Showcasing Research Impact for Institutional Advancement: Sharing Stories Backed by Data

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Showcasing Research Impact for Institutional Advancement: Sharing Stories Backed by Data

• Emily Hart, Science Librarian, Research Impact Lead, Syracuse University Libraries
• Anne Rauh, Head of Collections and Research Services, Syracuse University Libraries
• Linda Galloway, Senior Customer Consultant, Elsevier
What is Research Intelligence?

Clarity and focus for research planning, performance and processes
Today's research ecosystem is both highly competitive and collaborative. To succeed, you need information that supports **strategic decision making** so that your research can flourish, advance society and drive economic growth.
Practical Research Intelligence:
Assess research strengths and inform decision-making at each stage of the research lifecycle

• Understand impact & engagement
  • Start with quality, structured data and information
  • Apply advanced analytics
  • Use an array of metrics and indicators
• Uncover connections between
  • People, published ideas and organizations
  • Funding patterns and published research
• Manage research
  • Optimize monitoring and administration of research activities
  • Make confident, data-informed decisions
Tracking the development of COVID vaccines

THE HISTORY OF mRNA Vaccines
Today's success with mRNA vaccines against COVID-19 comes from the decades of research that came before it.

2010s Smarts and spikes
After outbreaks of other coronaviruses in 2003 (SARS) and 2012 (MERS), scientists study how the "spike protein" works and how it could be used in vaccines.

2000 And we're off!
In 2005, scientists figure out how to make synthetic mRNA safe for injection into cells. Research in the field accelerates.

1990s Failing forward
Could synthetic forms of mRNA be used in medicine? The potential seems endless, but so do the challenges. Failed experiments still build knowledge.

1980s Love those lipids
Researchers study the nature of lipids, which lays the groundwork for using lipid nanoparticles in mRNA vaccines many decades later.

For more information about this history, visit: cihr-irsc.gc.ca/e/52424.html

Canadian Institutes of Health Research: https://cihr-irsc.gc.ca/e/52484.html
mRNA vaccines - a new era in vaccinology

Abstract
mRNA vaccines represent a promising alternative to conventional vaccine approaches because of their high potency, capacity for rapid development and potential for low-cost manufacture and safe administration. However, their application has until recently been restricted by the instability and inefficient in vivo delivery of mRNA. Recent technological advances have now largely overcome these issues, and multiple mRNA vaccine platforms against infectious diseases and several types of cancer have demonstrated encouraging results in both animal models and humans. This Review provides a detailed overview of mRNA vaccines and considers future
Trusted Sources

Scopus: Publication data and impact metrics
**Progress. Evaluate. Reflect.**
Leverage Scopus to address your most pressing research challenges.

<table>
<thead>
<tr>
<th>Progress your research</th>
<th>Evaluate your research</th>
<th>Reflect your research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navigate comprehensive content with intuitive search for content and profiles.</td>
<td>Metrics, analytics and profiles built on authoritative structured data.</td>
<td>Accurately reflect your organization and inform decision-making.</td>
</tr>
</tbody>
</table>

**Key Challenges**

1. Teach next generation researchers
2. Support the scholarly record
3. Foster career growth and development

1. Showcase researcher impact
2. Signal organizational impact

1. Inform global rankings calculations and national assessments.
2. Analyze global and regional research trends
3. Power repositories and RIMS with profile data

**Stakeholders**

[Image of stakeholders icons]
Support your entire research ecosystem

Powerful search, profiles, metrics, APIs and structured data to support students, researchers, faculty, editors and team leads.

- Journal, article and author metrics to monitor and access
- Researcher profiles to grow networks and advance careers
- Organization profiles to find expertise and inform analyses
- Curated, multidisciplinary, current global content to inspire confidence
- Powerful search, filters and refinement to surface insights within researcher workflows
- Trusted data exports and APIs for analysis and integration
Scopus Data: Leading in Quality and Quantity

90,343,502* total documents
12,000 items loaded per day
100 new journals per month
1,000 new books per month
10,000 new conferences per year

A world of data to mine

Scopus delivers all metadata as provided by publishers, including: author(s), affiliation(s), document title, year, electronic identification (EID), source title, volume/issue/pages, citation count(s), source, document type and digital object identifier (DOI).

4.2TB Data stored in content repository
1.7 billion cited references
70,000 institutional profiles
16 million author profiles

*As of February 27, 2023
Scopus: enhanced author profiles

Help researchers showcase accomplishments, explore collaborators and inform funding and promotion proposals with best-in-class researcher profiles

| Document counts, citation counts, trends |

Driscoll, Charles T.

- Syracuse University, Syracuse, United States
- 720.040491
- [https://orcid.org/0000-0003-2699-2980](https://orcid.org/0000-0003-2699-2980)

- 31903 Documents
- 515 Citations
- 88 h-index

- Set alert
- Save to list
- Edit profile
- More

Document & citation trends

<table>
<thead>
<tr>
<th>Year</th>
<th>Documents</th>
<th>Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>1994</td>
<td>6</td>
</tr>
<tr>
<td>2023</td>
<td>2011</td>
<td>2011</td>
</tr>
</tbody>
</table>

Most contributed topics 2017–2021

- Calcium; Picoa Rubens; Bacteria Allignnamtrins
  - 22 documents
- Methylmercury; Sediment; Mercury Contamination
  - 34 documents
- Mercury; Wet Deposition; Flux Chamber
  - 34 documents

Awarded grants

- 853 Co-Authors
- 27 Topics
- 8 Awarded Grants

Preprints

515 documents
Impact & Engagement

- Demonstrate impact and engagement through an array of traditional and emerging metrics
- Access three journal metrics at no cost: CiteScore, SJR, SNIP
- Curate researcher and institutional profiles to ensure accuracy and completeness
Trusted Sources

Pure: RIM system to showcase, advance and report on research activities and impact
Understanding Research Information Management (RIM) Systems

RIM systems support institution and researcher goals by improving access to up-to-date research data campus-wide.

"RIM Metadata" by OCLC Research, from Research Information Management: Defining RIM and the Library's Role (doi.org/10.25333/C3NK88), CC BY 4.0
Unlock Your Full Research Potential

Pure is a versatile, interoperable software solution that you can configure to your institution’s growing needs.

Pure facilitates an evidence-based execution of strategy, leading to increased funding, more international collaboration and greater research visibility.
Integrating Disconnected Data Sources

Disconnected Data Sources

- Complicates research management, administration and networking and collaboration

<table>
<thead>
<tr>
<th>Multiple IDs</th>
<th>Unique IDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disparate information</td>
<td>Structured information</td>
</tr>
<tr>
<td>Disconnected data</td>
<td>Interconnected data</td>
</tr>
<tr>
<td>Non-homogeneous data</td>
<td>Homogeneous data</td>
</tr>
<tr>
<td>Available at high cost in FTE</td>
<td>Available at low cost in FTE</td>
</tr>
</tbody>
</table>

Pure Integration

- Simplifies research management, administration and researcher networking and collaboration
Demonstrate Impact & Engagement

• Enhance cross-institutional and industry outreach with a portal that covers the breadth of the research enterprise
• Visualize the research network and explore deep connections among entities
• Create summaries of activity around departments, research groups or individual researchers
Importing Data from Multiple Channels

Pure is designed to capture data from a wide selection of internal and external sources.

Profile Refinement Service (PRS) pre-populates researcher profiles with Scopus publications with minimal implementation and maintenance requirements.
Research Impact at Syracuse University
Syracuse University

- Private research university
- R1 (Research Intensive) Carnegie Classification of Institutions of Higher Ed (up from R2 in 2015)
- 15,000 undergraduates
- 5,000 graduate students
Syracuse University Libraries

- Over 4.8 million volumes in the collection
- .5 million visits to the buildings
- 159 full-time library staff
- 49 librarians
- Includes Syracuse University Press
Research and Scholarship

- Ideation and discovery
- Project plan
- Funding
- Collaboration
- Data and Analysis
- Writing
- Publication
- Outreach and communication
- Impact and assessment
Previous Department Organization
Liaison Librarian Work

Subject Specialty
- Collections
- Research
- Instruction
- Data
- Scholarly Communications

Subject Specialty
- Collections
- Research
- Instruction
- Data
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Subject Specialty
- Collections
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- Data
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Liaison Librarian Work...in Reality
Current Department Organization

- Department Head
  - Subject Instruction Team Lead
    - 3-5 Librarians
  - Research Impact Team Lead
    - 3-5 Librarians
  - Digital and Open Scholarship Team Lead
    - 3-5 Librarians
  - Collections Team Lead
    - 3-5 Librarians
Focus Areas of The Department

- Instruction
- Digital and Open Scholarship
- Collections
- Research Impact
- Liaison Relationships
Research Impact Team

Developing resources and services in support of the University’s goal of advancing research initiatives and achieving greater research visibility for the University.
Case Study Examples
Understanding the Value of Use Cases

Following the lead of research impact experts at the University of Waterloo, we are gathering use cases to demonstrate the value of our services to various potential users (individuals and campus entities).

Recommended resources for developing research impact services, from the University of Waterloo:

- Emerging Roles for Libraries in Bibliometric and Research Impact Analysis (webinar)
- Library Impact Practice Brief Supporting Bibliometric Data Needs at Academic Institutions
Research Impact Team Use Cases

**Individuals**
Interactions with individual faculty and/or student researchers

- Tenure & promotion planning & reporting
- Researcher profiles
- Identifying interdisciplinary journals
- Systematic review & evidence synthesis
- Open access inquires

**Groups**
Interactions with academic departments & interdisciplinary institutes

- Grant compliance reporting
- Group research profiles
- Regularized activity tracking & reporting
- Equity in reporting (Humanities, Social Sciences)
- Funding opportunity resources
- Benchmarking (future)

**University**
Interactions with groups like colleges, the Office of Research, & campus-wide implementation teams

- Records clean-up (Scopus/Web of Science)
- Campus systems (RIM, FAR, ORCiD)
- Intramural grant reporting
- RFI’s/proposals
- University research rankings
- Responsible research assessment
Our Suite of Products/Tools

**Large Literature Indices**
- Scopus
- Web of Science
- Dimensions
- Lens.org

**Researcher ID/Profile**
- ORCiD Community Member
- Google Scholar
- Experts@Syracuse (Pure)

**Research/Activity Tracking Systems**
- Pure (RIM)
- Faculty Success by Watermark (FAR)

**Reporting Tools**
- Lens Institutional Toolkit
- Academic Analytics (benchmarking by request)
- Pure
- Dimensions
Tenure & Promotion Use Case

Scenario 1 – Connecting early

Scenario 2 – Last minute
Our Process for Supporting T&P

With time...
• Research/Scholarly Profiles
• Publications & supplemental materials (current & future)
  – Open access
  – Indexing
  – Discoverability
• Citation tracking strategies

Minimal time to submission...
• Pull existing citations for publications
• Journal metrics
• Author metrics
• Altmetrics
• Limited citation/impact tracking

***if there’s time before final review
• Profiles
• Last minute deposits (green OA)
Tenure & Promotion – Literature Indices

- **Scopus Data**
  - Total publications
  - Total citations
  - Total citations w/out self-citations

- **Journal Metrics**
  - Citescore
  - SNIP
  - SCImago Journal Rank
  - Citescore rank & trend

- **Author profiles**
  - h-index
  - Co-authors
  - Topics

- **altmetrics (PlumX)**

**Scopus is only one resource that we use in support of tenure and promotion**
- What’s missing...
Colleges & Institutes Use Cases

Common requests:
• Recurring & one-time statistics on what campus groups are producing & attention/impact
• Reports on internal and external collaborators
• Helping campus groups tell the unique story of their work
• Group profiles
• Benchmarking
• Grant proposal support & compliance

• Scopus & Pure data combined
  – Scopus publications data
  – Scopus topics & keywords
  – Pure reporting module
  – Collaboration networks

• Dimensions & Lens Institutional Toolkit (ITK)
  – Groups w/ researchers outside Syracuse University (Dimensions)
  – Grant reporting (Dimensions)
  – Live dashboards (Lens ITK)
BioInspired Institute Example

• Multi-institutional, inter-disciplinary institute researching complex biological systems, and developing and designing programmable smart materials to address global challenges in health, medicine and materials innovation.

• Needs
  – Regularized reporting across multiple institutions
  – Grant proposal support
Aging Studies Institute

• With over 65 faculty from more than 17 departments, ASI provides multi-disciplinary coordinates and promotes aging-related research, training, and outreach at Syracuse University

• Needs
  – Research visibility (institute level profiles)
  – Regularized reporting
  – Grant compliance tracking
Open Access Trends

What we’re looking for:

• Where (journals, publishers)
• Who (individuals, departments)
• Rate of citation comparison (impact & reach)
• OA agreements

Tools

• Scopus for finding article level publications & journal data
• Pure for University groupings
• Dimensions for basic benchmarking (currently)
Average number of citations per Syracuse University publication for open access vs. closed access from 2017 – 2022

Source: Dimensions
Proposal & Grant Support

• Grant Proposals & RFI’s (Requests for Information)
  – Office of Research
  – Colleges
  – Institutes

• Use cases
  – What we’re doing (pulling activities, topics, internal/external co-authors, etc.) in Scopus & Pure
  – Comprehensive literature searches & citation management
  – Compliance tracking
    ▪ Need for better way to track publications tied to grants
Want to learn more?

Questions?

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