

VICTOR R. MCCRARY, JR.

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A visionary senior executive and ‘serial innovator’ who enjoys working with others to create and transform institutions to become innovative, creative, and diverse enterprises. Technical acumen coupled with entrepreneurial savvy has proven a successful combination in reaching comprehensive, strategic goals. Leadership effectiveness achieved through excellent skills in communication, collaboration, and a commitment to continuous learning.

EDUCATION

Ph.D., Physical Chemistry, Howard University, Washington, D.C., 1985

M.S., Executive Masters of Engineering, The School of Engineering & Applied Sciences (with the Wharton School of Business), University of Pennsylvania, Philadelphia, PA, 1995 (Moore Fellow in the Management of Technology, 1994)

B.A., Chemistry, The Catholic University of America, Washington, D.C., 1978

PROFESSIONAL HISTORY

MORGAN STATE UNIVERSITY (MSU), Baltimore, MD

2012 - Present

Vice-President for Research and Economic Development & Professor of Chemistry

As the University’s chief research officer, our team focuses on developing a university-wide research ecosystem, increasing external support for the faculty research, and championing an entrepreneurial culture among faculty and students. We forge research partnerships with other universities, industry and national laboratories, and other research HBCUs/MSIs. Direct oversight of major research efforts including (i) the Patuxent Environmental & Aquatic Research Laboratory (PEARL) which conducts research on the effects of industrial and other environmental factors on marine life, and (ii) the University’s \$28M GESTAR Program at NASA’s Goddard Space Flight Center. Augments intellectual property portfolio and oversees externally funded contracts, grants, and technology transfer.

- Established this new division’s structure and external visibility; increased the University’s awarded grants and contracts awards from \$28M (FY13) to \$30M (FY14); \$31M (FY15); \$32M (FY16);
- Initiated the Morgan State University Internal Research Council (March 2013); re-branded and successfully marketed the MSU Patuxent Environmental & Aquatic Research Center (PEARL), June 2013;
- Established Morgan State University’s first Office of Technology Transfer and tech transfer strategic plan;
- Established the Morgan State University External Research Advisory Panel which has issued three major reports on the University’s research enterprise, January 2014;
- Advocated key research initiatives (e.g. cybersecurity, marine aquaculture) annually with members of Congress;
- Negotiated a \$500K partnership with the Johns Hopkins University Extreme Materials Institute, May 2014;
- Initiated a proposal effort leading with faculty to a \$23M cooperative agreement from the National Institutes of Health awarded to Morgan State University, October 2014;
- Chaired the search committee which selected the Dean for the School of Engineering, Dr. Michael Spencer
- University designated as a Cybersecurity Center of Academic Excellence by the National Security Agency, April 2016
- Led the renewal effort for the 2016-2021 GESTAR program with a five-year contract value of \$18M.

NATIONAL SCIENCE BOARD (NSB), Arlington, VA

2016-present

The NSB is made up of 25 Members appointed by the President. The National Science Board has two important roles. First, it establishes the policies of the National Science Foundation (NSF) within the framework of applicable national policies set forth by the President and the Congress. In this capacity, the Board identifies issues that are critical to NSF's future, approves NSF's strategic budget directions and the annual budget submission to the Office of Management and Budget, and approves new major programs and awards. The second role of the Board is to serve as an independent body of advisors to both the President and the Congress on policy matters related to science and engineering and education in science and engineering. In addition to major reports, the NSB also publishes occasional policy papers or statements on issues of importance to U.S. science and engineering. Recently,

I proposed a new initiative, “Blue Collar STEM” to explore the technical skills required by the Nation’s workforce which do not necessitate pursuing a traditional 4-year college degree; however, this skilled workforce is necessary for the Nation to compete economically and scientifically on the global stage.

JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY (APL), Laurel, MD 2003 - 2012
Emerging Technology and Innovation Manager, 2011-2012

Responsible for engaging the research and development communities of the Nation’s universities and government laboratories to foster collaborations to increase APL’s innovative use of early-stage, disruptive technologies leading to the development of novel and cost-effective solutions for the critical technical challenges of APL’s sponsors. Activities included meeting with research principal investigators at major research universities to develop research collaborations to increase APL’s basic research stature.

Business Area Executive for Science & Technology, 2003-2011

Led the technical and business strategic planning for the Science & Technology Business Area (S&T BA) resulting in forward-looking technologies readily available for transition to other APL external programs. Managed over \$60M of the Business Area’s Internal Investment Portfolio which included funding for Internal Research and Development (IR&D) projects supportive of APL’s Strategic Plan. Oversaw a staff of program managers focusing on attracting external research funding to build future technical capacity for APL’s Business Areas. Served from 2003-2010 as a member of the APL Science & Technology Council, whose purpose was to ensure the proper role and balance of long-term vs. near-term R&D activities for APL. From 2003-2005, held the role of Assistant Department Head of the Research and Technology Development Center, with a technical staff of ~140 persons carrying out basic and applied research and engineering activities and providing technical expertise in support of APL’s Business Area Programs.

- Made investments into internally funded projects and proposals leading to external research funding of \$35M (FY09) and \$40M (FY10). Research investments led to new capabilities in chemical sensors, advanced biochemical detection methods via human breath, mass spectrometric techniques for large molecular weight proteins, new types of advanced multifunctional materials, hyper-spectral imaging, free space optical communications, quantum computing, autonomous systems, human dynamics, synthetic biology, and trusted electronics. These capabilities positioned APL to successfully capture major basic research programs with the Office of Naval Research, DARPA, and the National Security Agency. In addition, initiated research partnership agreements with the National Institute of Standards & Technology (NIST), Savannah River National Laboratories (SRNL) and the Naval Surface Warfare Center, Crane Division;
- Established a mechanism for student internships with Oak Ridge Associated Universities (ORISE) which allowed APL scientists to attract quality students and post-docs at a reduced cost to the Laboratory;
- Conceived and organized several technology workshops: Optical Storage for Data Preservation (2006); JHU Collaborative Research Symposium (2009); APL’s first workshop on Advanced Portable Power for the Department of Defense (2010);
- Negotiated the 2006 & 2011 contract renewal with the Defense Advanced Research Projects Agency (DARPA) for 5 years for a contract ceiling of \$100M and \$85M, respectively.

NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGY (NIST), Gaithersburg, MD 1995 - 2003
Chief, Convergent Information Systems Division, Information Technology Laboratory, 2000-2003

Led a research division of ~40 staff members, foreign guest researchers, and students to enable U.S. industrial economic growth by the development of voluntary standards and interoperable technologies for the exchange, storage, and manifestation of digital content. Areas included: trust management and biometrics, preservation of digital storage, electronic books, interactive digital television, and digital cinema. Conceived and implemented a technical vision for the Division. Worked closely with Department of Commerce’s Technology Administration, and NIST’s Office of the Deputy Chief Counsel and Technology Partnerships to negotiate and conscript technology transfer mechanisms for agency-developed information technology, and dissemination of agency-developed software. Managed, brokered and implemented the technical guidelines, research plans and statements of work delineated in cooperative agreements, grants, contracts, joint venture agreements, intellectual property plans, materials transfer agreements, software and patent licenses, and confidentiality (nondisclosure) agreements.

- Division received the 2001 R&D 100 Award for the development of the NIST Rotating Wheel Braille Reader for Electronic Books, October 5, 2001, and subsequent tactile graphics display to the National Federation of the

Blind in October 2002. Facilitated the industry development of the first standards for electronic books; the Open Electronic Book Forum (now the International Digital Publishing Forum) Open Electronic Book Publication Standard 1.0;

- Division published the first comprehensive document for industry and users on the proper care of optical discs (“Care and Handling of CDs and DVDs: A Guide for Librarians and Archivists” – NIST Special Publication 500-252 with the Council on Library and Information Resources);
- Division organized several groundbreaking industry conferences, workshops, and roundtables including: The Biometrics Consortium (ongoing), DVD 2002, Electronic Book 2001, NIST Digital Rights Management Workshop (2002);
- Division in collaboration with the National Security Agency (NSA), initiated and sponsored the Annual Biometric Consortium (www.biometrics.org). This conference is now the premier US technical meeting in biometrics technologies; division led the development of the BioAPI and CBEFF standards, and research in multimodal biometrics.

Acting Chief, High Performance Systems and Services Division Information Technology Laboratory 2000

Oversaw ~130 group managers, scientists, guest researchers, and students in five technical groups focused on research and operations for high performance computing with a budget of \$25M. Division was responsible for NIST-wide telecommunication, data communications, and central scientific computing as well as for research in parallel computing, scientific visualization, and integrated convergent information systems.

- Led division’s service groups with other NIST service providers to implement cost efficient centralized IT services. Championed improved processes for customer focus, quality of service, and fee-for-service arrangements for central computing resources for the division’s Gaithersburg and Boulder locations;
- Coordinated staff requirements, and resources for the division’s Gaithersburg and Boulder locations, and other Federal agency support for the division’s research programs in convergent multimedia/information systems. With the Department of Commerce’s. Technology Administration, forged coalitions with industry to address broad band internet, digital rights management, and digital cinema.

Group Technical Manager, High Performance Systems and Services Division, 1996-2000 Information Technology Laboratory

Oversaw creation, assemblage and management of technical personnel. Led partnering of research and development teams for information technology standards and interoperable guidelines development and implementation.

- Directed and organized both the world’s first and subsequent conferences on Electronic Books (1998), leading to the formation of the Open Electronic Book Standards (OEB) Committee composed of industry representatives including Microsoft, Random House, Adobe and all major electronic book manufacturers.. Organized the OEB Forum and developed a draft standard specification, which was affirmed by the industry at NIST’s Second Annual E-Book Workshop, 1999.
- Obtained research grants of \$2.5M in additional non-agency funding over the past three years to support the group’s research and development efforts in optical storage, biometrics, and display test beds.

Program Manager, Electronics & Optoelectronics Program Office, 1995-1996 Advanced Technology Program (ATP)

Spearheaded the solicitation, selection, promotion, and technical management of multi-million dollar, domestic public-private research collaborations of high risk, enabling technologies in the fields of optoelectronics and information systems. Established, facilitated and directed partnerships between industry and specific technological sectors to promote and foster U.S. economic growth in the aforementioned technical fields. Managed a program portfolio of \$30M in the areas of optical storage, materials, and optoelectronic communication technology.

UNIVERSITY OF PENNSYLVANIA, Philadelphia, PA

1995 to 2013

Adjunct- Lecturer, Politics & Networking (EMTM 571); Technology and Public Policy (EMTM 570)

Responsible for the comprehensive formulation, and teaching of the courses *Technology and Public Policy*, and *Politics and Networking* for the Executive Masters of Technology (EMTM) Management Program. This program is jointly administered by the University of Pennsylvania’s School of Engineering and Applied Sciences and the Wharton School of Business, and is primarily designed for technology managers and employees pursuing management-track to increased their knowledge and expertise in executive technology management (program ended in 2014). Lectures

feature guest speakers from both the public and private sectors and is designed to further cultivate each student's pre-existing skills and expertise in an effort to develop each pupil's potential as global executive managers of technology. L lectured and influenced over 400 professionals during this period.

AT&T BELL LABORATORIES, Murray Hill, NJ

1985 - 1995

Technical Products Manager, AT&T Best Practices Exchange, Software Technology Center, 1994-1995

Established and managed technical services for internal customers, providing an emphasis on the exchange and sharing of product development information. Promoted and accelerated inter-group technical collaborations and cooperation and facilitated effective technology transfer mechanisms. Advanced the dissemination of technological products and services of the Best Practices Exchange within the organization and fostered distribution among 300,000 AT&T employees, including 22,000 staff scientists and engineers.

- Organized the AT&T Best Practices Conference which brought together software developers from the company's different business units and Bell Laboratories to discuss coordinated software development practices under the UNIX operating system.

Technical Quality Control & Assurance Manager

Optoelectronics Business Unit, Microelectronics Division, 1992-1994

Directed and administered a cross-organizational team to draft, implement, audit, and maintain quality procedures for ISO 9001 certification of semiconductor laser design and manufacturing group of over 100 technical staff. Certified internal ISO 9000 auditor and guided Optoelectronics Research & Development Unit through successful certification.

- Negotiated technical specification for a significant, source material (indium phosphide) for the Business Unit;
- Established new, test standards for indium phosphide and transferred technology and to global suppliers.

Member of Technical Staff, Optoelectronics Business Unit, Microelectronics Division, 1987-1992

Principal investigator for the crystal growth of III-V epitaxial materials for semiconductor lasers by metal-organic, chemical vapor deposition, MOCVD. Designed and oversaw the building of the first A&T Bell Labs crystal growth facility to use a combination of commercial technologies for the growth compound semiconductor lasers and transitioned this technology to AT&T's manufacturing product lines. Pioneered and developed procedures for the growth of long wavelength lasers as initial prototypes for future use in transatlantic communication systems.

- Championed and conducted earliest experiments to grow InGaAsP multiple quantum well (MQW) structures with < 50 nm widths using the Aixtron MOCVD reactor platform; which was Aixtron's first MOCVD reactor ever built for the US semiconductor industry;
- Conducted the first studies at Bell Labs, on the correlation of InP substrate breakage versus doping concentration and dopant type using a polarized infrared microscopy;
- Developed crystal growth and monitoring techniques for a grating structure that would narrow the linewidth for a 1.55 μm MQW laser;
- Pioneered cleaning techniques and surface morphology comparisons for InP substrates for III-V semiconductor epitaxial layers.

Post-Doctoral Member of Technical Staff, Area 11 – Research, 1985-1987

Performed applied research in the areas of laser chemical vapor deposition, surface analysis and surface photochemistry resulting in the publication and presentation of results.

- Conducted the first gas phase absorption measurements of metal organic compounds (trimethyl gallium, trimethyl indium) used as precursors for photo-deposition of semiconductor compounds.

**NATIONAL ORGANIZATION FOR THE PROFESSIONAL
ADVANCEMENT OF BLACK CHEMISTS & CHEMICAL ENGINEERS
(NOBCCHE)**

2007 – 2013

National President (a volunteer position)

Oversaw the operations of a 500+ organization of members and advocates with the mission of building an eminent cadre of people of color in science and technology. Developed a vision and strategic plan for the organization, increased membership, and increased national visibility for the organization.

- Initiated the Technology Education Partnership (TEP) Program (2008) between MIT, U. Maryland, Auburn, Washington University at St. Louis, U. Mass Amherst, U. Penn, and the Scripps Institute and NOBCCChE to attract minority students to graduate programs in chemistry and chemical engineering;
 - Forged a partnership between the American Chemical Society for the NOBCCChE National Student Science Bowl (2009-2012);
 - Co-sponsor of the National Medals of Science & Technology (2009, 2010, 2011, 2012) and invited to the Medal ceremonies at the White House;
 - Organized the NOBCCChE Forum of HBCU/MI Chemistry Chairs sponsored by the Office of Naval Research (2009-2011);
 - Initiated a Memorandum of Understanding between NOBCCChE and the Nigerian Society of Chemical Engineers (2009);
 - Founded the Coalition of Hispanic, African, and Native Americans for the Next Generation of Engineers & Scientists (CHANGES) in 2012.
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AWARDS AND HONORS

Annual Distinguished Lecture, The Johns Hopkins University, NOBCCChE Student Chapter, April 29, 2016

Alumni Achievement Award for Research Excellence, The Catholic University of America, Washington, D.C., April 2015

Fellow, The American Chemical Society, San Francisco, August, 2014

Hall of Fame Inductee, DeMatha Catholic High School, Hyattsville, MD, October 20, 2013

2012 Hall of Fame Inductee, Career Communications Group, Baltimore, MD May 2012

Diversity Leadership Award, The Johns Hopkins University, Baltimore, MD, May 2012

Mother Mary Lange Service Award, Archdiocese of Baltimore, February 2012

First Place Poster Presentation, National Defense Industry Association, Charleston, SC, June 2011

Scientist of the Year, Black Engineer of the Year Awards, Washington, D.C., February 2011

Fellow, African Scientific Institute, March 2009

Innovator of Technology Award, Washington, D.C. Chapter, National Society of Black Engineers (NSBE), Washington, D.C., February 2008

DVDA Hall of Fame Inductee, DVD Association, Los Angeles, CA, June 2007

Economic Development Achievement Award, Howard County Economic Development Authority Howard County, MD, September 2006

Principal Professional Staff, (equivalent to the rank of Assistant and Full Professor) Johns Hopkins University Applied Physics Laboratory, Laurel, MD, September 2005

Emerald Honors Award, Career Communications Group, Nashville, TN, September 2004

Percy Julian Award for Lifetime Achievement in Chemistry & Chemical Engineering, National Organization for the Professional Advancement of Black Chemists & Chemical Engineers, New Orleans, LA, March 2002

Gold Medal, Department of Commerce, Washington, D.C., September 2000 (electronic book standards)

Equal Employment Opportunity Award, National Institute of Standards and Technology (NIST), Gaithersburg, MD, December 1998

Distinguished Lecturer, 60th College of Distinguished Lecturers, Sigma-Xi Scientific Society, Research Triangle Park, NC, July 1996

Outstanding Technical Achievement, Synergy Conference, AT&T Bell Laboratories, Murray Hill, NJ, September 1992

Pioneer of the Year Award, National Society of Black Engineers, New York, NY, May 1992

Most Promising Black Engineer, U.S. Black Engineer Magazine, Baltimore, MD, February 1990

PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science (AAAS); American Chemical Society (ACS); American Society for Engineering Education (ASEE); Institute of Electronic and Electrical Engineers (IEEE); National Organization of Black Chemists & Chemical Engineers (NOBCChE)

ADVISORY BOARDS & COMMITTEES

Member, National Science Board, National Science Foundation, October 2016

Member, Sub-Committee, United States Air Force Institute of Technology, April 2016 - Present

Intelligence Science & Technology Experts Group, The National Academies of Science, Engineering, Mathematics, 2016 - Present

Maryland Higher Education Technology Transfer Task Force, September 2015 – January 2016

Member, Advisory Board, Maryland STEM Festival, 2015 - Present

Commissioner, Maryland Private Sector Economic Development Commission ('Augustine Commission'), 2014-2016

Member, PubMed Central National Advisory Committee, National Institutes of Health, 2014-Present

Member, Learning Engineering & Design (LEAD) Advisory Board, Elizabeth Seton High School, 2013-Present

Member, Maryland Innovation Initiative Board, Maryland Technology Development Corporation, 2013-Present

Member, Science & Engineering Technology Division, National Defense Industrial Association (NDIA), 2012 -2014

Member, Industry Advisory Board, Electrical & Computer Engineering Department, The Citadel, 2012 – Present

Member, Advisory Board, NSF Center for Hierarchical Manufacturing, University of Massachusetts Amherst, 2010 - 2014

Member, Sub-Team on Economic Vitality & Growth, Maryland Higher Education Commission (MHEC), 2012-2013

Member, Board of Trustees, Martin University, 2012 – 2014

Member, Technical Advisory Group, Quality Education for Minorities, 2011-2013

Member, National Advisory Board, NSF EPSCOR Program, Mississippi State University, 2010 - 2014

Member, Advisory Board, Howard University NSF CREST Center for Nanoscale Analytical Sciences, 2008 - 2011

Member, Advisory Board, NASA-URC Center for Advanced Nanoscale Materials, University of Puerto Rico, Rio Piedras, 2009 - 2013

National President, National Organization of Black Chemists & Chemical Engineers (NOBCChE), 2007 – 2013

Member, National Digital Strategy Advisory Board, Library of Congress, 2001 - 2008

Member, Jim Rouse Entrepreneurial Fund Board (j-REF), 2007 - 2010

Member, Advisory Board, College of Science, Engineering, & Technology, Jackson State University, 2006 – 2008

Member, Chesapeake FIRST Executive Advisory Board, 2005-2007

Member, Howard County Economic Development Authority, NeoTech Incubator Advisory Board, (Chair, 2004-2006), 2002 - 2006

Executive Director, DVD Association (DVDA), 2001 – 2003

Member, Johns Hopkins University Applied Physics Laboratory Science & Technology Council, 2003-2011

Member, Sigma Xi Distinguished Lectureship Committee, 2003 – 2006

Member, Howard University Science, Engineering and Math Program Advisory Board, 2001 - 2003

Member, Science and Engineering Alliance Advisory Board, 2002 - 2005

President, Open eBook Forum (OEBF), 1999 – 2001

Lecturer, Executive Masters in Technology Management Program (EMTM), University of Pennsylvania, 1995-2013

COMMUNITY SERVICE ACTIVITIES

Member, Learning Engineering & Design (LEAD) Advisory Board, Elizabeth Seton High School, 2013 - Present

Member, Knights of Columbus, Council 7559, St. John the Evangelist Roman Catholic Church, Columbia, MD, 1997-Present

Speaker, Percy Julian Morning of Discovery, Metropolitan A.M.E. Church, October 29, 2011, Washington, D.C.

Presenter, “Dr. McCrary Award presented to student Jean Cuadra for achievement in STEM”, John F. Kennedy High School, May 24, 2010, Silver Spring, MD

Commencement Speaker, Eleanor Roosevelt High School, May 27, 2008, Greenbelt, MD

Member, Parish Council, St. Johns the Evangelist Roman Catholic Church, 2007-2008

Judge, Merritt Academy Science Fair, February 2005, Fairfax, VA

Keynote Speaker, Excellence in Research: In Search of New Knowledge, Summer 2002 Undergraduate Research Program, Howard University, July 19, 2002, Washington, D.C.

Judge, Science Fair, DeMatha Catholic High School, March 2001, Hyattsville, MD

Speaker, Science Assembly, Cedar Grove Elementary School, January 2001, Germantown, MD

Speaker, Technology Day, Paul Junior High School, April 2000, Washington, D.C.

Mentor, Chemistry Career Planning Workshop for Underrepresented Minorities, University of California at Davis, July, 1996, Davis, CA

Speaker, The National Consortium of Specialized Secondary Schools of Science, Math, and Technology Student Research Symposium, The Catholic University of America, June 8, 1996, Washington, D.C.

Judge, Seventh Annual District of Columbia Elementary Citywide Science Fair, DC Public Schools, April 1996, Washington, D.C.

PUBLICATIONS & PRESENTATIONS: Over 65 technical publications, edited two books. See attached listing.

CLEARANCE: Department of Defense (Top Secret)

REPRESENTATIVE PUBLICATIONS:

1. "Strategic Partnerships with Minority Technical Organizations: A Model for Developing a STEM Workforce for the Federal Government", **V.R. McCrary**, invited paper, *Executive Office of the President of the United States, National Science and Technology Summit, August 2008, Oak Ridge, TN.*
2. "Technology Transition from the U.S. Government to the Commercial Sector: Case Study – Biometrics Industry Standards for Commercial and Government Applications", **V.R. McCrary** and W. Long, *POWer – Patent Offensive Westfalen Ruhr, Verwertungsnetzwerke, Eine Perspektive für den Technologietransfer Band 2 pp. 107-118, 2005 ISBN 3-8309-1493-8.*
3. "Document Reverse Engineering: From Paper to XML", K. Lee ; Y. Choy ; S. Cho ; X. Tang ; **V. R. McCrary**, *Document Analysis Systems V. 5th International Workshop, DAS 2002. Proceedings (Lecture Notes in Computer Science Vol.2423); Berlin, Germany: Springer-Verlag, 2002, xiii+570 p. (503-6) ISBN 3540440682.*
4. "The State-of-the-Art and Practice in Digital Preservation", K. Lee, O. Slattery, R. Lu, X. Tang, and **V.R. McCrary**, *Journal of Research of National Institute of Standards and Technology*, 107, pp.93-106, 2002. ISSN 1044-677X.
5. "Change Detection between XML Documents", K. Lee, Y. Choy, S. Cho, X. Tang, and **V.R. McCrary**, *Proc. EDBT Workshop on XML Document Management (XMLDM) pp. 234-248, March 2002.*

6. Proceedings of The DVD 2002 Conference, **V. McCrary** and M. Floyd editors, the *National Institute of Standards and Technology Internal Report 6880*, June 2002.
7. "Standardization Aspects of eBook Content Formats," K. Lee, N. Guttenberg, and **V.R. McCrary**, *Computer Standards & Interfaces, Vol. 24, No. 3, pp. 227-239, 2002. ISSN 0920-5489*.
8. 4th Annual Electronic Book 2001 Conference & Show "Authors, Applications, Accessibility": Proceedings, edited by **V.R. McCrary**, and M. Floyd 2001, *NIST Internal Report 6817. INSPEC Abstract # C2002-06-7230-001*.
9. 3rd Annual Electronic Book 2000 Conference & Show "Changing the Fundamentals of Reading": Proceedings, edited by **V.R. McCrary**, L. McGee, M. Floyd 2000, *NIST Internal Report 6554*.
10. Sylvia Moats, **Xiao Tang** and Victor McCrary, "What's a DVD and how does it work?" "*Scientific American*", Aug 30, (1999).
<http://www.scientificamerican.com/askexpert/computers/computers12/computers12.htm>
11. 2nd Annual Electronic Book 1999 Conference & Show "The Next Chapter": Proceedings, edited by **V.R. McCrary**, J. Quinn, A. Smith, 1999, *NIST Internal Report 6756*.
12. "Electronic Books: Requirements for Displays and Storage", **V. McCrary**, J. Roberts, *State-of-the-Art Program on Compound Semiconductors (SOTAPOCS XXXI). Proceedings of the Thirty-Fifth Symposium (Electrochemical Society Proceedings Vol.99-17); Pennington, NJ, USA : Electrochem. Soc, 1999, ix+248 p. (128-39) ISBN 1566772400*
13. J. Roberts, J. Potman, N. Guttenberg, **V. R. McCrary**, "eBook Market and Standards", *DisplaySearch Conference Proceedings, March 22, 2000, Austin, TX*.
14. "Janus: A Reconfigurable Testbed for the Evaluation of Hardware and Software Issues for an Electronic Book Reader, J. Roberts, J. Thornton, and **V. R. McCrary**, *Proceedings of the Portable by Design, Wireless Symposium, February 1999, San Jose, CA*.
15. Electronic Book Workshop 1998: "Turning a New Page in Knowledge Management" Proceedings, edited by **V.R. McCrary**, 1999, *NIST Internal Report 6372*.
16. "Manufacturing Infrastructure for Optoelectronics", **V.R. McCrary**, *Proceedings of the Twenty-Seventh State-of-the-Art Program on Compound Semiconductors, SOTAPOCS XXVII, Electrochemical Society* Vol. 97-21, 1997, pp. 51-63, ISBN 1-56677-149-8.
17. *Optoelectronics and Optomechanics Manufacturing: An Advanced Technology Program Focussed Program Development Workshop Proceedings - (Optoelectronics 2000)*, T. Lettieri, **V. R. McCrary**, J. Boudreaux, editors 1995, National Institute of Standards and Technology, *NIST Internal Report 5715*.
18. *Proceedings on the Nineteenth State-of-the Art Program on Compound Semiconductors (SOTAPOCS XIX)*, **V. R. McCrary**, F. Radpoor, V. Swaminathan; editors (1995, The Electrochemical Society Press) ISBN: 1-56677-034-3.
19. *Compound Semiconductor Epitaxy*, Materials Research Society Symposium Proceeding, **volume 340**, C. W. Tu, L. A. Kolodziejski, and **V. R. McCrary**, editors (1995, Materials Research Society Press) ISBN: 1-55899-238-3.

20. "Process Deployment and the AT&T Best Practices Exchange: Promoting Inter-Group Learning", **V.R. McCrary**, S.N. Robinson, and J.C. Wronka, *Proceedings, AT&T Process Deployment Symposium*, October, 11, 1994.
21. *Photo-Assisted Chemical Vapor Deposition*, **V. R. McCrary**, and V. M. Donnelly, Chapter 8 in *Chemical Vapor Deposition*, M. L. Hitchman and K. Jensen; editors, (1993, Academic Press) ISBN: 0-12-349670-5.
22. "Growth and Characterization of 1.55 micron InGaAs/InGaAsP Multiple Quantum Well-Distributed Feedback Lasers Grown by Low Pressure Metal-Organic Chemical Vapor Deposition (LP-MOCVD)", **V. R. McCrary**, L. J. P. Ketelsen, S. G. Napholtz, S. E. G. Slusky, E. K. Byrne, S. N. G. Chu, M. A. Brelvi, P. Thomas, C. Green, T. Hayes, R. Karlicek, S. J. Wang, B. P. Segner, U. K. Charkrabarti, and R. Pawelek, *Proceedings of the Electrochemical Society, SOTAPOCS XIX, 1993; and AT&T Bell Laboratories Internal Publication #52321-900918-67TM*.
23. "Characterization of 1.48 micron High Power InGaAs/InGaAsP Multiple Quantum Well Lasers Grown by Low Pressure Metal-Organic Chemical Vapor Deposition (LP-MOCVD)", **V. R. McCrary**, S. G. Napholtz, K. Wang, R. Bylsma, D. C. Bruno, S. E. G. Slusky, L. J. P. Ketelsen, and S. N. G. Chu, *Proceedings of the Electrochemical Society, SOTAPOCS XIX, 1993; and AT&T Bell Laboratories Internal Publication #52323-911210-93TM*.
24. "Evaluation of Commercial Single Crystal Indium Phosphide Substrates by Polarized Infrared Macroscopy", **V. R. McCrary**, and A. Merwin, *Proceedings of the National Organization of Black Chemists and Chemical Engineers*, (1993) ISBN: 0896-2367, and *AT&T Bell Laboratories Internal Publication #52323-921130-67TM* (1993).
25. "Particulates: A Comparison of Particle Counts for Commercially Available 2" InP Substrates", E. J. Laskowski, and **V. R. McCrary**, *AT&T Bell Laboratories Internal Publication #52333-921007-52TM* (1992).
26. "Use of InGaAsP Gratings for Improved kL Control in MQW-DFB Laser Structures Grown by LP-MOCVD", **V. R. McCrary**, L. J. P. Ketelsen, T. R. Hayes, C. A. Green, F. Ostermayer, S. G. Napholtz, D. C. Bruno, R. Pawelek, M. Ellington, H. Londono, S. N. G. Chu, P. M. Thomas, and R. Bylsma, *AT&T Bell Laboratories Internal Publication #52323-920325-16TM* (1992).
27. "Wafer Level Characterization of 1.55 micron MQW Laser Base Material Using a Refined Photoluminescence Technique", L. J. P. Ketelsen, D. P. Wilt, **V. R. McCrary**, and H. Londono, *AT&T Bell Laboratories Internal Publication #52321-920304-04TM* (1992).
28. "Evaluation of the Internal Optical Loss in Lattice Matched 1.55 micron MQW Semiconductor Lasers", L. J. P. Ketelsen, D. A. Ackerman, and **V. R. McCrary**, *AT&T Bell Laboratories Internal Publication #52321-921030-15TM* (1992).
29. "InP Substrate Temperature Measurements in a Horizontal, Low-Pressure Metalorganic Chemical Vapor Deposition Reactor by Infrared Laser Interferometric Thermometry", **V. R. McCrary**, V. M. Donnelly, S. G. Napholtz, T. R. Hayes, P. S. Davisson, and D. C. Bruno, *Journal of Crystal Growth*, **125**, 320 (1992) ISSN 0022-0248.
30. "Growth of InGaAsP/InP Single Quantum Well and Multi-Quantum Well Structures by Low Pressure Metal-Organic Chemical Vapor Deposition Reactor", **V. R. McCrary**, J. W. Lee, S. N. G. Chu, S. E. G. Slusky, M. A. Brelvi, G. Livescu, P. M. Thomas, L. J. Ketelsen, and J. L. Zilko, *Journal of Microelectronic Engineering*, **18**, 75 (1992) ISSN 0167-9317.

31. "Effect of Mesa Shape on the Planarity of InP Regrowths Performed by Atmospheric Pressure and Low Pressure Selective Metalorganic Vapor Phase Epitaxy", J. L. Zilko, B. P. Segner, U. K. Chakrabarti, R. A. Logan, J. Lopata, D. L. Van Haren, J. A. Long, and **V. R. McCrary**, *Journal of Crystal Growth*, **109**, 264 (1991) ISSN 0022-0248.
32. "Growth of InGaAsP/InP Single Quantum Well and Multi-Quantum Well Structures in an Aixtron Low Pressure Metal-Organic Chemical Vapor Deposition Reactor", **V. R. McCrary**, J. W. Lee, S. N. G. Chu, S. E. G. Slusky, M. A. Brelvi, G. Livescu, P. M. Thomas, L. J. Ketelsen, and J. L. Zilko, *Journal of Applied Physics*, **69**, 7267 (1991) ISSN 0021-8979.
33. "Low-Pressure MOCVD in a Vertical Reactor: Growth and Characterization of InGaAsP on (100) InP for 1.3 μm lasers", **V. R. McCrary**, D. L. Van Haren, J. L. Zilko, J. Blaha, S. E. G. Slusky, J. W. Lee, S. N. G. Chu, P. Thomas, and V. Swaminathan, *Journal of Crystal Growth*, **112**, 39 (1991). ISSN 0022-0248
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38. "Mechanisms of Dehydrogenation during ArF Excimer Laser Patterning of Plasma-Deposited Silicon Nitride Films", V. M. Donnelly, J. A. Mucha, and **V. R. McCrary**, *Journal of Applied Physics*, **67**, 3337 (1990) ISSN 0021-8979.
39. "Photochemistry of Cyano- and Dicyanoacetylene at 193 nm", J. B. Halpern, L. Petway, R. Lu, W. M. Jackson, **V. R. McCrary**, and W. Nottingham, *Journal of Physical Chemistry*, **94**, 1869 (1990).
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41. "Selective-Area Epitaxy of GaAs by Molecular Beam Epitaxy (MBE) and Metalorganic MBE with Excimer Laser Irradiation", C. W. Tu, V. M. Donnelly, J. C. Beggy, **V. R. McCrary**, and J. A. McCaulley, *Journal of Crystal Growth*, **95**, 140 (1989).
42. "Selective-Area Epitaxy of GaAs by Molecular Beam Epitaxy (MBE) and Metalorganic MBE with Excimer Laser Irradiation", C. W. Tu, V. M. Donnelly, J. C. Beggy, **V. R. McCrary**, and J. A. McCaulley, *Molecular Beam Epitaxy 1988. Workbook of the Fifth International Conference. 1988 MBE-V Sapporo, Tokyo, Japan : Tokyo Inst. Technology, 1988, xvii+584+suppl. p. (175-6) INSPEC Abstract # A89024977.*
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44. "Improved Thickness Uniformity of Epitaxial AlGaAs Layers Produced by the Aixtron Low Pressure Metal Organic Vapor Phase Epitaxy Reactor", J. L. Zilko, K. M. Lee, L. Luther, **V. R. McCrary**, and G. Przybylek, *AT&T Bell Laboratories Internal Publication #52327-891106-50TM (1989).*
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46. "Uniformity of Epitaxial AlGaAs and InGaAsP Alloys Produced by the Aixtron Low Pressure Metal Organic Vapor Phase Epitaxy Reactor", J. L. Zilko, K. M. Lee, **V. R. McCrary**, D. Coblenz, and L. Luther, *AT&T Bell Laboratories Internal Publication #52327-890626-28TM (1989).*
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48. "Laser Induced Decomposition of Triethylgallium and Trimethylgallium Adsorbed on GaAs(100)" J. A. McCaulley, **V. R. McCrary**, and V. M. Donnelly, *AT&T Bell Laboratories Internal Publication #52321-880308-19TM (1988).*
49. "Polarization Effects in the Valence and Inner-Shell Spectra of Poly(Di-N-Hexylsilane)", **V. R. McCrary**, F. Sette, C. T. Chen, A. J. Lovinger, M. B. Robin, J. Stohr, and J. M. Zeigler, *Journal of Chemical Physics*, **88**, 5925 (1988) ISSN 0021-9606.
50. "Excimer-Laser-Modified Molecular Beam Epitaxial and Metal-Organic Molecular Beam Epitaxy of (Al)GaAs on (Ca,Sr)F₂/GaAs and GaAs Substrates", C. W. Tu, V. M. Donnelly, J. C. Beggy, F. A. Balocchi, **V. R. McCrary**, T. D. Harris, and M. G. Lamont, *Journal of Vacuum Science and Technology B* **6**, 607 (1988) ISSN 0734-211X.
51. "Excimer-Laser-Modified Molecular Beam Epitaxial and Metal-Organic Molecular Beam Epitaxy of (Al)GaAs on (Ca,Sr)F₂/GaAs and GaAs Substrates", C. W. Tu, V. M. Donnelly, J. C. Beggy, F. A. Balocchi, **V. R. McCrary**, T. D. Harris, and M. G. Lamont, *Laser and Particle-Beam Chemical Processing for Microelectronics. Symposium; Pittsburgh, PA, Mater. Res. Soc, 1988, xv+509 p. (291-9) INSPEC Abstract # A89110082.*
52. "Laser-Assisted Metal-Organic Molecular Beam Epitaxy of GaAs", V. M. Donnelly, C. W. Tu, J. C. Beggy, **V. R. McCrary**, M. G. Lamont, T. D. Harris, F. A. Balocchi, and R. G. Farrow, *Applied Physics Letters*, **52**, 1065 (1988) ISSN 0003-6951.
53. "Laser-Modified Molecular Beam Epitaxial Growth of (Al)GaAs on GaAs and (Ca,Sr)F₂/GaAs Substrates", C. W. Tu, V. M. Donnelly, J. C. Beggy, F. A. Balocchi, **V. R. McCrary**, T. D. Harris, and M. G. Lamont, *Applied Physics Letters*, **52**, 966 (1988) INSPEC Abstract # A88081288.
54. "Nucleation Considerations in the Wavelength Dependent Activation Selectivity of Aluminum Chemical Vapor Deposition", G. S. Higashi, G. E. Blonder, C. G. Fleming, **V. R. McCrary**, and V. M. Donnelly, *Journal of Vacuum Science and Technology B*, **5**, 1441 (1987) ISSN 0734-211X.
55. "Characterization of Excimer Laser Deposited GaAs Films from the Photolysis of Trimethylgallium and Trimethylarsenic at 193 nm", **V. R. McCrary**, V. M. Donnelly, D. Brasen, A. Appelbaum and R. C. Farrow,

Mat. Res. Symp. Proc., **75**, 223 (1987) INSPEC Abstract # A88075932.

56. "ArF Excimer Laser Patterning of Plasma-Deposited Silicon Nitride Films: Mechanisms of Dehydrogenation", V. M. Donnelly, J. A. Mucha, and **V. R. McCrory**, *AT&T Bell Laboratories Internal Publication #11545-871019-21TM* (1987).

57. "Characterization of Excimer Laser Deposited GaAs Films from the Photolysis of Trimethylgallium and Trimethylarsenic at 193 nm", **V. R. McCrory**, V. M. Donnelly, D. Brasen, A. Appelbaum and R. C. Farrow, *AT&T Bell Laboratories Internal Publication #11531-870226-01TM* (1987).

58. "The Ultraviolet Absorption Spectra of Selected Organometallic Compounds used in the Chemical Vapor Deposition of Gallium Arsenide", **V. R. McCrory** and V. M. Donnelly, *Journal of Crystal Growth*, **84**, 253 (1987) ISSN 0022-0248.

59. "ArF Excimer Laser Stimulated Growth of Polycrystalline GaAs Thin Films", V. M. Donnelly, **V. R. McCrory**, A. Appelbaum, D. Brasen, and W. P. Lowe, *Journal of Applied Physics* **61**, 1410 (1987) ISSN 0021-8979.

60. "Optical Diagnostic Studies of Trimethyl Phosphine Containing Radio Frequency Discharges", L. Brown, V. M. Donnelly, and **V. R. McCrory**, *Plasma Chemistry and Plasma Physics*, **7**, 395 (1987) ISSN 0272-4324.

61. "Production of Electronically Excited P₂ and In from ArF Excimer Laser Irradiation of InP", V.M. Donnelly, **V. R. McCrory**, and D. Brasen, *Mat. Res. Symp. Proc.*, **75**, 567 (1987) ISBN 0931837413.

62. "UV Photodissociation Dynamics of the Fumaronitrile Molecule", X. Xie, **V. R. McCrory**, J. B. Halpern, E. Pugh, and W. M. Jackson, *Journal of Physical Chemistry* **90**, 2670 (1986).

63. "UV Multiphoton Photodissociation of the Fumaronitrile Molecule", X. Xiaoxiang, E. Pugh, **V. R. McCrory**, J. B. Halpern and W. M. Jackson. *NBS Special Publication*, **716**, 681 - 709 (1986).

64. "Time-of-Flight and Laser Induced Fluorescence Studies of Ground State CS(X¹ Σ⁺) Radicals Produced in the Photolysis of CS₂ at 193 nm", **V. R. McCrory**, Ph.D. Thesis, Howard University, Washington, D.C., (1985).

65. "Coaxial Measurement of the Translational Energy Distribution of CS Produced in the Laser Photolysis of CS₂ at 193 nm", **V. R. McCrory**, R. Lu, D. Zackheim, J. A. Russell, J. B. Halpern and W. M. Jackson, *Journal of Chemical Physics* **83**, 3481 (1985) ISSN 0021-9606.

66. "Coaxial Measurement of the Translational Energy Distribution of CS Produced in the Laser Photolysis of CS₂ at 193 nm", **V. R. McCrory**, R. Lu, D. Zackheim, J. A. Russell, J. B. Halpern and W. M. Jackson, *Proceedings of the National Organization of Black Chemists and Chemical Engineers*, (1985).

67. "Rotational Distribution of CN Radicals from the Photodissociation of HC₃N and C₄N₂ at 193 nm", R. Lu, **V. R. McCrory**, L. Petway, W. Nottingham, J. B. Halpern, and W. M. Jackson, *Proceedings of the National Organization of Black Chemists and Chemical Engineers*, (1984).

68. "Multiphoton Sequential Photodissociative Excitation: A New Method of Remote Atmospheric Sensing", J.B. Halpern, W.M. Jackson, and **V. R. McCrory**, *Applied Optics* **18**, 590 (1979) ISSN 0003-6935.

SELECTED PRESENTATIONS:

1. *“Urban Sustainability: A Research Paradigm for Morgan State University”*, guest speaker, The Johns Hopkins University, November 6, 2014, Baltimore, MD
2. *“Minorities in Entrepreneurship: What’s Next”*, session organizer, American Chemical Society Entrepreneurial Summit 2014, October 13-14, 2014, Washington, D.C.
3. *“HBCU Maker Workshop”*, invited panelist, White House Office of Science & Technology Policy, September 24, 2014, Washington, D.C.
4. *“College 2 Work: STEM Placement”*, invited panelist, National Historically Black Colleges & Universities Week Conference, September 22-23, 2014, Washington, D.C.
5. *“Aligning HBCU Basic/Translational R&D with the Private Sector”*, invited panelist, UNCF HBCU Innovation Summit, October 29- November 1, 2013, Palo Alto, CA
6. *“Developing HBCU-Based Entrepreneurial Ecosystems as Nodes & Hubs of Innovation, Commercialization and Entrepreneurship”*, invited panelist, National Historically Black Colleges & Universities Week Conference, September 26-27, 2013, Washington, D.C.
7. *“Urban Sustainability: A Research Paradigm for Morgan State University”*, guest speaker, World Scientific and Engineering Academy and Society, September 18, 2013, Baltimore, MD
8. *“Investors Perspective of the Pitch”*, invited panelist, American Chemical Society Entrepreneurial Summit 2013, March 27-28, 2013, Philadelphia, PA
9. *“Technology Integration & Innovation: Lessons from the NIST Standards and Technology Development of the Electronic Book”*, invited speaker, Biomedical Advanced Research and Development Authority (BARDA), June 8, 2012, Washington, D.C.
10. *“Orbiting the Sun with Qubits: An Overview of Science & Technology at the JHU Applied Physics Laboratory”*, invited speaker, 3M Laboratories, May 10, 2012, Minneapolis-St. Paul, MN
11. National Oceanographic & Atmospheric Administration 6th Education & Science Forum – Educational Partnership Program, keynote speaker, Florida A&M University, March 27, 2012, Tallahassee, FL
12. HBCU Dean’s Breakfast, keynote speaker, Black Engineer of the Year Awards, February 18, 2012, Philadelphia, PA
13. *“Minority Technical Organizations: An Opportunity in Transboundary Navigation”*, Charles S. Duke Lecturer, invited speaker, 83rd National Technical Association Annual Conference, Howard University, September, 2011, Washington, D.C.
14. *“Overview of Technologies at the Johns Hopkins University Applied Physics Laboratory”*, invited speaker, Louisiana State University Summer Undergraduate Research Symposium, June, 2011, Baton Rouge, LA
15. *“Hybrid Rf Network and Free Space Optical Communications”*, poster (First Place), National Defense Industries Association, DoD Science & Technology Conference, June 2011, Charleston, SC

16. *"Corporate Executives' Perspectives on Managing Diversity from the Top"*, invited panelist, American Chemical Society, August 17, 2009, Washington, D.C.
17. *"Did You Know"*, invited speaker, National Science Foundation, February 14, 2008, Arlington, VA
18. *"Down to Business"*, featured television guest, June 2007, Columbia, MD
19. *"Our Time, Our Renaissance"*, invited panelist, Executive Roundtable, National Society of Black Engineers, Baltimore Metropolitan Alumni Chapter, March 8, 2007, Baltimore, MD
20. *"Care and Handling of CDs & DVDs"*, invited speaker, Association of Motion Image Archivists 2005, December 2005, Austin, TX
21. *"Transboundary Navigation in the Global Economy: Are You Ready"*, invited speaker, 2005 NOBCCChE Southeast Regional Conference, November 2005, Atlanta, GA
22. *"Orbiting the Sun with Qubits: An Overview of Science & Technology at the JHU Applied Physics Laboratory"* invited speaker, Department of Energy Thomas Jefferson Laboratory, February 16, 2005, Norfolk, VA
23. *"Data Preservation-What's New"*, invited speaker, The Pharma (PRIME) Forum, November 21, 2002, Hay-Adams Hotel, Washington, D.C.
24. *"Data Preservation-What's New"*, invited speaker, American Society of Association Executives, November 13, 2002, Washington, D.C.
25. *"Biometrics and the Banking Industry"*, invited speaker, Financial Services Technology Consortium, October 24, 2002, Arlington, VA
26. *"Data Preservation and NIST"*, keynote address, CD & DVD Publishing for the Federal Government, October 9, 2002, The City Club, Washington, D.C.
27. *"DVD in the DoD"*, invited speaker, Department of Defense DVD Workshop, August 13, 2002, Scranton, PA
28. *"E-Books and the Future of Libraries"*, keynote invited speaker, Computers in Libraries 2002, March 2002, Washington, D.C.
29. *"E-Books: Past, Present, Future"* invited speaker, CAMEX 2002, February 21, 2002, Los Angeles, CA
30. *"E-Books and Braille Readers for the Blind"*, keynote speaker, Standards Alumni Association, October 19, 2001, Gaithersburg, MD
31. *"When is an ebook not an Ebook?"*, Technology Day 2001, invited speaker, Special Libraries Association, October 15, 2001 Johns Hopkins University Applied Physics Laboratory, Laurel, MD
32. *"19th Annual National Minority Enterprise Development Week Conference"*, invited panelist, Department of Commerce, September 26, 2001, Washington, D.C.
33. *"When is an ebook not an Ebook?"*, Technology Day 2001, invited speaker, Annual Meeting of the Virginia Library Association, September 21, 2001, Rosslyn, VA

34. *"Ebooks 2001: Turning the Corner in 2001"*, invited speaker, Westchester Library Association, May 11th, 2001, Westchester, NY
35. *"Science, Engineering, and Mathematics Showcase"*, April 26, 2001, invited panelist, Bowie State University, Bowie, MD
36. *"Creating an Environment for Sustained Technical Innovation"*, invited speaker, 28th Annual Conference National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) April 10, 2001 Baltimore, MD
37. *"The e-Book in the School Library"*, Literature Conference 2001, keynote speaker, Virginia Educational Media Association, March 24, 2001, Clifton, VA
38. *"The NIST Digital Data Storage Laboratory"*, invited panel speaker, DVD Association 2001 Conference, February 20, 2001, Las Vegas, NV
39. *"Ebook Standards"* and *"Ebooks: Future Technologies?"*, moderator BookTech East 2001, February 13, 2001, New York, NY
40. *"Who Moved My TV: A Tour de Force on Digital Convergence"*, keynote luncheon speaker, Digital Computation Video '01 (DCV'01) Conference, February 8-9, 2001, University of South Florida, Tampa, FL
41. *"Ebooks 2000: Turning the Corner in 2001"*, invited speaker, Cutting Corporation, January 22, 2001, Bethesda, MD
42. *"Ebooks 2000: Turning the Corner in 2000"*, invited speaker, Swiss National Library, Association of International Librarians and Information Specialists (AILIS); World Intellectual Property Organization (WIPO), November 13-15, 2000, Geneva, Switzerland
43. *"Ebooks 2000: Turning the Corner in the New Millennium"*, invited speaker, Potomac Technical Processing Librarians Annual Conference, Ripley Center, Smithsonian Institute, October 6, 2000, Washington, D.C.
44. *"Ebooks 2000: Turning the Corner in 2001"*, invited speaker, e-Publishing and Libraries, Virginia Library Association Region V, September 14, 2000, Fairfax, VA
45. *"E-Book Day"*, moderator & panel organizer, Seybold 2000 Conference, August 28, 2000, San Francisco, CA
46. *"Open eBook Standard Demystified"*, invited speaker, Book Expo of America, June 1, 2000, Chicago, IL
47. *"Electronic Books – Catching the Wave"*, invited keynote speech, NASA – Goddard Space Flight Center, May 10, 2000, Greenbelt, MD
48. *"Electronic Books – Catching the Wave"*, invited keynote speech, PubTech,- Chicago Book Clinic, April 10, 2000, Chicago, IL
49. *"Electronic Books: The Next Chapter"*, Consumer Electronics Association, Digital Engineering, March 1, 2000 invited speaker, Hasbrouck Heights, NJ
50. *"Electronic Books: Latest Developments"*, Seybold Publishing Conference, February 10, 2000 invited panel moderator, Boston, MA
51. *"Electronic Books: Experts Panel"*, invited panelist, BookTech Conference, February 7, 2000 invited speaker,

New York City, NY

52. *"Electronic Books: The Next Chapter"*, invited speaker, Library of Congress, January 11, 2000, NIST Washington, D.C.
53. *"Electronic Books: The Next Chapter"*, Consumer Electronics Association, Consumer Electronics Show, January 5, 2000, invited speaker, Las Vegas, NV
54. *"Electronic Books: The Next Chapter"*, Electronic Book '99, September 21, 1999, Gaithersburg, MD
55. *"Electronic Books: The Next Chapter"*, Book Industry Study Group, November 19, 1999 invited speaker, New York, NY
56. *"Electronic Books: The Next Chapter"*, Miles 33 Publishers Conference, October 22, 1999 invited speaker, Baltimore, MD
57. *"Leveraging Diversity for Enhanced R&D Innovation"*, Office of Naval Research, invited speaker, May 6, 1999, Arlington, VA
58. *"NIST and the Electronic Book"*, Electronic Book '98 Workshop, October 8, 1998, Gaithersburg, MD
59. *"Biometrics Research Using Optics"*, invited speaker, Annual Meeting of the Biometric Consortium, December 9, 1997, San Jose, CA
60. *"Manufacturing Infrastructure for Optoelectronics"*, invited speaker, Philosophical Society of Washington, D.C. Cosmos Club, September 5, 1997, Washington, D.C.
61. *"Manufacturing Infrastructure for Optoelectronics"*, invited speaker, SOTAPOCS XXVII, 192th Meeting of the Electrochemical Society, September 1, 1997, Paris, France
62. *"Manufacturing Infrastructure for Optoelectronics"*, invited speaker, Department of Electrical Engineering, University of Maryland - Baltimore County, February 12, 1997
63. *"Manufacturing Infrastructure for Optoelectronics"*, IEEE/LEOS Metro D.C. Chapter, University of Maryland, December 18, 1996
64. *"Optoelectronics 2000 - New Challenges & New Directions"*, Advanced Refractory Technologies, Buffalo, NY November 2, 1995
65. *"Optoelectronics 2000 - New Challenges & New Directions"*, General Electric Company, Schenectady, NY October 20, 1995
66. *"Optoelectronics 2000 - New Challenges & New Directions"*, invited speaker, Empowerment through Technology '95; Howard University, Washington, D.C. October 14, 1995
67. *"Management of Technology: New Challenges & New Directions in the Optoelectronics Industry"*, invited speaker, XXIII State-of-the-Art Program on Compound Semiconductors (SOTAPOCS), Electrochemical Society Meeting, Chicago, IL October 11, 1995
68. *"Optoelectronics 2000 - New Challenges & New Directions"*, Hewlett-Packard Company, San Jose, CA July 1995
69. *"Management of Technology for African-American Entrepreneurs"*, invited speaker, 22nd Annual Conference of the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers, Los

Angeles, CA April 17, 1995

70. "Management of Technology: New Challenges & New Directions", invited speaker, First Annual Corporate Women of AT&T Conference; Chicago, IL March 30, 1995
71. "Management of Technology: New Challenges & New Directions", invited speaker, School of Engineering; Howard University, Washington, D.C. January 27, 1995
72. "Growth and Characterization of 1.55 μm InGaAs/InGaAsP MQW-DFB Lasers Grown by Low Pressure MOCVD", 184th Meeting of the Electrochemical Society, New Orleans, LA October 14, 1993
73. "Metal Organic Chemical Vapor Deposition (MOCVD): Growth in the '90's", invited speaker, Department of Physics, Alabama A & M University, Normal, AL October 24, 1991
74. "Argon Fluoride Excimer Laser Growth of Gallium Arsenide Films", V.R. McCrary, V.M. Donnelly, A. Appelbaum, D. Brasen, R.C. Farrow, Conference on Lasers and Electro-Optics (CLEO), Baltimore, MD, April 30, 1987
75. "Fragment Energy Distribution Produced from the Photolysis of CS₂ at 193 nm", V.R. McCrary, R. Lu (Chinese Academy of Sciences), D. Zakheim, J. Halpern, J.A. Russell and W. M. Jackson, XVI Informal Conference on Photochemistry, Harvard University, August 20-24, 1984
76. "The Internal State Distribution of CN Radicals in the Photolysis of HC₂CN and C₄N₂ at 193 nm", L. Petway, R. Lu (Chinese Academy of Sciences), V. R. McCrary, J. Halpern, and W. M. Jackson, XVI Informal Conference on Photochemistry, Harvard University, August 20-24, 1984

THESIS DEFENSE PANELS:

Outside Examiner for Ph.D. Defense by Loretta Evans, "Leaders Perceptions of Thirty Management Practices in Business, Academia, and Government", School of Engineering and Applied Science, George Washington University, March 31, 2003

Outside Examiner for Ph.D. Defense by Lamarr A. Brown, "4H and 6H Silicon Carbides, Indium Phosphide and Dilithium Tetraborate as Candidates for a Bulk-Acoustic-Wave (BAW) Mass Microbalance", Department of Physics and Astronomy, Graduate School of Arts and Sciences, Howard University, August 14, 1997

Outside Examiner for Ph.D. Defense by Wayne Anthony Bather, "A Chemical and Fluid Dynamic study of the Chemical Vapor Deposition of Aluminum Nitride in a Vertical Reactor" Department of Chemistry, Graduate School of Arts and Sciences, Howard University, April 11, 1997

Outside Examiner for Ph.D. Defense by Mohammad-Kazem Emadi-Babaki, "Laser Applications of Chemical Vapor Deposition (CVD) of the Group III-V Organometallic Compounds and Fluorescence Spectrum and Lifetime of the N-Propoxy Radicals", Department of Physics and Astronomy, Graduate School of Arts and Sciences, Howard University, July 1, 1991

INTELLECTUAL PROPERTY:

"Airborne Laser Arming Warning System", J. Brupbacher, D. Clemons, K. Grossman, V. McCrary, Jr., H.B. Land, M. Gross, File # 2488-SPL, Johns Hopkins University Applied Physics Laboratory, April 29, 2007

"Modular Electronic Book", V. McCrary, J. Roberts, F. Podio, U.S. Provisional Application 60/075,905 filed February 25, 1998

VIDEOGRAPHY:

“The Morgan GESTAR Internship Program (2015)”, <https://www.youtube.com/watch?v=ie0a8cAzRaA>

“An Introduction to NOBCChE (2011)”, <https://www.youtube.com/watch?v=Q9MIBShOreg>

“NOBCChE & The US Navy (2011)”, <https://www.youtube.com/watch?v=jIPuaDgppuc>

“The NIST Rotating Wheel Braille Reader (2000)”, <https://www.youtube.com/watch?v=sBBqdEnZPck>