

# Implementing Linked Open Data in a Controlled Vocabulary

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# Why Link Your Data?

- Reveal deeper relationships
- Connect data & access content across the web
- Associate with desired content
- Access all the enriched content from one place
- Simplify research threads
- Increasing subscription and retention rates
- Stickier web experience

# Linked Data based on topical profiles

- Present everything within easy reach
- Broaden the scope of research
- Present all resources on a subject



# Sample web page with linked data

## Selected Article Search “thin film sputtering”

Tianzhuo Zhan<sup>1</sup>, Yibin Xu<sup>1</sup>, Masahiro Goto<sup>1</sup>, Yoshihisa Tanaka<sup>1</sup>, Ryoza Kato<sup>1</sup>  
Michiko Sasaki<sup>1</sup> and Yutaka Kagawa<sup>1</sup>

### ABSTRACT

We measured the thermal conductivity of amorphous Ge films prepared by magnetron sputtering. The thermal conductivity was significantly higher than the value predicted by the minimum thermal conductivity model and increased with deposition temperature. We found that variations in sound velocity and Ge film density were not the main factors in the high thermal conductivity. Fast Fourier transform patterns of transmission electron micrographs revealed that short-range order in the Ge films was responsible for their high thermal conductivity. The results provide experimental evidences to understand the underlying nature of the variation of phonon mean free path in amorphous solids.

## More Articles on the same topic

### **F** Multinomial models of speech perception

Court S. Crowther and William H. Batchelder

J. Acoust. Soc. Am. **97** , 3362 (1995) ; <http://dx.doi.org/10.1121/1.412685>

[+ VIEW DESCRIPTION](#)

Competition between continuous etching and surface passivation for Cl<sub>2</sub> chemisorption onto GaAs(100) c(8×2), GaAs(100) c(2×8), and GaAs(110) (1×1) surfaces

Daniel J. D. Sullivan, Harris C. Flaum and Andrew C. Kummel

J. Chem. Phys. **101** , 1582 (1994) ; <http://dx.doi.org/10.1063/1.467779>

[+ VIEW DESCRIPTION](#)

### **F** The effect of face and lip inversion on audiovisual speech integration

Deborah A. Yakel, Lawrence D. Rosenblum, Kerry P. Green, Chantel L. Bosley and Rebecca A. Vasquez

J. Acoust. Soc. Am. **97** , 3286 (1995) ; <http://dx.doi.org/10.1121/1.411550>

## Grants available

### **Innovative Cadmium Telluride Solar Cells on Thin Film ...**

[www.iowaenergycenter.org/innovative-cadmium-telluride-solar-cells-on-...](http://www.iowaenergycenter.org/innovative-cadmium-telluride-solar-cells-on-...)

Innovative Cadmium Telluride Solar Cells on Thin Film. Grant # 98-07. Principal Investigator: Vikram L. Dalal, P.I.. Organization: Iowa State University Students: ...

### **Research on thin-film solar cells heats up at UCSC - UC ...**

[news.ucsc.edu/2010/.../solar-cells.ht...](http://news.ucsc.edu/2010/.../solar-cells.ht...) University of California, Santa Cruz

Nov 2, 2010 - She was awarded five new grants this year totaling more than \$1 million to ... Her lab uses thin-film technologies and printable semiconductor ...

## Upcoming conferences on this topic

### **Protective coatings and Thin films'13 - EMRS**

[www.emrs-strasbourg.com/index.ph...](http://www.emrs-strasbourg.com/index.ph...) European Materials Research Society

Meetings. 2014 Spring Meeting · 2014 Fall Meeting · 2015 Spring Meeting · 2015 Fall

... For 2013, particular emphasis is placed on the fundamentals of thin film ...

### **EMRS - Strasbourg - SPRING 14 A: Thin film chalcogenide ...**

[www.emrs-strasbourg.com/index.ph...](http://www.emrs-strasbourg.com/index.ph...) European Materials Research Society

The Thin Film Chalcogenide Photovoltaic Materials Symposium 2014 will closely ... grown to become one of the largest symposia of the E-MRS spring meetings.

### **Program - Symposium C: Thin-Film Compound ...**

<https://www.mrs.org/s13-program-c/>

Symposium C: Thin-Film Compound Semiconductor Photovoltaics is a symposium from the 2013 MRS Spring Meeting in San Francisco, California.

## Authors working in this space

### **Gibson, William (4)**

[dir.yahoo.com/.../Science\\_Fiction\\_and\\_Fantasy/Gibson\\_William](http://dir.yahoo.com/.../Science_Fiction_and_Fantasy/Gibson_William)

### **Asimov, Isaac (1920-1992) (10)**

[dir.yahoo.com/.../Science\\_Fiction\\_and\\_Fantasy/Asimov\\_Isaac\\_1920\\_1992\\_](http://dir.yahoo.com/.../Science_Fiction_and_Fantasy/Asimov_Isaac_1920_1992_)





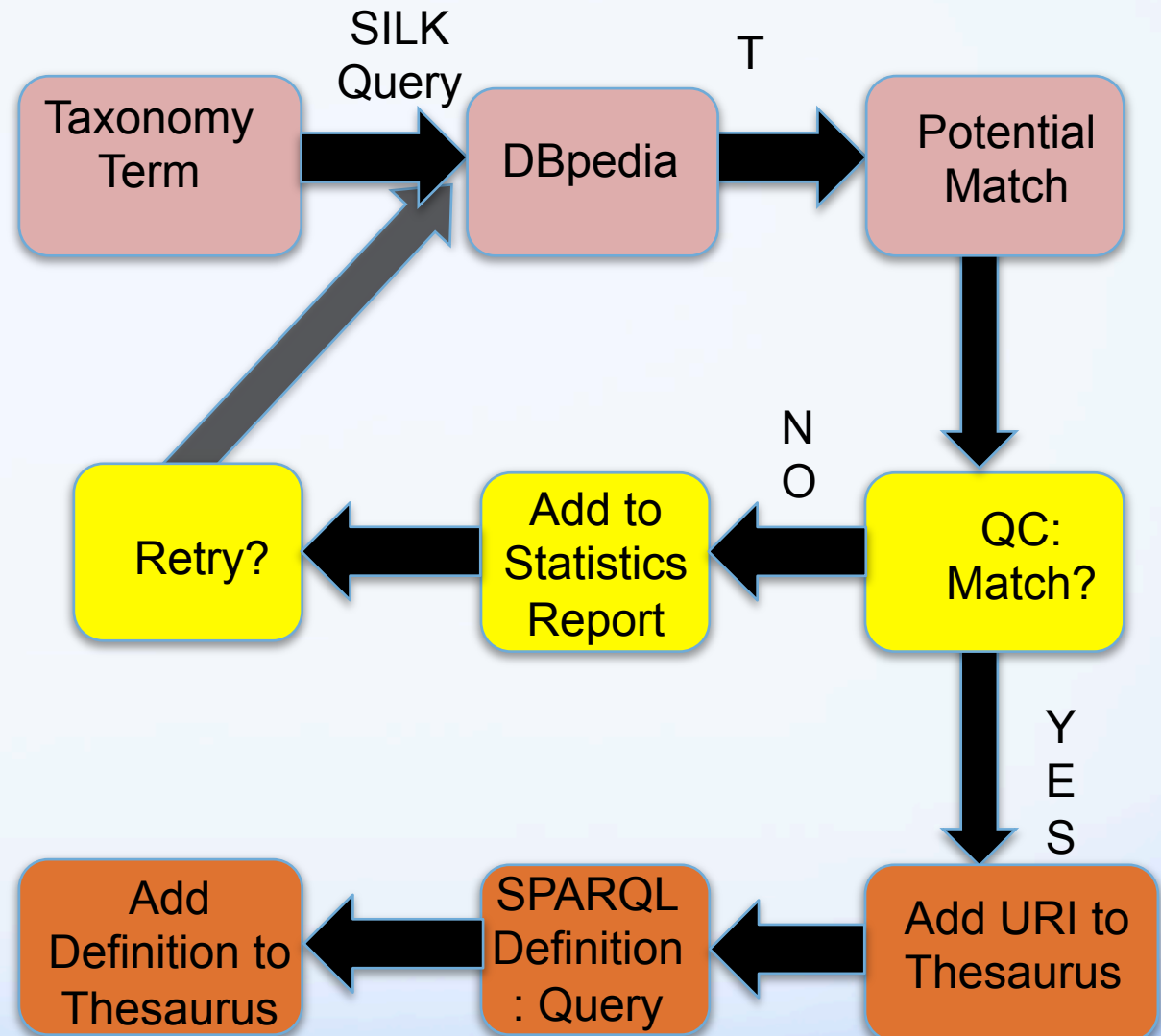
# LD = A One Stop Shop

- Linked Data is the real Semantic Web
- Researchers can access content in a single place
- Builds trusted sites
- Supports broad collaboration



# Linking Workflow

- Link content to external databank (like DBpedia)
- Potential URI matches are QC'd for the thesaurus
- Matched URIs further enrich the content



## Optics

From Wikipedia, the free encyclopedia

*This article is about the branch of physics. For the book by Sir Isaac Newton, see [Opticks](#). For the musical artist, see [Optical \(artist\)](#). For other uses, see [Optic \(disambiguation\)](#).*

**Optics** is the branch of [physics](#) which involves the behaviour and properties of [light](#), including its interactions with [matter](#) and the construction of [instruments](#) that use or [detect](#) it.<sup>[1]</sup> Optics usually describes the behaviour of [visible](#), [ultraviolet](#), and [infrared](#) light. Because light is an [electromagnetic wave](#), other forms of [electromagnetic radiation](#) such as [X-rays](#), [microwaves](#), and [radio waves](#) exhibit similar properties.<sup>[1]</sup>

Most optical phenomena can be accounted for using the [classical electromagnetic](#) description of light. Complete electromagnetic descriptions of light are, however, often difficult to apply in practice. Practical optics is usually done using simplified models. The most common of these, [geometric optics](#), treats light as a collection of [rays](#) that travel in straight lines and bend when they pass through or reflect from surfaces. [Physical optics](#) is a more comprehensive model of light, which includes [wave](#) effects such as [diffraction](#) and [interference](#) that cannot be accounted for in geometric optics. Historically, the ray-based model of light was developed first, followed by the wave model of light. Progress in electromagnetic theory in the 19th century led to the discovery that light waves were in fact electromagnetic radiation.

Some phenomena depend on the fact that light has both [wave-like](#) and [particle-like properties](#). Explanation of these effects requires [quantum mechanics](#). When considering light's particle-like properties, the light is modelled as a collection of particles called ["photons"](#). Quantum optics deals with the application of quantum mechanics to optical systems.

Optical science is relevant to and studied in a variety of disciplines including [astronomy](#), various [engineering](#) fields, [photography](#), and [medicine](#) (particularly [ophthalmology](#) and [optometry](#)). Practical applications of optics are found in a variety of technologies such as [telescopes](#), [mirrors](#), [lenses](#), [telescopes](#), [microscopes](#), [lasers](#), and [fibre optics](#).



### About: Optics

An Entity of Type : [Thing](#), from Named Graph : <http://dbpedia.org> in Data Space : [dbpedia.org](#)



Optics is the branch of physics which involves the behaviour and properties of light, including its interactions with matter and the construction of instruments that use or detect it. Optics usually describes the behaviour of visible, ultraviolet, and infrared light.

| Property                         | Value  |
|----------------------------------|--|
| dbpedia-owl:abstract             | <div><ul style="list-style-type: none"><li>Optics is the branch of physics which involves the behaviour and properties of light, including its interactions with matter and the construction of instruments that use or detect it. Optics usually describes the behaviour of visible, ultraviolet, and infrared light. Because light is an electromagnetic wave, other forms of electromagnetic radiation such as X-rays, microwaves, and radio waves exhibit similar properties. Most optical phenomena can be accounted for using the classical electromagnetic description of light. Complete electromagnetic descriptions of light are, however, often difficult to apply in practice. Practical optics is usually done using simplified models. The most common of these, geometric optics, treats light as a collection of rays that travel in straight lines and bend when they pass through or reflect from surfaces. Physical optics is a more comprehensive model of light, which includes wave effects such as diffraction and interference that cannot be accounted for in geometric optics. Historically, the ray-based model of light was developed first, followed by the wave model of light. Progress in electromagnetic theory in the 19th century led to the discovery that light waves were in fact electromagnetic radiation. Some phenomena depend on the fact that light has both wave-like and particle-like properties. Explanation of these effects requires quantum mechanics. When considering light's particle-like properties, the light is modelled as a collection of particles called "photons". Quantum optics deals with the application of quantum mechanics to optical systems. Optical science is relevant to and studied in many related disciplines including astronomy, various engineering fields, photography, and medicine (particularly ophthalmology and optometry). Practical applications of optics are found in a variety of technologies and everyday objects, including mirrors, lenses, telescopes, microscopes, lasers, and fibre optics.</li></ul></div> |
| dbpedia-owl:thumbnail            | <div><ul style="list-style-type: none"><li><a href="http://commons.wikimedia.org/wiki/Special:FilePath/Light_dispersion_of_a_mercury-vapor_lamp_with_a_spectrometer_IPN*01.jpg?width=300">http://commons.wikimedia.org/wiki/Special:FilePath/Light_dispersion_of_a_mercury-vapor_lamp_with_a_spectrometer_IPN*01.jpg?width=300</a></li></ul></div>   |
| dbpedia-owl:wikiPageExternalLink | <div><ul style="list-style-type: none"><li><a href="http://optics.byu.edu/textbook.aspx">http://optics.byu.edu/textbook.aspx</a></li><li><a href="http://www.cvimellesniet.com/products/Documents/TechnicalGuide/fundamental-Optics.pdf">http://www.cvimellesniet.com/products/Documents/TechnicalGuide/fundamental-Optics.pdf</a></li><li><a href="http://www.iop.org/publications/iop/index.html">http://www.iop.org/publications/iop/index.html</a></li><li><a href="http://www.iop.org/publications/iop/2009/page_38205.html">http://www.iop.org/publications/iop/2009/page_38205.html</a></li><li><a href="http://www.lightandmatter.com/area1book5.html">http://www.lightandmatter.com/area1book5.html</a></li><li><a href="http://www.epic-assoc.com">http://www.epic-assoc.com</a></li><li><a href="http://www.myeos.org">http://www.myeos.org</a></li><li><a href="http://www.optics2001.com">http://www.optics2001.com</a></li><li><a href="http://www.osa.org">http://www.osa.org</a></li><li><a href="http://www.osiindia.org">http://www.osiindia.org</a></li><li><a href="http://www.spie.org">http://www.spie.org</a></li></ul></div>   |
| dbpedia-owl:wikiPageID           | <div><ul style="list-style-type: none"><li>22463 (xsd:integer)</li></ul></div>   |
| dbpedia-owl:wikiPageRevisionID   | <div><ul style="list-style-type: none"><li>605920324 (xsd:integer)</li></ul></div>   |
| dbpprop:hasPhotoCollection       | <div><ul style="list-style-type: none"><li><a href="http://wifo5-03.informatik.uni-mannheim.de/flickrwrappr/photos/Optics">http://wifo5-03.informatik.uni-mannheim.de/flickrwrappr/photos/Optics</a></li></ul></div>   |
| dcterms:subject                  | <div><ul style="list-style-type: none"><li><a href="#">category:Applied_and_interdisciplinary_physics</a></li><li><a href="#">category:Electromagnetic_radiation</a></li><li><a href="#">category:Natural_philosophy</a></li><li><a href="#">category:Optics</a></li></ul></div>   |
| rdfs:comment                     | <div><ul style="list-style-type: none"><li>Optics is the branch of physics which involves the behaviour and properties of light, including its interactions with matter and the construction of instruments that use or detect it. Optics usually describes the behaviour of visible, ultraviolet, and infrared light.</li></ul></div>   |
| rdfs:label                       | <div><ul style="list-style-type: none"><li>Optics</li></ul></div>  |
| owl:sameAs                       | <div><ul style="list-style-type: none"><li><a href="#">fbase:Optics</a></li><li><a href="http://nl.dbpedia.org/resource/Optica">http://nl.dbpedia.org/resource/Optica</a></li><li><a href="http://fr.dbpedia.org/resource/Optique">http://fr.dbpedia.org/resource/Optique</a></li><li><a href="http://de.dbpedia.org/resource/Optik">http://de.dbpedia.org/resource/Optik</a></li><li><a href="http://wikidata.dbpedia.org/resource/Q14620">http://wikidata.dbpedia.org/resource/Q14620</a></li><li><a href="http://cs.dbpedia.org/resource/Optika">http://cs.dbpedia.org/resource/Optika</a></li><li><a href="http://el.dbpedia.org/resource/Οπτική">http://el.dbpedia.org/resource/Οπτική</a></li><li><a href="http://es.dbpedia.org/resource/Optica">http://es.dbpedia.org/resource/Optica</a></li><li><a href="http://eu.dbpedia.org/resource/Optika">http://eu.dbpedia.org/resource/Optika</a></li><li><a href="http://fi.dbpedia.org/resource/Optika">http://fi.dbpedia.org/resource/Optika</a></li><li><a href="http://it.dbpedia.org/resource/Ottica">http://it.dbpedia.org/resource/Ottica</a></li><li><a href="http://ja.dbpedia.org/resource/光学">http://ja.dbpedia.org/resource/光学</a></li><li><a href="http://ko.dbpedia.org/resource/광학">http://ko.dbpedia.org/resource/광학</a></li><li><a href="http://pl.dbpedia.org/resource/Optyka">http://pl.dbpedia.org/resource/Optyka</a></li><li><a href="http://pt.dbpedia.org/resource/Optica">http://pt.dbpedia.org/resource/Optica</a></li><li><a href="http://wikidata.org/entity/Q14620">http://wikidata.org/entity/Q14620</a></li><li><a href="http://sw.cyc.com/concept/Mx4n0dym5wpEbGdrcN5Y29ycA">http://sw.cyc.com/concept/Mx4n0dym5wpEbGdrcN5Y29ycA</a></li><li><a href="http://af.dbpedia.org/resource/Optika">http://af.dbpedia.org/resource/Optika</a></li><li><a href="http://ar.dbpedia.org/resource/بصريات">http://ar.dbpedia.org/resource/بصريات</a></li><li><a href="http://az.dbpedia.org/resource/Optika">http://az.dbpedia.org/resource/Optika</a></li></ul></div>  |

Wikipedia; dbpedia

## About: [Optics](#)


An Entity of Type : [Thing](#), from Named Graph : <http://dbpedia.org>, within Data Space : [dbpedia.org](http://dbpedia.org)

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| dbpedia-owl:abstract             | <div>Abstract/Definition</div> <ul style="list-style-type: none"><li>Optics is the branch of physics which involves the behaviour and properties of light, including its interactions with matter and the construction of instrumen electromagnetic wave, other forms of electromagnetic radiation such as X-rays, microwaves, and radio waves exhibit similar properties. Most optical phenoi descriptions of light are, however, often difficult to apply in practice. Practical optics is usually done using simplified models. The most common of these, from surfaces. Physical optics is a more comprehensive model of light, which includes wave effects such as diffraction and interference that cannot be acc of light. Progress in electromagnetic theory in the 19th century led to the discovery that light waves were in fact electromagnetic radiation. Some phenomen quantum mechanics. When considering light's particle-like properties, the light is modelled as a collection of particles called "photons". Quantum optics d related disciplines including astronomy, various engineering fields, photography, and medicine (particularly ophthalmology and optometry). Practical applic microscopes, lasers, and fibre optics.</li></ul>  |
| dbpedia-owl:thumbnail            | <div>Images</div>    |
| dbpedia-owl:wikiPageExternalLink | <div>External Links</div> <ul style="list-style-type: none"><li><a href="http://optics.byu.edu/textbook.aspx">http://optics.byu.edu/textbook.aspx</a></li><li><a href="http://www.cvimellesgriot.com/products/Documents/TechnicalGuide/fundamental-Optics.pdf">http://www.cvimellesgriot.com/products/Documents/TechnicalGuide/fundamental-Optics.pdf</a></li><li><a href="http://www.iop.org/publications/iop/index.html">http://www.iop.org/publications/iop/index.html</a></li><li><a href="http://www.iop.org/publications/iop/2009/page_38205.html">http://www.iop.org/publications/iop/2009/page_38205.html</a></li><li><a href="http://www.lightandmatter.com/area1book5.html">http://www.lightandmatter.com/area1book5.html</a></li><li><a href="http://www.epic-assoc.com">http://www.epic-assoc.com</a></li><li><a href="http://www.myeos.org">http://www.myeos.org</a></li><li><a href="http://www.optics2001.com">http://www.optics2001.com</a></li><li><a href="http://www.osa.org">http://www.osa.org</a></li><li><a href="http://www.osiindia.org">http://www.osiindia.org</a></li><li><a href="http://www.spie.org">http://www.spie.org</a></li></ul>  |
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| dbpprop:hasPhotoCollection       | <ul style="list-style-type: none"><li><a href="http://wifo5-03.informatik.uni-mannheim.de/flickrwrappr/photos/Optics">http://wifo5-03.informatik.uni-mannheim.de/flickrwrappr/photos/Optics</a></li></ul>  |
| dcterms:subject                  | <div>Photos</div> <ul style="list-style-type: none"><li>category:Applied_and_interdisciplinary_physics</li><li>category:Electromagnetic_radiation</li><li>category:Natural_philosophy</li><li>category:Optics</li></ul>  |
| rdfs:comment                     | <div>Subtopics</div> <ul style="list-style-type: none"><li>Optics is the branch of physics which involves the behaviour and properties of light, including its interactions with matter and the construction of instrumen</li></ul>  |
| rdfs:label                       | <ul style="list-style-type: none"><li>Optics</li></ul>   |
| owl:sameAs                       | <div>Foreign language wikis</div> <ul style="list-style-type: none"><li><a href="#">fbase:Optics</a></li><li><a href="http://nl.dbpedia.org/resource/Optica">http://nl.dbpedia.org/resource/Optica</a></li><li><a href="http://fr.dbpedia.org/resource/Optique">http://fr.dbpedia.org/resource/Optique</a></li><li><a href="http://de.dbpedia.org/resource/Optik">http://de.dbpedia.org/resource/Optik</a></li><li><a href="http://wikidata.dbpedia.org/resource/Q14620">http://wikidata.dbpedia.org/resource/Q14620</a></li><li><a href="http://es.dbpedia.org/resource/Optika">http://es.dbpedia.org/resource/Optika</a></li><li><a href="http://el.dbpedia.org/resource/Οπτική">http://el.dbpedia.org/resource/Οπτική</a></li><li><a href="http://es.dbpedia.org/resource/Óptica">http://es.dbpedia.org/resource/Óptica</a></li><li><a href="http://eu.dbpedia.org/resource/Optika">http://eu.dbpedia.org/resource/Optika</a></li><li><a href="http://id.dbpedia.org/resource/Optika">http://id.dbpedia.org/resource/Optika</a></li><li><a href="http://it.dbpedia.org/resource/Ottica">http://it.dbpedia.org/resource/Ottica</a></li><li><a href="http://ja.dbpedia.org/resource/光学">http://ja.dbpedia.org/resource/光学</a></li><li><a href="http://ko.dbpedia.org/resource/광학">http://ko.dbpedia.org/resource/광학</a></li><li><a href="http://pl.dbpedia.org/resource/Optyka">http://pl.dbpedia.org/resource/Optyka</a></li><li><a href="http://pt.dbpedia.org/resource/Optica">http://pt.dbpedia.org/resource/Optica</a></li><li><a href="http://wikidata.org/entity/Q14620">http://wikidata.org/entity/Q14620</a></li><li><a href="http://sw.cyc.com/concept/Mx4n0dym5wpEbGdrcN5Y29ycA">http://sw.cyc.com/concept/Mx4n0dym5wpEbGdrcN5Y29ycA</a></li><li><a href="http://af.dbpedia.org/resource/Optika">http://af.dbpedia.org/resource/Optika</a></li><li><a href="http://ar.dbpedia.org/resource/بصريات">http://ar.dbpedia.org/resource/بصريات</a></li></ul> |
| &c. &c.                          |  |



# Lots of Sources for Topical Information




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YEAR OF LIGHT  
2015

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**OSA UPDATES:** Join the global movement to celebrate light – IYL 2015

|  Publications   |  Event Calendar   |
|--|--|
| Offering top-rated journals, timely conference papers, and our flagship magazine, <i>Optics &amp; Photonics News</i> , The Optical Society presents a range of content on the science of light.<br><a href="#">LEARN MORE &gt;</a> | This searchable listing allows you to browse the field's leading conferences and meetings in one convenient location. You can search events by key word, date, location and more.<br><a href="#">SEARCH MEETINGS</a> |

**At a Glance** | Member Area | Free Content

| Conferences + Exhibitions   | Publications  | Society News   |
|---|---|--|
| <ul style="list-style-type: none"><li>SPiE Medical Imaging   21-26 February 2015 - Register by 6 February to save.</li><li>SPiE Advanced Lithography 2015   22-26 February - Registration open. Prices increase after 6 February.</li><li>SPiE Smart Structures/NDE 2015   8-12 March - Review program. Register by 20 February and save.</li></ul> | <ul style="list-style-type: none"><li>Journal of Medical Imaging - Special Section honoring Robert Wagner</li><li>Neurophotonics - Special Section on the BRAIN Initiative</li><li>Journal of Astronomical Telescopes, Instruments, and Systems now live</li><li>New Spotlights eBook Series - Become an Author</li></ul> | <ul style="list-style-type: none"><li>Photonics West is on: see the news from San Francisco</li><li>Free access to Charles Townes SPiE Digital Library papers</li><li>EUV, Internet of Things, more set for Advanced Lithography</li><li>Sign up for SPiE newsletters and alerts</li></ul> |


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# ...all about the same concept; How do we link them?

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- 1 March 2015  
**Hyperspectral Imaging and Sensing of the Environment (HSI)**  
Lake Arrowhead, California, USA
- 1 March 2015  
**Fourier Transform Spectroscopy (FTS)**  
Lake Arrowhead, California, USA
- 22 March 2015  
**Optical Fiber Communications Conference and Exposition**  
Lake Arrowhead, California, USA

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• Unparalleled personal network  
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• Coming to Acquire Third Company in Two Months – 20 Jan  
• Industrial Laser Systems Market to Grow in 2015 – 23 Jan  
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SPIE is the international society for optics and photonics.

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• SPIE Medical Imaging 12-26 Feb 2015 • Register by 6 Feb 2015  
• SPIE Advanced Lithography 2015 12-26 February • Registration open. Prices increase after 6 February.  
• SPIE Smart Structures/NDE 2015 18-22 March • Review program. Register by 20 February and save.

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• Journal of Medical Imaging - Special Section honoring Robert Wagner  
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**Society News**  
• Photonics West is on: see the news from San Francisco  
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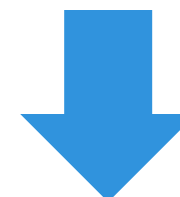
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J. Acoust. Soc. Am. **1** , 169 (1930) ; <http://dx.doi.org/10.1121/1.1901889>

[+ VIEW DESCRIPTION](#)

#### Theory of the Haskell Organ Pipe

Arthur Taber Jones

J. Acoust. Soc. Am. **8** , 210 (1937) ; <http://dx.doi.org/10.1121/1.1902004>

[+ VIEW DESCRIPTION](#)

#### Further Studies on the Strike Note of Bells

Arthur Taber Jones and George W. Alderman

J. Acoust. Soc. Am. **3** , 5 (1931) ; <http://dx.doi.org/10.1121/1.1901916>

[+ VIEW DESCRIPTION](#)

#### Resonance in Two Types of Non-Uniform Tubes

Arthur Taber Jones

J. Acoust. Soc. Am. **9** , 271 (1938) ; <http://dx.doi.org/10.1121/1.1902037>

[+ VIEW DESCRIPTION](#)

#### Echoes at Echo Bridge, Newton Upper Falls, Massachusetts

Arthur Taber Jones

J. Acoust. Soc. Am. **7** , 235 (1936) ; <http://dx.doi.org/10.1121/1.1915817>



# What is linked data?

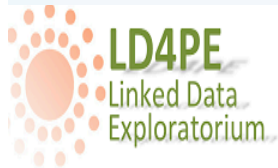
- Samples you just saw
- Mash ups
- Triple stores

# Standards?

- RDF/XL
- JSON – LD



# Help is available!



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## Linked Data Learning Resources

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### Browse by Competency

- [Competency Index for RDF & Linked Data \(106\)](#)
  - [RDF & Linked Data fundamentals \(66\)](#)
    - [Background technologies \(7\)](#)
      - [@@@ \(0\)](#)
    - [Perspectives, dispositions and habits of mind \(10\)](#)
      - [Participates in development and maintenance activities of RDF vocabularies and application profiles \(9\)](#)
        - [Actively participates in development of specifications and standards for best practice with relevant organizations such as W3C \(1\)](#)
    - [Policy & best practice development \(6\)](#)
      - [Develops policies for creation and management of RDF vocabularies \(4\)](#)
        - [Develops and documents namespace policies for managing ongoing development of RDF vocabularies \(1\)](#)
        - [Adheres to namespace policies in managing RDF vocabularies \(1\)](#)
    - [RDF data model \(41\)](#)
      - [Demonstrates understanding of the abstract data model of RDF as a directed labeled graph \(4\)](#)
      - [Understands and explains the differences and similarities between the RDF abstract data model and the XML and relational \(Codd\) abstract data models \(18\)](#)
      - [Understands the grammatical components of the RDF triple - SUBJECT, PREDICATE, OBJECT \(1\)](#)
      - [Understand and use RDFS in defining and interpreting RDF vocabularies \(7\)](#)

Select a competency assertion at left to view the listing of associated learning resources.

The *Competency Index for Linked Data (CI)* will be comprised of a set of topically arranged assertions of the knowledge, skills and habits of mind required for professional practice in the area of Linked Data.



This structure is [illustrated](#) at left. CI development is expected to openly crowd-source expertise in the development processes under the guidance of the project's CI Editorial Board (CIEB). [Learn more about the Competency Index.](#)

### IMPORTANT NOTES:

1. The example CI at left is test data illustrating the project's developing functionality and [will be totally replaced](#) as the CI Editorial Board advances its work in the coming months.
2. The CI development work is being partially funded through an [IMLS National Leadership Grant for Libraries](#).

# Linked Data Exploratorium



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## Welcome

Welcome



### Theory & Background

The primary goal of the RDF-modeled Competency Index for Linked Data is to provide a means for mapping learning resources descriptions to the competencies those resources address to assist in finding, identifying, and election resources appropriate to specific learning needs. — [Learn More >](#)

### Featured Resource

[Learn About SPARQL 1.1 >](#)

This S5 format slideshow details the changes made to the query language in SPARQL 1.1- it is not a basic introduction to SPARQL and assumes that the reader is already familiar with the basic functions of SPARQL 1.0.

### Recent Updates

[The first links in a vast chain](#)  
(10/29/2015)

[Getting ready to hear from you](#)  
(10/13/2015)

[LD4PE Overview Briefing](#)  
(8/1/2015)

# A Collaboration of DCMI and IMLS at U of Washington

The screenshot shows a web browser window with the address bar displaying `wiki.dublincore.org`. The page title is "Resource Collection - DCMI\_MediaWiki". The browser's address bar also shows "Linked Data for Professional Education - About the Exploratorium". The page has a navigation bar with tabs: "page", "discussion", "view source", and "history". The "page" tab is selected. Below the navigation bar, there is a sidebar on the left with a logo for the "Dublin Core Metadata Initiative" and a list of navigation links: "Main page", "Community portal", "Current events", "Recent changes", "Random page", "Help", "Search", "What links here", "Related changes", "Special pages", "Printable version", and "Permanent link". The main content area has a heading "Resource Collection" and a subheading "LD4PE Task Group Homepage". Below this, there is a "Contents" section with a list of links: "1 Resource Collection", "1.1 Resource Database", "1.2 Comparison to Competency Index", and "1.3 Summaries of Conversations with Project Members". The "1.3 Summaries of Conversations with Project Members" section is expanded, showing three sub-items: "1.3.1 Marjorie Hlava and Sean Dolan on Wednesday, April 15, 2015", "1.3.2 David Clarke and Sean Dolan on Tuesday, April 21, 2015", and "1.3.3 Mike Lauruhn and Sean Dolan on Thursday, April 23, 2015". Below the "Contents" section, there is a heading "Resource Database" and a paragraph of text: "A database has been set up to collect resources and start to organize them so that we can import into the full system when it is ready. The template is simple Dublin Core based. In the future we can make changes if other elements are found useful." Below this paragraph, there is a list of four numbered items: "1. Where to enter the data: [http://metadataetc.org/LD4E.html](\"http://metadataetc.org/LD4E.html\")", "2. What to enter: anything you find useful. I made one big change, to let the 'Type' vocabulary more specific for learning materials. This is the NSDL Type vocabulary, extended DCMI Type (otherwise you only have 'text' to enter). You can find the link directly from the template, but you can also just write down a few that to be used most frequently from it. [https://wiki.ucar.edu/display/nsdl/docs/Type](\"https://wiki.ucar.edu/display/nsdl/docs/Type\")", "3. Where to save: In the end of the template you can find the Submit function. One of them is For storage in the database. Just save there. You can always trace back a record too. There are other view options which I will take off when I come back from China. Those view html, xml, were for student use.", and "4. How to see what you have accumulated: We set up a special php to let you view the accumulated records online. I think after a while I may just download the database to make sure to keep them in a spreadsheet. You should also be able to copy the whole table and save to a spreadsheet. [http://metadataetc.org/showSavedLD4ERecords.php](\"http://metadataetc.org/showSavedLD4ERecords.php\")". Below the list, there is a heading "Comparison to Competency Index" and a paragraph of text: "As we discussed in our meeting last week (02/18/2015), I have been looking through those learning objects already cataloged and comparing them to the Competency Index (under development) to get a better sense of what we have so far and open \"wiki.dublincore.org/index.php/Resource\_Collection\" in a new tab I was going to post the resulting outline and notes I created right here, but quickly discovered it would be quite difficult to preserve the format using the wiki editor, so I am posting a link instead:"



# It just takes a little imagination!

We can help you link your data. Contact us with any questions.



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