STUART ELLIOT MADNICK

John Norris Maguire Professor of Information Technology
Sloan School of Management
and
Professor of Engineering Systems
Sloan School of Engineering

Massachusetts Institute of Technology

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Date of Birth:	July 10, 1944
Place of Birth:	Worcester, Massachusetts
Citizenship:	U.S.A.

EDUCATION

B.S., Electrical Engineering, 1966, M.I.T.

M.S., Alfred P. Sloan School of Management, 1969, M.I.T.

M.S., Electrical Engineering, 1969, M.I.T.

Ph.D., Computer Science, 1972, M.I.T.

(Doctoral Thesis: Storage Hierarchy Systems).

PRINCIPAL FIELD OF INTEREST

Information Technologies (formerly called Management Information Systems)

NAME AND RANK OF OTHER MIT SLOAN FACULTY IN SAME FIELD

Abdullah Almaatouq, Assistant Professor

Sinan Aral, Professor

Erik Brynjolfsson, Professor

John Horton, Assistant Professor

Thomas Malone, Professor

Wanda Orlikowski, Professor

Peter Weill, Senior Lecturer

1. SUMMARY OF NON-MIT EXPERIENCE

2014-15   Visiting Professor, Centre de Recherche en Informatique (CRI), Université Paris Panthéon, Sorbonne, Paris, France
Visiting Professor, Digital Business Research Group, Newcastle Business School, Northumbria University, England
Visiting Professor, Computer Science department of the University of Nice, France
Visiting Professor, College of Business at Florida Atlantic University, Florida, USA

2007-08   Visiting Professor, University of Edinburgh, Data Quality Center, Scotland
Visiting Professor, Newcastle University, School of Computing Science, England
Visiting Professor, European Research Consortium for Informatics and Mathematics (ECRIM), Sophia Antipolis, France
Visiting Professor, Conservatoire national des arts et métiers (CNAM), Paris, France

2000-01   Co-founder and Chairman of the Board, iAggregate Corporation, Cambridge, Massachusetts (merged with ArsDigita Corporation)
(Developed web aggregation software based on co-authored technology patents, licensed from MIT)

2000   Visiting Professor, Victoria University, Wellington, New Zealand

1998-   Member of the Board, Oxford Global Resources

1993   Visiting Professor, Nanyang Technological University, Singapore
Visiting Professor, Newcastle University, England
Visiting Professor, Technion, Haifa, Israel
(On sabbatical from MIT, approximately 6 weeks at each university)

1985   Visiting Scholar in Computer Science, Harvard University, Faculty of Arts and Sciences, USA
(On sabbatical from MIT)

1985-   Co-founder and Director, HML, Ltd., Hexham, Northumberland, England
(Operate a luxury hotel and restaurant in a 14th century English castle)

1985-86   Co-founder and Member of the Board, Cambridge Institute for Information Systems, Inc., Cambridge, Massachusetts (subsequently re-named: Cambridge Technology Group)
(Develop and deliver executive education in the field of information systems)

1983-85   Co-founder and Vice-Chairman of the Board, Knoware, Inc., Cambridge, Massachusetts
(Develop strategy for educational personal computer software)

1980-   Founder, Systems Engineering & Management Corp., Cambridge, Massachusetts
(Consulting in the field of information systems)

1978-85   Co-founder and Member of the Board, Advanced Information Systems & Services, Inc., Cambridge, Massachusetts
(Develop course curriculum, printed material, and video-tape material for the study of modern information systems)

1972-75   Co-founder, Member of the Board and Technical Advisor, MITROL, Inc., Waltham, Massachusetts
(Responsible for the design and development of advanced interactive manufacturing information systems. MITROL was acquired as a subsidiary by General Electric's Information Systems Company)

1971-72   Principal Engineer, Honeywell Advanced Systems and Technology Organization, Waltham, Massachusetts
(Performed research on advanced information management systems)

1970-71   Principal Scientist, Honeywell Information Sciences Center, Cambridge, Massachusetts
(Performed research on the design and specification of future computer systems)

1968-70   Manager of Systems Development, International Computation, Inc. (INTERCOMP), Cambridge, Massachusetts
(Responsible for the design and implementation of medical information systems and laboratory automation. INTERCOMP was acquired by Logicon, Inc.)

1967-69   Associate Engineer and Consultant, Lockheed Missiles and Space Company, Palo Alto Research Laboratory, Palo Alto, California
(One of the designers of the DIALOG and RECON information retrieval systems)

1966-71   Systems Programmer & Consultant, IBM Cambridge Scientific Center, Cambridge, Massachusetts
(Responsible for development of various aspects of the CP-67/CMS and VM/370 time-sharing systems with specific responsibility for the file system and SCRIPT/370 text processing system)

2. SUMMARY OF MIT APPOINTMENTS

2000-05   Singapore-MIT Alliance (SMA) Fellow.

2000-   Professor of Engineering Systems, School of Engineering (joint appointment)

1989-   John Norris Maguire Professor of Information Technologies, Sloan School of Management

1988-93   Leaders for Manufacturing Professor of Management Science, Sloan School of Management

1987-   Professor, Sloan School of Management *

1976-87   Associate Professor, Sloan School of Management *

1972-76   Assistant Professor, Sloan School of Management *

1971-72   Instructor, Department of Electrical Engineering (Developed Operating Systems course, conducted research in advanced computer systems, supervised theses).

1968-71   Research Assistant, Project MAC
(Group leader Advanced Operating System project, organized 5.686, 6.79, and IAP seminars, and Instructor for Information Systems course).

1966-68   Teaching Assistant, Sloan School of Management

1965-66   Data Processing Consultant, Student Aid Center
(Design of scholarship and loan assignment programs and data analysis packages).

1965-66   Systems Programmer, Civil Engineering Department
(Development of minimum path algorithms and data extraction packages for survey data).

1963-65   Programmer, Mechanical Engineering Department.
(Analysis of structure of materials by computer techniques and graphic output of vector force fields).

1963-65   Special Guide, M.I.T. Computation Center

*   Details of research and teaching activities in the Sloan School are provided in the following sections.

3. COMMITTEES

DEPARTMENT COMMITTEES

1988-	Executive Committee, International Financial Services Research Center (IFSRC)
1986-98, 2001-02	Head, Information Technologies Group (formerly the Management Information Systems Group)
1981-82	Member, Sloan School Task Force on New Programs and Task Force Management Science
1981-	Member, Doctoral Program Committee
1979-84	Head, Management Information Systems Group
1979-84	Steering Committee, Management Science Area
1979-84	Coordinator, MIS Doctoral General Examinations
1976-96	Executive Committee, Center for Information Systems Research (CISR)
1975-	Chairman, Committee for the Search and Recruiting of MIS Faculty
1974-	Member, Center for Information Systems Research
1973-84	Chairman, East Campus Computer Services Committee
1972-	Freshman Advisor
1972-75	Coordinator, Undergraduate Research Opportunities Program (UROP)
1972-75	Member, Undergraduate Program Committee

INSTITUTE COMMITTEES

1981-82	Member, MIT Office Automation Planning Committee and Long Range Planning Sub-committee
1972-	Member, Freshman Advisory Council (FAC)

LABORATORY FOR COMPUTER SCIENCE

1976-96	Affiliate Member

MANAGEMENT OF MAJOR RESEARCH INITIATIVES

1990-	Co-Director, Total Data Quality Management (TDQM) Program and MIT Information Quality (MITIQ) Program
1992-	Co-Director, PROductivity From Information Technology (PROFIT) Initiative
2015-	Director, Cybersecurity at MIT Sloan, aka (IC)[3]

PERSONNEL SUB-COMMITTEES

2017	Member of Promotion to Associate Without Tenure of Jean-Noel Barrot
2005-	Member, Review committees for Benjamin Grosof and Sugata Roychowdhury
2004-	Chairman, Review committee for Peter Wysocki
2004-	Member, Review committees for Benjamin Grosof and Michael Armstrong
2003-	Member, Review committees for Peter Wysocki and Michael Armstrong
2003-	Member, Review committees for Benjamin Grosof, Amar Gupta, and Peter Wysocki.

SLOAN COMMITTEES

2005	Member, Executive Personnel Committee
2005	Member, Sloan Educational Technologies Committee
2005	Member, Sloan Classroom Review Committee
2005	Co-Director, Productivity from Information Technology (PROFIT) Initiative
2005	Co-Director, Total Data Quality Management (TDQM) Program
2004	Member, Executive Personnel Committee
2004	Member, Sloan Educational Technologies Committee
2004	Member, Sloan Classroom Review Committee
2004	Co-Director, Productivity from Information Technology (PROFIT) Initiative
2004	Co-Director, Total Data Quality Management (TDQM) Program
2003	Member, Undergraduate and Interdepartmental Program Committee
2003	Member, Sloan Educational Technologies Committee
2003	Member, Sloan Bidding System Review Committee
2003	Co-Director, Productivity from Information Technology (PROFIT) Initiative
2003	Co-Director, Total Data Quality Management (TDQM) Program
2003	Represented Sloan in the 2003 MIT Graduation Ceremonies
2002	Member, Undergraduate and Interdepartmental Program Committee
2002	Member, Sloan Educational Technologies Committee
2002	Member, Sloan Bidding System Review Committee
2002	Head, Information Technologies Group (until September 2002)
2002	Coordinator, IT Faculty Recruiting
2002	Co-Director, Productivity from Information Technology (PROFIT) Initiative
2002	Co-Director, Total Data Quality Management (TDQM) Program

MIT COMMITTEES

2017	Member, MIT OpenCourseWare (OCW) Faculty Advisory Committee
2017	Member, MIT Council on Educational Technology (MITCET) (2012-)
2016	Member, MIT OpenCourseWare (OCW) Faculty Advisory Committee
2016	Member, MIT Council on Educational Technology (MITCET) (2012-)
2016	Member, MIT Intellectual Property Committee (2013-2016)
2016	Member, Future of the Library (2015-2016)
2015	Member, MIT OpenCourseWare (OCW) Faculty Advisory Committee
2015	Member, MIT Council on Educational Technology (MITCET) (2012-)
2015	Member, MIT Intellectual Property Committee (2013-2016)
2005	Member, MIT Engineering Systems Division (ESD)
2005	Member, MIT Engineering Systems Education Committee
2005	Member, MIT Council on Educational Technology (MITCET)
2005	Member, MIT Information Technology Architecture Group (ITAG)
2005	Member, MIT OpenCourseWare (OCW) Advisory Committee
2004	Member, MIT Engineering Systems Division (ESD)
2004	Member, MIT Engineering Systems Education Committee
2004	Member, MIT Council on Educational Technology (MITCET)
2004	Member, MIT Information Technology Architecture Group (ITAG)
2004	Member, MIT OpenCourseWare (OCW) Advisory Committee
2003	Member, MIT Engineering Systems Division (ESD)
2003	Member, MIT Engineering Systems Learning Center (ESLC) Committee
2003	Member, MIT Council on Educational Technology (MITCET)
2003	Member, MIT Information Technology Architecture Group (ITAG)
2003	Member, MIT OpenCourseWare (OCW) Advisory Committee
2002	Member, MIT Engineering Systems Division (ESD)
2002	Member, MIT Engineering Systems Learning Center (ESLC) Committee
2002	Member, MIT Council on Educational Technology (MITCET)
2002	Member, MIT Information Technology Architecture Group (ITAG)
2002	Member, MIT OpenCourseWare (OCW) Advisory Committee

4. CONSULTING ACTIVITIES

1974	A. D. Little
2017-18	Accenture
1995-96	Alternative Resources
1977-87	American Telephone & Telegraph Co
1995-96, 2007-08, 2014-16	Analysis Group
2001	ArsDigita Corp.
2001	Artery-Pilot Bird
1997-98	Bankers Trust
2010-11	BCF (Montreal)
2013-14	Big Data for Plato
1974	Borg-Warner Corporation
2012-13	Bryan-Cave
1992	Bull Info Sys
2018-19	C6 Bank (Technical Advisor)
2000-01	Cerylion Corp
2000-01	Chestnut Partners
1982-84, 1997-98	Citibank
2015	Cognizant
1975	Computer Corporation of America (CCA)
1976-77	Computer Sciences Corporation
2004-19	Context Mediation Technology (Senior Advisor) (*)
2002	Cornerstone (E&Y v Phoenix)
2011-12	Covington & Burling (NYSE)
1992	Dangel & Co
1975	Data General Corporation
1977	Dean Witter & Co., Inc.
1996-97	Deutsche Bank, Morgan Grenfeld
1996-00	FIAT/ISVOR
1972	Foxboro, Inc.
1973	G. A. Saxton
1975	G. S. Grumman & Associates, Inc.
1998-99	Gatsby & Hannah (Ceska Sporitelna v. Unisys Corporation)
2006-08	Gibson, Dnn & Crutcher (CashEdge)
2011-12	Greenberg-Treurig
1980-81	H. H. Aerospace Corporation

2005-06	Hellerman (E&Y)
1972-73	Honeywell Information Systems, Inc.
2008	Howey (Taurus v Ford)
1994	IBM AS/400 Group
1972-73	IBM New England Development Center
1990	Index Group
1999	In-Q-It (CIA)
1973	Intermetrics
1983-84	Israeli Embassy, Washington, D.C. (*)
1995	John Hancock
2006-08	Jones Day (IBM)
2008-09	Kelly Drye & Warren (iFlex v PortfolioScope)
2010-11	King Abdul Aziz University
2006-07	LECG (Microsoft)
1990	Lotus Development Corp
2006	Market Platform Dynamics
1972	Martin-Marietta, Inc
1983-84	Massachusetts Dental Association (*)
1976	McCaffery, Seligman & von Simpson, Inc.
1983-84	MIT Admissions Office (*)
1995	MITRE
2018-19	Moran Shipping
1972	Naval Underwater Systems Center
2000-05	NERA (Microsoft Class Action and Microsoft European Commission)
1973	Olivetti
1992-94	Open Environment Corporation
2001-05	Oxford Global Resources (Board)
2017-19	Pearl's Premium (Board) (*)
1973	Pennsylvania Department of Education
2018-19	Polish Ministry of Justice
1974-75	Q. E. D. Information Sciences, Inc. (in conjunction with Babson College)
2007	Raytheon
1974	Research and Consulting, Inc.
2018-19	Rudin-Anders
1996-98	San Paolo Bank - Italy
1974	Shell Oil Company
1973	Software et Engineering des Systems d'Informatique et d'Automatique (SESA)
1998-99	Sullivan & Cromwell (Bristol v. Microsoft)
1998-99	T. F. Software

1998-99	Teradyne
2000	UNUM Provident
2010-12	Versata
2004-07	Vinson & Elkins (Dell)
2000-01	Weil, Gotshal & Mange, LLP (AA v AC Arbitration)

(*) = without compensation.

5. PROFESSIONAL ACTIVITIES

Advisory Board,
> Information Technology & Systems (IST) of the ISN Subject Matter Journals of the Social Science Research Network (SSRN) Journals, 2015-2017.
>
> *International Journal of Internet and Enterprise Management* (IJIEM), publisher, Inderscience Publishers, Geneva, Switzerland, 2015-2017.
>
> *International Journal of Electronic Business* (IJEB), 2015-2017.
>
> *ACM Transactions on Information Management Systems (TMIS)*, 2017.

Associate Editor,
> *ACM Transactions on Database Systems*, *1975-86.*
>
> *International Journal of Computers and Data Bases, 1975.*
>
> *Performance Evaluation Review, 1972-74.*

Board of Directors,
> International Conference on Information Quality, 2015-2017.

Board of Governors,
> IEEE Computer Society (40,000 members), 1979-81.

Chairman,
> IEEE Technical Committee on Database Engineering, 1980-82.

Committee Member,
> ANSI/SPARC Operating System Command Language Task Group (OSCLTG), 1975-76.
>
> ARPA Technical Review of Datacomputer Project, 1975.
>
> IEEE Technical Committee on Database Engineering, 1975-78.
>
> Task Force on Engineering of Software (Sponsored by NSF), 1975.

Conference Co-Chairman,
> Third International Conference on Very Large Data Bases (VLDB), Tokyo, Japan, October 1977.
>
> Thirteenth International Conference on Very Large Data Bases (VLDB), Brighton, England, September 1987.
>
> Executive Committee, VLDB Endowment.

Editorial Board,
> *MIS Quarterly Executive*, 2015-2017.
>
> *Journal of the Association for Information Systems (JAIS)*, 2nd three-year term, 2015-2017.
>
> *International Journal of Internet and Enterprise Management* (IJIEM), publisher, Inderscience Publishers, Geneva, Switzerland, 2015-2017.
>
> *International Journal of Electronic Business* (IJEB), 2015-2017.

Founding Co-Editor-in-Chief,
> *ACM Journal on Data and Information Quality (JDIQ)*, 2015-2017.

Moderator,
> "Programming Languages Workshop: Network Languages", NOC-69 (Network of Computers-69) sponsored by NSA, Washington, DC, October 1969.

Panelist,

    Information Systems Panel, MIT Sponsored Conference, "Technological Innovation and Economic Development: Has the U.S. Lost the Initiative?," Washington, DC, April 1976.

    "The Interaction of New Technology and Systems Architecture", National Computer Conference, Anaheim, CA, May 1975.

    "Virtual Computer Systems", National Computer Conference, New York, NY, 1973.

    "Virtual Computer Systems", IEEE Computer Conference, Boston, MA, September 1971.

Program Committee,

    ACM-SIGMOD International Conference on Management of Data, Washington, DC, June 1976.

    Conference on Applications Development Systems, San Jose, CA, March 1980.

    IEEE International Computer Software and Applications Conference (COMPSAC 77), Chicago, IL, November 1977.

    International Conference on Applications of Databases, June 1994.

    International Conference on Entity-Relationship Approach to Systems Analysis and Design, Los Angeles, CA, December 1979.

    International Conference on Management of Data, Santa Monica, CA, May 1980.

    International Conference on Very Large Data Bases, Boston, MA, September 1975.

    International Conference on Data Bases: Improving Usability and Responsiveness, Haifa, Israel, August 1978.

    International Workshop on Data Base Machines, San Diego, CA, September 1982.

    Sixth Workshop on Computer Architecture for Non-Numeric Processing, Hyeres, France, June 1981.

Referee,

    ACM Computing Surveys, 1977-83.

    ACM Transactions on Database Systems, 1976.

    Annals of Economic and Social Measurement, 1975.

    Communications of the ACM, 1974-78.

    IBM Journal of Research and Development, 1974.

    IBM Systems Journal, 1974-78.

    IEEE Transactions on Computers, 1975-83.

    IEEE Transactions on Software Engineering, 1976-78.

    International Conference on Applications of Databases, 1994.

    National Computer Conference, 1975.

    NSF Research Proposals, 1977-78.

    Operations Research, 1975.

    Symposium on Operating Systems Principles, 1975.

    U.S. Army Research Office Proposals, 1977-78.

    USA-Japan Computer Conference, 1975.

    VLDB IV Conference, 1978.

Reviewer,

    ACM Computing Reviews, 1968-78.

    Computer Science and Applied Mathematics Series, Prentice-Hall, Inc., 1978.

    Computer Series Textbooks, Houghton-Mifflin Company, 1973.

    Computer Series Textbooks, Allyn and Bacon, Inc., 1973.

    International Conference on Information Systems (ICIS), Information Technology for Development (ITD) journal, 2015-2017.

Session Chairman,
"Case Studies", Twelfth International Conference on Very Large Data Bases, Kyoto, Japan, August 1986.
ACM-SIGMOD Conference on Management of Data, Boston, MA, May 1979.
"Performance Evaluation Panel", International Symposium on Computer Performance Modeling, Measurement, and Evaluation, Cambridge, MA, March 1976.
"System and Memory Architecture", International Conference on Very Large Data Bases, Boston, MA, September 1975.

Session Organizer,
"Impact of New Technology on Hierarchical Memory and Storage Systems", IEEE International Conference, New York, NY, April 1975.
"Microprogramming Techniques", IEEE Computer Conference, Boston, MA, September 1971.
"Processor Memory Switch Architectures", National Computer Conference, Anaheim, CA, May 1975.
"Strategic Uses of Very Large Data Bases", VLDB '87, Brighton, England, September 1987.

Steering Committee,
Workshop on Information Technology & Systems (WITS), 1991-

Trustee,
Very Large Data Base (VLDB) Foundation, 1982-
[Treasurer, 1990-92; Vice President 1992-]

6. PROFESSIONAL SOCIETIES

The Institute of Management Science (TIMS).

Institute for Electrical and Electronics Engineers (IEEE)
and its Technical Committee on Data Base Engineering (TC-DBE) and Technical Committee on Software Engineering (TC-SE).

Association for Computing Machinery (ACM)
and its Special Interest Groups (SIGs) on Business Data Processing (SIGBDP), Programming Languages (SIGPLAN), Microprogramming (SIGMICRO), Minicomputers (SIGMINI), Performance Evaluation (SIGMETRICS), Operating Systems (SIGOPS), Computer Architecture (SIGARCH), and Management of Data (SIGMOD).

Association for the Advancement of Medical Instrumentation (AAMI).

American Production and Inventory Control Society (APICS).

The Society for Management Information Systems (SMIS).

The Boston Computer Society.

Sigma Xi, The Scientific Research Society.

7. SUBJECTS TAUGHT

7.1 REGULAR TEACHING

SIP: "Oh, So That is What you Meant! The Interplay of Data Quality and Data Semantics"
                        Spring 2004

SIP: "RFID IT: Information Infrastructure Needed for Effective Utilization of RFID AutoID technologies"
                        Fall 2004
                        Fall 2005

SMA 5506 Database Technologies, Summer 2003, as part of the MIT-Singapore Alliance (SMA).
                        August 2002
                        August 2003
                        August 2004
                        August 2005

   15.515 Information and Decision Systems I
                        Spring 1973

   15.561 Introduction to Computer and Information Systems
                        Summer 1978
                        Summer 1977
                        Summer 1976   [C=4.3   P=4.5]
                        Fall 1975   [C=3.8   P=4.2]
                        Summer 1975   [C=4.2   P=4.6]
                        Fall 1974   [C=3.8   P=3.9]

   15.564 Management Information Technology I
                        Spring 1987   [C=4.63/4.19   P=4.79/4.05]
                        Fall 1986   [C=4.58/4.16   P=4.95/3.97]
                        Spring 1986   [C=4.46/4.12   P=4.73/4.04]
                        Fall 1984   [C=4.62/4.15   P=4.71/3.97]
                        Spring 1984   [C=4.55/4.17   P=4.88/3.97]
                        Fall 1983   [C=4.67/4.11   P=4.82/3.97]
                        Spring 1983   [C=4.43/4.05   P=4.86/4.00]
                        Fall 1982   [C=4.79/3.97   P=4.94/3.98]
                        Spring 1982   [C=4.50/4.06   P=4.61/3.84]
                        Fall 1981   [C=4.42/3.82   P=4.63/4.00]
                        Spring 1981   [C=4.86/3.99   P=4.86/3.84]
                        Fall 1980   [C=4.74/3.80   P=4.70/3.68]
                        Spring 1980   [C=4.20/3.91   P=4.40/3.81]
                        Fall 1979   [C=4.56/3.83   P=4.88/3.66]
                        Fall 1975   [C=4.6   P=4.6]
                        Fall 1974   [C=4.2   P=4.0]
                        Spring 1974   [C=4.5   P=4.9]
                        Fall 1973   [C=4.5   P=4.6]

15.565 Management Information Technology II

Spring 2005
Spring 2003
Spring 1979 [C=4.89/4.01 P=4.56/3.76]
Spring 1978 [C=4.50 P=4.75]
Fall 1977 [C=3.8 P=3.7]
Spring 1977 [C=4.2 P=4.3]
Fall 1976 [C=4.3 P=4.5]

15.565J Digital Evolution: Managing Web 3.0

Spring 2014

15.568 Management Information Systems

Fall 1972

15.571 Advanced Computer Systems

Spring 1975 [C=4.3 P=4.6]
Fall 1974 [C=5.0 P=5.0]
Spring 1973

15.578 Global Information Systems: Communications and Connectivity among Information Systems

Spring 2005
Spring 2003
Spring 2002

15.579 Communications & Connectivity

Fall 1987 [C=x.x P=y.y]

15.599 Doctoral Workshop in MIS

Spring 1986 [C=4.00 P=3.83]

15.963 Management Information Systems Practicum

Spring 1977

15.967 Seminar on Advanced Information Systems Topics

Spring 1978 [C=4.67 P=4.00]

15.THP Structured Thesis: Gaining Strategic Advantage through Composite Information Systems

Spring 1986

Notes:

1. The numbers immediately following the term indicate Sloan Student Evaluation Ratings for the subject. This information is available for most subjects in the period 1974-86.

2. The number after the C= is the rating for "content", the number after the P= is the rating for "presentation". Both ratings are on a 5-point scale with 5=excellent and 1=poor.

3. The number after the / indicates the mean rating for all Sloan subjects and faculty, when that data is available. (Thus, P=4.86/4.00 means the students evaluated my presentation as 4.86 out of 5.00 compared with a mean evaluation of 4.00 out of 5.00 for all Sloan faculty that term). For periods where term-by-term mean ratings are not available, the mean rating for all subjects and faculty were about 3.76 for "content" and 3.58 for "presentation".

4. During these years considerable effort has been spent on curriculum development for the "core" MIS subjects 15.561, 15.564, 15.565, and 15.571. This effort to revise and improve these subjects appears to have been fruitful based upon measures such as significant increases in enrollment and high student evaluation ratings. Textbooks, supplemental materials, and computer projects for 15.564, 15.565, and 15.571 have been developed to facilitate the teaching of these subjects at other universities.

1978-83	Information Systems Technology, MIT Special Summer Session Program (15.65s)
	Summer 1984 [C=4.91 P=4.96]
	Summer 1983 [C=4.69 P=4.84]
	Summer 1982 [C=4.48 P=4.86]
1978-82	Advanced Software Concepts: Operating Systems (15.25s)
	Summer 1981 [C=4.81 P=4.90]
1979	White Collar Crime II: Computer Security, Ohio State University, May 1979.
1977	Computer Based Information Systems Technology -- Database Systems, Telecommunications, and Performance Evaluation, MIT Special Summer Session Program (15.56s)
1977	Advanced Software Concepts -- Operating Systems, MIT Special Summer Session Program (15.57s)
1975	Tutorial on Operating Systems, University of California at Riverside, Applied Science Program
1975	Data Base Systems Management, University of Maryland, 1975 Summer Institute
1975-86	Current Issues in Information Systems Research: A Managerial Perspective, MIT Center for Information Systems Research Program
1973-76	Advanced Software Engineering -- Focusing on Operating Systems, MIT Special Summer Session Program (15.25s)
1974-75	Advanced Programming Techniques, Babson College, Electronic Data Processing Education Program (EDPEP)
1971-75	Seminar on Computer Architecture, MIT January Independent Activity Period (IAP) course

8. THESIS SUPERVISION

DOCTORAL

1. "Using Information Technology to Exchange Health Information among Healthcare Providers: measuring Usage and Understanding Value," Robert Rudin, August 2011 (ESD)

2. "Leveraging Social Information Systems: Using Blogs to Inform Technology Strategy Decisions," Satwik Seshasai, May 2011

3. "Effective Information Integration and Reutilization: Solutions to Technological Deficiency and Legal Uncertainty", Hongwei Zhu, September 2005 (TMP)

4. "Information Integration Using Contextual Knowledge and Ontology Merging", Ayuk Firat, September 2003.

5. "Attribution Principles for Data Integration: Technology and Policy Perspectives", Tom Lee, February 2002, (TMP)

6. "Metrics for Object-Oriented Software Design", Shyam Chidamber, 1994 (Reader)

7. "Personal Portable Technologies, Job Characteristics, and Worker Effectiveness: A Field Study of Service Personnel", Keri Ostrofsky, 1992 (Reader/Harvard Business School)

8. "A Knowledge-Based Preprocessor for Approximate Joins in Improperly Designed Transaction Databases", Lloyd Brodsky, 1990 (Supervisor)

9. "Knowledge Processing for a Construction Management Database", Ming-Teh Wang, December 1988 (Reader)

10. "Performance Evaluation of the INFOPLEX Database Computer: A Flow Unbalanced General Queueing Network Analysis", Rich Wang, August 1984 (Supervisor)

11. "The Dynamics of Software Development Project Management: A Systems Dynamics Perspective", Tarek Abdel-Hamid, January 1984 (Supervisor)

12. "The Hierarchical Database Decomposition Approach to Database Concurrency Control", Mei Hsu, October 1983 (Supervisor)

13. "The Value of Monitoring and Information Requirements Analysis", Michael Treacy, 1983 (Reader)

14. "A Systematic Methodology for Designing the Architecture of Complex Software Systems", Sidney Huff, 1979 (Supervisor)

15. "Data Storage Hierarchy Systems for Data Base Computers", Chat-Yu Lam, 1979 (Supervisor)

16. "Influence from Information Technology on Industry Cycles: A Case Study in Manufacturing Industry", John Morecroft, 1979 (Reader)

17. "Design Issues in Distributed Management Information Systems", Jacob Akoka, 1978 (Reader)

18. "GPES: A General Purpose Process Engineering System", Mohammad Arab-Ismaili, 1978 (Reader)

19. "A Systematic Approach to the Design and Structuring of Complex Software Systems", Rafael Andreu, 1978 (Supervisor)

20. "Performance Evaluation of a Multiprocessor in a Real Time Environment", Jaynarayan Lala, 1976 (Reader)

21. "Timepattern Analysis in School Scheduling", James Linderman, 1975 (Supervisor)

22. "Program Restructuring for Virtual Memory Systems", Jerry Johnson, 1974 (Supervisor)

MASTERS

23. "Blockchain System Security: Secure Design & Management of Blockchain System," Jae Hyung Lee (SDM), May 2018.

24. "Methods for Analysis of Cybersecurity for Autonomous Vehicle Control Systems," Amardeep Singh Sidhu (SDM), May 2018.

25. "JCIDS Semantic Technology," Amlan Das (SDM), January 2018.

26. "Cyber Warfare Conflict Analysis and Case Studies," Mohan Gazula (MSMS), June 2017.

27. "Management Responding Strategy to Customer Online Reviews: A Case Study of Hotels in Taiwan," Pei-Chih "Marvin" Ma (MSMS), June 2017.

28. "Striking a Balance Between Usability and Cyber-security in IoT Devices," Saurabh Dutta (SDM), June 2017.

29. "Analysis of the Digital Direct-to-Customer Channel in Insurance," Nithila Jeyakumar (SDM), February 2017.

30. "Cyber security frameworks and risk metrics for Cloud Computing platforms," Ravi Raina (SDM), August 2016.

31. "Success factors for cybersecurity startups," Chi (Steven) Zhang (MSMS), June 2016.

32. "A Study of Cybersecurity in the Era of Connected Homes," Olivia Qing Gao (SDM), June 2016.

33. "How do companies achieve balance between technology enabled innovation and cyber-security," Natasha Nelson (SF), June 2016.

34. "Evaluation of Application of Ontology and Semantic Technology for Improving Data Transparency and Regulatory Compliance in the Global Financial Industry," Jinchun Chen, June 2015 (MSMS)

35. "Improving Trade Visibility and Fidelity in Defense Requirements Portfolio Management: A Formative Study of the Joint Capabilities Integration and Development System using Enterprise Analysis and Semantic Architecture Engineering", L. Najeeb Ahmed, June 2014 (SDM)

36. "CyberSafety: A Systems Thinking and Systems Theory Approach to Managing Cyber Security Risk", Hamid Salim, June 2014 (SDM)

37. "Using Web Data and Services: Technology, Theory and Evidence", Xitong Li, June 2014

38. "Emergence and Taxonomy of Big Data as a Service", Benoy Bhagattjee, February 2014 (SDM)

39. "Designing Personal Assistant Software for Task Management Using Semantic Web Technologies and Knowledge Databases," Purushotham Botla, June 2013 (SDM)

40. "Issues in Strategic Management of Large-Scale Software Product Line Development," Jean-Baptiste Henri Nivoit, June 2013 (SDM)

41. "Analysis of Data Virtualization & Enterprise Data Standardization in Business Intelligence," Laljo John Pullokkaran, June 2013 (SDM)

42. "Organizational Challenges in Cloud Adoption and Enablers of Cloud Transition Program,"

Sneha Rajendram, June 2013 (MSMS)

43. "Challenges in Implementing Enterprise Resource Planning (ERP) System in Large Organizations: Similarities and Differences Between Corporate and University Environment," Goeun Seo, June 2013 (MSMS)

44. "Inter-Organizational Information Sharing of Customer Data in Retail," John Tengberg, June 2013 (MSMS)

45. "Cloud Adoption Model for Governments and Large Enterprises," Hrishikesh Trivedi, June 2013 (MSMS)

46. "Understanding Organizational Traps in Implementing Service-Oriented Architecture," Xitong Li, February 2013 (MS thesis)

47. "Cloud Computing," Eugene Gorelik, January 2013 (SDM)

48. "Strategic Philanthropy for Cyber Security: An Extended Cost-Benefit Analysis Framework to Study Cybersecurity," Yiseul Cho, June 2012 (TPP)

49. "Agile Project Dynamics: A Strategic Project Management Approach to the Study of Large-Scale Software Development Using System Dynamics," Firas Glaiel, June 2012 (SDM)

50. "Data Quality Enhancement in Oil Reservoir Operations: An Application of IPMAP," Paul Hong-Yi Lin, June 2012 (SDM)

51. "Modeling Government ERP Acquisition Methods Using System Dynamics," Farrah Tazyeen, June 2012 (SDM)

52. "How Companies Can Leverage Crowdsourcing," Sunny Cheung, February 2012 (SDM)

53. "Developing a Global Deployment Strategy for Implementation of a Cold Chain Manufacturing Execution System (MES)," Todd Waldron, May 2011 (LGO)

54. "Integration of distributed and heterogeneous information for public-private policy analyses", David Su-Kai Cheng, June 2004 (TPP + EECS)

55. "A Taxonomy and Analysis of Web Wrapping Technologies", Shin Wee Chuang, June 2004 (TPP + CEE)

56. "Context Mediation Approach to Improved Interoperability amongst Disparate Financial Information Services", Sajindra Kolitha Bandara Jayasena, June 2004 (SMA CS)

57. "Feedback Loops in Educational Environments using Web-Based Survey Tools: New Technology Development and Three Implementation Case Studies", Benjamin Spead, June 2004 (TPP + EECS)

58. "Context Mediation: Ontology Modeling using Web Ontology Language (OWL)", Philip Tan, June 2004 (SMA CS)

59. "Challenges in the Adoption and Diffusion of Web Services in Financial Institutions", Paulo Guilherme Vita, June 2004. (MOT)

60. "Virtual Merging of Ecoin Applications and Guidelines for Building Ontologies", Faisel Anwar, May 2004 (EECS)

61. "Banking Channel Management – Global Trends and Strategies", Renato Teixeira Catalan, May 2004 (MOT)

62. "CLAMP: Application Merging in the ECOIN Context Mediation System using the Context Linking Approach", M. Bilal Kaleem, August 2003. (EECS)

63. "Corporate Householding Knowledge Engineering and Processing Using Extended COIN", Xiang (Angela) Xian, June 2003 (EECS)

64. "Enterprise Software Architecture & Financial Services Industry – Future Trends, Challenges & Frameworks" Ahmad Shuja, June 2003 (MOT)

65. "Metadata Representation and Management for Context Mediation", Philip Lee, June 2003 (EECS)

66. "Barriers to Global Financial Account Aggregation and Recommendations to Overcome Them", Ee-Leen Tan, February 2003 (TPP)

67. "Barriers to Global Financial Account Aggregation and Recommendations to Overcome Them", Ee-Leen Tan, September 2002 (TPP)

68. "Study of Integration Technology and its Roles in Enhancing the Business Value of IT focusing on Context Interchange System", Myung-Jae Ryoo, June 2002 (MOT)

69. "A Technology and Policy Analysis for Global E-Business", Hongwei (Harry) Zhu, June 2002 (TPP)

70. "Capabilities Aware Planner/Optimizer/Executioner for COntext INterchange Project", Tarik Alatovic, February 2002 (EECS)

71. "Graphical Metadata Management for the Context Mediation System", Usman Mobin, February 2002 (EECS)

72. "A Technology Analysis on Mobilizing Corporate Data", Ambrose Kam, January 2002 (SDM)

73. "An Open Architecture for Data Environments Based on Context Interchange", Maria Elena Neira, 1995 (Supervisor)

74. "Information Technology education: Developing Client Server Material for the Sloan Master's Program", Beville Graham St. Clair Jones, 1994 (Supervisor)

75. "Analysis of the Strategic Information Technology Track with Emphasis on Internships", Jens Haupt, 1994 (Supervisor)

76. "A CIM Integration Framework for Pharmaceutical Operations", Parkson Chao, 1992 (Supervisor)

77. "Enterprise Systems Management in a Distributed Computing Environment", Charles H. Rutledge, Jr., 1992 (Supervisor)

78. "Data Browser Interface for the Composite Information System", Thomas H. Parker, 1991 (Supervisor)

79. "Technologies and Policies for the Integration of Financial Services Industry Across the European Communities", Usman A. Ghani, 1991 (Supervisor)

80. "The Design of Global Financial Systems: A Case Study", Shailendra Krishna, 1990 (Supervisor)

81. "Duplicate Entry Detection in Mailing and Participating Lists", Herber Regal Norckauer, Jr., 1990 (Supervisor)

82. "Name Management Strategy for Database Integration", Almudena Arcelus, 1990 (Supervisor)

83. "The Reality of Systems Development: A Case Study at the Sloan School of Management", Leslie Lafer McCafferty, 1990 (Supervisor)

84. "Risk Management in Japanese Banks", Nemoto Takehiko, 1990 (Supervisor)

85. "Technologies and Policies for the Development of Composite Information Systems in Decentralized Organizations", Bertrand Rigaldes, 1990 (Supervisor)

86. "Use of Heterogeneous Data Sources: Three Case Studies", David B. Godes, 1989 (Supervisor)

87. "A Knowledge-Based Approach toward Integrating International On-Line Databases", Maria L. Paget, 1989 (Supervisor)

88. "Multi-Attribute Partitioning Methods for Associative Database Systems", Harold A. Stern, 1989 (Supervisor)

89. "Networking and Connectivity in an Engineering Company", Maurice El-Khaouam, 1988 (Supervisor)

90. "Strategic Impact of Communication Networks of the Financial Services Industry", Anand S. Parikh, 1988 (Supervisor)

91. "Distributed Database Systems: A Comparison between ORACLE and INGRES", Robert W. Gref, III, 1987 (Supervisor)

92. "Standards for Data Exchange in an Integrated Environment: A Methodological Approach", Maher Kallel, 1987 (Supervisor)

93. "Interfacing Objects and Databases", Samuel P. Levine, 1987 (Supervisor)

94. "Gaining Strategic Advantage through Composite Information Systems", Joseph L. Massimo, III, 1987 (Supervisor)

95. "Integrating Systems for Financial Institutions using Composite Information Systems", Maria de las Nieves Rincon, 1987 (Supervisor)

96. "A Knowledge-Based System for Resolving Semantic Conflicts: A Problem of Integrating Heterogeneous DBMS's", Marina Pocaterra Silva, 1987 (Supervisor)

97. "Data Communications Networks: A Comparative Evaluation of the MIT and Harvard Environments", Philip Seung-Ho Yoo, 1987 (Supervisor)

98. "A Study of Development Methodologies for Communications Software", Bruce Gobioff, 1984 (Supervisor)

99. "Transaction Analysis as a Basis for the Rapid Development of Management Information Systems for Small Businesses", David C. Hite, III, 1984 (Supervisor)

100. "SCRIPT to RUNOFF Conversion Program", Ly Thien Hoang, 1983 (Supervisor)

101. "An Information System to Support Admissions", Keith Woodward, 1982 (Supervisor)

102. "A Comparative Study of Software Design Methodologies", Michael Yeh, 1982 (Supervisor)

103. "INFOSAM - A Sample Database Management System", Bruce Blumberg, 1981 (Supervisor)

104. "A Job Queuing Program for the Management Information Systems Courses", Richard Denker, 1980 (Supervisor)

105. "Virtual Information in the INFOPLEX Database Computer", Larry Krakauer, 1980 (Supervisor)

106. "Charge-Back in the Distributed Network", Theresa Ravese, 1980 (Supervisor)

107. "Properties of Reference Algorithms for Multi-Level Storage Hierarchies", Michael Abraham, 1979 (Supervisor)

108. "A Closer Look at Database Access Patterns", Susanne Robidoux, 1979 (Supervisor)

109. "Evaluating Database Management Systems: A Framework and Application to the Veteran's Administration Hospital", Mohammad Dadashzadeh, 1978 (Supervisor)

110. "An Investigation of Cluster Analysis Techniques as a Means of Structuring Specifications in the Design of Complex Systems", Tim Holden, 1978 (Supervisor)

111. "Locality in Logical Database Systems: A Framework for Analysis", Edward McCabe, 1978 (Supervisor)

112. "Centralization vs. Decentralization of Information Systems for the City of Boston", Thomas DeCanio, 1977 (Supervisor)

113. "A Methodology to Aid in the Centralization-Decentralization Decision for Large Decentralized Organizations", John Hussey, 1977 (Supervisor)

114. "Planning the Installation of a Data Base Management System", Luther Goodie, 1977 (Supervisor)

115. "Hospital Information Systems: A Guide for Management Planning", Eric Kurtz, 1977 (Supervisor)

116. "Software Package Evaluation: Application to a Personnel System for the City of Boston", Susan Prytherch, 1977 (Supervisor)

117. "Investigation of a Large-Scale Distributed Database", Anthony Smith, 1977 (Supervisor)

118. "Computerization of Boston City Hall's Personnel System", Rinaldo Spinella, 1977 (Supervisor)

119. "Selecting a Minicomputer: A Framework and Application to the Sloan School of Management", Barry Zack, 1977 (Supervisor)

120. "A Decision Framework for Consumer-Oriented Electronic Funds Transfer Systems", Richard Carrion and Robert Smith, 1976 (Supervisor)

121. "A Framework for Computer-Based Evaluation of Highway Projects in Developing Countries", Jean-Michael Fay, 1975 (Supervisor)

122. "Simulation of IBM/370 Input/Output", Antonio Gillineau, 1976 (Supervisor)

123. "Materials Requirements Planning: A Study", Ajit Kanodia, 1976 (Supervisor)

124. "A Grading Report Generator", Ronald Law, 1976 (Supervisor)

125. "The Family of Operating Systems: A Test Case", Rosita Russell, 1976 (Supervisor)

126. "A Study of the Application of Computer Technology in Retail Stores", Robert Klimm and James Montgomery, 1975 (Supervisor)

127. "Decision Rules for the Automated Generation of Storage Strategies in Data Management Systems", Grant Smith, 1975 (Supervisor)

128. "Management Information Systems -- A Comparison of the Network and Relational Models of Data", Charles Ziering, Jr., 1975 (Supervisor)

129. "Computer Services for Business Schools: A Procedure for Analysis and Application to the Sloan School of Management", Doron Holtzer and Loretta Patzelt, 1974 (Supervisor)

130. "Centralize or Decentralize? A Study of the Data Processing Requirements of the Research Department of the Federal Reserve Bank of Boston", Donald Isaacs, 1974 (Supervisor)

131. "A Parameterized Model for Selecting the Optimum File Organization in Multi-Attribute Retrieval Systems", Jack Shachat, 1974 (Supervisor)

132. "Virtual Information in General Data Base Systems", Howard Schutzman, 1974 (Supervisor)

133. "Specification and Design of a Flexible Information Management System for Large Data Bases", Nicola Szasz, 1974 (Supervisor)

134. "Examination and Modeling of a Prototype Information System", Richard Akemann, 1973 (Supervisor)

135. "Manufacturing Information Systems and Requirements Planning: An Analytical Survey", Samuel Lasry, 1973 (Supervisor)

136. "A Model of a Multiprogrammed Demand Paging Computer System", Judith Piggins, 1973 (Supervisor)

137. "Computer Security: A Comprehensive and Annotated Bibliography", John Scherf, 1973 (Supervisor)

138. "Multiprogramming in a Page on Demand Computer System: Performance Models and Evaluation", David Schwatz, 1973 (supervisor)

139. "An Evaluation of Text Processing Systems", David Urbani, 1973 (Supervisor)

BACHELORS

140. "FareSearch Finder", Lindsey Christian & Patrick De Suza, May 2005 (EECS)

141. "An Intelligent Mechanism for Non-Primary Foreign Key Joints in the CIS / TK System", Bonnie Catherine Scurlock, 1991 (Supervisor)

142. "The Strategic Implementation of a Data Dictionary within Information Systems Architectures: The Insurance Company Case", Dino E. Browne, 1991 (Supervisor)

143. "An Enhanced Architecture for Composite Information Systems", Rebecca Y. Kao and Terence M. Sim, 1990 (Supervisor)

144. "Enhancement of the Communication Server in the Composite Information System", Boniface Ayisi Makatiani, 1990 (Supervisor)

145. "Local Query Processor Manager for the Composite Information Systems / Tool Kit", Min-yuan Tung, 1990 (Supervisor)

146. "The Role of Composite Information Systems: The Citibank Case", Dana Rachel Pressman, 1990 (Supervisor)

147. "An Architecture, Design, and Implementation of a Communications Server to Access Disparate Databases", Francis C. K. Gan, 1989 (Supervisor)

148. "Optimizing Information Retrieval From Disparate Menu Driven Systems", Howard L. Gerber, 1989 (Supervisor)

149. "Addition of a New RDBMS to the 'Access Field' of the CIS/TK System", Gautam A. Gidwani, 1989 (Supervisor)

150. "PC Front End and Network Back End for the Composite Information System Tool Kit", Wilberto Martinez, 1989 (Supervisor)

151. "Data Connectivity for the Composite Information System / Tool Kit", Toon King Wong, 1989 (Supervisor) [Recipient of the 1989 Award for the Best Computer Science Thesis in the MIT EECS Department]

152. "Enhancing Application Model Capabilities on a Composite Information System", Dennis G. Vidach, 1989 (Supervisor)

153. "Leaders for Manufacturing Program Electronic Mail Network", James C. Yao, 1989 (Supervisor)

154. "Parallel Sorting and Relational Data Base Operators on the Connection Machine", Abel Tong, 1985 (Supervisor)

155. "MIT Faculty Club Information System", Ridvan Akkurt, 1983 (Supervisor)

156. "A Classification Scheme for Database Machine Architectures", Herbert Stortz, Jr., 1983 (Supervisor)

157. "A Relational View Facility for the INFOPLEX Database Computer", Brian Feldman, 1982 (Supervisor)

158. "Virtual Information Facility of the INFOPLEX Software Test Vehicle (Part I)", Jameson Lee, 1982 (Supervisor)

159. "N-ary Level Design of the INFOPLEX Software Test Vehicle", David Lui, 1982 (Supervisor)

160. "Virtual Information Facility of the INFOPLEX Software Test Vehicle (Part II)", Peter Lu, 1982 (Supervisor)

161. "Shell: A Simulator for the Software Test Vehicle of the INFOPLEX Database Computer", Tak To, 1981 (Supervisor)

162. "Design and Implementation of an IBM Assembly Language Assembler", Hong Ong, 1980 (Supervisor)

163. "Hierarchical File System Functions on Time Sharing Minicomputers", Michael D'Amato, 1975 (Supervisor)

164. "Cost Reduction of Student Programming Exercises", Paul Gregory III, 1975 (Supervisor)

165. "A Placement Office Student Reservation System", Margaret Krupp, 1975 (Supervisor)

166. "A FORTRAN Simulator of the IBM System/370 Computer", Howell Richards, 1975 (Supervisor)

167. "A Computer Based Student Information System -- Sloan School of Management", Fehmi Sami, 1975 (Supervisor)

168. "A Direct Linking Loader", Michael Share, 1975 (Supervisor)

169. "Simulation of a Multiple Processor IBM System/370 with Associated I/O Equipment", William Silver, 1975 (Supervisor)

170. "Interconnecting IBM 2741 Communications Terminals to Prime-300 Computers", John Woodward, 1975 (Supervisor)

171. "Virtual Fields in a Database Management System", Charles Ziering, Jr., 1975 (Supervisor)

172. "The Design of a Generalized Data Base Management System", Matthew Fowler, 1974 (Supervisor)

173. "A Device Management Simulator", Michael Knaur, 1973 (Supervisor)

174. "POS -- Pedagogical Operating System", Richard Swift, 1973 (Supervisor)

175. "A Design Analysis of Dynamic Linking and Loading of Microprograms", John Wright, 1973 (Supervisor)

To save space, only theses for which I was the Supervisor have been included in the Masters and Bachelors sections above. Theses for which I was only a Reader have been omitted.

9. RESEARCH PROJECT SUPERVISION (Principal Investigator or co-PI)

Feb 2017 – June 2017	Phillips Lighting, "Improving the Adoption of Smart Lighting Infrastructure: Understanding and Mitigating the Impacts of Cybersecurity," $98,210.31, (OSP 6935615).
Jan 2017 – June 2017	Geneva Association, "The Insurability of Cyber Risks," $115,000, (OSP 6935731).
July 2016 – June 2017	MITei Seed Grant, "CyberSafety," $129,000, (OSP 6933888).
Dec 2014 – April 2018	Members, "Interdisciplinary Consortium for Improving Critical Infrastructure Cybersecurity," aka (IC)3, $1,985,000.00, (OSP 2746802).
Nov 2014 – April 2018	Research Sponsors, "Interdisciplinary Consortium for Improving Critical Infrastructure Cybersecurity," aka (IC)3, $285,000, (OSP 6931148).
July 2014 – August 2016	USP Labs, "Analyzing Large Data Sets in Support of Modeling and Prediction," $97,764, (OSP 6930604).
Jan 2015 – June 2017	Lincoln Laboratory, "Study of JCIDS Semantic Architecture Framework – part 2," $673,939, (OSP 6930986).
Sept 2013 – March 2015	Lincoln Laboratory, "Study of JCIDS Semantic Architecture Framework," $325,000, (OSP 6928924).
Jan 2011 – Dec 2011	Chevron Global Upstream, "Collaborative Research on Application of and Experimentation with Information Product Map (IPMAP) Methodology for Information Quality (IQ) Analysis," $330,000, (OSP 6923284).
Nov 2010 – March 2012	Lincoln Laboratory – Defense Intelligence Agency (DIA), "Joint Research on Understanding the Challenges to Net-Centric Systems and Mitigating Approaches," $689,000, (OSP 6923013).
Oct 2010 – Dec 2011	State Farm Insurance Company, "Identifying and Implementing a Winning Aggregation Strategy," $295,000, (OSP 6922971).
Sept 2007 – April 2011	Mubadala Development Company, PJSC (Abu Dhabi – Masdar Institute of Science and Technology), "Semantics-Enabled Technology Forecasting," $650,000, (OSP 6916738)
July 2007 – Feb 2009	USAF AFRL (IARPA), "ProActive Intelligence (PAINT)," $806,151, (OSP 6915805)
April 2007 – March 2008	Singapore Defense Science and Technology Agency (DSTA), "Phase 2: Context Knowledge Management Approach to Armament Safety Management (Dynamics of Vehicle Safety)," $117,824, (OSP 6915187)
April 2007 – Oct 2007	National Security Innovations, Inc. – "Sudan Stability Assessment Model," $84,969 (OSP 6915412)
April 2006 – March 2007	Singapore Defense Science and Technology Agency (DSTA), "Phase 1: Context Knowledge Management Approach to Armament Safety Management," $107,173, (OSP 6899317)
August 2006 – Oct 2006	Knowledge Base Terrorism Research Inc, "Research on Cross-Reference Aggregation," $50,000, (OSP 6914119)
Oct 2005 – May 2006	Cisco Systems, "Toward Total Security Quality Management – Part 2," $150,000, (OSP 6898948)
Oct 2005 – May 2006	MITRE Corporation, "Context Mediation in Support of the MOIE," $95,000,

(OSP 6899028).

Aug 2005 – Sep 2005	MITRE Corporation, "MITRE-MIT Task Order 4," $10,000, (OSP 6898420).
April 2005 – Sep 2005	Cisco Systems, "Toward Total Security Quality Management – Part 1," $100,000, (OSP 6897925)
Feb 2005 – June 2008	DARPA/USAF -- Simulation & Analysis Center (SAC), "Phase 1: Understanding & Modeling Insurgency, Terrorists, and Stability in Support of the Global War on Terrorism: Exploiting System Dynamics" and "Phase 2: Identifying Unintended Consequences," $690,425, (OSP 6897520)
Feb 2005 – March 2006	DARPA/USAF, "Understanding and Modeling State Failure," $346,425, (OSP 6897520)
May 2004 – Sep 2004	MITRE Corporation, "Research Project in Context Mediation with MITRE," $28,500.00, (OSP 6896562).
June 2003 – May 2004	Center for eBusiness @MIT / Suruga Bank, "The Challenge of Creating New Banking," $100,000, (OSP 6895131).
Oct 2002 – Sep 2003	Malaysia University of Science and Technology (MUST)-Motorola, "Intelligent Information Integration," $120,000.
Sept 2001 – Feb. 2003	Center for eBusiness @MIT / Vision Fund, "Globalization of eBusiness," $75,000, (OSP 6892455).
Oct 2000 – Sept 2003	MITRE Corporation, "Collaboration between MITRE and MIT on the Semantic Web," $360,000, (OSP 6891666).
Sept 2000 – August 2002	Banco Santander Central Hispano (BSCH), "Financial Services and the Web: MIT Research Initiative," $800,000, (OSP 6891291).
July 2000 – May 2003	Center for eBusiness @MIT / Suruga Bank, "The Impact of the Internet on the Future of the Financial Services Industry," $450,000, (OSP 6891395).
July 2000 – May 2002	Center for eBusiness @MIT / Surugua Bank, "The Impact of the Internet on the Future of the Financial Services Industry," $300,000, (OSP 6890004).
May 2000 – Jan 2003	D&B and First Logic, "Total Data Quality Management (TDQM) Program: Corporate Householding Project", $125,000, (OSP 7773900).
January 2000 – June 2006	Singapore-MIT Alliance (SMA) Research Funding, "Collaborative Research," $650,000, (OSP 6891505).
July 1999 – Feb 2000	Citibank, "Citibank Research," $50,000, (OSP 6868200).
April 1999 – August 2002	Center for eBusiness @MIT / Fleet Bank, "Universal Financial Aggregator," $225,000, (OSP 6890007).
Jan 1999 – March 2004	Merrill Lynch, "Digital Factory," $500,000, (OSP 6856603).
Feb 1998 – Dec 2000	PricewaterhouseCoopers, "International Laboratory for Intelligent Information Integration," $550K, (OSP 6665400).
1998-1999	Air Force, Lean Sustainment Initiative.
1998-1999	PriceWaterhoseCoopers, "XML and Web Wrapping," $125,000.
1997-1999	Merrill Lynch, "Context Interchange and Web Wrapping: Application to Financial Research and Trading Systems," $140,000.
1996-1997	DLA, "Context Interchange: Application to Logistics," $800,000.
1995-1997	TRW, "COIN and InfoWeb," Project with TRW, $95,000.

1994-1998	Primark, "Context and Data Quality Issues in Financial Information Systems," Project with TASC, $105,000.
Sept 1992 – Dec 2017	Total Data Quality Management (TDQM) Program Consortium, $485,471, (OSP 7773900).
1992-1998	DARPA, "Context Interchange: Using Knowledge about Data to Integrate Disparate Sources," $2,100,000.
1991	International Financial Services Research Center grant, "Semantic Reconciliation in Evolving Databases," $108,000..
Oct 1986 - Oct 1987	"Composite Information Systems," Sponsors: MIT Center for Transportation Systems (CTS), U.S. Department of Transportation (DOT), U.S. Air Force (USAF), $ 487,000 (OSP 98474).
Dec 1986 - June 1987	"Composite Information Systems," Sponsors: Citibank, $29,000 (OSP 98728). Principal Investigator.
Sept 1985 - Feb 1987	"INFOPLEX Database Computer Architecture," Sponsor: Naval Electronic Systems Command (NAVELEX), $128,517 (OSP 96965).
June 1983 - July 1984	"Systematic Approach to the Design of Complex Software Systems," Sponsor: National Aeronautics and Space Agency (NASA), $38,104 (OSP 93763).
May 1983 - Feb 1985	"INFOPLEX Database Computer Architecture," Sponsor: Naval Electronic Systems Command (NAVELEX), $164,116 (OSP 93754).
Sept 1981 - Aug 1983	"INFOPLEX Database Computer Architecture," Sponsor: Naval Electronic Systems Command (NAVELEX), $269,139 (OSP 91445).
June 1980 - Feb 1982	"INFOPLEX Database Computer Architecture," Sponsor: Naval Electronic Systems Command (NAVELEX), $164,152 (OSP 89928).
March 1980 - Dec 1981	"INFOPLEX Database Computer Architecture," Sponsor: Naval Electronic Systems Command (NAVELEX), $25,982 (OSP 89137).
Jan 1980 - April 1981	"INFOPLEX Database Computer Architecture," Sponsor: Naval Electronic Systems Command (NAVELEX), $68,056 (OSP 89136).
April 1979 - March 1980	"Systematic Approach to the Design of Complex Software Systems," Sponsor: Naval Electronic Systems Command (NAVELEX), $37,899 (OSP 87769).
Jan 1979 - Dec 1979	"INFOPLEX Database Computer Architecture," Sponsor: Naval Electronic Systems Command (NAVELEX), $28,675 (OSP 87606).
April 1978 - Dec 1986	"INFOPLEX Database Computer Architecture," Sponsor: National Science Foundation (NSF), $122,451 (OSP 86482).
April 1978 - March 1979	"Systematic Approach to the Design of Complex Software Systems," Sponsor: Naval Electronic Systems Command (NAVELEX), $66,617 (OSP 86505).
Jan 1978 - Dec 1978	"Tailored Information Systems," IBM/MIT Grant, $12,000 (OSP Account 86150).
Oct 1977 - Dec 1978	"Use of Virtual Machines for the Development of Decision Support Systems,"Air Force Rome Air Development Center (RADC), $64,084 (OSP 85727).

April 1977 - March 1978	"Systematic Approach to the Design of Complex Software Systems," Naval Electronic Systems Command (NAVELEX), $13,700 (OSP 85519).
July 1974 - Dec 1977	"Tailored Information Systems," IBM/MIT Grant, $35,000.
July 1974 - Dec 1976	"Design of a Family of Operating Systems," Naval Electronic Systems Command (NAVELEX), $386,371.
Jan 1973 - Dec 1973	"Sloan Information Systems Security Project," IBM Data Security Study, $102,000.

TOTAL FUNDING: $ 19,239,182

10. PUBLICATIONS

SUMMARY

10.1 BOOKS AND MONOGRAPHS

1. *Operating Systems* (with J.J. Donovan), McGraw-Hill, 1974, 640 pp.

    (Adopted as textbook by over 100 colleges and universities).

   --Japanese edition, published by Nippon Computer Kyokai, 1976, 713 pp.

   --International Student Edition, published by McGraw-Hill Kogakusha, Ltd.,1978, 640 pp.

   --Russian edition, published by MNP, Moscow, USSR, 1978, 792 pp.

   --Czechoslovakian edition, published by SNTL Nakladatelstvi Technicke Literatury, 1981, 590 pp.

   --Polish edition, published by Panstwowe Wydawnictwo Nankowe, Warszawa, Poland, 1984, 625 pp.

   --Spanish edition scheduled for publication.

   --*Instructor's Manual to Accompany Operating Systems*, McGraw-Hill, 1974, 159 pp.

2. *Software Projects: Pedagogical Aids for Software Education and Research* (with J.J. Donovan), McGraw-Hill, 1977, 509 pp.

3. *Computer Security: Problems and Solutions* (with D.K. Hsiao and D.S. Kerr), ACM Monograph Series (Academic Press), 1979, 331 pp.

   -- Russian edition, published by MNP, Moscow, USSR, 1982, 264 pp.

4. *The Strategic Use of Information Technology* (Editor), Oxford University Press, 1987, 206 pages.

5. *Software Project Dynamics: An Integrated Approach* (with T.K. Abdel-Hamid), Prentice-Hall, 1991, ISBN 0-13-822040-9, 264 pp.

   -- Received the Jay Wright Forrester Award for "Best Contribution to the field of System Dynamics in the preceding five years" awarded by the System Dynamics Society, 1994.

6. **Information Quality: Advances in Management Information Systems** (AMIS) Series, (Editor, with R. Wang, E. Pierce, and C. Fisher), M. E. Sharpe Publisher, Armonk, NY, 2005, 265 pp.

7. **Improving National and Homeland Security through Context Knowledge Representation & Reasoning Technologies**", (with N. Choucri and M. Siegel), *Emergent Information Technologies and Enabling Policies for Counter Terrorism*, IEEE Press/Wiley, 2006.

8. Stephen Bradley Changsu Kim, Stuart Madnick, *Digital Business*, *Chicago Business Press*, 2016, 274 pp

10.2 BOOK CHAPTERS

1. "**Structure and Capabilities of Key Personal Computer Operating Systems**" (with M. Hsu), *Insights into Personal Computers*, IEEE Press, 1985.

2. "**Perspectives on the Effective Use, Planning, and Impact of Information Technology**," *The Strategic Use of Information Technology*, Oxford University Press, 1987 (pp. 3-14). [SWP # 1868-87]

3. "**Future Artificial Intelligence Requirements for Intelligent Database Systems**" (with M.L. Brodie, D. Bobrow, V. Lesser, D. Tsichritzis, and C. Hewitt), *Expert Database Systems* Benjamin/Cummings, 1989.

4. "**Chapter 2: Information Technology Platform for the 1990s**", *The Corporation of the 1990's: Information Technology and Organizational Transformation*, Edited by Michael S. Scott Morton, Oxford University Press, 1990 (pp. 27-60). [SWP # 3061-89-MS]

5. "**Chapter 16: Putting IT All Together Before it Falls Apart**", *Information Technology in Action: Trends and Perspectiv*es, Edited by Richard Y. Wang, Prentice-Hall, 1992.

6. "**Context Interchange Network Prototype**" (with A. Darawala, C. Goh, S. Hofmeister, and M. Siegel) in *Database Applications Semantics*, Chapman & hall (London, UK), October 1996 [SWP #3797, CISL #95-01].

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33. August 23, 2018: Stuart Madnick quoted in *Inside Sources* – "**Oops. DNC Cyber Attack Backtrack Casts Doubt on Midterms' Security**"

34. September 6, 2018: Stuart Madnick quoted in *Inside Sources* – "**Federal Agencies Are Woefully Unprepared for Cyberattacks, Experts Say**"
35. October 1, 2018: Stuart Madnick quoted in *PYMTS.com* – "**Big Banks See Uptick In Cyberattack Attempts**"
36. October 2, 2018: Stuart Madnick quoted in *Illuminating Engineering Society* – "**Will connected lighting's security story have a happy ending?**"
37. November 2, 2018: Stuart Madnick quoted in *Inside Sources* – "**Think Tank Gives Swing States an 'F' For Elections Security**"
38. December 18, 2018: Stuart Madnick quoted in *Inside Sources* – "**Congress Still Doesn't Understand Cybersecurity**"
39. January 3, 2018: Stuart Madnick quoted in *BBC News* – "**The labs that protect against online warfare**"
40. April 29, 2018: Stuart Madnick writes an article for *Época NEGOCIOS* "**Como a sociedade pode se proteger contra ataques cibernéticos, segundo professor do MIT**" (translated: "**How society can protect itself against cyber attacks, says MIT professor**")
41. May 23, 2018: Stuart Madnick quoted in the *MIT Sloan Newsroom* about GDPR – "**What to watch after GDPR's Rollout**"
42. May 29, 2018: Stuart Madnick writes an article for The *Wall Street Journal* – "**How Companies Can Create a Cybersafe Culture at Work**"
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45. August 22, 2018: Stuart Madnick quoted in *Inverse* – "**With 5G, Cybersecurity Researchers See a Hotbed of Security Risks**"
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52. December 18, 2018: Stuart Madnick quoted in *Inside Sources* – "**Congress Still Doesn't Understand Cybersecurity**"

10.7 WORKING PAPERS AND TECHNICAL REPORTS

Note: Working papers distributed through the National Technical Information System (NTIS) can be obtained by writing to: NTIS, 5282 Port Royal Rd., Springfield, Virginia 22161. This includes the Knowledge-Based Integrated Information Systems Engineering (KBIISE) Project Series (8 volumes), printed by MIT for the U.S. Air Force and U.S. Department of Transportation.

1. "**SPL/I: A String Processing Language**", IBM Cambridge Scientific Center Report 36.006, June 1966.

2. "**String Processing Techniques on the IBM System/360: Techniques and Examples",** IBM Cambridge Scientific Center Report 36.Y05, June 1966.

3. "**CMS/360 SNOBOL User's Manual**", IBM Cambridge Scientific Center Report, November 1967.

4. "**Design Strategies for File Systems**", MIT Project MAC Report MAC-TR-78 (NTIS No. AD-714-269, 106 pp.), October 1970.

5. "**On the Design of BORAM Devices for Paging Systems**", Internal Project MAC Memorandum, February 1972.

6. "**Recent Technical Advances in the Computer Industry and Their Future Impact**", [SWP # 645-73], February 1973.

7. "**An Approach to Information System Isolation and Security in a Shared Facility**" (with J.J. Donovan), [SWP # 648-73], March 1973.

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9. "**A Survey of Navy Tactical Computer Applications and Executives**" (with D. Punj and J.D. DeTreville), FOS Report 101-D and CISR Report 19, (NTIS No. AD-A021-074, 320 pp.), October 1975.

10. "**Operating Systems Interface**" (with L. Goodman and J. Donovan), FOS Technical Report 7, (58 pp.), September 1976.

11. "**Modules and Levels Report**" (with J. DeTreville and J. Donovan), FOS Technical Report 8, (80 pp.), September 1976.

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18. "**A Systematic Approach to the Design of Complex Systems: Application to DBMS Design and Evaluation**" (with R. Andreu), CISR Report 32, and SWP #. 920-77, March 1977.

19. "**Set Decomposition: Cluster Analysis and Graph Decomposition Techniques**" (with R. Andreu), SDM Technical Report 1, (NTIS No. AD-A044-769, 82 pp.), September 1977.

20. "**Solving Decomposition Problems: Alternative Techniques and Description of Supporting Tools**" (with R. Andreu), SDM Technical Report 2, (NTIS No. AD-A048-759, 48 pp.), September 1977.

21. "**An Exercise in Software Architectural Design: From Requirements to Design Problem Structure**" (with R. Andreu), SDM Technical Report 3, (NTIS No. AD-A048-765, 121 pp.), November 1977.

22. "**Completing the Requirements Set as a Means Towards Better Design Frameworks: A Follow-up Exercise in Software Architectural Design**" (with R. Andreu), SDM Technical Report 4, (NTIS No.

AD-A049-782, 80 pp.), December 1977.

23. "**Use of Virtual Machines for Development of Decision Support Systems: Strategies for Interfacing Virtual Machines**" (with C. Lam), DSS Technical Report 1, March 1978.

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26. "**A Systematic Approach to Designing Complex Systems: Application to Software Operating Systems**" (with T. Holden), SDM Technical Report 5, (NTIS No. AD-A055-481, 314 pp.), May 1978.

27. "**An Approach to Constructing Functional Requirement Statements for System Architectural Design**" (with S.L. Huff), SDM Technical Report 6, (NTIS No. AD-A057-802, 87 pp.), June 1978.

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30. "**An Extended Model for a Systematic Approach to the Design of Complex Systems**" (with S.L. Huff), SDM Technical Report 7, (NTIS No. AD-A058-565, 63 pp.), July 1978.

31. "**INFOPLEX Data Base Computer Architecture Concepts and Directions**" (with C. Lam), INFOPLEX Technical Report 1, August 1978.

32. "**Software Architecture and Semantics of Requirements**" (with S.L. Huff), Working Paper, November 1978.

33. "**Properties of Storage Hierarchy Systems with Multiple Page Sizes and Redundant Data**" (with C. Lam), INFOPLEX Technical Report 2, December 1978.

34. "**Final Report on the Use of Virtual Machines in the Development of Decision Support Systems**" (with T.K. Abdel-Hamid and C. Lam), DSS Technical Report 6, January 1979.

35. "**Decomposition of Weighted Graphs Using the Interchange Partitioning Algorithm**" (with S. Huff), SDM Technical Report 8, (NTIS No. AD-A069-549, 88 pp.), March 1979.

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37. "**Analysis Techniques for Use with the Extended SDM Model**" (with S. Huff), SDM Technical Report 9, (NTIS No.AD-A071-647, 123 pp.), May 1979.

38. "**A Normative Cost-Benefit Analysis of the Systematic Design Methodology**" (with S. Huff), SDM Technical Report 10, (NTIS No. AD-A072-355, 72 pp.), May 1979.

39. "**The Intelligent Memory System Architecture Research Directions**" (with C. Lam), IMS Technical Report 1, (NTIS No. AD-A073-485, 36 pp.), June 1979.

40. "**The IMS Data Storage Hierarchy: DSH-1**" (with C. Lam), IMS Technical Report 2, (NTIS No. AD-A073-375, 36 pp.), June 1979.

41. "**The IMS Data Storage Hierarchy: DSH-11**" (with C. Lam), IMS Technical Report 3, (NTIS No. AD-A073-376, 43 pp.), June 1979.

42. "**Simulation Studies of the DSH-11 Data Storage Hierarchy**" (with C. Lam), IMS Technical Report 4, (NTIS No. AD-A074-503, 128 pp.), June 1979.

43. "**Data Storage Hierarchy Systems for Data Base Computers**" (with C. Lam), INFOPLEX Technical Report 3, August 1979.

44. "**Architectural Design of a New MIT Budgeting System: An Application of the Systematic Design Methodology**" (with S. Huff), SDM Technical Report 11, (NTIS No. AD-A071-748, 150 pp.).

45. "**A Systematic Methodology for Designing the Architecture of Complex Software Systems**" (with S. Huff), SDM Technical Report 12, (NTIS No. AD-A074-911, 604 pp.), September 1979.

46. "**Understanding the Computer (Little Man Computer)",** 1979, (Spanish Translation, 1981; French Translation, 1985).

47. "**A Systematic Approach to Complex Systems Design: An Application to Printed Circuit Board Test System Design**" (with P. Tung), SDM Technical Report 13, (NTIS No. AD-A090-707, 191 pp.), February 1980.

48. "**A Graph Decomposition Technique Based on a High-Density Clustering Model on Graphs**" (with T. Wong), SDM Technical Report 14, (NTIS No. AD-A090-348, 34 pp.), July 1980.

49. "**Implementation and Evaluation of a Graph Partitioning Technique Based on a High-Density Clustering Model**" (with J. Lattin), SDM Technical Report 15, (NTIS No. AD-A099-221, 61 pp.).

50. "**A Preliminary Architectural Design for the Functional Hierarchy of the INFOPLEX Database Computer**" (with M. Hsu), IMS Technical Report 5, (NTIS No. AD-A102-924, 181 pp.), November 1980.

51. "**A Study of the Multicache Consistency Problem in Multiprocessor Computer Systems**" (with T.K. Abdel-Hamid), IMS Technical Report 6, (23 pp.).

52. "**Examining the Interlocking Structure of the Corporate Network: An Application of a High-Density Clustering Model on a Graph**" (with J. Lattin), SDM Technical Report 16, (NTIS No. AD-A105-832, 55 pp.), September 1981.

53. "**INFOSAM: A Sample Database Management System**" (with B. Blumberg), IMS Technical Report 7, (NTIS No. AD-A116-593, 331 pp.), December 1981.

54. "**SHELL: A Simulator for the Software Test Vehicle of the INFOPLEX Database Computer**" (with T. To), IMS Technical Report 8, (NTIS No. AD-A116-592, 161 pp.), January 1982.

55. "**FSTV: The Software Test Vehicle for the Functional Hierarchy of the INFOPLEX Database Computer**" (with M. Hsu), IMS Technical Report 9, (NTIS No. AD-A116-591, 270 pp.), January 1982.

56. "**Virtual Information Facility of the INFOPLEX Software Test Vehicle (Part I)**" (with J. Lee), IMS Technical Report 10, (NTIS No. AD-A116-503, 180 pp.), May 1982.

57. "**Virtual Information Facility of the INFOPLEX Software Test Vehicle (Part II)**" (with P. Lu), IMS Technical Report 11, (NTIS No. AD-A116-502, 144 pp.), May 1982.

58. "**Hierarchical Database Decomposition: A Technique for Database Concurrency Control**" (with M. Hsu), IMS Technical Report 12, (NTIS No. AD-A134-356, 61 pp.), December 1982.

59. "**Performance Evaluation of the INFOPLEX Database Computer Using Operational Analysis**" (with Y. Wang), IMS Technical Report 13, (NTIS No. AD-A137-301, 68 pp.), April 1981.

60. "**Queuing Network Systems with Unbalanced Flows and Their Applications to Performance Evaluation of Highly Parallel Distributed Information Systems**" (with Y. Wang), IMS Technical Report 14, (NTIS No. AD-A158-052, 36 pp.), August 1984.

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63. "**IMS Design -- Alternatives, Analysis, and Strategies**" (with M. Abraham), IMS Technical Report 17, (NTIS No. AD-A163505, 55 pp.), December 1985.

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65. "**Design of a Data Storage Hierarchy: DSH-III -- Software and Hardware**" (with M. Abraham), IMS Technical Report 19, (NTIS No. AD-A166287, 122 pp.), March 1986.

66. "**Concurrent Operations in Extendible Hashing**" (with M. Hsu and W. Yang), IMS Technical Report 20, (NTIS No. AD-A177974, 7 pp.), February 1987.

67. "**Time Slice Manipulation in Information Hierarchy**" (with M. Hsu), IMS Technical Report 21, (NTIS No. AD-A177949, 11 pp.), February 1987.

68. "**Modeling Multiprocessor Computer Systems with Unbalanced Flows**" (with Y. Wang), IMS Technical Report 22, (NTIS No. AD-A177967, 7 pp.), February 1987.

69. "**Modeling the INFOPLEX Database Computer**" (with Y. Wang), IMS Technical Report 23, (8 pp.), February 1987.

70. *Knowledge-Based Integrated Information Systems Engineering: Highlights and Bibliography* (editor, with A. Gupta), KBIISE Vol. 1, (NTIS No. A195-850, 200 pp.), 1987.

71. *Knowledge-Based Integrated Information Systems Development Methodologies Plan* (editor, with A. Gupta), KBIISE Vol. 2, (NTIS No. A195-851, 342 pp.), 1987.

72. *Integrating Distributed Homogeneous and Heterogeneous Databases: Prototypes* (editor, with A. Gupta), KBIISE Vol. 3, and (NTIS No. A195-852, 218 pp.), 1987.

73. *Object-Oriented Approach to Integrating Database Semantics* (editor, with A. Gupta), KBIISE Vol. 4, (NTIS No. A195-853, 296 pp.), 1987.

74. *Integrating Images, Applications, and Communications Networks* (editor, with A. Gupta), KBIISE Vol. 5, (NTIS No. A195-854, 342 pp.), 1987.

75. *Strategic, Organizational, and Standardization Aspects of Integrated Information Systems* (editor, with A. Gupta), KBIISE Vol. 6, (NTIS No. A195-855, 256 pp.), 1987.

76. *Integrating Information Systems in a Major Decentralized International Corporation* (editor, with A. Gupta), KBIISE Vol. 7, and (NTIS No. A195-856, 283 pp.), 1987.

77. *Technical Opinions Regarding Knowledge-Based Integrated Information Systems Engineering* (editor, with A. Gupta), KBIISE Vol. 8, (NTIS No. A195-857, 350 pp.), 1987.

78. "**Connectivity among Information Systems**" (editor, with Y. R. Wang), CIS Vol. I (Release 3), Published by MIT Sloan School CISL Project, December 1988, 143 pp.

79. "**An Architectural Comparison of Contemporary Approaches and Products for Integrating Heterogeneous Information Systems**" (with A. Gupta, C. Poulsen, and T. Wingfield) [SWP # 3084-89 and IFSRC No. 110-89], November 1989.

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(with R. Wang), August 2001, [SWP #4222-01, CISL #2001-09, TDQM #2001-10, http://papers.ssrn.com/paper.taf?abstract_id=281831].

84. "**LIGHTS: Laboratory for Information Globalization and Harmonization Technologies and Studies**", (with N. Choucri, M. Siegel, R. Wang), February 2003 [SWP #4443-03, CISL #2003-08, http://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=17403].

85. "**Improving National and Homeland Security through a proposed Laboratory for Information Globalization and Harmonization Technologies** (LIGHT)", (with N. Choucri, M. Siegel, R. Wang), February 2004 [SWP # 4488-04, CISL 2004-05, http://ssrn.com/abstract=544243]

86. "**Semantic Information Integration in the Large: The Adaptability, Extensibility, and Scalability of Context Mediation Approach**", (with T. Gannon, A. Moulton, M. Siegel, M. Sabbouh, H. Zhu).

87. "**Reconciling Semantic Heterogeneity using Symbolic Solving Techniques with Abductive and Constraint Logic Programming**", (with A. Firat, B. Grosof, F. Manola, M. Siegel).

88. "**Policy for the Protection and Reuse of Database Contents**", (with H. Zhu, M. Siegel).

89. "**To Standardize Enterprise Data – or Not? An Economic Analysis of the Value of Flexibility in Information Control and Standardization**", (with C. K. Velu, M. W. Van Alstyne).

90. "**House of Security: Stakeholder Perceptions of Security Assessment and Importance**," (with Wee Horng ANG, Yang LEE, Dinsha MISTREE, Michael SIEGEL, Diane STRONG, Richard WANG)

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93. "**Context Mediation Demonstration of Counter-Terrorism Intelligence Integration**" (with A. Moulton and M. Siegel), May 2005. [SWP # 4540-05; CISL 2005-03, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=722607]

94. **"Reducing Combat Vehicle Accidents via Improved Organizational Processes"** (with Nathan A. Minami), 2007 [SWP # 4650-07, ESD WP-2007-20, CISL 2007-02, http://ssrn.com/abstract=996720]

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96. "**Policy for the Protection and Reuse of Database Contents**", (with H. Zhu, M. Siegel), submitted to the *Journal of Management Information Systems* [SWP # 4571-05, CISL 2005-12, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=876960]

97. John Lyneis and Stuart Madnick, "**Preventing Accidents and Building a Culture of Safety: Insights from a Simulation Model**," February 2008 [SWP # 4710-08, CISL 2008-03]

98. A.K. Firat, S.E. Madnick and W.L. Woon**, "Technological Forecasting - a Review**," [CISL 2008-15,]

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100. B. Ziegler, W.L. Woon and S.E. Madnick, "**Latent Semantic Analysis Applied to Tech Mining**," September 2008 [SWP # 4726-09, CISL 2008-12, http://ssrn.com/abstract=1356011]

101. Blaine Ziegler, Ayse Kaya Firat, Clare Li, Stuart Madnick, Wei Lee Woon, "**Preliminary Report on Early Growth Technology Analysis**," April 2009. [CISL 2009-04]

102. Aykut Firat, Stuart Madnick, Michael Siegel, Benjamin Grosof and Frank Manola. "**Reconciling Equational Heterogeneity within a Data Federation**," April 2009. [SWP #4753-09, 2009-06]

103. Stuart Madnick, Nazli Choucri, Steven Camina, Erik Fogg, Xitong Li, Fan Wei, "**Explorations in Cyber International Relations (ECIR) - Data Dashboard Report #1: CERT Data Sources and Prototype Dashboard System,**" August 2009. [SWP #4754-09, CISL 2009-07]

104. James Houghton, Michael Siegel, Stuart Madnick, Nobuaki Tounaka, Buyanjargal Shirnen, Daisuke Nakagawa, Kazutaka Nakamura, "**Beyond Keywords: Tracking the development of conversations on social media through linked, nested hashtag clusters**."

105. Ioannis Karakatsanis, Alexandros Tsoupos, Stuart Madnick, Wei Lee Woon, "**A Semi-Automatic Approach for Tech Mining and Interactive Taxonomy Visualization**."

10.8 VIDEO-TAPE AND SOFTWARE PUBLICATIONS

1. *Basic Systems and Applications Programming* (with J.J. Donovan), published by McGraw-Hill/Edutronics, 1982, 21 broadcast quality edited videotapes totaling 24 hours in length plus 300 pages of student study guide and supplemental notes.

2. *Information Issues and Technologies for Management* (with J.J. Donovan), published by McGraw-Hill/Edutronics, 1982, 13 broadcast quality edited videotapes totaling 18 hours in length, plus 300 pp. of student study guide and supplemental notes.

3. *Knoware: How to Succeed in Computers Without Really Trying* (with J.J. Donovan), published by Knoware Learning Systems, Inc., 1983, 3 diskettes for IBM PC and Apple-II computers (named "Best Product of the Month" by *Personal Software* magazine, March 1984).

4. *Knowonder* (with J.J. Donovan), published by Knoware Learning Systems, Inc., 1985, 3 diskettes for IBM PC and Apple-II computers.

10.9 PATENTS ISSUED

1. "**Querying Heterogeneous Data Sources Distributed Over a Network Using Context Interchange**" (with M. Siegel), U.S. Patent 5,953,716, September 14, 1999 (filed May 30, 1996, Application No. 08/657,750).

2. "**Data Extraction from World Wide Web Pages**" (with M. Siegel), U.S. Patent 5,913,214, June 15, 1999 (filed August 8, 1996, Application No. 08/698,166).

3. "**Querying and Retrieving Semi-Structured Data from Heterogeneous Data Sources by Translating Structured Queries**" (with M. Siegel), U.S. Patent 6,282,537, Aug. 28, 2001 (filed April 6, 1999, Application No. 09/286,852).

10.10 UNPUBLISHED TEXT BOOKS

Complete drafts of the following text books exist and have been used in Sloan School subjects 15.564, 15.565, and 15.65s and elsewhere.

1. *Information Systems Technology* (with J.J. Donovan), 714 pp.
2. *Basic Systems Programming* (with J.J. Donovan), 495 pp.
3. *Information Processing Systems* (with J.J. Donovan), 260 pp.

10.11 ARTICLES IN PROGRESS

Complete drafts of the following papers exist. Some editing and revisions are still in progress.

1. "**To Standardize Enterprise Data – or Not? An Economic Analysis of the Value of Flexibility in Information Control and Standardization**", (with C. K. Velu, M. W. Van Alstyne), submitted to Information Systems Research Journal. [SWP # 4566-05; CISL 2005-10, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=843825]

2. "**Policy for the Protection and Reuse of Database Contents**", (with H. Zhu, M. Siegel). Submitted to Information Systems Research Journal. [SWP # 4571-05, CISL 2005-12, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=876960]

3. Xitong Li, Stuart Madnick, Hongwei Zhu, "**A Context-based Approach to Reconciling Data Interpretation Conflicts in Web Services Composition**," planned for submission to *Information Systems Research* (ISR).

4. Jeremy Ferwerda, Nazli Choucri, Stuart Madnick, "**Institutional Foundations for Cyber Security: Current Responses and New Challenges**," submitted to *Journal of Information Technology and Politics,* in 2nd round review.

5. Chandler Velu, Stuart Madnick, and Marshall Van Alstyne, "**To Standardize Data within the Enterprise - or Not? An Economic Analysis with Managerial Implications and Policy Prescriptions**," (revised version) submitted to the *Journal on Management Information Systems* (JMIS), in 2nd round review.

11. ORAL AND OTHER NON-PUBLISHED PRESENTATIONS

"What Every Manager Should Know About Cybersecurity: Popular Myths and Misunderstandings Exposed," MIT Sloan Alumni Online, December 13, 2017 [online at https://www.youtube.com/watch?v=vpmTN-Oxesc&feature=youtu.be]

"Can the Internet of Insecure Things be Saved?", Securing Breakthrough Technologies - The Next Five Years, NCSA/NASDAQ Cybersecurity Summit, October 16, 2017, New York, NY.

"The Door's Locked, but the Key is Under the Mat – or, What Executives Get Wrong About Cybersecurity," Healthcare Security Forum, September 11, 2017, Boston, MA.

"Cybersecurity Strategy for the C-Suite" on Harvard Business Review (HBR) webinar, August 3, 2017 [online at https://hbr.org/webinar/2017/07/cybersecurity-strategy-for-the-c-suite]

"Cybersecurity for Power & Renewable Systems, GE Executive Leadership Program (XLP), July 21, 2017, Cambridge, MA.

"Cyber Insurance as a Risk Mitigation Strategy," The Geneva Association General Assembly, June 15, 2017, San Francisco.

"What Every Manager Needs to Know about Cybersecurity: Popular Myths Exposed," Northumbria University, May 24, 2017, Newcastle, England.

"The Important Role that Top Management Must Play to Prepare for and Respond to the Inevitable Cyber Attack," MIT Sloan Executive Board, May 19, 2017, Cambridge, Mass.

"Studying Cyber Attacks and Hazards of Industrial Control Systems in the Energy Sector," 21st Annual ARC Industry Forum, February 6, 2017, Orlando, Florida.

"The Future of Money: A Cybersecurity Perspective," Swiss Nex conference (organized by the Swiss Consulate in Boston), November 29, 2016.

"Cybersecurity Governance and Culture," 2016 MIT Information and Communication Technologies Conference, April 20-21, 2016, Cambridge, MA.

"Cybersecurity of Financial Technologies: Is the Worse Yet to Come?" FinTech Conference, Apr 16 2016, Cambridge, MA.

"Forum Industry in Transition: Navigating the New Age of Innovation," 20th Annual ARC Industry, February 8-11, 2016, Orlando, Florida.

"The MIT Interdisciplinary Consortium for Improving Critical Infrastructure Cybersecurity, (IC)3," 2015 MIT Research and Development Conference: Leading Disruption, Cambridge, MA, November 18-19, 2015

"Information Quality: Past, Present, Future Research Challenges," 20th Annual MIT International Conference on Information Quality (ICIQ 2015), Cambridge, MA, 24 July 2015

"The Role of the CDO in Improving an Organization's Cybersecurity," Chief Data Officer / Information Quality (CDOIQ) Symposium, Cambridge, MA, 22 July 2015

"The Disruptive Force of Big Data, The Rise of the Chief Data Officer (CDO), and the Challenges and Novel Approaches to Cybersecurity)",
• HEC Paris, Jouy-en-Josas, France, 19 February 2015
• Conservatoire National des Arts et Métiers (CNAM), Paris, 26 February 2015
• Sorbonne, Paris, 3 March 2015
• ESSEC Business School, Cergy, France, 9 March 2015
• Northumbria University, Newcastle, England, 6 May 2015
• Newcastle University, Newcastle, England, 15 May 2015

"Experiences with Entrepreneurship and Innovation at MIT," Florida Atlantic University, 9 January 2015.

"Overcoming Big Data Quality Challenges and Emergence of the Chief Data Officer (CDO)," MIT Research and Development Conference, Track 6: Safety, Risk, and Quality, November 13-14, 2013.

"The State of the Chief Data Officer," Keynote Address, 2013 Chief Data Officer (CDO)/Information Quality (IQ) Symposium, Cambridge, MA, July 17, 2013.

"Chief Data Officers (CDOs) in the Era of Big Data," Keynote Address, MIT Chief Data officer Forum, Cambridge, MA, July 16, 2013.

"On the Rise of Chief Data Officers (CDOs) in a World of Big Data," SIM Academic-MISQE Workshop, Orlando, FL, December 15, 2012.

"Towards Better Understanding Cybersecurity: Or Are 'Cyberspace' and 'Cyber Space' the Same?," Workshop on Information Security and Privacy (WISP), Jointly hosted by AIS SIGSEC and IFIP TC11.1, Orlando, FL, December 15, 2012.

"Big Data Must Overcome Big Data Quality Challenges," Keynote Address, International Conference on Information Quality (ICIQ), Paris, France, November 15, 2012.
Keynote Address, QIBRAS International Conference on Information Quality, São Paolo, Brazil, May 30, 2012.

"Introduction," Chief Data Officer (CDO) and Information Quality Symposium (formerly known as the MIT IQ Industry Symposium), Cambridge, MA, July 2012.

"Web 3.0 is Coming, Will You Be Ready for It?," Sabanchi University (Istanbul, Turkey), March 29, 2012.

"Big Data: The Availability and Analysis of Diverse and Detailed Information Sources," Sabanchi University (Istanbul, Turkey), March 30, 2012.
Sabanchi University (Istanbul, Turkey), March 28, 2012.

"Web Mashups and Aggregators: Strategic, Legal, and Policy Issues Leading to Disruption of Existing Industries," Sabanchi University (Istanbul, Turkey), March 29, 2012.

"Application of System Dynamics to Analyzing Challenges to Interoperable Systems and Impact of Budget Fluctuation on Complex Software Development," Sabanchi University (Istanbul, Turkey), March 27, 2012.

"System Dynamics and Change Management," Defense Intelligence Agency (DIA), Washington, DC, January 20, 2012.

"Understanding Organizational Traps in Implementing Service-Oriented Architecture," JAIS Theory Development Workshop (associated with ICIS2011), Shanghai, China, December 3, 2011.

"Reconciling Semantic Heterogeneity in Web Services Composition," Madsar Institute of Science and Technology (Abu Dhabi), January 2011.

"Addressing the Challenges of Aggregational and Temporal Ontological Heterogeneity," MIT-Singapore Alliance (SMA) Symposium, Singapore, January 17, 2006.

"Context Knowledge Management for Armament Safety," Defense Science and Technology (DSTA) Agency, Singapore, January 16, 2006.

"Towards Total Security Quality Management (TSQM): Enterprise Perception Measurement and the 'House of Security'", Center for eBusiness Workshop on Interdependence of Security and the Extended Enterprise (I-SEE), December 8, 2005.

"Information Re-use & Re-purposing: Motivation & Strategies" and "Information Re-use & Re-purposing: Enabling Technologies", MIT - GE Experienced Information Manager Program, December 7, 2005.

"Information Aggregation using the Caméléon# Web Wrapper," 6th International Conference on Electronic Commerce and Web Technologies (EC-Web 2005)," Copenhagen, Denmark, August 23 - August 26, 2005.

"Research Initiative to Understand and Model State Stability: Exploiting System Dynamics," 2005 International System Dynamics Conference (Scientific Program), Boston, MA, July 17 - 21, 2005.

"Integrating Information Systems: Data Reuse and Repurposing," University Gabriella Mistral of Santiago Chile @ MIT, June 30, 2005.

"Integrating Information from Global Systems: Knowledge Representation and Reasoning in the Context Interchange System," Moscow State University: Faculty of Computational Mathematics and Cybernetics System, June 20, 2005.

"Integrating Information Systems: Data Reuse and Repurposing," Novartis IT Excellence Program @ MIT, March 21, 2005.

"Information Infrastructure Needed for Effective Utilization of RFID AutoID technologies," MIT Center for eBusiness Luncheon Speaker series, February 23, 2005.

"Context Mediation in the Semantic Web: Handling OWL Ontology and Data Disparity through Context Interchange," MIT-Singapore Alliance (SMA) Symposium, Singapore, January 19, 2005.

"Contextual Alignment of Ontologies for Semantic Interoperability," Workshop on Information Technology and Systems (WITS), Washington, DC, December 12, 2004.

"Financial Information Mediation: A case study of standards integration for Electronic Bill Presentment and Payment using the COIN mediation technology," VLDB Workshop on Technologies for E-Services (TES-04), Toronto, Canada, August 30, 2004.

"Context Mediation in the Semantic Web: Handling OWL Ontology and Data Disparity through Context Interchange," International Workshop on Semantic Web and Databases (SWDB), Toronto, Canada, August 30, 2004.

"Use of Information to Improve Transportation, Logistics, and Manufacturing," Leaders for Manufacturing, Cambridge, MA, December 11, 2003.

"Laboratory for Information Globalization and Harmonization Technologies (LIGHT)," Workshop on IT for Decision & Policy: Leveraging Knowledge & Power of eNetworking, October 30-31, 2003, MIT Faculty Club, Cambridge, MA (Organized by Prof Nazli Choucri).

"Oh, So That is What you Meant! The Interplay of Data Quality and Data Semantics," International Conference on Conceptual Modeling (ER'03), Chicago, October 15, 2003.

"The Interplay of Data Quality and Data Semantics: An Overview of the COIN Project," University of Illinois at Chicago, Chicago, IL, October 2003.

"P2P Computing and Database Technologies: Convergence of Technologies and Socio-Economic Characteristics on the Web, Benefits and Technical Challenges in Database Applications," International Workshop on Databases, Information Systems and Peer-to-Peer Computing (DBISP2P 2003), Berlin, Germany, September 7, 2003.

"Semantic Integration: Context Interchange (COIN) Project -- Presentation & Demonstration," DARPA Information Awareness Office (IAO), Washington, DC, July 1, 2003.

"Concluding Comments: Data Integration & Data Standards," MIT Center for eBusiness, MITRE Technology Review Board, Washington, DC, June 3, 2003.
Financial Services Track, Cambridge, MA, May 21, 2003.

"Use of Information to Improve Transportation and Logistics," MIT Seminar for Senior Congressional Staff on Transportation & Logistics, Cambridge, MA, April 24, 2003.

"Data Security: Market Opportunities and Strategies for Innovation," Ideastream 2003 Symposium: Ignition Forum, Deshpande Center, Cambridge, MA, April 2003.

"New Technologies for Integrating Information", Center for Information Systems Research (CISR) Managing Information Technology for Business Value (ITBV) Executive Program, January 23, 2003.

 "Intelligent Integration of Semantically Heterogeneous Information Sources: Context Mediation Approach", MIT-Singapore Alliance (SMA) Symposium, Singapore, January 15, 2003

"Intelligent Integration of Information or Where did NASA's Mars Climate Orbiter go?" Outreach Seminar, Malaysia University of Science and Technology (MUST), January 8, 2003.

"Global Comparison Aggregation Services", First Workshop on eBusiness (Web2002), Barcelona, Spain, December 15, 2002.

Panelist, "Research Directions in E-Commerce Beyond the Bubble", First Workshop on eBusiness (Web2002), Barcelona, Spain, December 15, 2002.

"Context Interchange Mediation for Semantic Interoperability and Dynamic Integration of Autonomous Information Sources in the Fixed Income Securities Industry", Workshop on Information Technology and Systems (WITS), Barcelona, Spain, December 14, 2002.

"Information Aggregation: Integration Technology, Management Strategy, and Legal Policy issues", MIT ESD Faculty Seminar, November 25, 2002.

"Surviving and Thriving in the New Era of Web Aggregators," MIT Sloan Special Executive Program (GE), Cambridge, November 20, 2002.

"Global Web-Based Aggregation for Financial Services & Other New Applications," MIT Workshop on Globalization of eBusiness: New Markets & New Opportunities, October 9, 2002.

"Intelligent Integration of Information or Where did NASA's Mars Climate Orbiter go?" Information Systems & Technology Colloquium, NASA Goddard Space Flight Center, Greenbelt, MD, October 3, 2002.

"Surviving and Thriving in the New Era of Web Aggregators," CISR Summer Session, Cambridge, June 18, 2002.

"Process Aggregation using Web Services," Workshop on Web Services, e-Business, and the Semantic Web: Foundations, Models, Architecture, Engineering and Applications, (WseBT'02, Toronto, Canada), May 2002.

"Information Aggregation, In General & Financial Account Aggregation, In Particular," MIT Sloan School Digital Business Systems (DBS) Track Seminar, March 11, 2002.

 "The Misguided Silver Bullet: What XML will and will NOT do to help Information Integration," National University of Singapore Computer Science Department Seminar, January 17, 2002.

"The Dynamics of Software Project Scheduling: A Systems Dynamics Perspective", International Conference on Information Systems (CIS), Ann Arbor, MI, December 1982.

"A Model of Software Project Management Dynamics", IEEE International Computer Software and Applications Conference (COMPSAC), Chicago, IL, November 1982.

"A Study of the Multi-cache Consistency Problem in Multi-Processor Computer Systems", 6th Workshop on Computer Architecture for Non-Numeric Processing, Hyeres, France, June 1981.

"Recent Research Results on the INFOPLEX Intelligent Memory System Project", International Congress on Applied Systems Research and Cybernetics, Acapulco, Mexico, December 1980.

"The INFOPLEX Database Computer: Concepts and Directions", IEEE Computer Conference (COMPCON 79), San Francisco, CA, February 1979.

"Database Machine Architecture in the Context of Information Technology Evolution", 3rd International Conference on Very Large Data Bases, Tokyo, Japan, October 1977.

"Applications of Composite Information Systems", The Institute of Management Sciences (TIMS) Boston Chapter Meeting, Cambridge, MA, April 1977; and Evolving Information Systems, M.I.T. Industrial Liaison Program Symposia, Cambridge, MA, May 1977.

"Advances in Software and Hardware Technology and Their Future Impact on DP Practices", Data Processing Management Association (DPMA) NECON 76 Conference, Bedford, NH, May 1976.

"INFOPLEX -- A Modular Computer Architecture to Support Large Scale Information Systems", ACM Golden Gate Chapter, San Francisco, CA, February 1976.

"The Role of Storage Hierarchy in Data Base Management", IEEE Computer Conference, San Francisco, CA, February 1976.

"New Concepts in Data-Base Management: Application of the New Technology", 38th American Society for Information Science (ASIS) Annual Conference, Boston, MA, October 1975.

"INFOPLEX -- Hierarchical Decomposition of a Large Information Management System Using a Microprocessor Complex", National Computer Conference (NCC), Anaheim, CA, May 1975.

"Design of a General Hierarchical Storage System", IEEE International Conference, New York, NY, April 1975.

"Important Areas in the Future of Microprocessors", First National Micro-processor Conference", Boston, MA, December 1974.

"Impact of Computer Advances on Business and Management", The Management of Social and Technological Change (1974 Sloan Convocation), Cambridge, MA, October 1974.

"User Requirements for Security and Conversion Considerations", Information Privacy and Computer Security, M.I.T. Industrial Liaison Program Symposia, Cambridge, MA, September 1974.

"Design and Construction of a Pedagogical Microprogrammable Computer", 3rd Annual Workshop on Microprogramming, Buffalo, NY, October 1970.

"Program Parallelism Based upon Computation Schemata", 6th International Congress on Cybernetics, Namur, Belgium, September 1970.

"Design and Construction of a Pedagogical Microprogrammable Computer", Grenoble Workshop on Microprogramming, Grenoble, France, July 1970.

"Development of Computer-Based Sensor Systems", Third Hawaii International Conference on System Sciences, Honolulu, HI, January 1970.

"Analysis of Modern File Systems", British Computer Society Symposium -- Datafair 69, Manchester, England, August 1969.

"A Modular Approach to File System Design", Spring Joint Computer Conference (SJCC), Boston, MA, May 1969.

"Hierarchical File System Organization", Honeywell Programming Systems Division, 2nd Annual Software Symposium, April 1969.

"Design Strategies for File Systems: A Working Model", FILE-68 International Seminar on File Organization, Helsingor, Denmark, November 1968.

"Multi-Processor Software Lockout", ACM National Conference, Las Vegas, NV, August 1968.