

Curate, store, analyse, share and publish your bioscience experiment

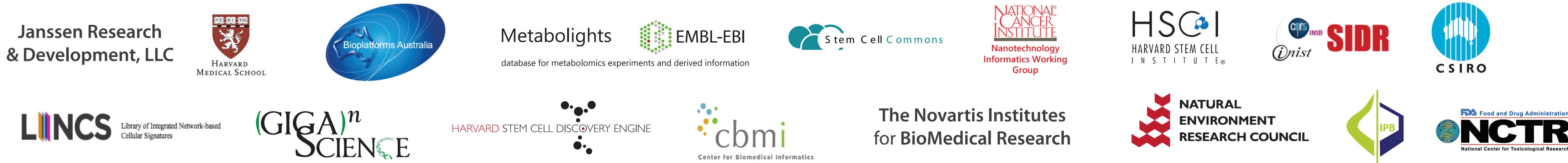
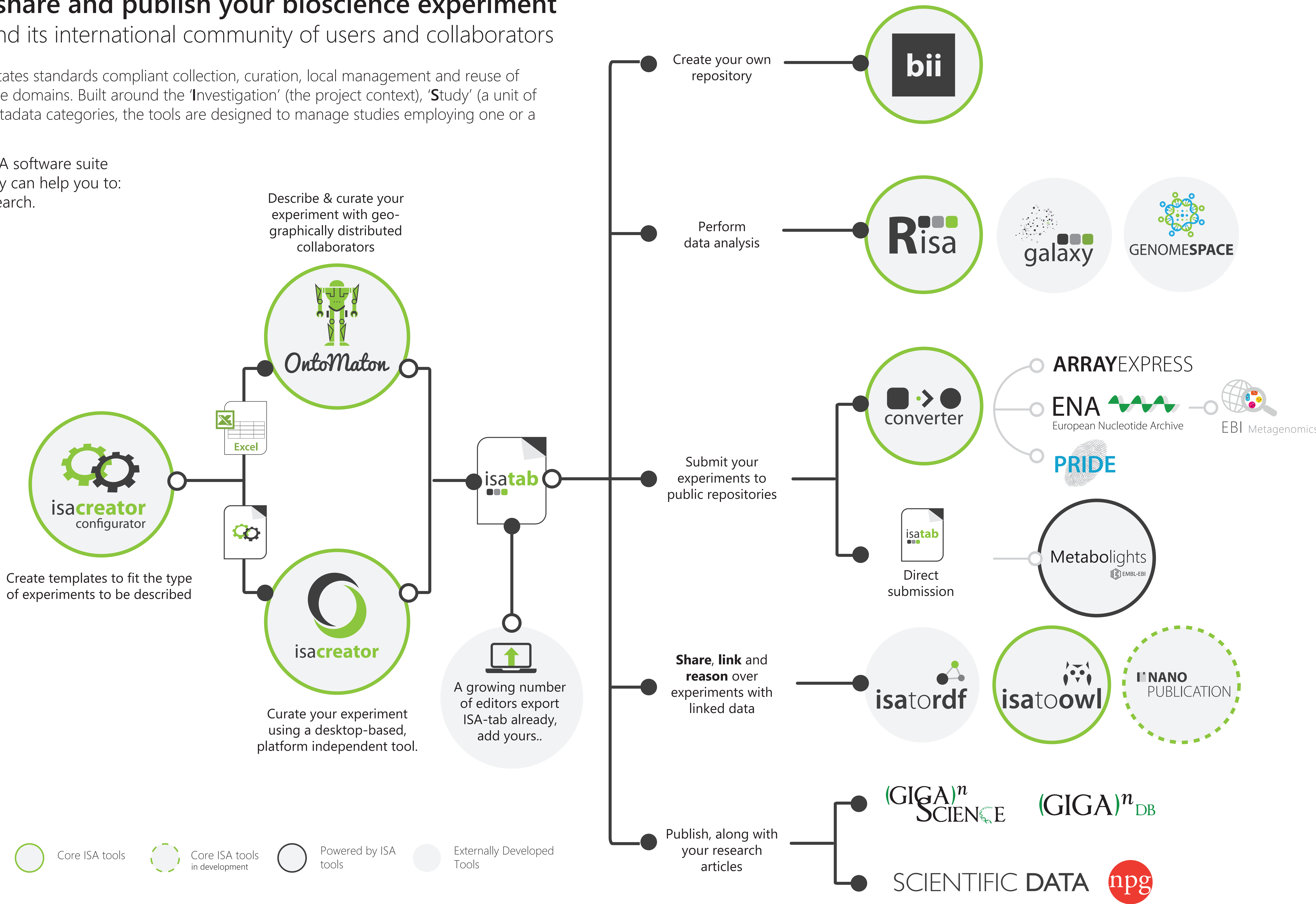
The open source ISA tools and its international community of users and collaborators

The open source ISA metadata tracking tools facilitates standards compliant collection, curation, local management and reuse of datasets in an increasingly diverse set of life-science domains. Built around the ‘Investigation’ (the project context), ‘Study’ (a unit of research) and ‘Assay’ (analytical measurement) metadata categories, the tools are designed to manage studies employing one or a combination of technologies.

Here we show the different components of the ISA software suite and the external tools we plug in to, and how they can help you to: curate, store, analyse, share and publish your research.

A selection of real applications of ISA

- ISA software suite:**
Overview of ISA-Tab and first set of tools
Bioinformatics
- Rocca-Serra et al, 2010
Bioinformatics
- Towards interoperable bioscience data:** Pre-
sented the ISA Commons, authored by more than
50 collaborators at over 30 scientific organizations
around the globe.
Nature genetics
- Sansone et al, 2012
Nature Genetics
- The Harvard Stem Cell Discovery Engine:**
an integrated repository and analysis system for
cancer stem cell powered by ISA tools.
Nucleic Acids Research
- Ho Sui et al, 2012
Nucleic Acids Research
- Taxonomy-based Glyph Design**
Visualizing (ISA based) workflows of
biological experiments
IEEE TVCG
- Maguire et al, 2012
IEEE TVCG
- OntoMaton:** a Bioportal powered
ontology widget for Google Spreadsheets.
Bioinformatics
- Maguire et al, 2013
Bioinformatics
- The ToxBank Data Warehouse:** a research
cluster of 7 EU FP7 Health systems toxicology and
toxicogenomics projects develops the **ISAtoRDF**
module
molecular informatics
- Kohonen et al, 2013
Molecular Informatics
- MetaboLights:** an open-access repository
for metabolomics at EBI powered by ISA.
Nucleic Acids Research
- Haug et al, 2013
Nucleic Acids Research
- Standardizing data:** ISA-Tab-Nano: ISA-Tab
extension for nanotechnology applications au-
thored by over 20 organizations inc. government
agencies, academia and industry.
Nature Nanotechnology
- Baker et al, 2013
Nature Nanotechnology



The ISA Commons is a growing ecosystem of over 30 public and internal resources using the ISA metadata tracking framework to facilitate standards-compliant collection, curation, management and reuse of investigations in an increasingly diverse set of life science domains including :

- environmental health
- environmental genomics
- metabolomics
- metagenomics
- nanotechnology
- proteomics
- stem cell discovery
- system biology
- transcriptomics
- toxicogenomics
- also by communities working to build a library of cellular signatures



For a **demo** of the ISA tools or to discuss how to implement one or more compoments in your existing system, or simply use the format, contact us and join the ISA Commons.

Eamonn Maguire
Philippe Rocca-Serra
Alejandra Gonzalez-Beltran
Pavlos Georgiou
Susanna-Assunta Sansone

