Supplement B: Research Networking Systems Characteristics Profiles

#oclcresearch #rrafreport

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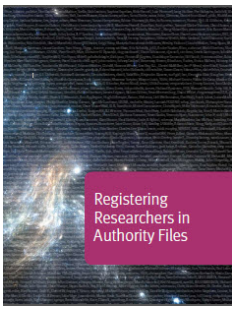

A companion to the OCLC Research report,
Registering Researchers in Authority Files

Available at:
http://www.oclc.org/research/publications/library/2014/oclcresearch-registering-researchers-2014-overview.html.

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OCLC Research

Research Networking Systems Profiled:

arXiv.org Author Identifiers

Name:	arXiv
URL:	arxiv.org
Type:	Subject repository
Year started:	1991 (repository) 2004 (author endorsement system) 2005 (began authority records) 2009 (public author identifiers)
Purpose:	arXiv is a non-profit open access, moderated, e-print repository maintained by Cornell University Library to advance effective and affordable scholarly exchange in the fields covered. It is a long-term goal of arXiv to accurately identify and disambiguate all authors of all articles in arXiv.
Description:	Electronic archive and distribution server for research articles which provides support for controlled researcher names
Scope:	International user base. Repository function covers pre/post-prints in physics, mathematics, computer science, nonlinear sciences, quantitative biology, quantitative finance and statistics. Authority records are used to support the contributor endorsement system which verifies that contributors belong to the scientific community (content moderation function). Initially, users must opt-in to have a public author identifier and to expose the record of their articles on arXiv for use in other services. At some later date arXiv developers hope to be able to improve the authority records to the point where they can create public author identifiers for all authors of arXiv articles without needing to enlist the help of each author to check their record before opting in.
Source:	Accepts article submissions only from individual registered authors. It is a violation of arXiv policies to misrepresent your identity or institutional affiliation. Claimed affiliation should be current in the conventional sense: e.g., physical presence, funding, e-mail address, mention on institutional web pages, etc. Misrepresentation of identity or affiliation, for any reason, is possible grounds for immediate and permanent suspension.
Content:	Only author ID and list of that author's publications within arXiv. Example: http://arxiv.org/a/warner_s_1. The local part of the author identifier (the part after http://arxiv.org/a/) is designed to be reasonably short and somewhat memorable/typable. It is created by combining the last name of the author, the first initial, and a sequence number starting at 1.
Size:	Unclear. Repository holds 961,374 e-prints as of August 11, 2014. Each e-print would have at least one author.
Used by:	Researchers, readers, librarians, search engines, harvesters
Public functions:	Services offered for the repository: • Listings of newly submitted articles in areas of interest are available via the web interface, via RSS feeds, and by subscription to automatic email alerts. • API Services offered based on author identifiers: • simple list of papers as an HTML page you can link to (e.g., http://arxiv.org/a/warner_s_1) • an Atom feed of articles (e.g., http://arxiv.org/a/warner_s_1.atom2—authors combined, best for current feed readers; and http://arxiv.org/a/warner_s_1.atom—authors in separate atom:author elements) • a way to dynamically include the list of your publications in your own home page using the JavaScript myarticles widget: http://arxiv.org/help/myarticles

	• an arXiv Facebook application http://arxiv.org/help/facebook providing a convenient way to alert friends to your arXiv articles and to comment on articles within Facebook
Restricted functions:	Public author identifiers are not created unless there are arXiv articles associated with a user account. Authors must be registered users of the system and authors need to have articles in arXiv which are associated with their user account.
Interoperates with:	Developers are aware that "It would also be beneficial to associate author records in arXiv with author records in other scholarly communication system, for example with the SPIRES database in high-energy physics. Association of author records across different systems would facilitate the creation of services and tools that operate over multiple repositories, or combine data from multiple sources." Projects using the API could be considered to be "interoperating" with arXiv in a loose sense, as they are grabbing and using arXiv data. The following enhancements and interoperability features are planned: • arXiv will permit authors to record other identifiers they have in other schemes and include these in the data feeds. This will allow agents and systems to link together the same author in different databases. • arXiv will support mechanisms for handling name changes, combination of accidentally created duplicates and separation of accidentally combined identifiers. The 2014 arXiv Road Map indicates that support will specifically be added for ORCID and other author identifiers. It states, "We would like to support ORCID identifiers for better interoperability with other repositories implementing authority control and also as a route toward providing institutional statistics for member organizations (because ORCID is implementing storage of affiliation in the profile data)."
Overlaps with:	Undoubtedly authors have pre-prints or published papers represented in other repositories with same subject content (INSPIRE-HEP, NASA-ADS, Web of Science, etc.). Bibliographic links to equivalent and related documents in INSPIRE-HEP and NASA-ADS are included in arXiv document records, done via arXiv ID.
Linked data:	Author identifiers are URIs, so they are linked data compatible.
Access methods:	See above re: public functions. API calls are via HTTP GET or POST. The RSS output complies with RSS 1.0, which utilizes Dublin Core for descriptive metadata. There is also bulk access to metadata via OAI-PMH (which in practice utilizes Dublin Core as descriptive metadata). And full text is available via Amazon S3.
Metadata schema:	Articles are deposited into arXiv with an in-house list of metadata elements, most of which are optional: title, authors, abstract, comments, report number, category, journal reference, DOI, MSC class, and ACM class. The descriptive metadata elements are exposed for other uses via the myarticles Javascript widget.
Licenses:	Articles are submitted to arXiv under a non-exclusive license to distribute http://arxiv.org/licenses/nonexclusive-distrib/1.0/license.html
Fees:	No fee for individual end use. arXiv business model under development, current funding model based on grant amount, Cornell Library budget, and membership payments from top 200 contributing institutions.
Responsibility:	Hosted, developed, and maintained by Cornell University Library
References:	Warner, Simeon. "Author Identifiers in Scholarly Repositories." *Journal of Digital Information*. 11(1). 2010. http://arxiv.org/abs/1003.1345.

AuthorClaim

Name:	AuthorClaim
URL:	http://authorclaim.org
Type:	Subject Author ID Service
Year started:	Early 2008
Purpose:	Non-profit service run by Thomas Krichel (founder of RePEc) to give academics a list of publications in a publicly and easily accessible manner.
Description:	Metadata store without index or search. Authors register and have a short URL with a profile of their publications, for example: http://authorclaim.org/profile/pkr1/
Scope:	International user base. Originally more suited to economists this service continues to add more data sources and hence broaden its user base.
Source:	Acquires data through feeds from bibliographic sources. Disambiguates by asking authors to register and claim records. Current list of sources available: http://authorclaim.org/collections. Includes: AGRIS, arxiv.org, BASE, CrossRef, Current Index to Statistics, DBLP, E-LIS, ERIC, Euclid, HAL, IUCR, OpenLibrary, PubMed, RePEc, SOLIS and SPIRES.
Content:	Only author ID and list of that author's publications within content collections listed above. Example: http://authorclaim.org/profile/pkr1/.
Size:	Indexed collections hold 64,025,860 papers as of August 15, 2014; each paper would have at least one author.
Used by:	Researchers, readers, librarians, search engines, harvesters
Public functions:	Public profile
Restricted functions:	Public author identifiers are not created unless an author registers.
Interoperates with:	AGRIS, arxiv.org, BASE, CrossRef, Current Index to Statistics, DBLP, E-LIS, ERIC, Euclid, HAL, IUCR, OpenLibrary, PubMed, RePEc, SOLIS and SPIRES. Data can be downloaded from ftp://ftp.authorclaim.org but there is no API. Data is stored in an XML format.
Overlaps with:	AGRIS, arxiv.org, BASE, CrossRef, Current Index to Statistics, DBLP, E-LIS, ERIC, Euclid, HAL, IUCR, OpenLibrary, PubMed, RePEc, SOLIS and SPIRES
Linked data:	Author identifiers are URIs, so they are linked data compatible.
Access methods:	FTP
Metadata schema:	Proprietary
Licenses:	All metadata is available CC0
Fees:	Funded by grant from Open Society Institute
Responsibility:	Hosted, developed, and maintained by Thomas Krichel
References:	http://authorclaim.org/about

Community of Scholars

Name:	Community of Scholars (COS)/(Refworks-COS); COS Scholar Universe
URL:	http://pivot.cos.com; http://www.scholaruniverse.com
Type:	Researcher profile system; funding Opportunities
Year started:	To allow researchers to identify people working in their field of interest; enables finding of potential collaborators and funding opportunities
Purpose:	A specialized online database and search tool that helps researchers in any discipline use keyword searching to find people working in their fields of interests. Pivot links researchers to funding opportunities.
Description:	International—any researcher may register
Scope:	Editorially controlled, and regularly updated, profiles created from data from various sources including the scholar directly supplying his/her own information; content from over 70 ProQuest and CSA proprietary databases and other certain verified publications such as ABI/INFORM, ERIC and PubMed; Information is also pulled from the scholar's personal and institutional websites, if it exists.
Source:	Author affiliation; *Verified* publications; Link to scholar's CV; Link to personal website; Research interests; Co-Authors and links to their scholar profiles; Professional memberships and associations; Contact information, including e-mail address; Additional information such as grants, patents and honors
Content:	Over 3 million scholar profiles from 2,900 universities in 79 countries across 200 disciplines—continues to grow; 57% North America; 29% Europe
Size:	Academics and Researchers, academic libraries, publishers, government entities and corporations
Used by:	Academics and Researchers, academic libraries, publishers, government entities and corporations
Public functions:	Suggest a scholar; Concise version - Name search; partial publication list through Scholar Universe
Restricted functions:	Federated login
Interoperates with:	VIVO; ORCID; ISNI
Overlaps with:	WOS; Scopus; Google Scholar; research information management systems; Funding opportunities
Linked data:	COS Funding Opportunities, COS Expertise and Papers Invited
Access methods:	Web interface
Metadata schema:	None documented
Licenses:	http://www.refworks-cos.com/terms/PQCSACOS/
Fees:	Subscription
Responsibility:	Proquest—Refworks-COS
References:	http://www.refworks-cos.com/cosscholaruniverse/faq/

Digital Author Identifier (DAI)

Name:	Digital Author Identifier (DAI)
URL:	None
Type:	Authority hub
Year started:	2006
Purpose:	To provide authorized headings to be used in cooperative (national) research registration effort. Used for by research information management systems in the Netherlands.
Description:	Central authority files for researchers in the Netherlands
Scope:	It contains authors from all countries. It concerns names of researchers in research information systems (all disciplines).
Source:	The information comes from local research information management systems.
Content:	Publicly: name, identifier, name variations, year of birth, place of birth, year of death
Size:	65,846 DAIs
Used by:	The user communities are Dutch library catalogues and Dutch research information management systems.
Public functions:	No
Restricted functions:	Functions available only to database owners / members
Interoperates with:	ISNI, ORCID and VIAF
Overlaps with:	The following hubs/services have information about the same individuals/institutions: ISNI, ORCID, VIAF
Linked data:	No
Access methods:	Link in the research information management system.
Metadata schema:	None
Licenses:	NTA license OCLC
Fees:	License
Responsibility:	OCLC PICA
References:	http://www.surf.nl/en/themes/research/research-information/digital-author-identifier-dai/digital-author-identifier-dai.html

Google Scholar

Name:	Google Scholar
URL:	http://scholar.google.com
Type:	Researcher profile system; Citation Index; Full Text Index
Year started:	2004 (citation index; text search); 2011—Profiles
Purpose:	"Stand on the shoulders of giants"; Provide a simple way to search scholarly literature.
Description:	Google scholar is by many measures, the dominant search engine for scholarly literature and citations.
Scope:	Any author in a publication indexed by Google scholars; international; all fields.
Source:	Undocumented; but includes a wide range of citation information and full text publications from commercial sources; institutional sources (such as institutional repositories); and web sources
Content:	Search: Full text of scholarly literature, including law reviews; Citation indices of scholarly literature. Full text of patents. Full text and citation of subset of scholarly books. Profiles: Email address. Interests. Institution. List of publications. Not extensible.
Size:	Unknown. Google scholar contains information on millions of authors, but unknown proportion have "verified" scholarly profile.
Used by:	Libraries/institutions (union catalog; link resolver); Individuals (profiles; search); Publishers (indexing)
Public functions:	Search; Profile generation; Citation list import/export; Journal impact metrics; Scholar impact metrics; Persistent Profile URL
Restricted functions:	Library Links—integration of link resolver (e.g., SFX); Library search—integration of search results from library national union catalogs (e.g., WorldCat); undocumented search API
Interoperates with:	Google web search (integration of scholar results in main results)
Overlaps with:	WOS; Scirus; Mendeley
Linked data:	None documented
Access methods:	None documented; Undocumented API. A number of toolkits also exist for interfacing.
Metadata schema:	For indexing content web mechanisms: robots.txt; sitemap; meta-tags—highwire press, BEpress, PRISM, Eprints
Licenses:	None documented
Fees:	Free to use
Responsibility:	Google
References:	http://googlescholar.blogspot.com/; http://en.wikipedia.org/wiki/Google_scholar; http://scholar.google.com/intl/en/scholar/about.html

International Standard Name Identifier (ISNI)

Name:	International Standard Name Identifier
URL:	http://www.isni.org/
Type:	Identifier management
Year started:	2011 launch of database
Purpose:	ISNI is an ISO certified global standard for identifying the millions of contributors to creative works and those active in their distribution, including writers, artists, creators, performers, researchers, producers, publishers, aggregators, and more. It is part of a family of international standard identifiers that includes identifiers of works, recordings, products and right holders in all repertoires, e.g., DOI, ISAN, ISBN, ISRC, ISSN, ISTC, and ISWC. ISNI can be assigned to all parties that create, produce, manage, distribute or feature in creative content including natural, legal, or fictional parties, and is essential to those working in the creative industries for quick, accurate and easy identification. Inter alia, ISNI will serve the following key purposes: 1. Act as a bridge-identifier across multiple domains for all sectors 2. Facilitate reliable royalty management services across all repertoires and throughout the value chain. 3. Allow for more accurate, complete and efficient discovery services spanning all domains. 4. Provide an infrastructure for academics and researchers to establish their identity for the purpose of reputation management and communication of their output. 5. Provide an infrastructure for organization identification to smooth and improve the functioning of the information supply chain.
Description:	The ISNI system uniquely identifies Public Identities across multiple fields of creative activity. The ISNI provides a tool for disambiguating Public Identities that might otherwise be confused. ISNI is not intended to provide direct access to comprehensive information about a Public Identity but acts as a bridge identifier by providing links to other systems where such information is held. The ISNI assignment system assigns ISNIs by matching and linking contributed data about public identities and diffusing the identifier back out to the data contributors to propagate in their databases and services. Widespread diffusion among many different contributing sources enables those sources to more efficiently exchange information about those identities between one another. Diffusion enables ISNI to link identity to identity across domains and identity to works/resources within and across domains.
Scope:	Information sufficient to support machine matching and disambiguation of name identities contributed from multiple data sources (see Content below for metadata set defined in Request Schema specification) Coverage is global across all disciplines and languages, and is not restricted to researchers but covers all kinds of creators and contributors (see Purpose above)
Source:	Data is sourced from Member organizations and Registration agencies. Coverage includes libraries, open source resource files, commercial aggregators and rights management organizations.
Content:	Possible data includes: • Local name Identifier • Other name ID • Other name ID type, e.g. IPI, IPD.

	• Name Prefix, e.g. Sir • Forename • Middle name • Surname • Name Suffix, e.g., Esq. • Alternative name • Date of Birth, use ISO 8601, YYYYMMDD preferred (see data element values)* • Date of Death (as above)* • Title identifier • Title identifier type, e.g. ISBN, ISRC • Title (s) • Subtitle • Contributed to or performed, e.g. include here titles of journals etc. works to which the person has contributed or performed • Year of Publication • Creation Class, e.g. text (books, published articles), music, audio-visual, art works, database • Creation role, (see table in the document Data element Values for valid values) • Publisher • Dewey classification number • Affiliated institution • Related persons • Relationship type, e.g. “pseud” or “real name”* • Instrument • Country, region, city • Organization URL *Some data is suppressed from public view but used in the system to support disambiguation and assignment of ISNI.
Size:	8 million ISNIs assigned by July 2014 of which 830,000 are researchers; 12 million potential ISNIs in database yet to be assigned. To support the disambiguation process the ISNI database currently contains metadata for over 80 million works/resources and this figure is constantly growing.
Used by:	Anyone who works with data about resources will be able to make use of the ISNI to support discovery, develop services, report metrics, perform rights transactions: so would probably tick all boxes in any list
Public functions:	Discovery: anyone can look up the Public ISNI database. Anyone can make machine enquiries using the SRU API to the Public ISNI database and there is a persistent URI to each ISNI assigned. Report: anyone can leave a comment/provide feedback in a textbox on an ISNI record Request ISNI: public can request via an ISNI Registration Agency
Restricted functions:	Discovery: access to the entire database and to a richer set of disambiguating elements Request ISNI: from members and Registration Agencies Response: return ISNI Notification: change (enhance/split or merge ISNI)
Interoperates with:	Members and Registration Agencies; Others under negotiation

Overlaps with:	ORCID; Multiple Researcher systems ISNI is global in scope so will overlap with any identity management system which identifies people who create, produce, manage, distribute or feature in created content
Linked data:	Access to the system via persistent URI according to linked data specifications (http://isni-url.oclc.nl/isni/ gives content negotiation); Schema.org metadata planned.
Access methods:	The ISNI Assignment Request API is using the Atom publishing protocol standard, IETF RFC-5023, version 1, October 2007. For public access, the API is using the SRU standard, version 1.1.
Metadata schema:	ISNI has defined: • Request schema • Assignment response schema • SRU enquiry response schema • Notification Schema • Bulk load reports—3 schemas • See: Documents related to data submission
Licenses:	"By accessing this database, you accept (a) that the ISNI international Agency ("ISNI-IA") does not guarantee in any way the correctness, accuracy or exhaustiveness of the information provided in it and (b) that you may not use, reuse, rearrange, adapt, collect, extract or aggregate the data to create databases, or any other compilations of the provided data, no matter if the data is physically stored in an organised manner, permanently or temporarily; The ISNI-IA cannot be held liable for any incidental, consequential or foreseeable damage, loss, injury, harm, costs or prejudice that may arise or result directly or indirectly from the use of the information contained in this database."
Fees:	Anyone can search the public database freely. Membership is €800 per annum; it provides an enhanced view of more of the metadata supporting each ISNI. Fee structures for individual and batch assignments are variable according to volume and are outlined in the documentation for Registration Agencies.
Responsibility:	OCLC B.V. hosts the Assignment system Founding members (http://www.isni.org/content/founding-members-isni-ia): • Conference of European National Librarians (CENL) • International Confederation of Societies of Authors and Composers • The International Federation of Reproduction Rights Organisations AISBL • International Performers Database Association • OCLC B.V. • ProQuest LLC/Bowker See also: http://www.isni.org/content/isni-community for all current members
References:	ISNI Information: • How ISNI Works: http://www.isni.org/how-isni-works • FAQs: http://www.isni.org/content/faq • New ISNI presentation: http://www.isni.org/content/new-isni-presentation-0 • ISNI Data Policy: http://www.isni.org/content/isni-data-policy • ISNI Data Quality Policy: http://www.isni.org/content/data-quality-policy Press Releases: • ISNI. 2012. "ISO Publishes the ISNI Standard (ISO 27729:2012)." 19 March. http://www.isni.org/content/iso-publishes-isni-standard-iso-277292012 • Dawson, David L. 2012 "Use of ISNI Is Growing Fast among Authors, Says New Bowker Analysis: More than a Third of Contributors in Books in Print have an

	ISNI." *LDawson's blog*. http://www.isni.org/content/use-isni-growing-fast-among-authors-says-new-bowker-analysis. • Dawson, David L. 2014. "ISNI and ORCID sign Memorandum of Understanding." *LDawson's blog*. January. http://www.isni.org/content/isni-and-orcid-sign-memo-understanding.

Lattes Platform

Name:	Lattes
URL:	http://lattes.cnpq.br/
Type:	Authority hub
Year started:	1999
Purpose:	To provide unique identifiers for Brazilian researchers, Masters and PhD students (it also covers researchers outside Brazil who collaborate/publish with Brazilian researchers) and research institutions
Description:	Lattes is a large system with identifiers for all people active in research in Brazil and all institutions involved in producing and in funding research activities.
Scope:	The scope is Brazilian researchers and postgraduate students from all disciplines (and those outside Brazil who work with them) and research institutions.
Source:	There has been a CV database in Brazil since the mid-1980s, which formed the kernel of the Lattes system in the 1990s. Anyone can add their information—and in order to get funding, researchers are required to register.
Content:	Institutional affiliation; publication title; free-text biography; research output metrics; areas of interest; language competencies; awards and titles; educational attainments; previous posts
Size:	2,000,000 individuals; 4,000 institutions; 23,000 research groups; 20,000 projects
Used by:	Government departments; research funders; freely accessible to the public via web interface
Public functions:	Search; retrieve; re-use
Restricted functions:	None
Interoperates with:	All related national platforms in Brazil; SCOPUS; CrossRef
Overlaps with:	International services covering Brazilian researchers
Linked data:	None documented
Access methods:	Web search; API available to contributing institutions by arrangement
Metadata schema:	XML DTD for Lattes data available from https://github.com/antoanne/LMPLCurriculo
Licenses:	None documented
Fees:	None documented
Responsibility:	Maintained by a department of the Brazilian government: CNPq (National Council of Scientific and Technological Development)
References:	Pacheco, Roberto C. S. "The Role of Lattes Platform in the Brazilian Innovation System." Presented at the Spring 2012: ENG Advisory Committee Meeting, National Science Foundation, Arlington, Virginia. 12 April. http://www.nsf.gov/attachments/123272/public/1.Pacheco.pdf.

Library of Congress/NACO Authority File

Name:	Library of Congress/NACO Authority File
URL:	http://authorities.loc.gov/
Type:	Authority hub
Year started:	1982
Purpose:	To provide authorized headings to be used in cooperative cataloging efforts and wherever a nationally authorized heading is needed, generally in support of creating bibliographic data.
Description:	Accepts, merges, and redistributes authority files from partners called: NACO nodes. These partners are: The British Library; OCLC; SkyRiver
Scope:	Includes authority records for names of persons; corporate entities; conferences; place names; works; and expressions across all disciplines
Source:	Headings are created by the Library of Congress and members authorized to do so through the Name Authority Cooperative (NACO) program. As of October 2013 there are over 800 member institutions from around the world, including Biblioteca Nacional de Mexico; The British Library; National Agricultural Library; National Library of Medicine; National Library of New Zealand; National Library of Scotland; National Library of South Africa; National Library of Wales as well as major academic institutions in the U.S., U.K, Latin America and Asia (e. g., Harvard, UCLA, Yale, Oxford University, Cambridge University, Pontificia Universidad Católica del Perú, Universidade de São Paulo, Hong Kong University of Science and Technology).
Content:	Content may vary tremendously between headings. Potentials for inclusion are: See from tracing; See also from tracing; Source citations; Content type; Attributes of a person or corporate body; Associated place; Address; Field of activity; Associated group; Occupation; Gender; Family information; etc.
Size:	As of July 2014: 8,860,217 name authority records.
Used by:	Public-at-large: Public library users; Special library users; University students; Librarians; Vendors; Scholars; etc.
Public functions:	Search and retrieve authority records.
Restricted functions:	No restrictions on use of content Sale of bulk download available from MARC Distribution Service http://www.loc.gov/cds/products/product.php?productID=66. Free bulk download available in various formats
Interoperates with:	VIAF (harvests data via OAI on a monthly basis); The British Library (contributes name authority records on a daily basis); OCLC (contributes name authority records from members on a daily basis); SkyRiver (contributes name authority records from members on a daily basis)
Overlaps with:	The type of headings established is not limited in any particular way and may overlap with any other authority hub (e.g., VIAF, ISNI, ORCID, etc.)
Linked data:	The file is used as the basis for linked data thru VIAF and ID.LOC (http://id.loc.gov/) and LCCN Permalink (http://lccn.loc.gov/), all of which provide persistent identifiers.
Access methods:	Vocabularies at http://id.loc.gov are available for bulk download as serialized RDF/XML, Turtle, or N-Triples.

Metadata schema:	The metadata at http://authorities.loc.gov/ is available in MARC. The version at http://id.loc.gov is available as SKOS/RDF or MADS/RDF.
Licenses:	No licenses required; the data is public domain.
Fees:	There are no fees for use or contribution. Members of the PCC are required to have training before beginning contributions to the file that has an inherent cost; subscriptions are available for sale for ca. US $10,000.
Responsibility:	Library of Congress hosts the hub; maintenance activities are shared with the members of the Program for Cooperative Cataloging.
References:	The NACO FTP process: www.loc.gov/aba/pcc/naco/nodes.html.

LinkedIn

Name:	LinkedIn
URL:	http://www.linkedin.com/
Type:	Social networking service; Researcher profile system
Year started:	• 2002 (founded) • May 5, 2003 (launched)
Purpose:	Social networking service mainly used for professional networking and job searches by building and maintaining connections to colleagues, companies, and experts in a given field.
Description:	LinkedIn is a large professional network on the Internet operated by the publicly traded company LinkedIn Corporation
Scope:	International user base, people in professional occupations, organizations, companies
Source:	Profiles are created by individual members, organizations or companies.
Content:	• Profiles of individuals, companies, and organizations • List of connections • Messages • LinkedIn Groups • LinkedIn today (news) • Job postings
Size:	As of August 2014: More than 300 million members
Used by:	Professionals, students, recent graduates, companies
Public functions:	Profiles searches showing only the information that has been made public by registered users.
Restricted functions:	Registered users may create profiles, which can include: professional experience, language skills, publications, skills & expertise, education, etc. Users can connect with colleagues, companies and experts in their field. They can join interest groups (LinkedIn Groups), post status updates, follow companies and organizations, give or receive endorsements and recommendations. Members are also able to change their profile URL.
Interoperates with:	Twitter integration possible
Overlaps with:	Viadeo, XING

Linked data:	None documented
Access methods:	Website, APIs, Plugins. See listing on Developers page: https://developer.linkedin.com/whydevelop
Metadata schema:	Not identified. Some information on data and system can be found on: http://data.linkedin.com/
Licenses:	http://www.linkedin.com/legal/user-agreement
Fees:	No fee for individual end user for basic account. Business, Business Plus or Executive accounts cost between US $19.95 and $99.95 per month.
Responsibility:	LinkedIn Corporation
References:	About LinkedIn: http://press.linkedin.com/about (accessed 13 March 2014) LinkedIn Corporation, Wikipedia http://en.wikipedia.org/wiki/LinkedIn (accessed 3 April 2013) Hands, Africa. 2013. "Tech Services on the Web: LinkedIn http://www.linkedin.com." *Technical Services Quarterly*. 30 (2): 232-234. doi:10.1080/07317131.2014.908585 Hands, Africa S. 2011. "Internet Reviews: LinkedIn in Ten." *Kentucky Libraries*, 75 (4): 30

Mendeley

Name:	Mendeley
URL:	Mendeley.com
Type:	Reference/citation and document management
Year started:	Founded 2007. Beta release 2008. v.1.0 July 2011
Purpose:	Mendeley is a free reference manager and academic social network that can help you organize your research, collaborate with others online, and discover the latest research.
Description:	Automatically generate bibliographies, collaborate with other researchers, easily import papers, find relevant papers, annotate papers & share annotations. Can create public or private interest groups. Has "researcher profile" capacity with potential utility as author identifier. Researcher can upload their own papers and make available for discovery.
Scope:	Covers all subject disciplines. International user base. Contains repositories of individuals' documents (articles, presentations etc.), open access articles available to others in full text, paywall articles have first pages available, citation metadata, annotation text & metadata (shared via groups; can be public or private), readership statistics per article.
Source:	Users contribute documents and references.
Content:	Researcher profile contains: Photo (optional), publications, awards & grants, biographical information, CV (education, experience, and publications), contact details.
Size:	Over 2,500,000 users as of September 2013 (http://blog.mendeley.com/start-up-life/mendeley-has-2-5-million-users/)
Used by:	Multiple user communities. Anybody with an interest in citation management and social-sharing of references/papers/annotations. User communities highlighted by

	Mendeley via http://www.mendeley.com/our-users/ are: university students (undergrad, grad), post-docs, librarians, university research staff, faculty, commercial R&D, and government/NGO researchers.
Public functions:	Search is the only public function specifically associated with "researcher profile". Other functions listed above in description.
Restricted functions:	Most fields of researcher profile are optional and privacy can be controlled at the field level.
Interoperates with:	Can log in via Facebook. API available for developers to create 3rd party applications. Some of these apps are listed at http://dev.mendeley.com/. Citation management plug-ins for Word and Open Office documents.
Overlaps with:	Mendeley matches its user profiles with Scopus author profiles, and guides authors in the process of creating ORCID identifiers. End users could have author profiles on a multitude of other sites. Given academic user base there is also likely overlap with ISNI, NAF/VIAF, and Zotero.
Linked data:	Use cases are under consideration, and it appears that Mendeley is likely to pursue Linked Data approaches. See http://www.w3.org/2005/Incubator/lld/wiki/Use_Case_Mendeley_Research_Networks_for_linking_researchers_and_publications
Access methods:	Mendeley API allows 3rd party applications access to Mendeley information and supports importing 3rd party information.
Metadata schema:	Bibliographic metadata is exportable in standard citation styles (MLA, APA, etc.) API provides access to researcher profile metadata fields including name and affiliation. For more details, see http://dev.mendeley.com/slate/#profiles.
Licenses:	The desktop software is proprietary and subject to End User License agreement/Terms of Use. Open access for any data you can search and retrieve via API. Full text OA publications available. There is grey area on availability of publications. Non-OA articles could be available from publishers that allow authors to "self-archive." Mendeley functions akin to an institutional repository. End user agreement places onus on contributor to ensure copyright isn't violated.
Fees:	Service is free to use. There are "premium packages" which provide more personal library storage space
Responsibility:	Elsevier acquired Mendeley in April 2013.
References:	Correspondence with William Gunn, Head of Academic Outreach, Mendeley 15 August 2014

Names Project

Name:	Names Project
URL:	http://names.mimas.ac.uk/
Type:	Authority hub
Year started:	2007
Purpose:	To provide unique identifiers for UK researchers and research institutions
Description:	The Names Project built a database of UK researchers from information supplied by institutions and from other services. Names provided a matching and disambiguation service at the Mimas data centre in the University of Manchester, backed up by a manual quality assurance process provided by staff at the British Library.
Scope:	The scope was UK researchers from all disciplines. Names records are based on a data model developed in 2008 which used the Functional Requirements for Authority Records (FRAD) as its starting point.
Source:	The core information came from the UK's Research Assessment Exercise data from 2008 (covering the top 20% of UK researchers). This was supplemented with additional information provided by UK institutions.
Content:	Institutional affiliation; publication title; area of interest; other identifiers; other forms of name
Size:	50,000
Used by:	Names is freely available for use by anyone.
Public functions:	Search; retrieve; re-use
Restricted functions:	None
Interoperates with:	Names was a pilot project. Records from Names were submitted to ISNI and are available through that service.
Overlaps with:	Any hub which covers UK researchers.
Linked data:	No.
Access methods:	There is a web search interface and a publicly available API to the Names data, documented here: http://names.mimas.ac.uk/help#quickAPIGuide
Metadata schema:	MARC XML, HTML, Names XML, JSON
Licenses:	Names data is freely available for re-use (CC0)
Fees:	There are no fees
Responsibility:	Names was funded by Jisc (UK higher and further education sector) until July 2013 when the project came to an end. It was a partnership between Mimas at the University of Manchester and the British Library.
References:	http://names.mimas.ac.uk/about#documents

nanoHUB

Name:	nanoHUB
URL:	https://nanohub.org/
Type:	Research, education, and collaboration hub; science gateway
Year started:	2002
Purpose:	Webportal of the Network for Computational Nanotechnology providing a space for "computational nanotechnology research, education, and collaboration." (about us, accessed March 14, 2014)
Description:	nanoHub (an instance of HUBzero) is a webportal created by the Network for Computational Nanotechnology. Researchers can register for free. Only name and e-mail is required. The majority of users, registered and unregistered, are affiliated with an academic institution. The site is heavily focused on sharing of visualization tools and collaborative tool development. Profiles of individual members can be viewed once they have been made public. The profiles have stable URIs and include information on research interests, citizenship, place of residence, biography, affiliation, contributions
Scope:	International user base, Researchers, educators, students and professionals active in the nanotechnology community.
Source:	Profiles are created and contents uploaded by individual members.
Content:	• Simulation programs • Online presentations • Online teaching materials & courses • Workspaces • User groups • Publications • Member profiles with URIs serving as identifiers
Size:	As of March 13, 2014: Over 300,000 users annually; 90,968 members. Site usage statistics available at: https://nanohub.org/usage
Used by:	Researchers, educators, students and professionals in active in the field of
Public functions:	Search and download resources; view profiles that have been made publicly available
Restricted functions:	Registered users create a "My nanoHUB" workspace and can use the site for networking and collaboration, upload their own content, make use of tools created by others working in their field.
Interoperates with:	ORCID: http://orcid.org/content/adoption-and-integration-program; able to login using Facebook, Google, and LinkedIn accounts; DOIs minted through DataCite making citation metadata available through DataCite and other applications. Example: https://nanohub.org/resources/5065/?rev=25 (nanoHUB) http://data.datacite.org/10.4231/D3XW47W0J (DataCite)
Overlaps with:	None identified.
Linked data:	In development for the HUBzero platform, though this is focused on the description of the digital objects, not the researcher profiles. See https://hubzero.org/answers/question/158
Access methods:	Webportal
Metadata schema:	Local schema

Licenses:	https://nanohub.org/legal/licensing https://nanohub.org/legal/dmcapolicy
Fees:	Free
Responsibility:	Network for Computational Nanotechnology; instance of HUBzero (Purdue University)
References:	Klimeck, Gerhard, Michael McLennan, Sean B. Brophy, George B. Adams III and Mark S. Lundstrom. 2008. nanoHUB.org: Advancing Education and Research in Nanotechnology." *Computing in Science & Engineering*, *10*(5): 17-23. http://dx.doi.org/10.1109/MCSE.2008.120. McLennan, Michael J., and Michael Witt. 2013. 29 August, telephone interview. *Wikipedia.* s.v. 2013. "nanoHUB." Accessed 17 April. http://en.wikipedia.org/wiki/Nanohub. Windham, Carie. 2007. "The nanoHUB: Community and Collaboration." *Educause review*, *42*(6): 144-145. https://net.educause.edu/ir/library/pdf/erm07612.pdf. Witt, Michael and Yongyang Yu. 2012. "Refactoring HUBzero for Linked Data." In *Proceedings of the 12th ACM/IEEE Joint Conference on Digital Libraries*, Washington, DC. 12 June, 2012. http://cx.doi.org/10.1145/2232845.

NARCIS

Name:	NARCIS (National Academic Research and Collaborations Information System)
URL:	http://www.narcis.nl/
Type:	National Research Portal (Netherlands) or Network repository
Year started:	2003 (started in 2003 as Darenet and became in 2007 Narcis, with the integration with the Dutch Research Database)
Purpose:	To store the results of all Dutch research (including research data) in a network of repositories, thus facilitating access to them. By making use of the DAI, all research output published at different universities, can be listed on a personal page of the researcher. See http://www.narcis.nl/personpub/RecordID/PRS1238288/id/2/coll/person/Language/EN/uquery/dijkgraaf with publications from (1) Royal Netherlands Academy of Arts and Sciences (KNAW), (2) University of Amsterdam and (3) Utrecht University.
Description:	Provides access to the results of all Dutch research (including research data) from a network of repositories (can be compared with Driver on a European level) and research information.
Scope:	Access to research (including research data) generated in the Netherlands. Based on this information, all information about a certain researcher is listed based on the DAI (contact information, picture, homepage, publications, projects, etc. and if possible giving access to the full text.)
Source:	Repositories and some research information management systems
Content:	Expertise, DAI, Memberships, Publications in arXiv, Grants/prizes, current address, homepage, publications and projects (of a certain researcher), ISNI, ORCID
Size:	51,464 people (45% has a DAI)
Used by:	Public-at-large, harvesters, Google (Scholar) etc.
Public functions:	Providing free access to research information generated in the Netherlands.

Restricted functions:	Harvesting the information in NARCIS is permitted only after registration. A restriction regarding the use of information in the sections "Persons" or "Organizations" is applicable.
Interoperates with:	None. DAIs from repositories and research information management systems.
Overlaps with:	National repositories, NTA (ISNI, VIAF)
Linked data:	Experimenting with VIVO.
Access methods:	Harvest protocol.
Metadata schema:	DC, DIDL/MODS
Licenses:	Downloading of the information in NARCIS, or copying it in any other fashion, is permitted. One exception applies to this regulation. Re-use of information in the sections "Persons" and "Organizations" is restricted. Due to contractual and legal reasons information on persons and organizations presented in these sections may not be crawled, or copied in any other fashion. Re-use of information in the sections "Persons" and "Organizations" is allowed solely and in very small measure for personal exercise, study or use. Harvesting the information in NARCIS is permitted only after registration. A restriction regarding the use of information in the sections "Persons" or "Organizations" is applicable. You may register by submitting a filled out online form to DANS: http://www.narcis.nl/terms/Language/en#register.
Fees:	Free
Responsibility:	Hosted by: Data Archiving and Networked Services (DANS) www.**dans**.**knaw**.nl/en Members/participants: all the Dutch universities, Royal Netherlands Academy of Arts and Sciences (KNAW)**,** Netherlands Organization for Scientific Research (NWO) and a number of research institutes and datasets from some data archives.
References:	NARCIS terms of use: http://www.narcis.nl/terms/Language/en

ORCID

Name:	ORCID
URL:	http://orcid.org/
Type:	Identifier provider; identifier hub; authority; database of linked information on research output
Year started:	Project started in 2008; First public release of service 2012
Purpose:	ORCID is an open, non-profit, community-based effort to provide a registry of unique researcher identifiers and a transparent method of linking research activities and outputs to these identifiers.
Description:	1. Provides a service where individual researchers can register/create id's (similar to ResearcherID) 2. Provide tools for users to manage data privacy and sharing 3. Provide a service where individual researchers can link publications (similar to AuthorClaim), other research works (patents, datasets, books), other person identifiers, and organizations (employers, education) to their ORCID identifier. Several of these services also consume and post the ORCID iD in the external data base (e.g., EuropePMC, WOS (Web of Science), Scopus, ANDS (Australian National Data Service) all consume the ORCID iDs for claimed items and store it in their database). 4. Provides services to authenticate users, embed identifiers in workflows, and import/export data 5. Provides services to member organizations to register employee researchers in bulk, including pre-population of data fields such as research works, organization 6. Provides services to track data provenance (source, date, validation) 7. Provide public registry look up service/API 8. Provide annual public data file under CC0 waiver 9. Provide free sandbox development environment 10. Provide free public API that supports authentication, exchange of public information
Scope:	Create and maintain a registry of unique researcher identifiers and a transparent method of linking research activities and outputs to these identifiers. Users and members represent multiple disciplines, research sectors and countries.
Source:	1. Individual researchers: self entered 2. CrossRef/Scopus/ResearcherID/EuropePMC/DataCite/ANDS/ISNI manual pull: researcher can initiate search of records and select to pull into their profile. Source documented in ORCID database. 3. CrossRef automated pull: CrossRef is consuming ORCID iDs as part of the publisher deposit; this information will be used to push updates to ORCID records (feature due out in 2014). 4. Institutional members: create identifiers, and populate record data on behalf of employee researchers (researchers have final say in contents of their record, and can disassociate or remove information placed by institution). Data added in this way has source marked as member, and can be validated and updated by member. This is one way to obtain validation of an individual's degree-granting and employing institution. 5. Publishers: member publishers capture ORCID IDs during manuscript submission workflows, route authors to login or register for an ID and obtain ID via the API. Some publishers capturing IDs also for co-authors. ORCIDs associated with publication are registered in CrossRef

Content:	Contributor identifiers; researcher disambiguation information (institution, email, etc); bibliographic information describing research outputs (publications, grants, patents, etc.)
Size:	800,000 registrants and 145 organizational members as of July 2014.
Used by:	Living (at time of registration) researchers. Organizations and deceased authors are excluded by policy.
Public functions:	1. Human client access: (a) lookup by id/name; (b) self-registration of an ID; (c) management of own record information—including import/export of information, privacy, assignment of proxy maintainers 2. Throttled machine client: access (a) id lookup; (b) fielded query
Restricted functions:	Member functions machine-client interfaces: (1) high-performance ID lookup/fielded queries; (2) Notification APIs; (3) write access to profiles, with user permission (bulk member registration; machine updates of profiles); (4) read access to limited information, with user permission; (5) validation of links
Interoperates with:	1. ISNI—(a) provides services to link ISNI ID to ORCID record, harvest ISBN, and import metdata from ISBN registry; (b) link to Organizational identifiers using organization list provided by RingGold, an ISNI Registration Agency. 2. Crossref—(a) publication metadata may be imported by users from CrossRef into their ORCID record; (b) CrossRef captures ORCIDs in publisher deposits. 3. Wikipedia—ORCID IDs may be used within Wikipedia as one of the Wikipedia's supported name authority control systems 4. Scopus—(a) id, profile publications from Scopus may be imported into ORCID; (b) Scopus captures ORCID from self-claim and publisher workflows (c) Scopus AuthorID links to ORCID iD; (d) Scopus supports search by ORCID 5. ResearcherID –ORCID and ResearcherID support manual (user initiated) bidirectional data exchange; ResearcherID pushes ORCIDs to WOS; WOS enables ORCID-based search. 6. Manuscript management systems: integration supported by various vendors (Aries, ScholarOne, eJournalPress) and publishers (Nature Publishing Group, Elsevier, Wiley, OUP, Springer, Wolters Kluwer, Karger, and many more). 7. Research Information Management Systems—Converis, KNODE, PURE and Symplectic systems support links to or import of ORCID record information. 8. Researcher profile systems—VIVO and university profile systems support links to or import of ORCID record information. 9. Figshare, ImpactStory support bidirectional syncing of information 10. DataCite and ANDS support search and link wizards, which allow ORCID users to claim their datasets. ANDS stores the ORCID for claimed records. 11. Funders: National Institute of Health's SciENcv (Science Experts Network Curriculum Vitae) profiles support linkage ORCID IDs. Other funders are integrating ORCID into grant submission systems (Wellcome Trust, US Dept of Energy, SFI (Science Foundation Ireland), Swedish Research Council, NHMRC (National Health and Medical Research Council), FCT (Portuguese Foundation for Science and Technology) and Autism Speaks have taken steps to mandate use of ORCID. 12. In addition to publications workflows, professional associations are integrating ORCID into membership and meetings workflows, including Society for Neuroscience, AGU, and IEEE.
Overlaps with:	Theoretically may overlap with any other service that issues persistent, unique identifiers for people (e.g. ISNI). Current overlap with other databases of name identifiers is relatively small since ORCID focuses on living contributors in the research domain.

Linked data:	Can export data in XML and JSON. OpenSource code available on GitHub at http://orcid.org/blog/2013/02/21/orcid-open-source and a FOAF profile for REST requests has been developed so possible to express as linked data.
Access methods:	(a) Annual export of publicly claimed data as static structured file. (b) On demand export through REST API (c) custom data files for members.
Metadata schema:	Documented, nonproprietary, but bespoke schema. See: http://support.orcid.org/knowledgebase/articles/132271-retreiving-data-with-the-public-api. ORCID works with standards organizations such as CASRAI and EuroCRIS to ensure common schema are adopted.
Licenses:	ORCID principles (http://about.orcid.org/about/what-is-orcid/principles) state software will be OSS, and publicly claimed data will be released under CC0. Open source software available on GitHub (http://orcid.org/node/194), and the public data file is posted annually on the ORCID Website (http://orcid.org/content/orcid-public-data-file-use-policy). Individuals can choose to share information with specific member organizations. A bespoke member license is required to use this information: http://orcid.org/about/membership.
Fees:	Free to individual researchers. Claimed data made public by researcher freely available via annual data dump or public API (performance limited). Tiered fees for organizational members. Fees allow access to high performance query API's; allow bulk registration/updates via API. Fee ranges from US $5,000-$25,000/year. Discounts offered to non-profits (20%), small start-up organizations (75%) and consortia. See http://about.orcid.org/about/membership.
Responsibility:	Nonprofit ORCID Corporation. Governance by volunteer board, majority non-profit, elected from ORCID membership. Community input through Steering and Working Groups and Ambassador program. Also collect ideas via online user input forum. Operations managed by full-time staff: http://orcid.org/about/team.
References:	Butler, Declan. 2012. "Scientists: Your Number Is Up: ORCID Scheme Will Give Researchers Unique Identifiers To Improve Tracking of Publications." *Nature.* 485(564). doi:10.1038/485564a. Haak, Laurel, Martin Fenner, Laura Paglione, Ed Pentz and Howard Ratner. 2012. "ORCID: A System To Uniquely Identify Researchers."*Learned Publishing*, 25(4): 259-264. doi:10.1087/20120404 Haak, Laural. 2013. "ORCID**:** Connecting Researchers And Scholars With Their Works." *Insights: the UKSG journal.* 26(3): 239-243. doi.org/10.1629/2048-7754.103. "Introduction to the ORCID API." http://support.orcid.org/knowledgebase/articles/180285-introduction-to-the-orcid-api. See also resources listed at: • http://orcid.org/organizations/publishers/learnmore • http://orcid.org/organizations/associations/learnmore • http://orcid.org/organizations/institutions/learnmore • http://orcid.org/organizations/funders/learnmore

ResearcherID

Name:	ResearcherID
URL:	http://www.researcherid.com
Type:	Authority hub
Year started:	2008
Purpose:	To provide individuals with a profile for their research publications and allow them to generate citation metrics and collaboration networks
Description:	"ResearcherID provides the global research community with an invaluable index to author information. By assigning a unique identifier to each author who participates, ResearcherID standardizes and clarifies author names and citations and makes your information search more straightforward and accessible." [from the website] The service is provided by Thomson Reuters and is linked to their Web of Knowledge product.
Scope:	The scope is active researchers in any field, in any country.
Source:	Profiles are created by individual researchers, who then add information from the article-level data in the Web of Knowledge service in order to claim their works.
Content:	Institutional affiliation; publication title; area of interest; ORCID identifier; other forms of name
Size:	350,000 names
Used by:	Anyone can search the web interface to ResearcherID
Public functions:	Search
Restricted functions:	Terms of use are here: http://www.researcherid.com/resources/html/Terms.html
Interoperates with:	Web of Knowledge, ORCID
Overlaps with:	ORCID, Scopus AuthorID
Linked data:	No
Access methods:	There is a web search interface. Researchers can register themselves at http://www.researcherid.com/SelfRegistration.action. Tools for institutional administrators are available for bulk upload of information about researchers: http://wokinfo.com/researcherid/admintools/ and integration with the Web of Science products.
Metadata schema:	Not named on the ResearcherID site
Licenses:	http://www.researcherid.com/resources/html/Terms.html Non-open license—no commercial use, data mining, export; for manual search only.
Fees:	None
Responsibility:	Owned by Thomson Reuters
References:	Thomson Reuters. 2013. "Your Gateway To Researchers and their Published Works. ResearcherID.com. A Free, Global Community Where Researchers Connect." http://wokinfo.com/media/pdf/ResearcherIDFS_web.pdf. Thomson Reuters. 2014. "ResearcherID Help." http://www.researcherid.com/resources/html/dsy5769-TRS.html.

SciENcv

Name:	SciENcv
URL:	http://rbm.nih.gov/profile_project.htm
Type:	Researcher profile system
Year started:	2011 (launched project; beta version released September 2013)
Purpose:	The goal of the SciENcv pilot is to capture individual profile information from a variety of existing resources and make it available to the investigator on a voluntary basis.
Description:	The beta system integrates information from: • NIH eRA Commons: https://public.era.nih.gov/commons/commonsInit.doc • NIHMS: http://www.nihms.nih.gov/ • PubMed: http://www.ncbi.nlm.nih.gov/pubmed, with • Optional links to ORCID identifiers: http://orcid.org/content/orcid-public-data-file-use-policy, allowing users to manage information and produce public profiles in NIH biosketch form.
Scope:	Focused on US researchers. "Any researcher may register"
Source:	NIH eRA, PubMed, NIHMS, ORCID
Content:	Affiliation, Education, Honors, Awards, Personal Statement, Grants, Publications, Collaborators, Patents
Size:	Still in beta. Can automatically link to ERA-Commons accounts used by all NIH applicants, which number over 100,000. Thus SciENcv offers easy profile generation for over 100,000 biomedical researchers.
Used by:	(1) Federal agencies—use for grant submission. (2) Researchers
Public functions:	External profile generation; profile management
Restricted functions:	Federated login.
Interoperates with:	Pubmed; ORCID
Overlaps with:	Microsoft Academic Search Profiles (http://academic.research.microsoft.com/), VIVO and similar profile systems
Linked data:	None documented
Access methods:	There is a plan to establish an interface with API to exchange data between SciENcv and external profile systems by fall 2014. See http://www.ncbi.nlm.nih.gov/sciencv/faqs/.
Metadata schema:	http://www.ncbi.nlm.nih.gov/sciencv/data-schemas/
Licenses:	None documented
Fees:	Free to use.
Responsibility:	SciENcv is a cooperative project requested by the Federal Demonstration Partnership (http://sites.nationalacademies.org/PGA/fdp/index.htm), a coalition of research institutions and federal agencies. Seven federal science agencies formed an interagency workgroup (http://rbm.nih.gov/Workgroup_members.xlsx) to develop the concept. NIH's National Center for Biotechnology Information (http://www.ncbi.nlm.nih.gov/) built it under the direction of the workgroup.
References:	NIH (National Institutes of Health). 2014. "FDP Meeting, January 12-13, 2012,

	Washington, DC: Presentations." *FDP (Federal Demonstration Partnership): Redefining the Government University Research Partnership.* Accessed 7 August. http://sites.nationalacademies.org/PGA/fdp/PGA_066892. National Center for Biotechnology Information. 2014. "SciENcv: Science Experts Network Curriculum Vitae." Accessed 7 August. http://www.ncbi.nlm.nih.gov/sciencv/. Rockey, Sally. 2013. "Taking On the Challenge of Better Biomedical Workforce Data." *Extramural Nexus: Rock Talk* (blog). Posted 11 April. http://nexus.od.nih.gov/all/2013/04/11/taking-on-the-challenge-of-better-biomedical-workforce-data/ Rockey, Sally. 2013. "Helping Connect You with the NIH Perspective." *Extramural Nexus: Rock Talk* (blog). Posted 20 November. http://nexus.od.nih.gov/all/2013/11/20/test-drive-sciencv/ SciENcv. 2014. "Federal-Wide Researcher Profile Project." Accessed 7 August. http://rbm.nih.gov/profile_project.htm.

Symplectic Elements

Name:	Symplectic Elements
URL:	http://www.symplectic.co.uk/
Type:	Research Information Management System (or CRIS)
Year started:	2003
Purpose:	Symplectic is a developer of integrated research information management systems. The flagship product Elements captures a range of research and teaching activities to provide a more complete picture of an institution.
Description:	Symplectic Elements is installed within an institution and integrates with many systems inside and outside the institution. People are populated into the system via integration with the institutional human resources or identity management system. Integration with ORCID and ResearcherID.com is possible to add data about individuals from those data sources. Integration with Altmetric, ArXiv, CiNii, DBLP, figshare, Google Books, Mendeley, PubMed, RePEc, SciVal, Scopus, Web of Science and other bibliographic data sources allows the system to add scholarly publications to a person's profile in an automated manner. Integration with local grants management systems and external grants data sources (e.g., ÜberResearch—www.uberresearch.com) allows the system to also supplement person profiles with project and grant information. Integration with generic web content management solutions, VIVO, Profiles Researcher Networking System allows an institution to provide a searchable discovery portal for their research. Elements integrates with repository technologies and supports institutions in meeting open access obligations to external bodies.
Scope:	Institutional
Source:	Institutional data sources as well as: Altmetric, ArXiv, CiNii, DBLP, Dimensions, figshare, Google Books, Mendeley, ORCID, PubMed, RePEc, SciVal, Scopus, Web of Science; Institutional Repositories (Fedora, Eprints, DSpace); OA license repositories (DOAJ/Sherpa Romeo) See: http://symplectic.co.uk/services/integrations/.
Content:	Author name, Author identifiers, Author name variants, Author publication addresses, Author affiliations, Professional Activities registry (including Editorial board memberships and guest lectures), bibliographic details of publication, grants and funded projects, organizational structural information (usually limited to current institution), subject categorization, equipment used, research impact information.

Size:	Varies by institution but contains all records associated with academics within the institution (including the outputs before joining the institution)
Used by:	Over 60 institutions around the world (UK, US, Australia and New Zealand); over 200,000 academic users.
Public functions:	Separate Open Source harvester allows import into VIVO: https://github.com/Symplectic/vivo
Restricted functions:	Only registered accounts can edit and update profiles.
Interoperates with:	ArXiv, CiNii, DBLP, figshare, Google Books, Mendeley, ORCID, PubMed, RePEc, SciVal, Scopus, Web of Science, VIVO, DSpace, EPrints, Fedora, UK Research Outputs System (ROS).
Overlaps with:	All the datasources above as well as local institutional and digital repositories.
Linked data:	Yes. ReSTFul XML API with open source VIVO RDF translator
Access methods:	ReStFul XML API
Metadata schema:	In house schema—able to export in Common European Research Information Format (CERIF), VIVO RDF, Elements XML, CASRAI data standard. Arbitrary categorization schemas are supported, including MESH, Australia New Zealand Fields of Research, Science-Metrix subject categorizations.
Licenses:	Commercial license on software; data is subject to individual institutional license—no common open data; or public API's.
Fees:	Varies by institution size. Functionality is modular.
Responsibility:	Hosted by individual institutions. Code maintained and developed by Symplectic Limited (a portfolio company of Digital Science).
References:	GitHub, Inc. 2014. "Symplectic Elements Harvester Extensions for VIVO." https://github.com/Symplectic/vivo. Symplectic. 2014. "Elements Integrations." http://symplectic.co.uk/services/integrations/. Symplectic. 2014. "Symplectic: Serving the needs of Research Institutions." http://symplectic.co.uk/. *Wikipedia.* s.v. 2014. "Comparison of Research Networking Tools And Research Profiling Systems." Last updated 28 August. http://en.wikipedia.org/wiki/Comparison_of_research_networking_tools_and_research_profiling_systems

VIAF

Name:	Virtual International Authority File
URL:	http://viaf.org
Type:	Authority Hub
Year started:	2007
Purpose:	The project's goal is to lower the cost and increase the utility of library authority files by matching and linking widely-used authority files and making that information available on the Web.
Description:	Merges authority files from national libraries plus selected regional and trans-national library agencies
Scope:	Authority clusters derived from library authority files for personal, corporate, conference, jurisdictional, works and expressions
Source:	Primarily national libraries with some regional and trans-national
Content:	Birth/Death dates, titles, coauthors, publishers, links to source authority systems, ISNI IDs, countries, languages, ISBNs, alternate names, links to uniform titles, history
Size:	Over 30 million personal names as of January 2014
Used by:	Librarians and scholars
Public functions:	Search, retrieve, and download authority record clusters
Restricted functions:	Ability to contribute
Interoperates with:	About three dozen library agencies, plus ISNI and Wikipedia
Overlaps with:	All the information is from authority and bibliographic records. Wikipedia and ISNI are both contributors to VIAF (374,000 VIAF clusters include a Wikipedia link; ISNI has contributed names to 6,800,000 VIAF clusters as of July 2014.)
Linked data:	The service supports linked data and links to other linked data sites
Access methods:	HTML browser interface, SRU, bulk downloads
Metadata schema:	Offers views in MARC-21 Authorities, RDF-XML and native XML
Licenses:	ODC-By: http://opendatacommons.org/licenses/by/summary/
Fees:	Free
Responsibility:	Hosted by OCLC. See http://viaf.org for a list of participants
References:	VIAF: http://www.oclc.org/unitedstates/en_us/viaf.html

VIVO

Name:	VIVO
URL:	http://vivoweb.org/
Type:	Researcher profile system
Year started:	2009 (public service; originally developed at Cornell in 2006)
Purpose:	Linked open data regarding scholarship includes scholar's works, projects/funding, data sets, research resources, scholarly activity (teaching, mentoring, service to the profession) and other biographical sketch items.
Description:	Provides an information model, data store, a Web interface and a linked open data interface in an open source data application.
Scope:	All disciplines
Source:	Each institution populates its VIVO instance, which may include: NIH, institutional sources (human resources, contact data, registrar), scholar self-reports (research activities, teaching activities, service activities, photos, website), open source data, publisher data (https://wiki.duraspace.org/display/VIVO/Data+ingest)
Content:	There are up to 1400 different elements depending on the type of profile: people, organizations, publications, events, funding opportunities, agencies, research environment (laboratories, equipment)
Size:	The number of institutions downloading VIVO is not tracked. Some VIVO leaders estimate that there are at least 150 installations worldwide. More than 100,000 researcher profiles are included in the network of VIVO institutions. Within the over 60 member NIH Clinical and Translational Science Award (CTSA) Consortium, greater than 25% of the CTSA institutions have implemented and use VIVO.
Used by:	Scholars, institutions, scholarly societies, publishers (see http://vivoweb.org/sponsorship)
Public functions:	Searching and retrieval (CV information), including download. With other linked data applications, can reuse all content.
Restricted functions:	Creating and editing profiles
Interoperates with:	Interoperates with linked data applications through SPARQL and other generic protocols. Specific interfaces have been built for: Web of Science, Scopus, ORCID, NIH Explorer (grant funding information)
Overlaps with:	VIVO supplements traditional faculty reporting systems.
Linked data:	Yes, available as linked data. Consumes United Nations linked data and can use other linked data as the institution decides.
Access methods:	Web interface, SPARQL (the API)
Metadata schema:	VIVO ontology http://vivoweb.org/ontology/core
Licenses:	The software is open source license BSD 3 (http://opensource.org/licenses/BSD-3-Clause); the data is licensed by the institution, typically CC-BY (by attribution)
Fees:	Free—no fees. Supported by sponsors.

Responsibility:	Each institution hosts its own application. Activity is organized by DuraSpace (501-3C, also supports Fedora and DSpace)
References:	VIVO. 2014. "An Interdisciplinary Network: Enabling Collaboration and Discovery Among Scientists Across All Disciplines." http://vivoweb.org/. Layne Johnson, VIVO Director, personal correspondence 21 August 2014

Wikipedia

Name:	Wikipedia
URL:	http://www.widipedia.org
Type:	Online encyclopedia
Year started:	2001
Purpose:	A multilingual (http://en.wikipedia.org/wiki/Multilingualism), web-based (http://en.wikipedia.org/wiki/Web_application), free-content (http://en.wikipedia.org/wiki/Free_content) encyclopedia (http://en.wikipedia.org/wiki/Encyclopedia) project operated by the Wikimedia Foundation (http://en.wikipedia.org/wiki/Wikimedia_Foundation) and based on an openly editable (http://en.wikipedia.org/wiki/Wikipedia:How_to_edit_a_page) model.
Description:	The major online encyclopedia
Scope:	Wide ranging
Source:	Contributed by volunteers
Content:	Biographical information
Size:	1-2 million pages about people
Used by:	General Web audience
Public functions:	Primarily web access
Restricted functions:	Very open
Interoperates with:	DBPedia (http://dbpedia.org/About) relies on Wikipedia as do many other services
Overlaps with:	IMDb (http://www.imdb.com/), etc. Wikipedia is also a contributor to VIAF.
Linked data:	Now offering Wikidata (http://www.wikidata.org/wiki/Wikidata:Main_Page) and available through derived services such as DBPedia.
Access methods:	Bulk downloads, possibly others
Metadata schema:	XML
Licenses:	Creative Commons Attribution-Sharealike 3.0 Unported License(CC-BY-SA): http://en.wikipedia.org/wiki/Wikipedia:Text_of_Creative_Commons_Attribution-ShareAlike_3.0_Unported_License
Fees:	Free
Responsibility:	http://wikimediafoundation.org
References:	*Wikipedia*, s.a. 2014. "Wikipedia:About" Last modified 18 July. http://en.wikipedia.org/wiki/Wikipedia:About