

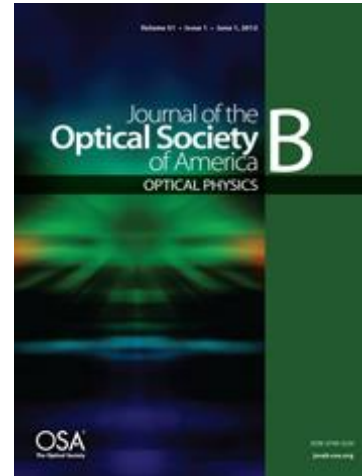
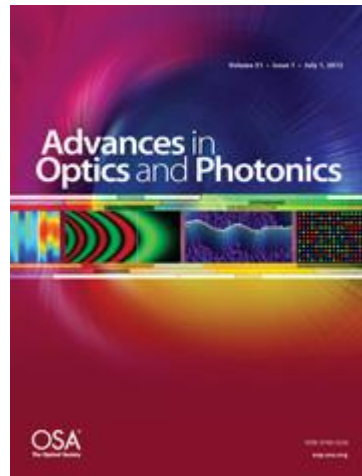
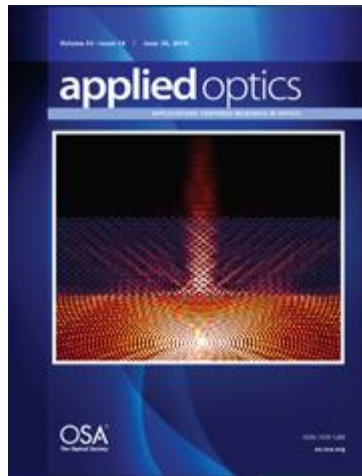
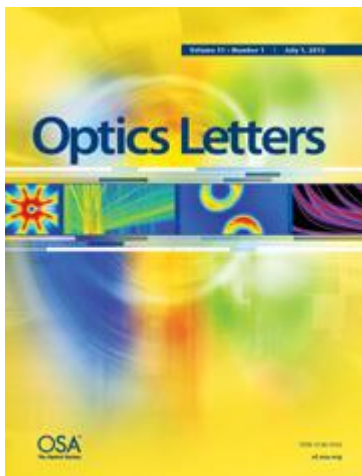
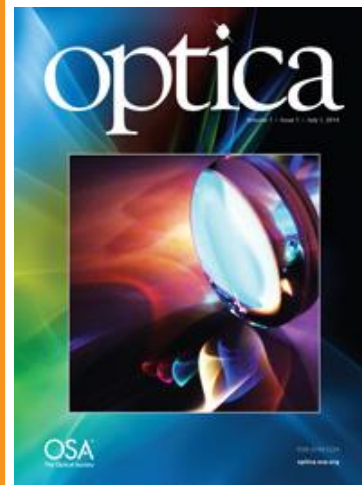
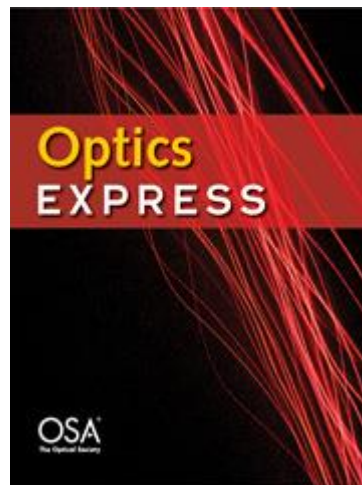
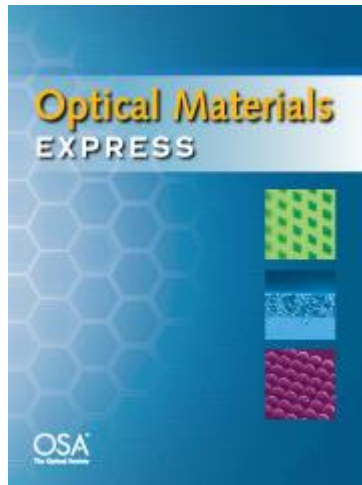
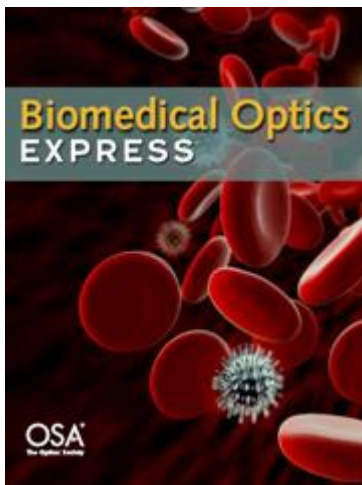
# FundRef—Making it Happen

*Jennifer Mayfield*

*XUG*

*12 November 2015*

# About The Optical Society



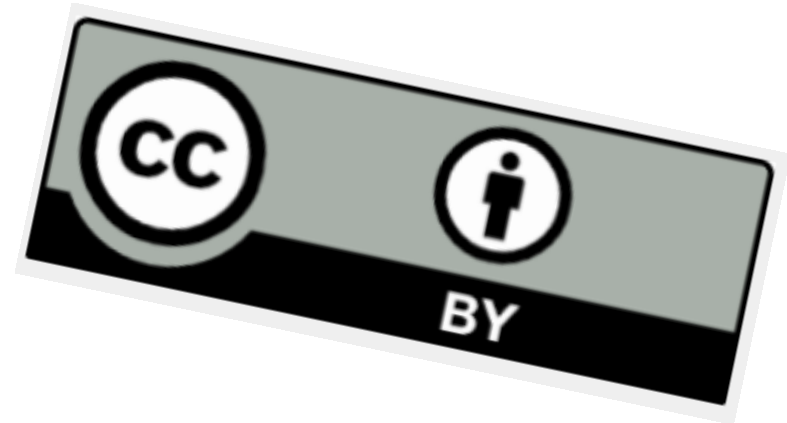


# Open Access Mandates



CHORUS

Clearinghouse for the **Open Research** of the United States

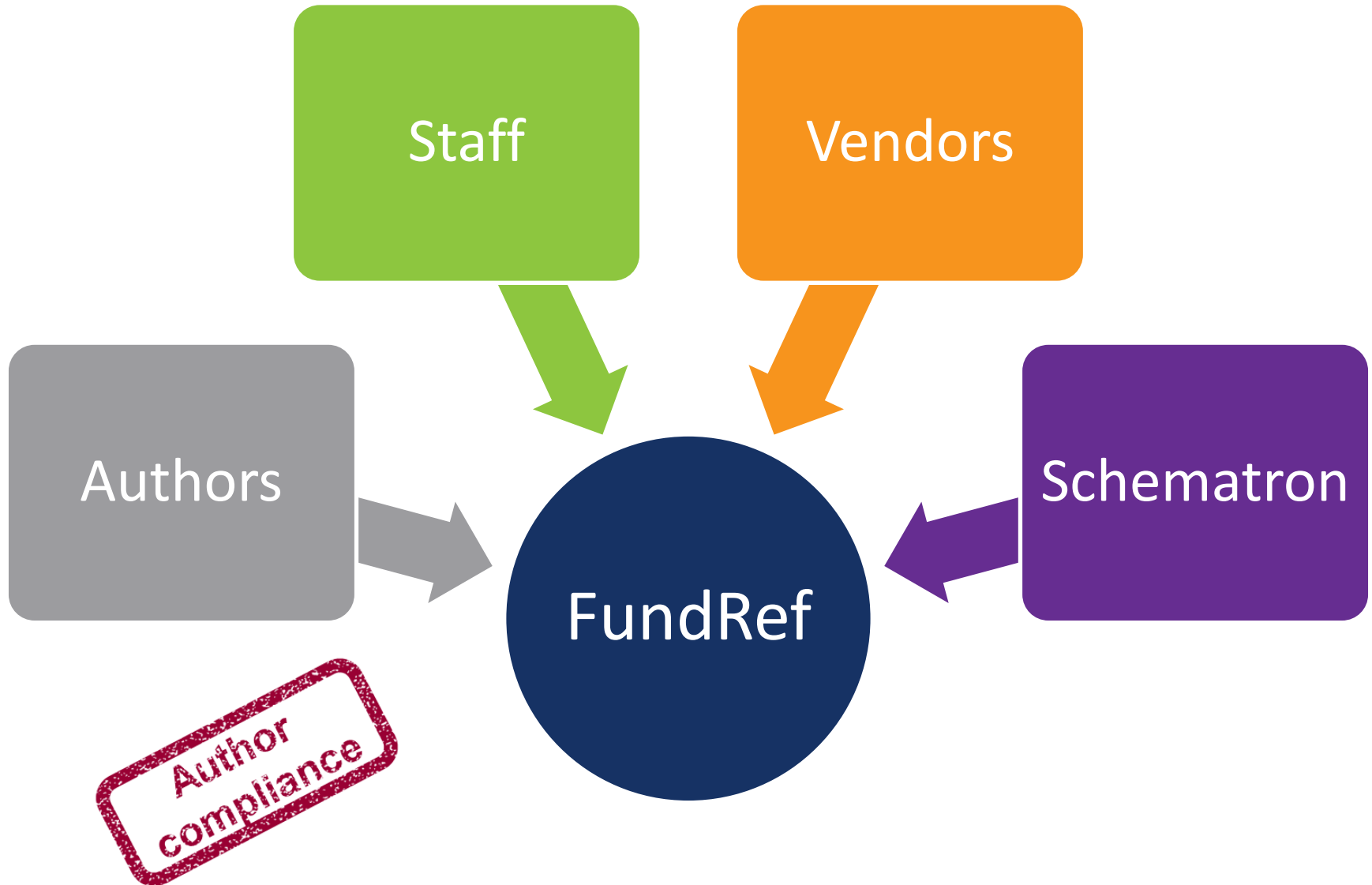




# Business Intelligence



# Compliance Challenge



Authors select funding agency from the FundRef Registry

**Funding agency name**

National Institutes

- National Institutes of Health (NIH)
  - National Institute of Mental Health (NIMH)**
  - National Institute on Drug Abuse (NIDA)
  - National Institute on Alcohol Abuse and Alcoholism (NIAA)
  - National Institute on Aging (U.S. National Institute on Aging)
  - National Heart, Lung, and Blood Institute (NHBLI)
  - National Human Genome Research Institute (NHGRI)
  - NIH Office of the Director (OD)
  - National Eye Institute (NEI)
  - National Cancer Institute (NCI)
  - National Institute on Deafness and Other Communication Disorders (NIDCD)

Staff must verify the funding information provided by author against what is in the manuscript.

## Funding



Funding Agency

Award #

National Natural Science Foundation of China (501100001809)61275049

## Acknowledgements

The authors gratefully acknowledge the financial support of the National Natural Science Foundation of China (No.61275049).

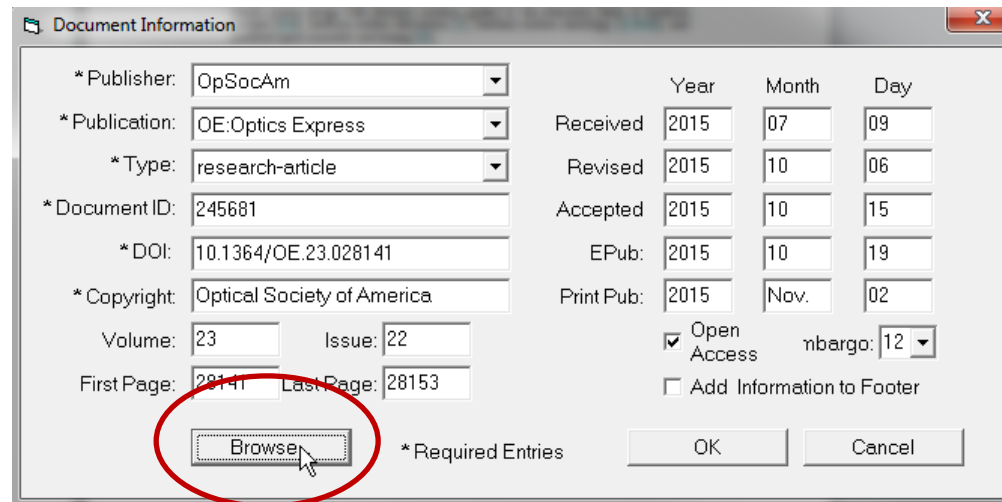


Does it match?

# Workflow – eXtypes Import

## XML Metadata Import File

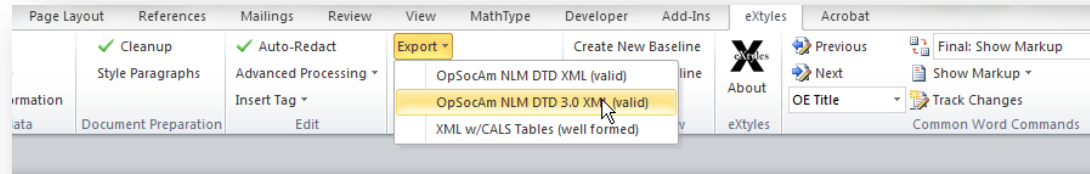
```
<funding-group>
  <award-group id="sp1">
    <funding-source>Bundesministerium f&#xfc;r Bildung und Forschung (Federal
      Ministry of Education and Research)<named-content content-type="doi"
        >10.13039/501100002347</named-content></funding-source>
    <award-id>13N11972 (PT-VDI, TEHFA)</award-id>
  </award-group>
  <award-group id="sp2">
    <funding-source>European Research Council (ERC)<named-content content-type="doi"
        >10.13039/501100000781</named-content></funding-source>
    <award-id>[617173] "ACOPS"</award-id>
  </award-group>
</funding-group>
```



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		<input checked="" type="checkbox"/> Open Access		nbargo: 12
		<input type="checkbox"/> Add Information to Footer		
<input type="button" value="Browse"/>		* Required Entries		
		<input type="button" value="OK"/>		<input type="button" value="Cancel"/>

# Workflow – eXtyles Export



## Reduction of distortion in photothermal microscopy and its application to the high-resolution three-dimensional imaging of nonfluorescent tissues

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<sup>4</sup>*Department of Electrophysics, National Chiao-Tung University, Hsinchu 300, Taiwan*

<sup>5</sup>*Institute of Laser Engineering, Osaka University, 2-6 Yamada-oka, Suita, Osaka 565-0971, Japan*

\*[kobayashi@isl.uec.ac.jp](mailto:kobayashi@isl.uec.ac.jp)





## Full-text XML

```
<abstract>
<p>Vascular abnormalities serve as a key indicator for many skin diseases. Currently available methods in dermatology such as histopathology
</abstract>
<kwd-group kwd-group-type="OCIS"><title>OCIS codes: </title><kwd>(170.4500) Optical coherence tomography</kwd><kwd>(170.5120) Photoacoustic
</funding-group>
<award-group id="sp1">
<funding-source>Austrian Science Fund (FWF)<named-content content-type="doi">10.13039/501100002428</named-content></funding-source>
<award-id>S10510-N20</award-id>
</award-group>
<award-group id="sp2">
<funding-source>European Commission (EC)<named-content content-type="doi">10.13039/501100000780</named-content></funding-source>
<award-id>FP7 ICT 317744</award-id>
</award-group>
</funding-group>
</article-meta>
</front>
</body>
```



Document is valid.

# How We Make It Work



## SCHEMATRON

1. Check 'label → DOIs' consistency within <funding-source>
2. Check 'DOI → labels' consistency within <funding-source>
3. Check Funding Info ↔ metadata DOIs consistency
4. Check label → DOI consistency between Acknowledgments and metadata

# Schematron Requirements

r1: check 'label → DOIs' consistency within <funding-source>

Check that for a funder's label (preferred or not) found in a <funding-source> its DOI is present and correct.

```
<funding-source>U.S. Department of Energy (DOE)
<named-content content-type="doi">10.13039/1000000000</named-content></funding-source>
```

r2: check 'DOI → labels' consistency within <funding-source>

Check that for a DOI found in a <funding-source> the funder is represented as its preferred label followed by the acronym, if it exists.

```
<funding-source>Department of Entropy (DOE)
<named-content content-type="doi">10.13039/1000000015</named-content></funding-source>
```

# Schematron Requirements

r3: check Funding Info ↔ metadata DOIs consistency

Check that the set of funder DOIs in the article's metadata is the same as the set of funder DOIs in its backmatter.

```
<article-meta>
```

```
<funding-group><award-group id="sp1">
```

```
<funding-source>National Science Foundation (NSF)
```

```
<named-content content-type="doi">10.13039/1000000001
```

```
</named-content></funding-source></award-group>
```

```
<award-group id="sp2"><funding-source>U.S. Department of Energy (DOE)
```

```
</funding-source></award-group></funding-group></article-meta>
```

...

```
<back>
```

```
<sec sec-type="funding"><title>FUNDING INFORMATION</title><p>
```

```
<funding-source>National Science Foundation (NSF)
```

```
<named-content content-type="doi">10.13039/1000000001
```

```
</named-content></funding-source>
```

```
<funding-source>U.S. Department of Energy (DOE)
```

```
<named-content content-type="doi">10.13039/1000000015
```

```
</named-content></funding-source></p></sec></back>
```

# Schematron Requirements

r4: check label → DOI consistency between Acknowledgments and metadata

Check that for any string in Acknowledgments that matches a funder's label (preferred or not) its DOI in the article's metadata is present and correct.

```
<article-meta>
  <funding-group>
    <award-group id="sp1">
      <funding-source>National Science Foundation (NSF)
        <named-content content-type="doi">10.13039/1000000001
      </named-content></funding-source></award-group>
      [REDACTED]
    </funding-group>
  </article-meta>
  ...
  <ack>
    <title>ACKNOWLEDGMENTS</title>
    <p>Support provided by NSF and Department of Energy.</p>
  </ack>
```



# Lookups Derived from FundRef

## LOOKUP-funder-label-to-dois.xml

```
<labels xmlns:xi="http://www.w3.org/2001/XInclude">
  <xi:include
    href="LOOKUP-funder-label-to-dois-not-in-FundRef.xml"/>
  ...
  <funder label="U.S. Department of Energy" pref="yes">
    <doi>10.13039/1000000015</doi>
  </funder>
  <funder label="Department of Energy" alt="yes">
    <doi>10.13039/1000000015</doi>
  </funder>
  <funder label="DOE" acronym="yes">
    <doi>10.13039/1000000015</doi>
  </funder>
  ...
</labels>
```

## LOOKUP-funder-doi-to-labels.xml

```
<funders xmlns:xi="http://www.w3.org/2001/XInclude">
  <xi:include
    href="LOOKUP-funder-doi-to-labels-not-in-FundRef.xml"/>
  ...
  <funder doi="10.13039/1000000015">
    <label type="pref">U.S. Department of Energy</label>
    <label type="alt">Department of Energy</label>
    <label type="acronym">DOE</label>
  </funder>
  ...
</funders>
```

# Matching Children to Parents

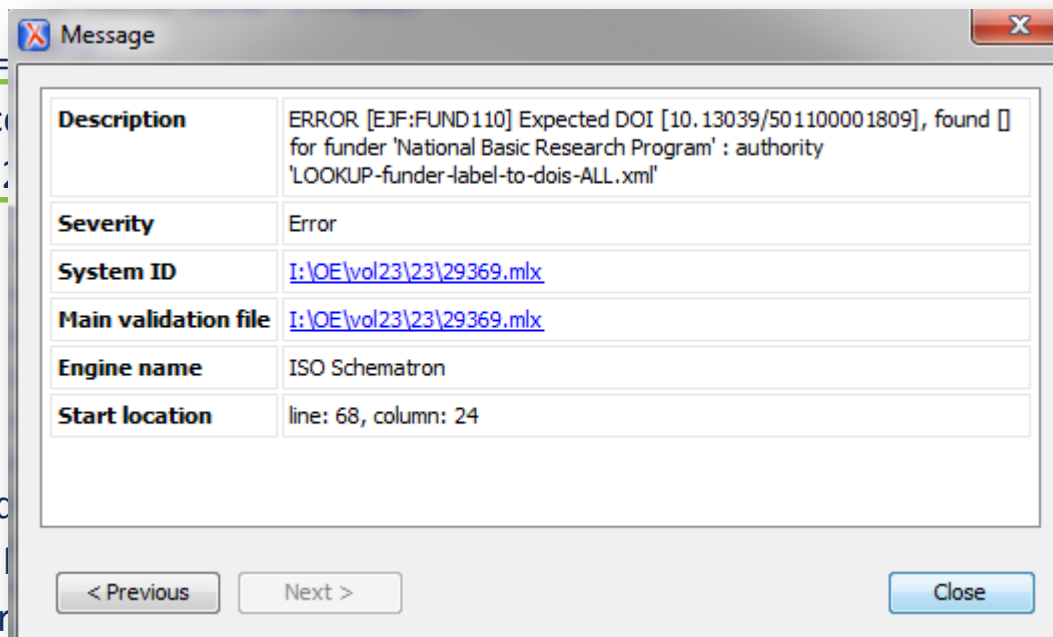
An NSFC project/program is a funder but NSFC isn't mentioned

## Article Metadata

```
<funding-group>  
  <award-group id=  
    <funding-source  
    <award-id>2012  
  </award-group>  
</funding-group>
```

## Funding block

```
<sec sec-type="funding">  
  <title>FUNDING INFORMATION</title>  
  <p><funding-source>  
    (<award-id>2012CB315602</award-id>).</p>  
</sec>
```



## NSFC to be added and tagged explicitly

### Article Metadata

```
<funding-group>
  <award-group id="sp1">
    <funding-source>National Basic Research Program</funding-source>
  </award-group>
  <award-group id="sp2">
    <funding-source>National Natural Science Foundation of China
      (NSFC)<named-content content-type="doi"
        >10.13039/501100001809</named-content></funding-source>
    <award-id>2012CB921900</award-id>
  </award-group>
</funding-group>
```

### Funding block

```
<sec sec-type="funding">
  <title>FUNDING INFORMATION</title>
  <p><funding-source>National Basic Research Program</funding-source> of the
    <funding-source>National Natural Science Foundation of China
      (NSFC)<named-content content-type="doi"
        >10.13039/501100001809</named-content></funding-source>
    (<award-id>2012CB315602</award-id>).</p>
</sec>
```

## CrossRef Submission Confirmation Email

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<doi_batch_diagnostic status="completed" sp="ds5.crossref.org">
```

```
<submission_id>1383766356</submission_id>
```

```
<batch_id>osa_batch_20150828015513</batch_id>
```

```
<record_diagnostic status="Warning">
```

```
<doi>10.1364/OE.23.023450</doi>
```

```
<msg>Funder name Canadian Network for Research and Innovation in Machining Technology,  
Natural Sciences and Engineering Research Council of Canada (NSERC Canadian Network for  
Research and Innovation in Machining Techn... is too long, please ensure the name is for a funder  
only. &#xD; Fundref portion of deposit skipped</msg>
```

```
</record_diagnostic>
```

### Funding agency name



Academy of Natural Sciences (Academy of Natural Sciences of Drexel University)

College of Agricultural, Human and Natural Resource Sciences, Washington State University (CAHNRS)

Luonnontieteiden ja Tekniikan Tutkimuksen Toimikunta (Research Council for Natural Sciences and Engineering)

Natur og Univers, Det Frie Forskningsråd (Natural Sciences, Danish Council for Independent Research)

Natural Sciences and Engineering Research Council of Canada (Conseil de Recherches en Sciences Naturelles et en Génie du Canada)

Canadian Network for Research and Innovation in Machining Technology, Natural Sciences and Engineering Research Council of Canada (NSERC Canadian Network for Research and Innovation in Machining Technology)

## FundRef Registry

```
<skos:Concept rdf:about="http://dx.doi.org/10.13039/501100002790">
  <skos:inScheme rdf:resource="http://data.fundref.org/vocabulary"/>
  <skosxl:prefLabel>
    <skosxl:Label rdf:about="http://data.fundref.org/vocabulary/Label-428015">
      <skosxl:literalForm xml:lang="en">Canadian Network for Research and Innovation in
        Machining Technology, Natural Sciences and Engineering Research Council of
        Canada</skosxl:literalForm>
    </skosxl:Label>
  </skosxl:prefLabel>
  <skosxl:altLabel>
    <skosxl:Label rdf:about="http://data.fundref.org/vocabulary/Label-508175">
      <skosxl:literalForm xml:lang="en">NSERC Canadian Network for Research and Innovation in
        Machining Technology</skosxl:literalForm>
    </skosxl:Label>
  </skosxl:altLabel>
  <skosxl:altLabel>
    <skosxl:Label rdf:about="http://data.fundref.org/vocabulary/Label-428016">
      <skosxl:literalForm xml:lang="en">CANRIMT, NSERC</skosxl:literalForm>
    </skosxl:Label>
  <fref:usageFlag rdf:resource="http://data.fundref.org/vocabulary/abbrevName"/>
</skosxl:Label>
```





# Thank you!

Jennifer Mayfield

[jmayfi@osa.org](mailto:jmayfi@osa.org)

<https://www.osapublishing.org>