

UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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Apple Inc.,  
Petitioner

v.

California Institute of Technology,  
Patent Owner.

Case IPR2017-00701

**DECLARATION OF THEODORE A. FONS, M.L.S.**

Apple vs. Caltech  
IPR2017-00701  
Apple 1130

I, Theodore A. Fons, M.L.S., declare as follows:

1. My name is Theodore A. Fons.

## **I. BACKGROUND**

2. In 1990, I earned a Bachelor of Arts degree from Marquette University in International Affairs. In 1995, I earned a Masters in Library Science from Syracuse University with a focus on library computer systems. At Syracuse, my core studies included traditional cataloging, reference, and the history of librarianship. It also included studies in database design and other systems-related courses overlapping with courses in the computer science secondary degree programs within the school of Information Studies and Technology.

3. As a librarian with nearly thirty years of experience, I have deep experience in bibliographic metadata, program management, team management, and strategic planning. Beginning with my direct experience in acquisitions at Marquette University, and cataloging at the Tufts University Library, I have maintained an interest in library technical services and systems in general and specifically library metadata throughout my career. Library technical services encompasses all of the work to acquire physical and electronic materials for a library and manage the data that represents the collections made available to library users; this is referred to as metadata—electronically stored data describing real world and electronically-available or networked materials.

4. My direct experience in library technical services experience includes positions on the acquisitions team at Marquette University Library (1990-1993) and as a cataloger at the Tufts University Library (1993-1996). At Tufts, I directly worked on library cataloging, using the tools and resources that support cataloging best practices.

5. In 1996, I joined Innovation Interfaces, Inc. At Innovative Interfaces, I served as the Product Manager for the acquisitions and serials modules. In this role, I was responsible for writing technical specifications for the ingest of machine readable cataloging (MARC) data into Innovative Interfaces' integrated library system—an inventory and management system that includes a cataloging module and online public access catalog. My work at Innovative Interfaces continued until 2008.

6. From 2008 to 2015, I served as the Executive Director of Data Services for the Online Computer Library Center (“OCLC”). There I was responsible for OCLC’s WorldCat global metadata network and, in particular, for the functions of direct data ingest from libraries. MARC bibliographic data was WorldCat’s primary means of data exchange. My responsibilities also included the WorldCat bibliographic database and management of the quality control team which includes the world’s premier experts on cataloging practice and MARC formats and standards.

7. I currently serve as a principal consultant with Third Chapter Partners, LLC. Third Chapter Partners is a consultancy that advises libraries in all aspects of library management, systems, and library marketing. As a consultant there, I advise my clients on several library related practice areas including business case development, product management, marketing, library workflows and operations, and metadata and metadata standards.

8. A representative selection of my publications and presentations relevant to my experience in library metadata includes:

- Fons, Theodore (2016) Improving Web Visibility: Into the Hands of the Reader. Library Technology Reports v. 52 no 4 (2016)
- Information Standards Quarterly: Winter 2013 Issue. Guest content editor for a special issue on the evolution of bibliographic data exchange, <http://www.niso.org/publications/isq/2013/v25no4/>.
- Fons, Theodore, *et al.* (2012) OCLC's Linked Data Initiative: Using Schema.org to Make Library Data Relevant on the Web. Information Standards Quarterly v. 24 no 2-3 (2012) p. 29-33.  
[http://www.niso.org/apps/group\\_public/download.php/9408/IP\\_Fons-et-al\\_OCLC\\_isqv24no2-3.pdf](http://www.niso.org/apps/group_public/download.php/9408/IP_Fons-et-al_OCLC_isqv24no2-3.pdf).
- Fons, Theodore. (2015 April) The Future of Metadata Management and Making Library Collections Presentations Discoverable on the



Web, Keynote address given at the National Library Descriptors Conference at the National Library of Poland, Warsaw, Poland.

- Fons, Theodore (2015 February). Strategies for Exposing Library Data on the Web and Managing Library Data Quality, Presentation given at the Europeana Tech 2015 Conference, Paris, France.
- Fons, Theodore (2015 January). OCLC and Library of Congress Collaboration, Presentation given at the Library of Congress BIBFRAME Update Forum, Chicago, IL.
- Fons, Theodore (2014 December). Exposing Library Collections on the Web, Presentation given at the Coalition for Networked Information (CNI) Fall Membership Conference, Washington D.C.
- Fons, Theodore (2014 August). Authorities, Communities and Entities: The Library Data Revolution, Keynote address given as part of the Universal Bibliographic Control in the Digital Age joint program of the Cataloguing, Bibliography, Classification and Indexing and UNIMARC Strategic Programme sections at the IFLA World Library and Information Congress, Lyon, France.
- Fons, Theodore (2014 August). Workshop on Linked Data for Practitioners, Workshop convened at the IFLA 2014 Satellite

Meeting: Linked Data in Libraries: Let's Make It Happen!

Bibliothèque Nationale de France, Paris.

- Fons, Theodore (2014 August). Links and Entities: OCLC and the Library Data Revolution, Keynote presented as part of the OCLC Industry Symposium at the IFLA World Library and Information Congress, Lyon, France.
- Fons, Theodore (2014 July). Links and Entities, Keynote address given at the OhioNet RDA Workshop, Worthington, OH.
- Fons, Theodore (2014 February). Growing WorldCat: What the Global Community Wants, Presentation given at the OCLC EMEA Regional Council Annual Meeting, Cape Town, South Africa.
- Fons, Theodore and Regina Reynolds. (2004 June), Serials Standards: Envisioning a Solution to the Online Serials Management Mess, Presentation given at the North American Serials Interest Group Annual Conference, Milwaukee, WI.
- Fons, Theodore. (2004 March), Panel 2: Users, Panel presentation given at the CONSER Summit on Serials in the Digital Environment, Washington, D.C. ☒ Fons, Theodore. (2004 January) Preparing for the Expanding ISBN, Presentation at the NISO Postconference Workshop, San Diego, CA.

9. My post-secondary education has been furthered by my participation in the UCLA Graduate School of Library and Information Science's Senior Fellows program (2010). This was a selective, in-residence, post-secondary fellowship designed to further the education of library leaders preparing for leadership positions in North American academic institutions.

10. I am attaching a copy of my curriculum vitae as Exhibit A.

## **II. SCOPE OF ENGAGEMENT**

1. I have been retained by Apple to provide background on library cataloging practices, and to review and opine on certain library records relevant to this *inter partes* review.

2. I am being compensated at my normal consulting rate for my work at \$125 dollars per hour.

3. My compensation is not dependent on the outcome of this *inter partes* review, and in no way affects the substance of my statements in this Declaration.

## **III. OVERVIEW OF LIBRARY CATALOGING PRACTICES**

1. The role of a library is to collect, manage and preserve publications and other sources of information for the benefit of its community. This work creates significant benefits for society, where libraries serve as repositories of knowledge, support education, promote learned societies, support industry, and advance literacy. In order help achieve these aims, libraries have long ago

standardized their method for recording bibliographic descriptions of the materials in their collections. The purpose of standardization is to ensure that the bibliographic data on materials held in a library's collections is uniformly reliable, highly quality data that can be maintained efficiently. Standardization of this data, and standardization of the methods of collecting, identifying, and describing this data also promotes the goals of efficiency in internal operations and effectiveness in broadcasting the contents of their collections to other libraries and the public at large.

2. Catalogers (those who practice cataloging) in the United States have been guided and heavily influenced by a set of cataloging rules, called the Anglo-American Cataloging Rules ("AACR2"), and by participating in the cooperative cataloging efforts such as OCLC's shared bibliographic database and the Library of Congress' Program for Cooperative Cataloging. By design, the latter two efforts seek to avoid redundant cataloging at the local library level and to promote standard practice in bibliographic description. Through sharing of bibliographic data by contributing and downloading machine readable cataloging (MARC), libraries achieve the efficiencies of scale and shared effort.

3. The typical library cataloging process consists of several pieces. First, the library maintains a local system holding cataloging records that reflect an inventory of that particular library's collections. Those collections are presented to

the public through an online public access catalog (“OPAC”). The local library system also provides the ability to perform acquisitions of references and inventory references in order to support lending and borrowing. The core of this system consists of a set of bibliographic records in the MARC21 format. These records are individual descriptions of the materials that are either on order or fully available to library patrons.

4. The MARC21 format is a format developed by the Library of Congress for the representation and communication of bibliographic and related information in machine-readable form. It is a set of codes and content designators for encoding machine-readable record. The format is maintained by the Library of Congress in consultation with various user communities. The MARC21 formats, particularly the bibliographic and authority formats, were initially developed to enable the Library of Congress to improve the efficiency of card catalog printing and to communicate its catalog records to other institutions. The formats have had a close relationship to the needs and practices of North American libraries with universal collections. They reflect both the various cataloging codes applied in the library community and the requirements of the archives community.

5. A library’s bibliographic records are typically created and managed with the following workflow.



6. During the purchasing process, the library's Acquisitions team will enter either "brief" or complete bibliographic data in the local system. A "brief" record contains only a core access point such as title without full descriptive or subject cataloging. It is quite common for Acquisitions teams to use the OCLC's WorldCat database as the source for complete bibliographic data. If a suitable record is not available in WorldCat, the Acquisition team at the library will typically create a stub record in the local system for ordering purposes. For standing order subscriptions, such as scholarly series or scientific proceedings, a record for the series itself is used for purchasing purposes and a full record created for individual titles in the series. Such is typically the case for monographs in series or scientific conference proceedings where each issue is themed or the subject cataloging is distinct enough to warrant a separate record. This enhances the discoverability of the individual item.

7. Once an item is received by the library, the cataloger is notified that an item is ready for cataloging. Typically, these items have already been received by a shipping and receiving clerk and sorted by source or type for the cataloging team. The cataloger will then refer to the local system to review the quality of the existing cataloging data entered by the Acquisition team for the item. If the series record indicates that an item in series requires individual cataloging, then the cataloger will typically refer to WorldCat for a full record. If one does not exist,

then the cataloger will refer the item to an expert colleague or proceed with “original” cataloging. That work can be done directly in WorldCat and the data exported to the local system, or performed in the local system and later exported to WorldCat. Local practice will determine which method is used.

8. Depending on local practice, the cataloger will often use the WorldCat data as the final cataloging record in the local system. In addition, when necessary, the cataloger will “upgrade” the record obtained from WorldCat. By upgrading the record, the cataloger may correct inaccuracies in the current record based on the piece in hand (this improves access) or add additional elements to distinguish the record from other similar records. The specific approach depends on local practice.

9. By tradition and rule, and to promote quality in cataloging metadata, catalogers in the AACR2 era catalog with the “piece in hand.” This is codified in Section 0.24 of AACR2 rules: “The starting point for description is the physical form of the item in hand, not the original or any previous form in which the work has been published.” Joint Steering Committee for Revision of AACR., and American Library Association. *Anglo-American Cataloguing Rules*. Library of Congress. Ottawa: Canadian Library Association, 2002. This means that best practices require that the cataloger have physical possession of the publication

whose bibliographic data is being catalogued. It is rare for a cataloger to not have physical possession of the publication while cataloging.

10. Part of the process of descriptive cataloging is to indicate the date of publication. Catalogers are guided by AACR2 § 4E. Section 4E1 explains: “Give the year of publication, distribution, etc. of the edition named in the edition area (see rule 2B). Ignore dates of later issues of the same edition. If there is no edition statement, give the year of first publication of the item you are describing. Give the year in Arabic numbers.”

11. AACR2 also provides conceptual guidelines for cataloging. For conventions of entering data into WorldCat cataloging records, catalogers will refer to OCLC’s Formats and Standards documentation. This include the guideline that, “If a date is unavailable, enter an approximate date. Use brackets [ ] around the date.” OCLC. Bibliographic Formats and Standards. Dublin, Ohio: OCLC, 2008. Notably, AACR2’s rule in § 4E3(C) provides: “If no date of publication is found on the item give an approximate year preceded by “ca.” and enclosed in square brackets.” Joint Steering Committee for Revision of AACR., and American Library Association. Anglo-American Cataloguing Rules. Library of Congress. Ottawa: Canadian Library Association, 2002. In my experience, catalogers use their best judgment to infer the date of publication based on the evidence available to them, including the piece at hand and any independent research they obtain. By

placing a date in square brackets, the cataloger confirms that the bracketed date is a probable and reasonable inference based on the evidence.

#### **IV. OPINION ON ALLERTON CONFERENCE RECORDS**

12. I have been asked to review several catalog records produced by the Respondent that belong to the Respondent's Jet Propulsion Laboratory ("JPL") Library. I have received several OCLC WorldCat records that were obtained at my direction.

13. I understand that JPL is a division of the California Institute of Technology ("Caltech"). See <http://www.caltech.edu/content/jet-propulsion-laboratory>.

14. Attached as Exhibit B is a true and correct copy of the JPL Library's BEACON record and a MARC view for the Thirty-seventh Annual Allerton Conference on Communication, Control, and Computing; proceedings, conference held September 22, September 23, and September 24, 1999, Allerton House, Monticello, Illinois, which I understand was produced by Respondent in *California Institute of Technology v. Broadcom et. al*, Case No. 2:16-cv-3714, pending in the United States District Court for the Central District of California. ("JPL's 37th Allerton Conference Proceedings Catalog Entry"). JPL's 37th Allerton Conference Proceedings Catalog Entry bears the Bates Number CALTECH\_BCMAPL\_00184461.



15. JPL's 37th Allerton Conference Proceedings Catalog Entry is a printout that combines both the JPL Library's public facing local system data and the JPL Library's MARC view (starting at the page labeled CALTECH\_BCMAPL\_00184465) for The Proceedings of the Thirty-seventh Annual Allerton Conference on Communication, Control, and Computing. JPL's 37th Allerton Conference Proceedings Catalog Entry indicates that it originated from OCLC Number 43817443.

16. Attached as Exhibit C is a true and correct copy of OCLC Number 43817443 that was obtained from WorldCat. ("WorldCat OCLC 43817443").

17. The following is an explanation of the MARC fields in WorldCat OCLC 43817443. The first column of this table identifies the OCLC field names. The second column of this table identifies the data entered for each field for this specific record. The third column of this table states what the data the cataloger entered in each field means according to the AACR2 rules and the OCLC Formats and Standards:

<b>Field</b>	<b>Value</b>	<b>Meaning</b>
Rec Stat	c	Corrected or revised record.



Entered	20000411	System-generated date record entered by original cataloging institution. This date indicates that cataloging work was complete for transmission to OCLC WorldCat on April 11, 2000.
Replaced	20150808003349.9	System-generated date of last record update to any field.
Type	A	Textual content.
BLvl	M	Monograph
Desc	a	Cataloged using AACR2 rules
ELvl	I	Full cataloging (not a stub record)
Form	blank	No other code applies. Implies printed textual material.
Cont	B	Contains a bibliography
Ills	A	Contains illustrations
Srce	D	Not cataloged by a national bibliographic agency like the Library of Congress
Conf	1	Yes, conference proceedings
GPub	Blank	Not a government publication

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Fest	0	Not a Festschrift
Audn	Blank	No audience indicated
Biog	Blank	Implied: not biographical material
LitF	0	Not fiction
DtSt	S	Single date of publication
Ctrl	Blank	Not under archival control status. Implied: not part of an archival set.
MRec	Blank	Not modified for entry into machine-readable form
Indx	1	Contains an index.
Dates	1999,	Date of publication: 1999
Lang	Eng	Language of publication: English
Ctry	ilu	State/Country of publication: Illinois, United States
040 [unlabeled subfield a]	NAT	OCLC institution code for the original cataloging institution: NASA, Langley Research Center

<p>111</p>	<p> a Allerton Conference on Communication, Control, and Computing  n (37<sup>th</sup> :  d 1999 :  c Monticello, Ill.)</p>	<p>Uniform title assigned to all records for the Allerton Conference.  Subfield d represents date the conference occurred derived with high confidence from the “piece in hand.”</p>
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<p>245</p>	<p> a Thirty-seventh Annual Allerton Conference on Communication, Control, and Computing :  b proceedings, conference held September 22, September 23, and September 24, 1999, Allerton House, Monticello, Illinois /  c sponsored by the Coordinated Science Laboratory and the Department of Electrical and Computer Engineering of the University of Illinois at Urbana-Champaign.</p>	<p>Title field. Typically taken from the recto of the title page from the “piece in hand.”</p>
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260	a [Urbana-Champaign, Ill.] :  b [University of Illinois],  c [1999]	<p>Place of publication, publisher and date of publication. Square brackets indicate that this publication did not have traditional imprint date indicating those elements on the recto of the title page. But the cataloger was able to determine those elements from other elements of the item such as the title. As explained above, this the cataloger's best inference based on the piece at hand and any independent research they obtain. This is considered the probable date.</p>
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300	a xvi, 1346 pages :  b illustrations ;  c 24 cm	Total pages of prefatory material (subfield a), total number of pages (subfield b), illustrations included, and vertical dimension of the item (subfield c). These details are typically verified by the cataloger including inspection of the page count and physical measurement of the physical dimensions with a metric ruler.
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18. The MARC data in JPL’s 37th Allerton Conference Proceedings Catalog Entry is identical to the MARC data in the OCLC WorldCat.

19. Based on common cataloging practice and my review of both JPL’s MARC record and the OCLC record, I believe it is likely that when the JPL library received a physical copy of the 37th Annual Allerton Conference Proceedings, that the JPL Library copied the existing WorldCat cataloging record created by the NASA Langley Research Center for their local integrated library system. If JPL had been the first to catalog this item, the OCLC symbol for the JPL Library would appear in subfield a of the 040 field.

20. Based on my analysis of the WorldCat cataloging record for the 37th Annual Allerton Conference Proceedings, it appears that the catalogers who input and have subsequently updated this record believe that the publication date of the item was 1999, but that that date was not present in place where imprint information is normally found and used for cataloging. However, the catalogers do not believe that the publication date is unknown. If that were true, they would have indicated an approximate date according to AACR2 4E3, Section C.

21. Under OCLC procedures, member libraries such as the JPL Library, can submit corrections to the OCLC WorldCat database. In order to obtain changes, a library desiring to make a correction must submit evidence that the date listed is incorrect. Here, it does not appear that either JPL or Caltech have ever attempted to correct the publication date for this entry. It would be quite typical that when a library learns that a catalog record is incorrect, for the library to change that record to reflect the correct data. That is because a library views its catalog as important information for anyone interested in the information present in the underlying reference. Based on typical practice, it is reasonable to conclude that if the JPL Library actually believed that the 37th Annual Allerton Conference Proceedings were published any other year than 1999 and that it could support that conclusion with some evidence, it would seek to correct its library record.

22. Attached as Exhibit D is a true and correct copy of the JPL Library's BEACON record for *Coding Theorems for "Turbo-like" Codes*, D. Divsalar, H. Jin, R J McEliece, published in the Proceedings of the Annual Allerton Conference on Communication Control and Computing, 36, (1998); 201-210, which I understand was produced by Caltech in *California Institute of Technology v. Broadcom et. al*, Case No. 2:16-cv-3714, pending in the United States District Court for the Central District of California. ("Divsalar BEACON Record".) It bears the Bates Number CALTECH\_BCMAPL\_00184420.

23. Attached as Exhibit E is a true and correct copy of the OCLC 41479255 that was obtained from WorldCat. ("WorldCat OCLC 41479255"). It is WorldCat's bibliographic record for Divsalar.

24. The following is an explanation of the MARC fields in WorldCat OCLC 41479255. This table follows the same format described in paragraph 17 above:

<b>Field</b>	<b>Value</b>	<b>Meaning</b>
Rec Stat	c	Corrected or revised record.

Entered	19990603	System-generated date record entered by original cataloging institution. This date indicates that cataloging work was complete for transmission to OCLC WorldCat on June 3, 1999.
Replaced	20150806022130.4	System-generated date of last record update to any field.
Type	A	Textual content.
BLvl	M	Monograph
Desc	a	Cataloged using AACR2 rules
ELvl	I	Full cataloging (not a stub record)
Form	blank	No other code applies. Implies printed textual material.
Cont	B	Contains a bibliography
Ills	A	Contains illustrations
Srce	D	Not cataloged by a national bibliographic agency like the Library of Congress
Conf	1	Yes, conference proceedings
GPub	Blank	Not a government publication

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Fest	0	Not a Festschrift
Audn	Blank	No audience indicated
Biog	Blank	Implied: not biographical material
LitF	0	Not fiction
DtSt	S	Single date of publication
Ctrl	Blank	Not under archival control status. Implied: not part of an archival set.
MRec	Blank	Not modified for entry into machine-readable form
Indx	1	Contains an index.
Dates	1998,	Date of publication: 1998
Lang	Eng	Language of publication: English
Ctry	ilu	State/Country of publication: Illinois, United States
040 [unlabeled subfield a]	MTE	OCLC institution code for the original cataloging institution: Mitre Corporation, Beford Operations Library



<p>111</p>	<p> a Allerton Conference on Communication, Control, and Computing  n (36<sup>th</sup> :  d 1998 :  c Monticello, Ill.)</p>	<p>Uniform title assigned to all records for the Allerton Conference. Subfield d represents date the conference occurred derived with high confidence from the “piece in hand”</p>
<p>245</p>	<p> a Thirty-sixth Annual Allerton Conference on Communication, Control, and Computing :  b proceedings, September 23-26, 1998, Allerton House, Monticello, Illinois /  c sponsored by the Coordinated Science Laboratory and the Department of Electrical and Computer Engineering of the University of Illinois at Urbana-Champaign.</p>	<p>Title field. Typically taken from the recto of the title page from the “piece in hand.”</p>

260	a Urbana-Champaign, Ill. :  b University of Illinois,  c 1998	Place of publication, publisher and date of publication. Lack of square brackets indicate that this publication has traditional imprint date indicating those elements on the recto of the title page.
300	a xi, 831 pages :  b illustrations ;  c 24 cm	Total pages of prefatory material, total number of pages, illustrations included, and vertical dimension of the item.  These details are typically verified by the cataloger including inspection of the page count and physical measurement of the physical dimensions with a metric ruler.

25. Based on my analysis of the WorldCat record for the 36th Annual Allerton Conference Proceedings, it appears that the catalogers who input and have subsequently updated this record believe that the publication date of the item was 1998.

26. As explained above the JPL Library and Caltech can submit corrections to the OCLC WorldCat database. Here, it does not appear that either

JPL or Caltech have ever attempted to correct the publication date for this entry. Based on typical practice, it is reasonable to conclude that if the JPL Library actually believed that the 36th Annual Allerton Conference Proceedings were published any other year than 1998 and that it could support that conclusion with some evidence, it would seek to correct its library record.

27. Also, based on the fact that the bibliographic record indicates that the record was drafted using AACR2 rules, it is highly likely the cataloger drafted this with the piece in hand. This is further supported by the fact that the record identifies the physical dimensions of the book. Most catalogers verify and enter this physical dimension information only with the piece in hand. Combined with the fact that the record entry field is June 3, 1999, this confirms that at least by June 3, 1999, the 36th Annual Allerton Conference Proceedings was in public circulation.

## **V. AVAILABILITY FOR CROSS-EXAMINATION**

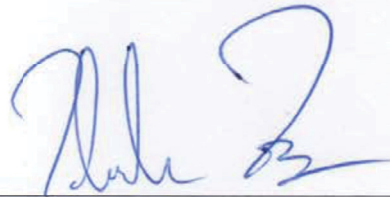
28. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for

cross-examination within the United States during the time allotted for cross-examination.

**VI. RIGHT TO SUPPLEMENT**

29. I reserve the right to supplement my opinions in the future to respond to any arguments that the Patent Owner raises and to take into account new information as it becomes available to me.

Dated: 14 July, 2017



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Theodore A. Fons, M.L.S.  
Dublin, Ohio, USA

# **Exhibit A**

# THEODORE A. FONS

Columbus, Ohio  
[www.linkedin.com/in/tedfons](http://www.linkedin.com/in/tedfons)

614.787.1466  
ted@thirdchapter.com

## EXECUTIVE DIRECTOR, PRODUCT MANAGER, & PROGRAM MANAGER

**Passionate about innovation in information technology, library technology, and making a meaningful contribution to organizations that support research and learning.**

An experienced executive director with deep experience in bibliographic metadata, program management, team management, and strategic planning.

Ten years of experience managing financials of programs including estimation, staffing, and overall business case development. Strong stakeholder management skills with executives and line-level staff and management of projects through all phases, from business case and cost-benefit analysis to project definition through implementation and post-implementation support. Career emphasis has been on system interfaces, workflow applications, and data migration projects.

- **Information Technology:** technology evaluation, monitoring trends, innovation practice, vendor management; SLA and contract oversight.
- **Strategic Planning:** landscape analysis, team coordination, and integration of enterprise-level strategy with team strategic plans.
- **Program Management:** estimation, staffing, and pricing for projects ranging from \$100K-18 million; Agile and traditional (waterfall) SDLC projects; data migration services; change management and user adoption.
- **People Management:** team management (5-9 direct reports. 30-40 in teams) across multiple countries and sub-projects; experience navigating matrixed, politically sensitive organizations; stakeholder management with executives including CEO and CIO.

## PROFESSIONAL EXPERIENCE

**DATA SERVICES & WORLDCAT QUALITY – OCLC**, Columbus, Ohio

**2008 – 2015**

### Executive Director

Responsible for managing the data infrastructure that supports OCLC's \$200M+ service portfolios. The job of the Executive Director is to effectively manage the bibliographic data infrastructure as a product and not just a cost. This includes effective strategic planning, pursuing operational excellence, and executing a series of programs designed to allow innovation within the business lines using the data. Skills required of the Executive Director:

- **Technical Knowledge:** knowledge of global bibliographic metadata standards and practices. Serve as a resource for staff and customers on bibliographic metadata detail & best practices.
- **Estimation & Budget Oversight:** coordination with IT teams and Finance division to estimate costs for programs and projects. Monitoring spending, correcting course when spending exceeds budget.
- **Tracking Metrics & Outcomes:** establishing market-based outcomes such as improved sales or increased subscription renewals that support organizational strategy. Establishing and tracking specific metrics that monitor achievement toward outcomes.
- **People Management:** managing teams to optimize performance and individual achievement. Frequent, structured, team reorganizations to align performance to goals and organizational strategy.



### Achievements

- Delivered 100% monthly on-time delivery performance for strategic data migration projects; achieved through building skilled operational teams and implemented process engineering with iterative improvements.
- Improved supply chain partnerships by establishing a partner service focus across 60+ staff and by directly liaising with European national libraries and networks.
- Improved customer satisfaction for services offered by metadata ingest specialists, data quality specialists, and technical product managers. Focused on curating WorldCat, providing ingest services to thousands of partners in bibliographic supply chain, including local and national libraries, publishers, aggregators, and purchasing agents.
- Launched multi-country name disambiguation system and Schema.org-based data model to accelerate exposure of library collections on the web through collaboration with innovation and research teams.

**INNOVATIVE INTERFACES INC.**, Emeryville, California

**1996 – 2008**

**Director**, Customer Services

2007 – 2008

Managed team of 30+ product and IT specialists responsible for triage, troubleshooting, and workflow consulting for medium-sized software company specializing in library services. Skills:

- **Business Planning:** facilitating strategic planning to align operations with organizational strategy.
- **Productivity Tools:** PMWiki software for divisional documentation and training support.
- **Tracking Metrics & Outcomes:** establishing metrics measurement for operational effectiveness and customer satisfaction.
- **People Management:** managing teams to optimize performance and individual achievement.
- **Sales/Marketing Support:** develop technical infrastructure to allow sales team to provide demonstrations in secure, firewalled environments.

**Senior Product Manager and Systems Librarian**

1996 – 2007

Established market vision for acquisitions, electronic resource management, and reference linking products offered within Innovative Interfaces integrated library system. Technical oversight and design for system enhancements and new products with continuous focus on improved customer growth and customer satisfaction. Skills:

- **Business Planning:** monitoring market demands through constant interaction with existing customers and new sales prospects. Management of backlog and new release proposals to executive management team.
- **Sales/Marketing Support:** provide support for sales team to rescue efforts to close at-risk contracts. Contributions to marketing collateral and naming/branding exercises.

### ADDITIONAL RELEVANT EXPERIENCE

**TISCH LIBRARY, TUFTS UNIVERSITY**, Medford, Massachusetts

**Copy Cataloger** (1993-1996)

**EDUCATION**

- **Executive Education:** Innovation Practice, Creating New Products and Services, The Max M. Fisher College of Business, The Ohio State University, 2010
- **Fellowship:** UCLA Senior Fellows, The Graduate School of Information Studies, University of California, Los Angeles, 2010
- **Master of Library Science (MLS),** The School of Information Studies, Syracuse University
- **Bachelor of Arts (BA),** Interdisciplinary Studies in International Affairs, Minor in History, Marquette University

**CERTIFICATION**

- **Pragmatic Marketing** PMC-IV: Foundations, Focus, Build, Market. 2014

**HONORS / AFFILIATIONS**

- IFLA: Steering Committee: 2016 WLIC Satellite Meeting on Linked Data & Big Data
- Beta Phi Mu, Library and Information Studies Honor Society
- American Library Association
- Library Information Technology Association; A Division of the American Library Association
- Eagle Scout Award

**STANDARDS**

- BIBFRAME Early Experimenters, 2012 – 2014
- Standardized Usage Statistics Harvesting Initiative (SUSHI), 2005 – 2009
- NISO/DLF/EDItEUR/PLS License Expression Working Group, 2005 – 2008
- ONIX for Serials/JWP Steering Committee, 2004 – 2008
- NISO/EDItEUR Joint Working Party, 2003 – 2005

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**PUBLICATIONS**

- Fons, Theodore (Forthcoming: June, 2016) Improving Web Visibility: Into the Hands of the Reader. *Library Technology Reports* v. 52 no 4 (2016)
- Fons, Theodore (Forthcoming: August, 2016) Books Into the Hands of Readers. *Library Journal* (2016).
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- Granskog, Kay, Fons, Theodore and Wen-ying Lu. (2002) Millennium Serials Module of Innovative Interfaces Inc. *Serials Review* v. 28 no. 3 (2002) p. 213-221.

**KEYNOTES & PRESENTATIONS**

- Fons, Theodore. (2015 April) The Future of Metadata Management and Making Library Collections Presentations Discoverable on the Web, Keynote address given at the National Library Descriptors Conference at the National Library of Poland, Warsaw, Poland.
- Fons, Theodore (2015 February). Strategies for Exposing Library Data on the Web and Managing Library Data Quality, Presentation given at the Europeana Tech 2015 Conference, Paris, France.
- Fons, Theodore (2015 January). OCLC and Library of Congress Collaboration, Presentation given at the Library of Congress BIBFRAME Update Forum, Chicago, IL.
- Fons, Theodore (2014 December). Exposing Library Collections on the Web, Presentation given at the Coalition for Networked Information (CNI) Fall Membership Conference, Washington D.C.
- Fons, Theodore, et al (2014 November). Success Strategies for Discovery, Panel presentation given at the Charleston Conference, Charleston, SC.

**KEYNOTES & PRESENTATIONS (CON'T)**

- Fons, Theodore (2014 August). Authorities, Communities and Entities: The Library Data Revolution, Keynote address given as part of the Universal Bibliographic Control in the Digital Age joint program of the Cataloguing, Bibliography, Classification and Indexing and UNIMARC Strategic Programme sections at the IFLA World Library and Information Congress, Lyon, France.
- Fons, Theodore (2014 August). Workshop on Linked Data for Practitioners, Workshop convened at the IFLA 2014 Satellite Meeting: Linked Data in Libraries: Let's Make It Happen! Bibliothèque Nationale de France, Paris.
- Fons, Theodore (2014 August). Links and Entities: OCLC and the Library Data Revolution, Keynote presented as part of the OCLC Industry Symposium at the IFLA World Library and Information Congress, Lyon, France.
- Fons, Theodore (2014 July). Links and Entities, Keynote address given at the OhioNet RDA Workshop, Worthington, OH.
- Fons, Theodore (2014 February). Growing WorldCat: What the Global Community Wants, Presentation given at the OCLC EMEA Regional Council Annual Meeting, Cape Town, South Africa.
- Fons, Theodore and Richard Wallis (2014 February). Collective Impact and the Power of Shared Data, Presentation given at the OCLC EMEA Regional Council Annual Meeting, Cape Town, South Africa.
- Fons, Theodore (2013 October). The Role of Open Access in the Age of Metadata, Presentation given as part of the Open Spaces, Open Data, Open Access: Transforming Today's Libraries conference of the Midwest Collaborative for Library Services, Indianapolis, IN.
- Fons, Theodore (2013 August). Collective Impact and the Power of Shared Data, Presentation given as part of the OCLC Parallel Symposium at the IFLA General Congress and Assembly 2013, Singapore.
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- Fons, Theodore, Richard Gedye and Jim Mouw. (2005 November) ONIX for Serials, Presentation given at the Charleston Conference, Charleston, SC.
- Breaux, Anne-Marie and Theodore Fons. (2005 November) ISBN-13 One Year Out, Presentation given at the Charleston Conference, Charleston, SC.
- Fons, Theodore. (2005 November) Recent Developments in Electronic Resource Management, Presentation given at The American Society for Information Science and Technology Annual Meeting, Charlotte, NC.
- Fons, Theodore. (2005 June) Electronic Resource Management in Public Libraries, Presentation given for the Public Library Association Technology Committee at the American Library Association Annual Conference, Chicago, IL.
- Fons, Theodore and Paul Seeman. (2005 July). Electronic Resource Management, Presentation given at the American Association of Law Librarians Annual Meeting, San Antonio, TX.
- Crum, Janet and Theodore Fons. (2004 October) Implementing Electronic Resource Management, Presentation given at the Library and Information Technology Association National Forum, St. Louis, MO.



**KEYNOTES & PRESENTATIONS (CON'T)**

- Fons, Theodore and Regina Reynolds. (2004 June), Serials Standards: Envisioning a Solution to the Online Serials Management Mess, Presentation given at the North American Serials Interest Group Annual Conference, Milwaukee, WI.
- Fons, Theodore. (2004 March), Panel 2: Users, Panel presentation given at the CONSER Summit on Serials in the Digital Environment, Washington, D.C.  
Fons, Theodore. (2004 January) Preparing for the Expanding ISBN, Presentation at the NISO Postconference Workshop, San Diego, CA.
- Fons, Theodore. (2003 June) A New Seal of Approval: Print and Electronic Approval Plans in the 21st Century, Presentation given at the Canadian Library Association / American Library Association Joint Annual Conference, Toronto, ON.
- Fons, Theodore. (2003 June) There Is No Forest, We're Only Hugging the Trees: Newfangled and Nontraditional Ways of Acquiring, Providing Access, and Managing Both Print and Electronic Journals, Panel presentation given at the North American Serials Interest Group, Portland, OR.
- Fons, Theodore. (2002 October) Ejournal and Full Text Integration Solutions: the Role of the ILS, Presentation given at the Library and Information Technology Association National Forum, Houston, TX.

# **Exhibit B**



Thirty-seventh Annual Allerton Conference on Communication, Control, and Computing : proceedings, conference held September 22, September 23, and September 24, 1999, Allerton House, Monticello, Illinois

Cite Link Email Save



by [Control, and Computing Allerton Conference on Communication](#) Monticello, Ill., [University of Illinois at Urbana-Champaign](#). Coordinated Science Laboratory.

Print book [1999]

Held by: [Jet Propulsion Laboratory Library](#)

Description

**Publication:** [Urbana-Champaign, Ill.] : [University of Illinois], [1999]  
**Physical Description:** xvi, 1346 pages : illustrations : 24 cm  
**Language:** English  
**Staff View:** [MARC Record](#)  
**OCLC Number:** 43817443  
**Subjects:** [Telecommunication systems Congresses.](#)  
[Computer networks Congresses.](#)  
[Automatic control Congresses.](#)  
[Automatic control.](#)  
[Computer networks.](#)  
[Telecommunication systems.](#)  
[Conference papers and proceedings.](#)  
**Genre:** Conference papers and proceedings.  
Congresses.  
**Bibliography:** Includes bibliographical references and author index.  
**Database:** WorldCat

Editions & Formats

Found

No other editions or formats exist for this record.

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Availability

Jet Propulsion Laboratory Library

1 available

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Jet Propulsion Laboratory Library		
Holding Summary		
TK3226 .A4 1999		
JPL Library Bookstacks		1 of 1 available
Location	Call Number	Availability
JPL Library Bookstacks	TK7867 .A434 1999	Available

Libraries Worldwide

3 Libraries

Search location: 4800 Oak Grove Dr, Mail Stop 111-113, Pasadena, US-CA

Institution	Libraries	Distance
Jet Propulsion Laboratory Library	JPL	0 mi <a href="#">Map</a>
University of Kentucky Libraries		1887.33 mi <a href="#">Map</a>
Nasa Langley Technical Library, Nasa Langley Langley Technical Library	Langley Technical Library	2338.74 mi <a href="#">Map</a>

CALTECH\_BCMAPL\_00184462

**Thirty-seventh Annual Allerton Conference on Communication, Control, and Computing : proceedings, conference held September 22, September 23, and September 24, 1999, Allerton House, Monticello, Illinois**

Cite Link Email Save



by [Control, and Computing Allerton Conference on Communication](#) Monticello, Ill.), [University of Illinois at Urbana-Champaign](#), Coordinated Science Laboratory.

Print book [1999]

Held by: [Jet Propulsion Laboratory Library](#)

Description

Editions & Formats

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Availability

Jet Propulsion Laboratory Library

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3 Libraries

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<a href="#">University of Kentucky Libraries</a>		1887.33 mi <a href="#">Map</a>
Nasa Langley Technical Library, Nasa Langley Langley Technical Library	Langley Technical Library	2338.74 mi <a href="#">Map</a>



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Thirty-Seventh Annual Allerton Conference On Communication, Control, And Computing :  
 Proceedings, Conference Held September 22, September 23, And September 24, 1999, Allerton  
 House, Monticello, Illinois

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090 ## \$a TK3226 \$b .A4 1999
111 2# \$a Allerton Conference on Communication, Control, and Computing \$n (37th : \$d 1999 : \$c Monticello, Ill.)
245 10 \$a Thirty-seventh Annual Allerton Conference on Communication, Control, and Computing : \$b proceedings, conference held September 22, September 23, and September 24, 1999, Allerton House, Monticello, Illinois / \$c sponsored by the Coordinated Science Laboratory and the Department of Electrical and Computer Engineering of the University of Illinois at Urbana-Champaign.
246 30 \$a Annual Allerton Conference on Communication, Control, and Computing
260 ## \$a [Urbana-Champaign, Ill.] : \$b [University of Illinois], \$c [1999]
300 ## \$a xvi, 1346 pages : \$b illustrations ; \$c 24 cm
336 ## \$a text \$b txt \$2 rdacontent
337 ## \$a unmediated \$b n \$2 rdamedia

CALTECH\_BCMAPL\_00184465

338 ## \$a volume \$b nc \$2 rdacarrrier
504 ## \$a Includes bibliographical references and author index.
650 #0 \$a Telecommunication systems \$v Congresses.
650 #0 \$a Computer networks \$v Congresses.
650 #0 \$a Automatic control \$v Congresses.
650 #7 \$a Automatic control. \$2 fast \$0 (0CoLC)fst00822702
650 #7 \$a Computer networks. \$2 fast \$0 (0CoLC)fst00872297
650 #7 \$a Telecommunication systems. \$2 fast \$0 (0CoLC)fst01146038
655 #7 \$a Conference papers and proceedings. \$2 fast \$0 (0CoLC)fst01423772
710 2# \$a University of Illinois at Urbana-Champaign. \$b Coordinated Science Laboratory.
710 2# \$a University of Illinois at Urbana-Champaign. \$b Department of Electrical and Computer Engineering.



# Exhibit C

## WorldCat: Thirty-seventh Annual Allerton Conference on Communication, Contr...

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<b>Books</b>	<b>Rec Stat</b> c	<b>Entered</b> 20000411		<b>Replaced</b> 20150808003349.9		
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<b>BLvl</b> m	<b>Form</b>	<b>Conf</b> 1	<b>Biog</b>	<b>MRec</b>	<b>Ctry</b> ilu	
	<b>Cont</b> b	<b>GPub</b>	<b>LitF</b> 0	<b>Indx</b> 1		
<b>Desc</b> a	<b>Ills</b> a	<b>Fest</b> 0	<b>DtSt</b> s	<b>Dates</b> 1999,		

040 NAT [#b](#) eng [#c](#) NAT [#d](#) OCL [#d](#) OCLCQ [#d](#) OCLCF [#d](#) OCLCO [#d](#) OCL [#d](#) OCLCO

090 TK3226 [#b](#) .A4 1999

090

049 DCWM

111 2\_ Allerton Conference on Communication, Control, and Computing [#n](#) (37th : [#d](#) 1999 : [#c](#) Monticello, Ill.)

245 10 Thirty-seventh Annual Allerton Conference on Communication, Control, and Computing : [#b](#) proceedings, conference held September 22, September 23, and September 24, 1999, Allerton House, Monticello, Illinois / [#c](#) sponsored by the Coordinated Science Laboratory and the Department of Electrical and Computer Engineering of the University of Illinois at Urbana-Champaign.

246 30 Annual Allerton Conference on Communication, Control, and Computing

260 [Urbana-Champaign, Ill.] : [#b](#) [University of Illinois], [#c](#) [1999]

300 xvi, 1346 pages : [#b](#) illustrations ; [#c](#) 24 cm

336 text [#b](#) txt [#2](#) rdacontent

337 unmediated [#b](#) n [#2](#) rdamedia

338 volume [#b](#) nc [#2](#) rdacarrier

504 Includes bibliographical references and author index.

650 \_0 Telecommunication systems [#v](#) Congresses.

650 \_0 Computer networks [#v](#) Congresses.

650 \_0 Automatic control [#v](#) Congresses.

650 \_7 Automatic control. [#2](#) fast [#0](#) (OCoLC)fst00822702

650 \_7 Computer networks. [#2](#) fast [#0](#) (OCoLC)fst00872297

650 \_7 Telecommunication systems. [#2](#) fast [#0](#) (OCoLC)fst01146038

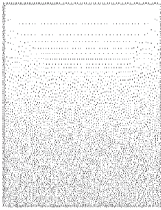
655 \_7 Conference papers and proceedings. [#2](#) fast [#0](#) (OCoLC)fst01423772

710 2\_ University of Illinois at Urbana-Champaign. [#b](#) Coordinated Science Laboratory.

710 2\_ University of Illinois at Urbana-Champaign. [#b](#) Department of Electrical and Computer Engineering.

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	Validate <input type="checkbox"/>				

# **Exhibit D**



## Coding Theorems for "Turbo-Like" Codes

Author: [D Divsalar, H Jin, R J McEliece](#)

Edition/Format: Article : English

Publication: PROCEEDINGS OF THE ANNUAL ALLERTON CONFERENCE ON COMMUNICATION CONTROL AND COMPUTING, 36, (1998): 201-210

Database: British Library Serials

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3.  <a href="#">University of Southern California</a> <b>USC Libraries</b> Los Angeles, CA 90089 United States	   Journal / Magazine / Newspaper	12 miles 	 <a href="#">Library info</a>  <a href="#">Ask a librarian</a>  <a href="#">Add to favorites</a>
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5.  <a href="#">University of California, Irvine</a> <b>Langson Library</b> Irvine, CA 92623 United States	   Journal / Magazine / Newspaper	39 miles 	 <a href="#">Library info</a>  <a href="#">Add to favorites</a>
6.  <a href="#">University of California, Santa Barbara</a> <b>UCSB Library</b> Santa Barbara, CA 93106 United States	   Journal / Magazine / Newspaper	99 miles 	 <a href="#">Library info</a>  <a href="#">Add to favorites</a>

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Document Type: Article  
All Authors / Contributors: [D Divsalar](#); [H Jir](#); [R J McEliece](#)  
ISSN: 0732-6181  
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Unique Identifier: 205891766  
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Add tags for "Coding Theorems for "Turbo-Like" Codes".



# **Exhibit E**

WorldCat: Thirty-sixth Annual Allerton Conference on Communication, Control...

OCLC 41479255		No holdings in DCW - 4 other holdings				
Books	Rec Stat c	Entered 19990603	Replaced 20150806022130.4			
Type a	ELvl I	Srcd d	Audn	Ctrl	Lang eng	
BLvl m	Form	Conf 1	Biog	MRec	Ctry ilu	
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- 040 MTE ‡b eng ‡c MTE ‡d OCL ‡d OCLCQ ‡d OCLCF ‡d OCLCO ‡d OCL ‡d OCLCO
- 090 TK3001.A1 ‡b A434 1998x
- 090
- 049 DCWM
- 111 2\_ Allerton Conference on Communication, Control, and Computing ‡n (36th : ‡d 1998 : ‡c Monticello, Ill.)
- 245 10 Thirty-sixth Annual Allerton Conference on Communication, Control, and Computing : ‡b proceedings, September 23-26, 1998, Allerton House, Monticello, Illinois / ‡c sponsored by the Coordinated Science Laboratory and the Department of Electrical and Computer Engineering of the University of Illinois at Urbana-Champaign.
- 260 Urbana-Champaign, Ill. : ‡b University of Illinois, ‡c 1998.
- 300 xi, 831 pages : ‡b illustrations ; ‡c 24 cm
- 336 text ‡b txt ‡2 rdacontent
- 337 unmediated ‡b n ‡2 rdamedia
- 338 volume ‡b nc ‡2 rdacarrier
- 504 Includes bibliographical references.
- 650 \_0 Telecommunication ‡v Congresses.
- 650 \_0 Telecommunication systems ‡v Congresses.
- 650 \_0 Electric circuits ‡v Congresses.
- 650 \_0 Electronic digital computers ‡v Congresses.
- 650 \_0 Automatic control ‡v Congresses.
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- 650 \_7 Electric circuits. ‡2 fast ‡0 (OCoLC)fst00904545
- 650 \_7 Electronic digital computers. ‡2 fast ‡0 (OCoLC)fst00907122
- 650 \_7 Telecommunication. ‡2 fast ‡0 (OCoLC)fst01145830
- 650 \_7 Telecommunication systems. ‡2 fast ‡0 (OCoLC)fst01146038
- 655 \_7 Conference papers and proceedings. ‡2 fast ‡0 (OCoLC)fst01423772
- 710 2\_ University of Illinois at Urbana-Champaign. ‡b Coordinated Science Laboratory.
- 710 2\_ University of Illinois at Urbana-Champaign. ‡b Department of Electrical and Computer Engineering.

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	Validate <input type="checkbox"/>				