

Resume and List of Publications and Presentations

Judith J. Newton

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[Link to Publications List](#)

Judith Newton

Professional Experience

Highlights

-of a career devoted to furthering the understanding of information and knowledge through the promotion of metadata sharing and reuse:

Through technical contributions and leadership on standards developing organizations (SDOs), successful management of the technical development and consensus process to achieve completion of standards products at the national and International level.

Most recently, employed as Senior Analyst for two major implementations of metadata registries, curating health data standards for entry into ISO 11179-based registries, advising on leveraging registries for applications such as automated glossaries and thesauri.

At NIST, led and contributed to a variety of wide-ranging projects resulting in extensive experience in data management. The most recent project involved study of the synergy between XML registries and ISO 11179-based metadata registries. Other projects have addressed enterprise data modeling, metadata registry design, taxonomy and thesaurus development, and semantic interoperability. In a consultant capacity, advised several agencies and Federal committees on metadata usage, among them EPA, DoD (DISA), Department of Education, and Navy.

A founder and past president of the National Capitol Region Chapter of the Data Management Association (DAMA-NCR), active in this professional organization as Special Advisor to the Executive Board. Chaired, presented at, and produced proceedings for many DAMA-NCR Symposia (12 held from 1988 to 2003), and planned

and produced many chapter meetings and special events. Chaired Standards and Procedures Working Group.

Participated in the DAMA International organization as Program Committee member, President's Board representative, and currently Vice President for Standards of DAMA International.

Other Professional Affiliations: Federal CIO Committee XML Working Group, Metadata Registry Implementers' Coalition, Federal Data Registry Users Group (now Federal Metadata Management Coalition).

Details Below.

2004 - Present

Ashton Computing & Management Services, LLC
Principal

Various consultancies, subcontracts and employment including:

As consultant for major defense company, prepared response to MDE (Meta Data Environments) Section of NETCENTS RFP.

As temporary employee (Senior Analyst) for contractor to HHS and DOD:

- Organized entry of health care standards into two separate implementations of ISO 11179 (Metadata Registries);
- Analyzed existing structure and contents of registries to provide information to developers and users (see <http://webmaps.ashcomp.net/> Metadata Registry Model);
- Researched and applied controlled vocabulary standards to leverage the metadata contained in registries to new applications such as automated glossaries and thesauri;
- Advised users of the registries on best ways to leverage existing data to benefit their organizations.

As subcontractor, engaged to research and analyze current standards of interest to the intelligence community. Produced Cmap application of results (see <http://webmaps.ashcomp.net/> International Standards Relationships).

Researched and proposed an XML/SKOS-based thesaurus project for the Federal DRM Working Group.

Continuing membership in ANSI INCITS L8 (now renamed DM32.8) and ISO SC32/WG 2 Standards Committees and contributing to the new editions of ISO 11179 and related documents.

Serves as liaison between DAMA-I and ISO and INCITS committees to inform user community of standards progress, and channel comments to the SDO's.

1979-2004

National Institute of Standards and Technology
Information Technology Specialist

SDO Related Work

Represented NIST on ANSI INCITS L8 (Metadata) Committee since 1984 and served as Chair of the Task Group for Technical Development since 1998. Delegate to ISO/IEC JTC1/SC32 (Data Management and Interchange) Working Group 2 (Metadata). Editor and major contributor to ISO 11179, *Metadata registries, Part 5, Naming and identification principles*. Editor and contributor to the Technical Reports ISO TR 20943, *Procedures for achieving metadata registry content consistency, Part 1 – Data elements*, and ISO TR 15452, *Specification of data value domains*. Contributor to all other parts of ISO 11179, and other standards and technical reports.

As Chair of INCITS L8 TGTD, organized and chaired meetings, confirmed progression of products, worked to achieve consensus, liaised with other SDOs, reported on progress at Plenary meetings, interfaced with Secretariat, etc., to ensure smooth running of standards development process.

Participated in the development of and contributed to ANS X3.285:1998, *Metamodel for the Management of Shareable Data*, the base document of ISO 11179.

Represented NIST on ANSI X3H4, Information Resource Dictionary System (IRDS), and contributed to ANSI X3.138:1988, *Information Resource Dictionary System*. Chaired Task Group X3H4.4, which produced ANSI Technical Report TR-11-92, *IRDS Support for Naming Convention Verification* (1995).

Represented NIST on IEEE IDEF1X Working Group and contributed to P1320.2, *IDEF1X Conceptual Schema Modeling Semantics and Syntax* (1995).

Other Activities

In 1987, wrote the *Guide on Data Entity Naming Conventions*, a seminal document still used by data managers for developing well-formed metadata names. It was the base document for ISO 11179 Part 5, *Naming and Identification Principles*.

Served as COTR for many contracts, both large and small

Consulting and Other Projects:

2000-2004

Conducted a study to determine options for relationships among components and architectural structure of XML-based and ISO 11179-based metadata registries. Conducted a Namespace Management Workshop to gather recommendations from concerned parties. Resulted in paper published in The Data Administration Newsletter.

As NIST representative on Federal CIO Council Architecture and Infrastructure Committee Subcommittee on Emerging Technology XML Working Group, advised on role of metadata standards in Enterprise Architecture with regard to the relationship of XML and metadata registries.

Consulted with ANSI V2 (Accessibility) Committee for design of a registry for accessibility metadata. Included working with V2 Committee members to educate them in metadata theory and help them identify their requirements. Assisted in design of registry.

1990-2001

Maintained continuing relationship with EPA to assist in the design of the Environmental Data Registry (EDR). Included consulting with the registry programmers to implement the principles expressed in the ISO 11179 standard, and apply their feedback to improve the standard; provide assistance through studies and recommendations on data structures and other subjects, including understanding and use of the ebXML information model to link the EDR to an XML-based registry; on Environmental Data Exchange Network (EDEN) project, assisted in setup of project with national and International partners, consult on registry application to a system of remote access of heterogeneous distributed database query and retrieval; advise on application of naming convention standards to EPA data including report and workshop production.

Presented and participated in many Open Fora for Metadata Registries, held in conjunction with ISO/IEC JTC 1/SC 32 and other collocated ISO/IEC standards committee meetings.

2000

For a project to establish standard content for electronic documents sponsored by the Department of Justice, organized conference and supervised building of website. Personally maintained website using HTML (pre-Web authoring tools).

Projects during the 1990's

As NIST member of the CIO Council Interoperability Committee Standards Working Group, designed and supervised construction of website for interactive suggestion and update of content.

- Served on planning committee and gave two presentations at JTC1 Joint Metadata Registry Workshop.
- Advised IEEE ITS Standard committee on application of ISO 11179 to the Intelligent Transportation System Standard (IEEE 1489).
- Contributed to ANS Standard X3.30, Standard for Representation of Calendar Date in advance of Y2K.
- Advised Learning Objects Metadata Group (LOMG) on design of a metadata registry. Produced mapping of LOMG constructs to ISO 11179.

Consulting with DISA, designed a taxonomy for ordering and retrieval of standards metadata on the web. Formulated rules for taxonomy description, supervised system development, populated sample. Developed and documented registry of taxonomy metadata.

Served as Program Chair for International Symposium on the Year 2000. Member of the Year 2000 Interagency Committee.

Began research in the area of data value domains, both in general and as how they might be applied in metadata registries. This resulted in ISO TR 15452, *Specification of Data Value Domains*. First draft, 1996; finally published, 2000.

Conceived, planned, and ran series of quarterly DAMA Master Classes on cutting-edge topics, such as New Ways of Communication (Internet), Data Warehouses, etc. Developed IDEF0 and IDEF1X models for PCTE; wrote "A Model of IDEF1X for the PCTE Repository." Served on IEEE IDEF Committee.

- Prepared and presented tutorial for EPA on "Naming and Identifying Data Elements".
- Authored report on "Repository Requirements for EPA."
- Consulted with developers of the Basic Semantic Registry, a UN/EDIFACT project now known as CEFAC, for their development of an ISO 11179-based registry.
- Chaired ANSI X3H4 (IRDS) SIG, System Administration and Control.

Consulted with the Department of Education on Data Management issues. Assisted in development of business model, IRDS schemas, and survey instrument.

Worked to foster crossover projects as liaison between ANSI X3H4 and X3L8 (later INCITS L8); introduced a proposal for IRDS Content Module for Data Representation to L8. This provided important input into the early version of X3.285, later the metamodel of ISO 11179.

Served as COTR for Dr. Il-Yeol Song of Drexel University to develop automated mnemonic program for data name component abbreviation.

Co-edited and contributed to NIST SP 500-208, *Manual for Data Administration*, still used as an information source for data managers.

Consulted with CIM (DoD) to support naming convention guidance effort for DoD Standards, input to the CIM Data Standardization Procedures Guide.

Projects during the 1980's

- As liaison to CDIF (CASE Data Interface) Committee, contributed to data model for CASE tools. Presentation to FEDCASE Conference, 1989.
- Consulted with DMSSC for naming convention and general metadata assistance.
- Consulted (informally) with the Defense Medical Community Data Standards Committee.
- Planned and conducted two-day IRDS Workshop Naming Forum; Proceedings published as NIST IR 4374.
- Paper published in Proceedings of Sixth International Entity-Relationship Conference, New York, 1989.
- Represented NIST on planning committee and attended conference sponsored by NARA, "Electronic Records: A Strategic Plan for the 1990's."
- Member of Federated Military Information Standards Committee (FMIS) sponsored by DoD; advised them on adoption of IRDS and Naming Conventions.
- Was X3H4 representative to Data Base Systems Study Group (DBSSG).
- Chaired workshop sessions on Standards and Procedures at Data Administration User's Group Conference.
- Assisted MITRE in the design of an AI system for assigning metadata names.
- Research on entity modeling, logical database design, fourth generation languages and prototyping as background for writing NIST SP 500-149, Guide on Data Entity Naming Conventions (1987).
- Member of Federal Data Management Users Group (FEDMUG).
- Assisted Naval Sea Systems Data Base Users Group (SEADBUG) in using metadata standards.
- Converted FIPS-55 (Named Places in the U.S.) from files to Oracle DBMS on a VAX-780 (1986); developed menu screens and shell procedures for read-only user access. Prepared tape versions of FIPS 10-3 and 104 for release to NTIS.
- Knowledge of VAX shell scripts, UNIX, Various DBMS systems in connection with IRDS and other projects.
- Consulted with OMB and DoD on FILS development.
- Data Dictionary Standards Project – Studied all DDS's on market in preparation to recommending FIPS DDS. Designed system to automate descriptions of feature lists for these systems. This project eventually became the IRDS Standard Project.

1973-1979

Employed by the U.S. Navy at NAVCOSSACT/NARDAC as a COBOL programmer. Worked on RAS/STADES, a data element dictionary system with distributed updates among several users (batch updates using tape reels on a Honeywell 6000 mainframe).

Awards and Honors

Excellence in Government Award from DAMA-International, April 2005

ANSI INCITS Award for Merit in Standards Development and Community Outreach, November 2001

Award for Outstanding Contribution to Data Management from DAMA International, May 1992

Many Sustained Superior Performance Awards received at NIST, 1980-2004.

Education:

B.A. *Magna Cum Laude*, Temple University

Professional Training Courses:

Introduction to Computers

Programming in COBOL

GCOS Operating System

UNIX

Structured Design Methodology

Language Syntax and Semantics

Oracle Database

Object-Oriented Database Design

Managing Structured Techniques

Information Engineering

XML Schema Structures

Judith J. Newton
Presentations and Publications

Presentations 2009:

"The DAMA Guide to the Data Management Body of Knowledge," Metadata Open Forum 2009 Conference, Seoul, Korea, June 2009.

"Bringing It Together With Information Integration Through Metadata Standards," Enterprise Data World Conference, Tampa, April 2009.

Presentations 2008:

"Trip Report: 11th Annual Open Forum for Metadata Registries, New Metadata Standards Workshop, ISO/IEC JTC1/SC 32 Plenary and SC 32/Working Group 2 Meetings, Meetings of Sydney and Melbourne DAMA Chapters," FMMC Meeting, Washington DC, September 2008.

"Integrating a Multi-Source Thesaurus with an ISO 11179-Based Metadata Registry," 11th Annual Open Forum for Metadata Registries, Metadata DownUnder - Metadata, Semantics and Interoperability in Practice, Sydney, NSW Australia, May 2008.

"Integrating a Multi-Source Thesaurus with an ISO 11179-Based Metadata Registry (revised)," DAMA Melbourne, Melbourne, VIC, Australia, May 2008.

"Integrating a Multi-Source Thesaurus with an ISO 11179-Based Metadata Registry (revised)," DAMA Sydney, Sydney, NSW, Australia, May 2008.

"Standardize Your Enterprise's Terms With a Thesaurus-Based Glossary," DAMA-I/Metadata Conference, San Diego, March 2008.

Publications 2008:

"Trip Report: 11th Annual Open Forum for Metadata Registries, New Metadata Standards Workshop, ISO/IEC JTC1/SC 32 Plenary and SC 32/Working Group 2 Meetings, Meetings of Sydney and Melbourne DAMA Chapters," DAMA-I Board of Directors, September 2008.

Presentations 2007:

“USHIK: Harmonizing Health-Care Standards With a Metadata Registry,” Open Forum for Metadata Registries, New York, July 2007.

“Meeting the Challenge of Health Care Information Integration,” with Laura Reece, DAMA-I/Metadata Conference, Boston, March 2007.

Publications 2007:

Book review: *Data Interoperability Community of Interest Handbook* by Michael M. Gorman. The Data Administration Newsletter, <http://www.tdan.com>.

“Terminology, Semantics and the Meanings of Names,” The Data Administration Newsletter, <http://www.tdan.com>.

Presentations 2006:

“MHS Metadata Governance,” Staff of Military Health Service, Falls Church, VA, June 2006.

Publications 2006:

“Metadata Registry Model” Cmap Conceptual Map System at: <http://webmaps.ashcomp.net>

Presentations 2005:

"A Flexible XML-Based Thesaurus Approach for the Federal Government: Highlights," with Ken Sall, Federal DRM Working Group, March 2005.

“Procedures for Achieving Data Registry Content Consistency,” Open Forum on Metadata Registries, Berlin, April 2005.

“Applying Terminology Principles To Metadata Names,” DAMA-I/Metadata Conference, Orlando, May 2005.

Publications 2005:

"Executive Summary of ISO 2788, *Documentation – Guidelines for the establishment and development of monolingual thesauri*," for the Federal DRM Working Group, March 2005.

“International Standards Relationships” Cmap Conceptual Map System at: <http://webmaps.ashcomp.net>

Presentations 2004:

"Data Management Using Metadata Registries: Synergy for Sharing and Reuse," DAMA-I/Metadata Conference, Los Angeles, May 2004.

"Classification and the Metadata Registry," IRS XML Stakeholders/CIO Council XML Committee Meeting, New Carrollton, MD, May 2004.

Publications 2004:

"Assuring Semantic Consistency for Data Interchange: How XML Users Can Benefit From Using a Metadata Registry," The Data Administration Newsletter, January 2004, <http://www.tdan.com>

Editor, *Metadata Registries – Part 5: Naming and identification principles*, Committee Draft Version 1 of Second Edition.

Presentations 2003:

"Managing Namespaces in XML with Metadata Registries," DAMA-I/Metadata Conference, Orlando, May, 2003.

"Managing Namespaces in XML with Metadata Registries (revised)," XML Registry Project Meeting, May 2003.

"Names and Namespaces in Metadata Registries," Metatopia 2003, Alexandria, VA, September 2003.

"ISO/IEC 11179-5: Naming and Identification Principles," Open Forum on Data Registries, Santa Fe, January 2003. <http://metadata-stds.org/OpenForum2003/>

Publications 2003:

Editor and contributor, ISO/IEC 20943-1, *Procedures for achieving data registry content consistency*, ISO, Geneva, 2003.

Editor, *Metadata Registries – Part 5: Naming and identification principles*, Committee Draft Version 3.0.

Editor, *Metadata Registries – Part 5: Naming and identification principles*, Committee Draft Version 3.1.

Presentations 2002:

"Standards for Data Naming", DAMA International/Metadata Symposium, San Antonio, April 2002.

"Metadata Registries," ANSI INCITS V2 (Accessibility) Meeting, Gaithersburg, MD, September 2002.

Publications 2002:

Editor and contributor, ISO/IEC TR 20943-1, *Procedures for achieving data registry content consistency*, PDTR Version 1.0.

Editor and contributor, ISO/IEC TR 20943-1, *Procedures for achieving data registry content consistency*, FDTR. To be published by ISO, Geneva, 2002.

Editor, *Metadata Registries – Part 5: Naming and identification principles*, Committee Draft, January 2002

"Data Element Naming Standards" in *Guidelines to Implementing Data Resource Management*, DAMA International, Chicago, 2002.

Presentations 2001:

"Metadata Description and Registries," DAMA-I/Metadata Symposium, Anaheim, CA, March 2001

"ISO 11179 Part 5: Naming and identification principles," Metatopia, Gaithersburg, MD, September 2001

"ISO TR 15452: Specification of data value domains," Metatopia, Gaithersburg, MD, September 2001

"ISO FPDTR 20943-1: Procedures for achieving data registry content consistency," Metatopia, Gaithersburg, MD, September 2001

Publications 2001:

Editor and contributor, *Procedures for achieving data registry content consistency*, PDTR Version 2.0.

Editor and contributor, *Procedures for achieving data registry content consistency*, FPDTR Version 1.0.

Editor, *Metadata Registries – Part 5: Naming and identification principles*, Working Draft Version 1.0.

Editor, *Metadata Registries – Part 5: Naming and identification principles*, Working Draft Version 2.0.

Presentations 2000:

"Metadata Description and Registries," NIST Division meeting, December 2000.

"Specification of Data Value Domains" and "Data Element Abstraction," Open Forum on Metadata Registries, Santa Fe, NM, January 2000

"Implementing Metadata Registries for Maximum Benefit", DAMA-I/Metadata Symposium, Washington, DC, March 2000

Publications 2000:

Editor and contributor, ISO/IEC TR 20943-1, *Procedures for Achieving Data Registry Content Consistency*, PDTR Version 1.0.

Editor and contributor, ISO/IEC TR 20943-1, *Procedures for Achieving Data Registry Content Consistency*, Working Paper Version 4.0.

Editor and contributor, ISO/IEC TR 20943-1, *Procedures for Achieving Data Registry Content Consistency*, Working Paper Version 3.0.

Editor and principle author, ISO TR 15452, *Specification of Data Value Domains*.

Presentations 1999:

Metadata Registry Standards: The Key to Information Integration, DAMA International Symposium/Metadata Conference, Atlantic City, April 1999.

Metadata Registry Standards: A Key to Information Integration, DAMA NCR meeting, Washington, DC, May 1999.

Publications 1999:

Ed, ISO/IEC TR 20943-1, *Procedures for Achieving Data Registry Content Consistency*, Working Paper Version 2.0;
Ed, ISO/IEC TR 20943-1, *Procedures for Achieving Data Registry Content Consistency*, Working Paper Version 2.1.

Electronic version of "Data Element Naming Standards" in *Guidelines to Implementing Data Resource Management*, DAMA International, Chicago, 1999.

Presentations 1998:

"From Standards to Systems: How Metadata Design Becomes Reality," (short form), Metadata/DAMA-International Conference, Boston, March 1998.

"ISO 11179-5 Standard," Metadata Registries Workshop, Bureau of Labor Statistics, Washington, DC, April 1998.

"Data Value Domain Project," Metadata Registries Workshop, Bureau of Labor Statistics, Washington, DC, April 1998.

"Access of Standards Information on the WWW Using Taxonomic Metadata," Software Technology Conference, Salt Lake City, April 1998.

"From Standards to Systems: How Metadata Design Becomes Reality," (long form), DAMA Chicago (Chapter Meeting), June 1998.

"From Standards to Systems: How Metadata Design Becomes Reality," (short form), DAMA Chapter, Canberra, Australia, July 1998.

"From Standards to Systems: How Metadata Design Becomes Reality," (long form), DAMA Chapter, Sydney, Australia, July 1998.

"From Standards to Systems: How Metadata Design Becomes Reality," (long form), Centrelink (Australian government agency), Canberra, Australia, July 1998.

Publications 1998:

First Committee Draft of ISO/IEC 15452, *Standard Specification of Data Value Domains*, September 1998.

Presentations 1997:

"A Taxonomy for Retrieval of Standards Information on the World-Wide Web," Second IEEE Metadata Conference, Silver Spring, MD, September 1997.

"Standards for the Year 2000: Solutions," International Symposium on the Year 2000: Mastering the Millennium Rollover, NIST, Gaithersburg, MD, June 1997.

"Application of Metadata Standards," DAMA, Washington, DC, February 1997.

Publications 1997:

Newton, Judith J., Elizabeth Fong and Thomas Rhodes, "A Taxonomy for Retrieval of Standards Information on the World-Wide Web," IEEE, published electronically, September 1997.

"Registration of Metadata Using a Two-level Domain Definition Procedure," JTC 1, published electronically at <http://speckle.ncsl.nist.gov/~newton/jtc1workshop.htm>, July 1997.

Second Working Draft of ISO/IEC TR 15452, *Standard Specification of Data Value Domains*, May 1997.

Presentations 1996:

"Data Value Domains: Taxonomic Structures to Support Data Registries," Meeting of ISO/IEC SC 14, Rio, Brazil, November 4, 1996.

"Application of Metadata Standards," First IEEE Metadata Conference, Silver Spring, MD, April 1996.

Publications 1996:

Working Draft of ISO/IEC TR 15452, *Standard Specification of Data Value Domains*, August 1996.

"Application of Metadata Standards," IEEE, electronically at http://www.llnl.gov/liv_comp/metadata/events, May 1996.

Editor, ISO/IEC International Standard 11179-5, *Information technology - Specification and standardization of data elements, Part 5: Naming and identification principles for data elements*, International Organization for Standardization, Geneva, January, 1966.

Presentations 1995:

"Standards for Metadata Development," Statistical Metadata Workshop, U.S. Bureau of the Census, Washington, DC, November 14, 1995.

"Naming and Identification Principles for Data Elements," Pan-American Data Element Principles Symposium, Buzios, Brazil, May 1995.

"Standards for Enterprise Information Management," Data Administration Management Association (DAMA) International Symposium, Vancouver, British Columbia, Canada, May 1995.

"Data Representation Standards," Geographic Information Systems Standards Committee, Gaithersburg, MD, January 1995.

Publications 1995:

Newton, Judith J. and Frankie Spielman, *A Model of IDEF1X for the PCTE Repository*, NIST Interagency Report, Gaithersburg, MD, September 1995.

Presentations 1994:

"Data Naming Standards," Data Administration Management Association (DAMA) National Capital Region Symposium, Gaithersburg, MD, May 1994.

"Toward Disciplined Data: Standards for Data Administration," DAMA International Symposium, San Francisco, CA, April 1994.

Publications 1994:

"Data Administration Management Association Symposium," Conference Report in the NIST Journal of Research, Nov-Dec 1994.

Song, Il-Yeol, Heather Godsey, Judith Newton, Bruce Bargmeyer, "An Enhanced Expert System Generating Standardized Mnemonic Codes for Data Elements", Proceedings of 7th International Conference on Systems Research, Informatics and Cybernetics, Baden-Baden, Germany, August 1994.

Newton, J. J., and Daniel C. Wahl, "Standards and Linkages: What Data Sharing Needs," DataBase Newsletter, Vol. 22, No. 1, Jan-Feb, 1994.

Presentations 1993:

"Toward Disciplined Data," (with Dan Wahl) Florida Government Technology Conference, Tallahassee, FL, October 1993.

"Standards for Reengineering," Panel moderator, DAMA National Capital Region Symposium, Gaithersburg, MD, May 1993.

"Standards for Data Administration," DAMA International Symposium, Boston, MA, April 1993.

"Data Naming Standards," Infospan Users Group, Washington, DC, February 1993.

"Manual for Data Administration," Department of Commerce, Washington, DC, February 1993.

Publications 1993:

Coeditor (with Dan Wahl) and coauthor of chapter: "Data Standardization" in *Manual for Data Administration*, NIST SP 500-208, National Institute of Standards and Technology, Gaithersburg MD, March 1993.

Presentations 1992:

"Data Standards and Procedures," NISMAC (Navy), Washington, DC, Sept. 1992.

"Data Representation Standards," DAMA Rocky Mountain Chapter, Denver, CO, Sept. 1992.

"X3L8 and ISO/JTC1 1/SC14 Standards Development," ANSI X3H4 Meeting, Honolulu, HI, June 1992.

"Data Administration Standards," DAMA National Capital Region Symposium, Washington, DC, May 1992.

Publications 1992:

Editor, ANSI X3/TR-11-92, *Information Resource Dictionary System Support for Naming Convention Verification*, New York, 1992.

Newton, Judith J., Mary Lou Melley, and Holly Higgins, editors, *Managing Data: From Vision to Reality, Proceedings of the Fourth Annual DAMA Symposium*, NIST IR 4843, National Institute of Standards and Technology, Gaithersburg, MD, May 1992.

Previous Publications:

"Developing and Applying Data Entity Naming Conventions," *Data Resource Management*, Fall, 1991.

Newton, Judith J. and Ron Shelby, editors, Future Directions in Information Management, Presentation Material for the Third Annual DAMA Symposium, Gaithersburg, MD, May, 1990.

Editor, The Naming Forum: Proceedings of the IRDS Workshop on Data Entity Naming Conventions, NISTIR 4374, Gaithersburg, MD, 1990.

Newton, Judith J. and Frankie E. Spielman, editors, *Data Administration: Standards and Techniques, Proceedings of the Second Annual DAMA Symposium*, NISTIR 90-4292, Gaithersburg, MD, May, 1989.

Chapter on "Naming Policy" in *Guide to Data Administration*, NIST SP 500-173, October 1989.

Newton, Judith J. and Frankie E. Spielman, editors, *Data Administration: Management and Practice, Proceedings of the First DAMA Symposium*, NIST SP 500-159, Gaithersburg, MD, October, 1988.

Contributor, ANSI Standard X3.138:1988, *Information Resource Dictionary System*.

"Data Entity Naming Conventions," *Proceedings of the Federal Information Processing Standards (FIPS) Workshop on IRDS Applications*, NISTIR 88-3896, Gaithersburg, MD, 1988.

Guide on Data Entity Naming Conventions, NBS Special Publication 500-149, Gaithersburg, MD, October 1987.

"Observations on Data Element Naming Conventions," *Trends and Applications, Making Database Work*, IEEE Computer Society, 1984.