept. of Electrical and Computer Engineering, Carnegie Mellon University
1/00-1/04	Co-Director General Motors/Carnegie Mellon Collaborative Research Lab.
9/98-7/00	CIT Faculty Chair
Summer 1998, 97, 96, 95	Summer Research Faculty Sandia National Laboratories, Livermore, CA
7/93- 6/96	Professor, Dept. of Electrical and Computer Engineering, Carnegie Mellon University
9/89-6/93	Associate Professor, Dept. of Electrical and Computer Engineering, Carnegie Mellon University

9/85-8/89	Assistant Professor, Dept. of Electrical and Computer Engineering, Carnegie Mellon University
6/81-7/85	California Institute of Technology Research Assistant, Solid State Physics
1983-1984	Teaching Assistant, Dept. of Applied Physics, Caltech, Solid State Physics
1980-1981	Teaching Assistant, Dept. of Applied Physics, Caltech, Statistical Mechanics
1979, 80	Summer Research Assistant Dept. of Physics, University of Toronto
1979-1980	Teaching Assistant, Dept. of Mathematics University of Toronto

Consulting Experience:

Cooper Dunham, LLP
Accelight Networks
Applied Electro-optics Corporation (Company Founder)
Dahl & Osterloth, LLP
Electric Research and Management, Inc.
IC Mechanics (Technical Advisary Board)
II-VI Incorporated
Kellogg, Huber, Hansen, Todd & Evans
Kurt J. Lesker Co.
OnGuard Systems Inc.
Solid State Measurements Inc.
Sonnenschein, Nath &Rosenthal LLP

Activities:

Professional Activities and Memberships:

American Society of Engineering Education
Sigma Xi Research Society
Fellow of the SPIE
Materials Research Society
Fellow of the Institute of Electrical and Electronic Engineers (IEEE)
Pennsylvania NanoMaterials Commercialization Technical Advisory Committee
A*STAR Graduate Academy International Advisory Panel
Governing Board, A*STAR/Carnegie Mellon Ph.D. Program
Technical Advisory Board the Technology Collaborative
Secretary/Treasurer ECE Department Heads Association (ECEDHA) 2008-2009
Vice President ECE Department Heads Association (ECEDHA) 2009-2010
President ECE Department Heads Association (ECEDHA) 2010-2011
Member of the Board of the ECE Department Heads Association (ECEDHA) 2008-present

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Committees at Johns Hopkins:

Academic Council (x) 2014-

Committees at Carnegie Mellon:

Joint Advisory Board for CMU-Rwanda Program
E&TIM Faculty Steering Committee 2006- 2013
Strategic Plan: Regional Impact Committee 2007- 2008
Research Review Committee 2007-11
Budget Review Committee 2007-08
Department Heads Promotion and Tenure Review Committee 2005-2013
Department Heads Senior Faculty Review Committee 2005-2013
Undergraduate Advising Committee 2004-2006
CIT Dean Search Committee 2003-2004
CIT Curricullum Assesment Committee 2000-2004
CIT College Council 1996-2013
ECE Department Head Search Committee 1999
Committee on Faculty Expectations 1999
Committee to Evaluate the Growth of ECE 1998
Undergraduate Education Committee (Chairman) 1996-00
Faculty Senate 1993-95
Post-tenure Review Committee 1994
MSE Department Head Search Committee (Chairman) 1994-95
University Research Council 1993-94
Ad Hoc Committee for Promotions CIT 1993-94
Electronic Materials and Technology Building Planning Committee 1992-94
Graduate Admissions Committee 1992-93, 93-95 (Chairman), 95-96
ECE Department Head Search Committee 1991-92
Committee to Re-evaluate the Curriculum 1989-90
Graduate Education Committee 1986-87, 89-92
Undergraduate Education Committee 1987-90
Strategic Planning Committee 1987
Committee to set new undergraduate solid state course sequence
Curriculum Committee, IBM Materials Grant, Fall 1987.

Conference Organizing Committees, Program Committees, and Panels:

Symposium organizer 1993 Materials Research Society Spring Meeting, San Francisco CA April 12-16. "Semiconductors for Room Temperature Radiation Detector Applications".

International Advisory Committee "9th International Workshop on Room Temperatur Semiconductor x and γ-ray Detectors Associated Electronics and Applications, September 18-22, 1995, Grenoble, France

Symposium organizer 1997 Materials Research Society Fall Meeting, Boston MA, December 1-5. "Semiconductors for Room Temperature Radiation Detector Applications".

Workshop on "Room Temperature Semiconductor Detectors for Remote, Portable, and in situ Radiation Measurement Systems" at the Twelfth International Conference on Crystal Growth, Jerusalem, Israel, July 26-31 1998.

1998 U.S. Workshop on the Physics and Chemistry of II-VI Materials, Charleston, South Carolina, October 20-22, 1998.

Program Committee Hard X-Ray, Gamma-Ray, and Neutron Detector Physics, Part of SPIE's International Symposium on Optical Science, Engineering, and Instrumentation, 1999-2003

Chairman of the SPIE Working Group on Penetrating Radiation 1997-1998.

11th International Workshop on Room Temperature Semiconductor x- and gamma-ray Detectors and Associated Electronics, Vienna Austria, October 11-15, 1999

The 1999 U.S. Workshop on the Physics and Chemistry of II-VI Materials, September 20-23, 1999, Las Vegas, NV (Conference Co-Chairman)

Program Committee U.S. Workshop on the Physics and Chemistry of II-VI Materials, 2000 – 2005

Program Committee Oprical Data Storage Meeting, May 11-14, 2003, Vancouver B.C. Canada.

Program Committee Optical Data Storage Meeting, April 18-21, 2004, Monterey, California, USA

Technical Program Committee (Chairman) Joint Optical Data Storage (ODS) Meeting/International Symposium on Optical Memory (ISOM), July 10-14, 2005, Honolulu, Hawaii, USA

General Co-chair, 22nd Optical Data Storage Topical Meeting, Montreal, Canada, April 23-26, 2006

Vice-Chair MORIS 2006 Workshop on Thermal and Optical Magnetic Materials and Devices, June 6 through 8, 2006, Chiba, Japan

Technical Program Committee (Member), International Symposium on Optical Memory 2006, Takamatsu, Kagawa, Japan, October 15-19, 2006

General Co-Chair/Editor, Opitcal Data Storage 2006, Montreal, Canada, April 23-26, 2006.

Asia-Pacific Data Storage Conference, Hsinchu, Taiwan, August 28-30, 2006 (Conference Co-Chiarman).

Workshop General Chair, MORIS2007, Pittsburgh, PA, USA, September 24-26, 2007

Advisory Board Co-chair, 23rd Optical Data Storage Topical Meeting, Portland, Oregon, May 20-23, 2007.

5th Near-Field Study Group, Chair

Optical Data Storage/ISOM 2008 Joint Topical Meeting, Waikoloa, HI, Advisory Committee Co-chair, Technical Program Committee

MSST 2008 25th IEEE Symposium on Massive Storage Systems and Technologies, panel member "Emerging Storage Technologies", September 25, 2008, Baltimore MD

The 19th Magnetic Recording Conference (TMRC), Publication Co-Chair, July 29-31, 2008, Singapore.

Asia Pacific Data Storage Conference, Co Chair, December 15-17, 2008 Jeju Island, Korea.

Technical Program Committee (Member), International Symposium on Optical Memory 2009, Nagasaki, Japan, October 4-8, 2009.

Advisory Committee Optical Data Storage Meeting May 10-13, 2009, Lake Buena Vista, FL.

Advisory Committee Optical Data Storage Meeting May 24-26, 2010, Boulder, CO.

Technical Program Committee (Member), International Symposium on Optical Memory 2010, Hualien, Taiwan, October 24-28, 2010.

Asia Pacific Data Storage Conference, Co Chair, October 27-29, 2010 Hualien, Taiwan.

Advisory Committee Optical Data Storage Meeting 2011, Lihue, Kauai, Hawaii, June 26-30, 2011.

Technical Program Committee (Member), International Symposium on Optical Memory 2011, Lihue, Kauai, Hawaii, June 26-30, 2011.

Students Supervised

Undergraduate Projects

Spring Semester 1986 - Ross Serin
Spring Semester 1987 - Eric Costello
Spring Semester 1988 - John Hutchinson
Summer 1988 - Richard Nedwich, Joseph Lee
Fall Semester 1988 - John Hutchinson (Honors Project), Richard Nedwich, Joseph Lee
Spring Semester 1989 - John Hutchinson (Honors Project), Greg Weber
Spring Semester 1990 - Michelle Mathur
Summer 1990 - Michelle Mathur (NSF-REU)
Spring Semester 1991 - John Van Scyoc, Wayne Martin
Summer 1992 - Tony DiTomasso (NSF-REU)
Spring 1993 - Wayne Martin (NSF-REU)
Summer 1993 - Wayne Martin
Spring, Summer 1994 - Troy Gilbert, Brett Forejt
Fall 1994 -Troy Gilbert, Brett Forejt, Cory Weber
Spring 1995 - Troy Gilbert, Cory Weber
Fall 1996 - Eric Gross
Fall 1997 - Jerome Cho
Fall 1998 - Steven Ross, Paris Cox, Michael Greaves
Spring 1999 - Steven Ross, Michael Greaves
Summer/Fall 2002/Spring 2003 – Etzel Brower, Ivan Nauseida
Fall 2012/Spring 2013 – Evan Quirk

Graduate

J.C. Lee (M.S. January 1987, Ph.D. May 1990, A. J. Strojwas co-advisor)
M.S. Project Title - "Photoluminescence Study of MBE Grown (Ga,In)As/GaAs and Cu in InP"
Ph.D. Thesis Title - "A Realistic Device Simulator for GaAs MESFETs"

D. Wong (M.S. December 1987, Ph.D. June 1990, A. G. Milnes co-advisor)
M.S. Project Title - "HgI_2 Photoluminescence and Its Relationship to NuclearDetector Quality"
Ph.D. Thesis Title - "Defect Control in Gallium Arsenide for Improved Device Performance: Solar Cell Applications"

M. Milliman (M.S. February 1988)
M.S. Project Title - "Evaluation by Photoluminescence of Processes to Improve GaAs"

H.K. Kim (Ph.D. December 1989, A. G. Milnes co-advisor)
Ph.D. Thesis Title - "Gallium Arsenide Bipolar Devices Grown by Molecular Beam Epitaxy."

J. Jeong (Ph.D. May 1988, A. G. Milnes co-advisor)
Ph.D. Thesis Title - "Study of $In_xGa_{1-x}As$ on GaAs Grown by Molecular Beam Epitaxy"

J. Zhao (Ph.D. May 1988, A. G. Milnes co-advisor)
Ph.D. Thesis Title - "Study of $GaAs_{1-x}Sb_x$/GaAs Heterostructures Grown by Molecular Beam Epitaxy"

A. K. Stamper (M.S. August 1988, Ph.D. April 1991)
M.S. Project Title, "Electrical and Magnetic Properties of High Temperature Superconductors"
Ph.D. Thesis Title, "Superconducting $YBa_2Cu_3O_{7-d}$ Thin Films and Thin Film Devices"

X.J. Bao (Ph.D. July 1991)
Ph.D. Thesis Title, "Defects in Red Mercuric Iodide Related To Device Applications"

R. Burton (M.S. May 1991, Ph.D. May 1994)
M.S. Project Title, "Fabrication of Ridge Waveguide Integrated Optoelectronic Devices"
Ph.D. Thesis Title, "Fabrication Technologies and Modeling of Integrated Ring-lasers and Modulators"

Chiu Yi (M.S. December 1991, Ph.D August 1996)
M.S. Project Title, "Doping Profiling by Scanning Tunneling Spectroscopy"
Ph.D. Thesis Title, "Material and Optical Device Characterization in Potassium Titanyl Phosphate ($KTiOPO_4$, KTP)"

J. Van Scyoc (M.S. April 1993)
M.S.Project Title, "Development of a Process for the Deposition of Large Area $YBa_2Cu_3O_{7-d}$ Superconducting Thin Films on Silicon"

J. Ebel (Ph.D. May 1998, M. L. Reed co-advisor)
Ph.D. Thesis Title, "Cross-sectional AFM Characterization of Heterostructure Material and Devices

R. Misra (Ph.D. May 1995, D. W. Greve principle advisor)
Ph.D. Thesis Title, "Germanium Silicon Quantum Well Infrared Photodetectors"

R. Strong (M.S. April 1993, D. W. Greve principle advisor)
M.S.Project Title, "Infrared Diodes Using $Si_{1-x}Ge_x$ Films Grown by Ultra High Vacuum Chemical Vapor Deposition"

M. Mescher (M.S. May 1995, Ph.D. December 1999)
M.S. Project Title, "Piezoelectrically Tuned Electro-optic Devices"
Ph.D. Thesis Title, "Characterization and Control of Thin Film Stresses for Microelectronic and MEMS Applications"

Jim Toney (Ph.D. May 1998, Physics)
Ph.D. Thesis Title, "Uniformity and Defects in Cadmium Zinc Telluride X-ray/Gamma-ray Spectrometers"

Jie Zou (M.S. August 1996, D.D. Stancil co-advisor)
M.S. Project Title, "Improvements to Electro-optic Deflectors"

M. Kawas (M.S. December 1996, D.D. Stancil co-advisor)
M.S. Project Title, "Design and Characterization of Domain Inverted Electro-Optic Lens Stacks in $LiTaO_3$"

Bruce Brunett (Ph.D. May 2000)
Ph.D. Thesis Title, "The Role of Material Uniformity and Device Geometry on $Cd_{1-x}Zn_xTe$ Room Temperature Nuclear Spectrometer Performance"

Amit Itagi (M.S. May 1999, Ph.D. May 2003, D.D. Stancil co-advisor)
M.S. Project Title, "Structure and Flipping Dynamics of Ferroelectric Domains in Lithium Tantalate"
Ph.D. Thesis Title, "Virtual Optical Recording System"

Feng Guo (M.S. May 1999, D.D. Stancil co-advisor)
M.S. Project Title, "Solid Immersion Lens Optical Field Analysis"

Fan Zhou (M.S. May 2000, Course Option)

Fang Chen (M.S. May 2000 Course Option, Ph.D. May 2003)
Ph.D. Thesis Title, "A Study of Very Small Aperture Lasers (VSAL) for Near Field Optical Recording"

C.M. Greaves (M.S. May 2001)
M.S. Project Title, "Material Uniformity and Doping Studies of Cadmium Zinc Telluride For Use in Room Temperature Semiconductor Radiation Detector Applications"

Aparna Sheila (Ph.D. May 2001)
Ph.D. Thesis Title, "Simulation Studies on Media Jitter in Phase Change Optical Recording At High Data Rates"

Duane Karns (Ph.D. December 2001)
Ph.D. Thesis Title, "An Examination of Substrate Incident Solid Immersion Lens Recording"

Tim Rausch (Ph.D. January 2003)
Ph.D. Thesis Title, "Experimental and Theoretical Investigation of Heat Assited Magnetic Recording"

Lifu Zhou (Ph.D. December 2007)
Ph.D. Thesis Title, "Planar Optical Devices for Light Concentration in Heat Assisted Magnetic Recording Heads"

Eric Black (Ph.D. August 2010)
M.S. Project Title, "Thermal Characterization of Hard Disk Drive Sliders for Heat Assisted Magnetic Recording"
Ph.D. Thesis Title, "Optical Path Integration in Heat Assisted Magnetic Recording"

Brian Knight (Ph.D. December 2009)
M.S. Project Title, "The Design And Implementation Of A Hybrid Recording Spin Stand"
Ph.D. Thesis Title, "Adjacent Track Aging in Heat Assisted Magnetic Recording"

Jingwei Liu (Ph.D. May 2010, G. Fedder co-advisor)
Ph.D. Thesis Title, "CMOS-MEMS Probes"

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Chun-Chia Tan (Ph.D. December 2012, J. Bain co-advisor)
Ph.D. Thesis Title, "Nitrogen-doped $Ge_2Sb_2Te_5$ based Superlattice-like Structures for Phase Change Random Access Memory"

Jiancheng Huang (Ph.D. December 2012, J. Bain co-advisor)
Ph.D. Thesis Title, "Phase Change Materials on Metals: Crystallization Behavior and Applications in Magnetic Stacks"

Greg Slovin (Ph.D. Candidate, J. Bain co-advsior)

Eng Keong Chua (Ph.D. August 2011, J. Bain co-advisor)
Ph.D. Thesis Title, "Development of Phase Change Switches with Low Resistance "ON" State"

Min Xu (Ph.D. Candidate, J. Bain co advisor)

Publications

Patents

1. "Wavelength Tunable and Electro-optical Semiconductor Devices," T.E.Schlesinger and Michael Reed, U.S. Patent #4,935,935, issued June 19, 1990.

2. "Electro-optic Device for Scanning Using Domain Reversed Regions," D.D. Stancil, J. Mir, T.E. Schlesinger, U.S. Patent #5,317,446, issued May 31, 1994.

3. "Electro-drift Purification of Materials for Room Temperature Radiation Detectors," R.B. James, J.M. VanScyoc, T.E. Schlesinger, U.S. Patent #5,641,392, issued June 24, 1997.

4. "Integrated Frequency Conversion and Scanner," M. C. Gupta, T.E. Schlesinger, D.D. Stancil, U.S. Patent #5,714,240, issued February 3, 1998.

5. "Two Dimensional Electro-optic Beam Scanner," W.C. Messner, D.D. Stancil, T.E. Schlesinger, U.S. Patent #6,480,323, issued November 12, 2002.

6. "Method for Surface Passivation and Protection of Cadmium Zinc Telluride Crystals," Mark Mescher, R.B. James, T.E. Schlesinger, Haim Hermon U.S. Patent #6,043,106, issued March 28, 2000.

7. "Solid Immersion Lenses for Focussing Collimated Light in the Near-Field Region," Tim Rausch, T.E. Schlesinger, D.D. Stancil, Jim Bain, U.S. Patent #6,594,430, issued July 15, 2003.

8. "System and Method for Measuring the Size of a Focused Optical Spot," Jinhui Zhai, T.E. Schlesinger, D.D. Stancil, U.S. Patent #6,476,382, issued November 5, 2002.

9. "Solid Immersion Mirror," T.E. Schlesinger, U.S. Patent #6,980,374, issued December 27, 2005.

10. "Device with Waveguide Defined by Dielectric in Aperture of Cross-track Portion of Electrical Conductor for Writing Data to a Recording Medium," Daniel D. Stancil, Amit Itagi, T.E. Schlesinger, James Bain, and Tim Rausch, US Patent #6,999,384, issued February 14, 2006.

11. (a) "Phase Offset Integrated Solid Immersion Mirror and Lens for a General Phase Front", Amit Vasant Itagi, T.E. Schlesinger, US Patent #7,567,387, issued July 28, 2009.

    (b) "Phase Offset Integrated Solid Immersion Mirror and Lens for a General Phase Front", Amit Vasant Itagi, T.E. Schlesinger, US Patent #8,085,473, issued December 27, 2011.

12. "Apparatus for Excitation, Enhancement, and Confinement of Surface Electromagnetic Waves for Confined Optical Power Delivery", Amit Itagi, Daniel D. Stancil, T.E. Schlesinger, James Bain, US Patent # 7,773,330, issued August 10, 2010.

13. "Coupled Plasmonic Waveguides and Associated Apparatus and Methods", James Bain, Stephen P. Powell, Eric J. Black, and T.E. Schlesinger, submitted April 29, 2010.

Invited/Keynote Presentations

1. "Applications of High Temperature Superconductors; More Than Just Floating Magnets," Tripartite Symposium (ACS, SSP, SACP) on "Superconductivity: A Rising Technology", May 8, 1990 Pittsburgh, PA.

2. "Properties of Bulk HgI_2," 7th International Workshop on Room Temperature Semiconductor X-ray and γ-ray Detectors and Associated Electronics, September 23-28 1991 Ravello, Italy.

3. "UHV/CVD Epitaxy of Silicon and Germanium-Silicon Heterostructures," D.W. Greve, R. Misra, R. Strong, and T.E. Schlesinger, 40th National AVS Symposium & Topical Conferences. *J. Vac. Sci. Technol.* **A12**, 979(1994).

4. "Role of Uniformity and Geometry in IMARAD-type Gamma-ray Spectrometers," T.E.Schlesinger, SPIE Annual Meeting, Denver, CO, July 19-23, 1999.

5. "The Spatial Response of CdZnTe Gamma-ray Detectors Measured by Gamma-ray Mapping," T.E. Schlesinger, B.Brunett 11th International Workshop on Room Temperature Semiconductor X- and Gamma-Ray Detectors and Associated Electronics, Vienna, Austria, October 11-15, 1999.

6. "An Integrated Read/Write Head for Hybrid Recording," T.E. Schlesinger, T. Rausch, A. Itagi, J. Zhu, J.A. Bain, D.D. Stancil, International Symposium on Optical Memory, Taipei, Taiwan, October 16-19, 2001.

7. "Effects of Optical Spot/Magnetic Head Misalignment for Perpendicular Hybrid Magnetic Recording," T. Rausch, P. Herget, A. Itagi, D.D. Stancil, J.A. Bain, J.-G. Zhu, and T.E. Schlesinger, 8th Magneto-Optical Recording International Symposium 2002 (MORIS 2002), Brittany, France, May 5-8, 2002.

8. "Recent Research Activity Toward Future Data Storage," Keynote Presentation, T. E. Schlesinger, Magneto Optical Recording International Symposium, May 16-19, 2004, Yokohama, Japan. *Trans. Magn. Soc. Jpn.* **4**, 131(2004).

9. "Nanotechnology and Information Storage," Keynote Presentation, T.E. Schlesinger, ASME 3rd Integrated Nanosystems, Design Synthesis & Applications Conference, Pasadena, CA Sept. 22-24, 2004.

10. "Thermal Management in Heat Assisted Magnetic Recording," T.E. Schlesinger, E.J. Black, J.A.Bain, Presented at the International Magnetics Conference, Nagoya, Japan, April 4-8, 2005.

11. "Characterization of Blue and Red Very Small Aperture Lasers for Hybrid Recording," T. Ohno, J.A. Bain, T.E. Schlesinger, Presented at the International Magnetics Conference, Nagoya, Japan, April 4-8, 2005.

12. "Merging Storage and Processing: Moving Beyond Both," L. Pileggi, J. Bain, G. Fedder, T.E. Schlesinger (Presenter), International Probe Storage Workshop, IBM Zurich Switzerland, March 1, 2005."

13. Thermal Management in Heat Assisted Magnetic Recording,": Eric J. Black, T.E. Schlesinger, J.A. Bain, Diskcon2005, San Jose, CA, September 21, 2005.

14. "HAMR Technology," T.E. Schlesinger, Presented at 6th Internatinal Symposium on Physics of Magnetic Materials, Singapore, September 13-16, 2005.

15. "MISC-IC's Memory Intensive Self-Configuration Integrated Circuits," T.E. Schlesinger, ST Microelectronics, Milan, Italy, September 12, 2005.

16. "Information Storage and Nanotechnology," T.E. Schlesinger, Keynote presentation at 22nd IEEE-13th NASA Goddard (MSST2005) Conference on Mass Storage Systems and Technologies, Monterey, CA, April 11-14, 2005.

17. "Magnetic Storage, Nanotechnology and the End of Historical Trends, Bayer Corp. Germany, June 23, 2005.

18. "Information Storage: New Pradigms in Technology," T.E. Schlesinger, Imation Corporation Annual Awards Banquet, Minneapolis, MN, September 29. 2005.

19. "Electrical and Computer Engineering: Materials and Physical Systems Revisited", ITRI & Carnegie Mellon 2005 Forum and Workshop (Taiwan), December 6, 2005.

20. "Electrical and Comuter Egineering: New Paradigms in Technology," T.E. Schlesinger, Siemens Energy & Automation, Inc., Lunch and Learn Series, June 27, 2006.

21. "Challenges in Opitcal Recording Technology," T.E. Schlesinger, Asia-Pacific Data Storage Conference, Hsinchu, Taiwan, August 28-30, 2006.

22. "Future Technology for Magnetic Recording Phenomena," T.E. Schlesinger, Advanced Materials Science Center, Nihon University, June 9, 2006

23. "Application-driven optical storage", T.E. Schlesinger, Optical Data Storage 2007, Portland, Oregon, May 20-23, 2007.

24. "Materials and Systems", T.E. Schlesinger, SRC Summer Study Meeting, San Diego, California, July 9, 2007.

25. "Memory Intensive Self Configuring Integrated Circuits", T.E. Schlesinger, Samsung Advanced Institute of Technology, Korea, January 22,2007.

26. "Heat Assisted Magnetic Recording Research (and more)", T.E. Schlesinger, Center for Information Storage Devices International Consortium, Yonsei University, Korea, January 25, 2007.

27. "Electrical and Computer Engineering at Carnegie Mellon University", T.E. Schlesinger, University of Arizona, Tucson, AZ, September 6, 2007.

28. "Electrical and Computer Engineering at Carnegie Mellon University", T.E. Schlesinger, Georgia Tech, Meeting of SECEDHA, Atlanta, GA, November 7, 2008.

29. "Applications for Fourth Generation Optical Storage", T.E. Schlesinger, B.H. Krogh, T. Chen, Joint ISOM/ODS Topical Meeting, Waikoloa, Hawaii, July 15. 2008.

30. “Thermal Stability and Adjacent Track Aging in HAMR Media”, B.R. Knight, J.A. Bain, T.E. Schlesinger, 19th Magnetic Recording Conference, Singapore, July 31, 2008.

31. “Stored Information: Growing in Importance Value and Use”, T.E. Schlesinger, Asia Pacifice Data Storage Conference, Jeju Island, Korea, December 16, 2008.

32. “MEMS Reconfigurable Circuits Using Phase Change Materials”, Ed Schlesinger, Gary Fedder, James Bain, Larry Pileggi, Jeyanandh Paramesh, presented at the 14th Israel Materials Engineering Conference, Tel Aviv University, Tel Aviv, Israel, December 13-14, 2009.

33. “MEMS Instrumented Self Configuring ICs”, T.E. Schlesinger, University of Florida, Gainesville, FL, October 7, 2010.

34. “Electrical and Computer Engineering: The End of Boundaries”, T.E. Schlesinger, Benton Lecture, University of Florida, Gainesville, FL, October 7, 2010.

35. “Coupled Plasmonic Waveguide: A Near Field Transducer for Heat Assisted Magnetic Recording”, Eric J. Black, Yunchuan Kong, Stephen Powell, Yi Luo, James A. Bain, and T.E. Schlesinger, Asia-Pacific Data Storage Conference, Hualien, Taiwan, October 28, 2010.

36. “Engineering Education and Research: A Global Enterprise”, T.E. Schlesinger, Engineering Globalization Workshop, Arlington, Virginia, May 16-18, 2012.

37. “Electrical and Computer Engineering Curricula without Boundaries”, T.E. Schlesinger, Iowa State University, November 30, 2012

38. “Exploring New Paradigms in Technology”, T. E Schlesinger, Iowa State University, November 30, 2012.

39. “Hard Disk Drive Technology, HAMR, and Dielectric Resonators”, T.E. Schlesinger, Bar-Ilan University, Tel Aviv, Israel, December 22, 2013.

Books, Chapters in Books, Articles, Short Course

1. R.B. James, T.E. Schlesinger, Paul Siffert, Larry Franks volume editors of "Semiconductors for Room Temperature Radiation Detector Applications," Materials Research Society Proceedings, volume **302**, (Materials Research Society, Pittsburgh, PA) 1993.

2. "Semiconductors for Room Temperature Nuclear Detector Applications," T. E. Schlesinger and R. B. James volume editors, Academic Press 1995, Volume **43** in series "Semiconductors and Semimetals".
    a) Chapter 1 "Introduction and Overview" T.E. Schlesinger and R.B. James.
    b) Chapter 4 "Electrical Properties of Mercuric Iodide" X.J. Bao, T.E. Schlesinger, and R.B. James.
    c) Chapter 5 "Optical Properties of Mercuric Iodide" X.J. Bao, R.B. James, and T.E. Schlesinger.
    d) Chapter 9 "$Cd_{1-x}Zn_xTe$ Spectrometers for Gamma and X-Ray Applications", R.B. James, T.E. Schlesinger, J.C. Lund, and M. Schieber.
    e) Chapter 15 "Summary and Remaining Issues for Room Temperature Radiation Spectrometers", M. Schieber, R.B. James, and T.E. Schlesinger

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1. "Isotope Shifts of Fe-acceptor Pairs in Si", Electronic Materials Conference, Burlington Vermont June 22-24, 1983.

2. "Interdiffusion of Al and Ga in (Al,Ga)As/GaAs Quantum Well Structures," Carnegie Mellon University, Pittsburgh, PA, Graduate Seminar Speaker, September 11, 1986.

3. "Dominant Recombination Centers in n-Type Bulk GaAs," Meeting of the Electrochemical Society, State-of-the-Art Program on Compound Semiconductors, May 12-13, 1987.

4. "A Photoluminescence Study of Zn Doped InP," *1987 Materials Research Society Fall Meeting*, Boston, MA, December 1987.

5. "Optical Characterization of Semiconducting Materials and Structures," Department of Chemistry, Carnegie Mellon University, Pittsburgh PA, February 26, 1988.

6. "Thin Film Deposition of High Temperature Superconductors" Department of Physics, University of Windsor, Windsor Ontario, March 31, 1988.

7. "On Being a Faculty Member," Special seminar presentation for graduate students interested in academic careers, April 6, 1988, ECE Department, Carnegie Mellon University.

8. "Sputter Deposition` of $YBa_2Cu_3O_{6+x}$ on Alumina and Silicon," Wright Patterson Air Force Base, May 26, 1988.

9. "Sputter Deposition of Thin Films of High Temperature Superconductors," Eotvos Laraunt University, Budapest, Hungary July 22, 1988.

10. "High T_c Superconductors and Technological Development of Thin Films," Carnegie Mellon University, Department of ECE graduate seminar, September 15, 1988.

11. "Deposition and Characterization of Thin Films of High-Temperature Superconductors on Alumina and Silicon," *Fall 1988 Meeting of the Materials Research Society*, Boston, MA.

12. "Characterization of $Y_2O_3\backslash ZrO_2$ Buffer Layers for High Temperature Superconducting Films on Silicon Substrates," *174th Meeting of the Electrochemical Society*, Chicago, October 9-14, 1988.

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20. "A Stable Two-dimensional Device Simulator for GaAs MESFET," J-C Lee, A.Strojwas, T. E. Schlesinger, and A. G. Milnes, presented at *VLSI Process/Device Modeling Workshop*, Osaka University, Osaka, Japan, May 26-27, 1989.

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24. "Intrinsic and Process-Induced Defects in Mercuric Iodide," X. J. Bao, T. E. Schlesinger, R. B. James, A. Y. Cheng, J. M. Markakis, and C. Ortale, *March 1990 Meeting of the American Physical Society*, Anaheim CA, March 12-16, 1990.

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36. "Process for the Fabrication of Low Threshold Self-Aligned Planar Impurity-Induced-Disordered Lasers", R.S. Burton, T.E. Schlesinger, D.J. Holmgren, S.C. Smith, and R.D. Burnham, American Vacuum Society Western Pennsylvania Section Meeting, June 15-16, 1992, Pittsburgh, PA.

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44. "Integrated Microsystems: A Convergence of Technologies", T.E. Schlesinger, M.L. Reed, Optical Society of America, Pittsburgh, Chapter, February 9, 1994.

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55. "Ge_xSi_{1-x} IR Detectors for Focal Plane Arrays Grown by UHV Chemical Vapor Deposition", R. Strong, D.W. Greve, and T.E. Schlesinger, M. Weeks, P. Pellegrini, Conference on Lasers and Electro-optics, Baltimore MD, May 22-26, 1995.

56. "Wavelength Tunable Electro-optic Devices", T.E. Schlesinger, Departmental Seminar, School of Applied Science, Hebrew University, Jerusalem, Israel, June 8, 1995.

57. "Electrical Characterization of Impurities In and Contacts On Mercuric Iodide", J.M. VanScyoc, R.B. James, T.S. Gilbert, and T.E. Schlesinger, Materials Research Society Fall Meeting, Boston MA, November 27-December 1, 1995.

58. "Nuclear Detectors" Graduate Seminar, ECE Department, CMU. March 21, 1996

59. "Electro-optic Scanners", AMP Corporation, June 10, 1996, Harrisburg, PA.

60. "Solid State X-ray and γ-ray Detector Technology", Optical Society of America, October 15, 1996, Pittsburgh, PA.

61. "Native Oxide Formation and Removal on Cleaved Heterostructure Layers Measured by Atomic Force Microscopy", J.L. Ebel, T.E. Schlesinger, M.L. Reed, C. Bozada, C. Cerny, G. DeSalvo, R. Dettmer, J. Gillespie, C. Havasy, T. Jenkins, K. Nakano, C. Pettiford, T. Quach, J. Sewell, D. Via, Workshop on Native Oxides of Compound Semiconductors, February 19-20, 1997, San Antonio, Texas.

62. "CZT Nuclear Detectors" Soreq NRC, Israel, July 18, 1997.

63. "Electro-optic Scanners for Data Storage", Quantum Corp. Boston, MA, May 20, 1998.

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65. "Lasers: How Do They Work", DSSC Seminar, October 22, 1999.

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72. "Focussed Ion-beam Fabrication of Nanoscale Magnetic Structures", D. Litvinov, F. Chen, E. Svedberg, T. Ambrose, J.A. Bain, T.E. Schlesinger, J.K. Howard, S. Khizroev, International Magnetics Conference, Boston, MA, 28 March – 3 April, 2003.

73. "Nanotechnology, Information Storage, and Automotive Technology", SAE Symposium, CMU, May 12, 2004.

74. "Mechanism of Domain Expansion in MAMMOS," P. Herget, T.E. Schlesinger, D.D. Stancil, IEEE International Magnetics Conference Nagoya, Japan, 2005.

75. "Towards Zero Auto Deaths", Computer Science and Telecommunications Board, Washington D.C., May 23, 2006.

76. T.E. Schlesinger, "Memory Intensive Self Configuring Integrated Circuits", Department of Physics and Department of Electrical Engineering joint seminar, University of Windsor, Windsor, Ontario, Canada, May 15, 2007.

77. "Mode index lens for light concentration in heat assisted magnetic recording", L. Zhou, T.E. Schlesinger, and J.A. Bain presented at MORIS 2007, Pittsburgh, Pennsylvania, September 24-26, 2007.

78. "Fluorescent Dyes as Surface Plasmon Probes", E. Black, J.A. Bain, T.E. Schlesinger presented at MORIS 2007, Pittsburgh, Pennsylvania, September 24-26, 2007.

79. "Effect of Intergranular Exchange on Track Aging in Heat Assisted Magnetic Recording", B.R. Knight, J.A. Bain, and T.E. Schlesinger presented at 52nd Magnetism and Magnetic Materials Conference, Tampa, Florida, November 5-9, 2007.

80. "Materials and Nanotechnology", T.E. Schlesinger, presented at Advanced Materials Summit, nanoTX'07, Dallas Texas, September 24, 2007.

81. "Laser Diode Feedback Signal for Position Sensing Using a Self-mixing Intereference", M.-Y. Tsai, T.-S. Liu, and T.E. Schlesinger, Joint ISOM/ODS Topical Meeting, Waikoloa, Hawaii, July 15. 2008.

82. "Memory Intensive Self Configuring Integrated Circuits", T.E. Schlesinger, IIT Dehli, India, August 8, 2008.

83. "Memory Intensive Self Configuring Integrated Circuits", T.E. Schlesinger, General Electric, Bangalore, India, August 12, 2008.

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