



Leiden University  
Medical Center

# SLICING THE FAIR PRINCIPLES

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Luiz Bonino

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# FAIR PRINCIPLES

## Findable:

- F1. (meta)data are assigned a globally unique and persistent identifier;
- F2. data are described with rich metadata;
- F3. metadata clearly and explicitly include the identifier of the data it describes;
- F4. (meta)data are registered or indexed in a searchable resource;

## Interoperable:

- I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
- I2. (meta)data use vocabularies that follow FAIR principles;
- I3. (meta)data include qualified references to other (meta)data;

## Accessible:

- A1. (meta)data are retrievable by their identifier using a standardized communications protocol;
  - A1.1 the protocol is open, free, and universally implementable;
  - A1.2. the protocol allows for an authentication and authorization procedure, where necessary;
- A2. metadata are accessible, even when the data are no longer available;

## Reusable:

- R1. (meta)data are richly described with a plurality of accurate and relevant attributes;
  - R1.1. (meta)data are released with a clear and accessible data usage license;
  - R1.2. (meta)data are associated with detailed provenance;
  - R1.3. (meta)data meet domain-relevant community standards;

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**“Distinct from peer initiatives that focus on the human scholar, the FAIR Principles put specific emphasis on enhancing the ability of machines to automatically find and use the data, in addition to supporting its reuse by individuals.”**

Wilkinson, *et al*, “The FAIR Guiding Principles for scientific data management and stewardship, Scientific Data”, March 15, 2016, [10.1038/sdata.2016.18](https://doi.org/10.1038/sdata.2016.18)

# FAIR PRINCIPLES AND THEIR MULTIPLE FACETS

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# FAIR DATA PRINCIPLES - METADATA

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## Interoperable:

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# FAIR DATA PRINCIPLES – DATA/DIGITAL RESOURCES

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## Interoperable:

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- I3. data include qualified references to other (meta)data;**

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# FAIR DATA PRINCIPLES – SUPPORTING INFRASTRUCTURE

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# FAIR PRINCIPLES – TECHNOLOGY-RELATED

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# FAIR PRINCIPLES – SOCIAL-RELATED

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THANK YOU!!!



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